

1

Oregon  
Health  
Authority

# PUBLIC HEALTH RESPONSE TO THE COVID-19 PANDEMIC IN OREGON

Report 1 of 3

Version 1.1

Produced by Rede Group in November 2022

# Acknowledgments

---

Rede Group produced this report as a neutral third party contractor of the Oregon Health Authority, Public Health Division in response to a legislative requirement set in Senate Bill 1554 (2022). We want to acknowledge the many people who contributed to this report, including Community-based Organizations (CBOs), Coordinated Care Organizations (CCOs) City, County, and Tribal Emergency Management, Health Care Associations, Local Public Health Authorities (LPHAs), OHA Staff, Managers, and Directors, other State Agencies, the Oregon Public Health Advisory Board (PHAB), Professional Associations, Tribal Nations, and Tribal Organizations.

In addition to the study team, community partners contributed to this report by reviewing data collection instruments, supporting recruitment efforts, and reviewing and interpreting key findings.



## Rede Group study team:

- Kara Skelton, PhD
- Beck Wright, MPH
- Jill Hutson, MA
- Makinna Miles, MPH
- Alex Muvua
- Elena Rivera, MPH
- Robb Hutson, MA
- Briana Arnold, MPH
- Elizabeth Paschal
- KC Thompson
- Elisabeth Castillo
- Erin Charpentier, MFA

## In partnership with:

- Vashti Boyce, MBA, MA, QMHP-C, Wild Iris Consulting, LLC
- April Lawless, MPH
- Tina Wesoloskie, MPA
- P. Diane Reed, MA, CPM, MEP, REHS/RS Coordinated Consulting Services, LLC

## With community partners:

- Emily Cooper, Disability Rights Oregon
- Roberto Gamboa, EUVALCREE
- Kelly Gonzales, PhD, Indigenous Health Equity Institute
- Joe McFerrin II, MPA, Portland Opportunities Industrialization Center/ Rosemary Anderson High School
- Jessica Nischik-Long, MPH, Oregon Public Health Association
- Jenny Pool Radway, Consejo Hispano



# Acknowledgments

---

The OHA contract administrator and project coordinator with assistance from other OHA staff and partners supported this project through providing context, supporting recruitment, and sharing background documents and secondary data sources.

- Danna Drum, MDiv
- Alessandra Karson-Whitethorn, MPH, MS, QMHP

OHA also convened a study review committee comprised of OHA staff, LPHAs, Tribal Health Directors, and CBOs to review and interpret key findings for this report.

Everyone has a right to know about and use OHA programs and services. OHA provides free help, and some examples of this help include:

- Sign language and spoken language interpreters
- Written materials in other languages
- Braille
- Large print
- Audio and other formats

If you need help or have questions, please contact Cessa Karson at [alessandra.karson-whitethorn2@dhsosha.state.or.us](mailto:alessandra.karson-whitethorn2@dhsosha.state.or.us), 971-256-1518, or 711 TTY.



# Contents

---

<b>Executive summary</b>	<b>8</b>
<b>Terminology</b>	<b>12</b>
<b>Introduction</b>	<b>15</b>
<b>Study design, methods + analysis overview</b>	<b>27</b>
<b>Findings</b>	<b>32</b>
Public health workforce contributions	32
Health equity	34
Public health emergency preparedness	48
Funding	58
Operationalizing the COVID-19 response	73
Public health mandates: compliance + enforcement	137
Public health messaging + communication	143
Public health modernization	152
COVID-19 health outcomes	165
Indirect effects of COVID-19/secondary health outcomes	190
<b>Recommendations</b>	<b>195</b>
<b>References</b>	<b>199</b>
<b>Appendix</b>	<b>201</b>

## Figures

Figure 1: Public health system overview	18
Figure 2: Stages of public health response to COVID-19 in Oregon	21
Figure 3: Stage 1 executive orders: March - November 2020	23
Figure 4: Stage 2 executive orders: December 2020 - August 2021	24
Figure 5: Stage 3 executive orders: September 2021 - February 2022	25
Figure 6: Stage 4 executive orders: March - July 2022	26
Figure 7: LPHA preparedness among LPHA staff working in Stage 1 (N=31)	50
Figure 8: CBO preparedness (N=61)	54
Figure 9: LPHA received adequate COVID-19 funding (N=25)	116
Figure 10: Types of vaccine distribution methods (LPHA respondents, N=35)	117
Figure 11: Challenges in coordination and implementation of LPHA vaccination plans (N=35)	117
Figure 12: Rating of Oregon's public health system vaccination rollout and availability (LPHA respondents, N=39)	118
Figure 13: Rating of Oregon's public health system vaccination rollout and availability (Emergency Management respondents, N=20)	118
Figure 14: Vaccine distribution methods supported by City, County, and Tribal Emergency Management (N=22)	119
Figure 15: CBO COVID-19 vaccination activities (N=61)	119
Figure 16: Vaccine distribution methods used by CBOs involved in vaccine clinic coordination and response (N=47)	119
Figure 17: Barriers CBOs experienced when supporting vaccination efforts (N=57)	120
Figure 18: What was helpful in increasing the number of people who received the COVID-19 vaccine? (CBO respondents, N=55)	121

<u>Figure 19: Rating of Oregon's public health systems distribution of personal protective equipment (LPHA respondents, N=39)</u>	<u>131</u>
<u>Figure 20: Rating of Oregon's public health systems distribution of personal protective equipment (CCO respondents, N=7)</u>	<u>131</u>
<u>Figure 21: CBO respondents who supported distribution of personal protective equipment (N=61)</u>	<u>132</u>
<u>Figure 22: CBO respondents who utilized COVID-19 funding for personal protective equipment distribution (N=61)</u>	<u>132</u>
<u>Figure 23: Populations that were prioritized by LPHA respondents for community-specific COVID-19 messaging (N=32)</u>	<u>144</u>
<u>Figure 24: Types of LPHA partnerships for COVID-19 response (N=38)</u>	<u>155</u>
<u>Figure 25: Types of activities LPHAs partnered on (N=38)</u>	<u>157</u>
<u>Figure 26: CBO respondents rating how well OHA was able to engage in the following activities during COVID-19 response (N=59)</u>	<u>160</u>
<u>Figure 27: CCO respondents rating how well OHA was able to engage in the following activities during covid-19 response (N=7)</u>	<u>161</u>
<u>Figure 28: LPHA respondents rating how well OHA was able to engage in the following activities during covid-19 response (N=39)</u>	<u>162</u>
<u>Figure 29: Oregon COVID-19 testing over time</u>	<u>166</u>
<u>Figure 30: Oregon COVID-19 case rates over time with variants of concern</u>	<u>168</u>
<u>Figure 31: Oregon weekly COVID-19 cases over time</u>	<u>169</u>
<u>Figure 32: Weekly COVID-19 cases over time by region</u>	<u>170</u>
<u>Figure 33: Hospitalization rate per 100,000 by race</u>	<u>172</u>
<u>Figure 34: Hospitalization rate per 100,000 by ethnicity</u>	<u>173</u>
<u>Figure 35: Hospitalizations by age category over time</u>	<u>175</u>
<u>Figure 36: Monthly COVID-19 deaths over time</u>	<u>176</u>

Figure 37: Total COVID-19 deaths in Oregon by stage	177
Figure 38: COVID-19 deaths by ethnicity over time	178
Figure 39: COVID-19 death rate by stage and race	179
Figure 40: Oregon COVID-19 hospitalizations and case fatality rate by age group (corrected)	180
Figure 41: Deaths by underlying health condition status over time	182
Figure 42: COVID-19 deaths by hospitalization status over time	183
Figure 43: COVID-19 deaths by hospitalization status, by stage	184
Figure 44: Oregon emergency department visits over time	187
Figure 45: Percent with at least one dose of vaccine among age groups, by stage	189
Figure 46: Unintentional opioid overdose deaths in Oregon by year	190
Figure 47: Adults reporting symptoms of anxiety or depressive disorder during the COVID-19 pandemic	192
Figure 48: Suicide deaths in Oregon by year	193
Figure 49: Oregon and United States unemployment rates by month	194

## Tables

Table 1: Status of LPHA jurisdictional response plans (N=39)	51
Table 2: Distribution of legislative Public Health Modernization investments since 2017	152
Table 3: Emergency department visits for COVID-like illness	186
Table 4: COVID-19 vaccinations across racial and ethnic groups	188



# Executive summary

---

## Study of Oregon's public health system response to the COVID-19 pandemic

This summary includes high-level key findings and recommendations.

The purpose of this study is to fulfill the requirements of Senate Bill 1554 (2022), which calls for a comprehensive study of Oregon's public health systems COVID-19 pandemic response. This is the first of three legislatively mandated reports. Primarily focused on the government-led and government-funded public health systems response to the COVID-19 pandemic, this report is based on a narrow definition of the term "public health systems response" to mean activities undertaken to equitably control the spread of a deadly, infectious disease.

**Design and limitations:** The study team used an exploratory sequential design for this study, a robust mixed-methods study design that integrates qualitative data to provide an enhanced understanding and interpretation of quantitative findings. Study findings, however, should be interpreted in the context of the limitations of this study. The most significant limitation in this phase of the study was the time constraint (four months). Another limitation was the retrospective nature of this study, which covers over two years, introducing recall bias in which participants may not accurately recall past events. Public health workforce turnover, limited incentive availability for specific informant groups, documents lacking dates and other context, and reliance on self-reported data for online surveys were also limitations.

### Resources

**Key findings:** Prior to 2020, Oregon's public health system was critically underfunded. Efforts to modernize the system by increasing state resources to rebuild the public health system from 2017-2020 were laudable but inadequate. Sustained state funding is necessary to rebuild the public health system and recover from the strains on the system caused by the COVID-19 pandemic.

## Recommendations:

1. As the COVID-pandemic is ongoing and additional population-level health emergencies have surfaced, the Oregon State Legislature must fund the public health system at the level requested in 2023-2025 OHA budget request for \$286,000,000 devoted to public health modernization and \$32,000,000 to develop a pandemic response information system.

## COVID-19 health outcomes

**Key findings:** As of the week of July 31, 2022, OHA recorded 860,300 COVID-19 cases in Oregon. There were 34,376 hospitalizations (4%), and 8,291 people died. The COVID-19 case rate peaked at 1,332.3 during the week of January 10, 2022. It is evident that COVID-19 exacerbated already existing health inequities in the state of Oregon. In particular, Tribal Nations and communities of color were impacted by the COVID-19 pandemic disproportionately in comparison to White communities.

## Health equity

**Key findings:** Health equity was a central focus in Oregon's public health system response to the COVID-19 pandemic. Study participants noted they were highly motivated to center equity in pandemic response efforts and were aligned in naming that the central elements of an equitable pandemic response are equitable access to information and equitable access to resources. LPHAs and CBOs were seen as invaluable resources in the response.

The greatest health equity challenges Oregon faced in its public health pandemic response were an emergency management infrastructure that did not include equity practitioners and communities impacted by health inequities in decision-making; limited equity capacity across the state, including significant delays and challenges producing accessible and culturally-tailored public messaging; and inconsistent buy-in for equity work. A few factors that facilitated and enhanced an equitable pandemic response included strong partnership networks with role clarity; and adequate, timely, and flexible funding.

### Recommendations:

1. Improve equitable communication by ensuring information is timely and accessible for all Oregonians. OHA should do everything possible, including conducting translation in-house, to eliminate the lag in the translation of critical health information into non-English languages. OHA should be hiring, recruiting, and retaining bilingual, and preferably bicultural, staff into various departments- as opposed to hiring that is done solely in response to a critical need.
2. Ensure that timely and accurate morbidity, hospitalization, and mortality data about historically marginalized communities (those most likely to experience health inequity) are collected and available to those communities and partnering organizations serving them as well as government public health.
3. Continue to fund public health-focused community-based organizations serving historically marginalized communities.

## Emergency management + coordination

**Key findings:** Throughout the pandemic, some state-level primary response agencies in Oregon struggled to collaborate in coordinating the response and defining leadership roles and authorities. The lack of role clarity between the Oregon Health Authority and the Oregon Department of Emergency Management likely led to confusion early on in the pandemic. Issues arising from this confusion affected the overall response but directly impacted Local Public Health Authorities and City and County Emergency Management.

### Recommendations:

1. Explore the concept of a fully resourced, flexible, and scalable unified command structure between the Department of Emergency Management (OEM) and Oregon Health Authority (OHA) in support of future public health emergencies. This would allow the full weight and power of the authorities outlined in the Oregon Revised Statutes (ORS) §401 et seq to be utilized. Additionally, OEM and OHA should commit resources to develop and participate in an integrated Multi-Year Training and Exercise

Program (MYTEP) with a specific focus on executive leadership training. MYTEP goals may include achieving a thorough understanding of the agencies' roles and responsibilities and updating the state's Emergency Operations Plan and its associated annexes.

2. OEM and OHA should work together to establish an equity-specialists team that is formally adopted into the response structure, including roles and responsibilities, job action sheets, inclusion into the MYTEP training and exercises, and integration into the state's emergency plans and procedures.

## **Enforcement of public health mandates**

**Key findings:** Enforcement of public health mandates was inconsistent across Oregon, especially after Stage 1 of the pandemic when the politicization of the response effort took root, and a widespread misinformation campaign marred the compliance landscape. Interviews with State Agencies, Health Care Associations, LPHAs, and City, County, and Tribal Emergency Management highlight pandemic-response inconsistencies across Oregon, not only in enforcing public health mandates but also in other areas of the pandemic. They raised concerns that the localized decision-making of LPHAs created responses that put politics over health. Multiple State Agencies worked together to enforce public health mandates. While laudable, this structure led to confusion and gaps in enforcement.

### **Recommendation:**

1. Local and state agency partners should be convened in a formal committee to determine if the enforcement mechanisms used to protect the public's health from COVID-19 in 2020-2022 are the best fit for Oregon, given all the factors described in this report. If changes to the enforcement structure for public health mandates are deemed necessary by OHA, partners and the Oregon State Legislature should work to enact necessary statutory or regulatory changes. Finally, enforcement of public health mandates and various roles and responsibilities should be clearly articulated, and all parties in the public health system should educate themselves accordingly. Minimally, this committee should include OHA, Department of Justice (DOJ), LPHAs, CBOs, OR-OSHA, and OLCC.

# Terminology

---

## Frequently used acronyms

Acronym	Meaning
AOC	Association of Oregon Counties
CBO	Community-based organization
CCO	Coordinated care organization
CLHO	Coalition of Local Health Officials
CMS	Centers for Medicare & Medicaid Services
COVID-19	Novel coronavirus disease
CRF	Coronavirus Relief Fund
CRR	COVID Response and Relief
CRRU	COVID Response and Recovery Unit
EANS	Emergency Assistance to Non-Public Schools
ELC	Epidemiology and Laboratory Capacity for Prevention/Control of Emerging Infectious Diseases
EMS	Emergency medical services
EO	Executive Order
Epi	Epidemiology/epidemiologist
HAI	Health care associated infection
HAI/AR	Health care associated infections and antimicrobial resistance
HAN	Health Alert Network
ICS 201	Incident briefing
LOC	League of Oregon Cities
LPHA	Local public health authority



Acronym	Meaning
MAC-G	Statewide Multiagency Coordinating Group
ODE	Oregon Department of Education
OEM	Oregon Department of Emergency Management
OHA	Oregon Health Authority
OPCA	Oregon Primary Care Association
ORS	Oregon Revised Statutes
OR-OSHA	Oregon Occupational Safety and Health Administration
PE	Program Element
PH	Public health
Oregon PHAB	Oregon Public Health Advisory Board
PHD	Public Health Division
PPE	Personal protective equipment
SB 1554	Senate Bill 1554

## Key terms

**Emergency management:** For the purposes of this study emergency management includes Oregon state, county, city, and tribal offices that are responsible for the mitigation, preparation for, response to, and recovery from emergencies and natural disasters, acts of terrorism, or other man-made disasters.

**Public health emergency preparedness (PHEP):** PHEP programs are administered at the state, county, and tribal levels. PHEP is the capability of the public health and health care systems, communities, and individuals, to prevent, protect against, respond to, and recover from health emergencies, particularly those in which scale, timing, or unpredictability threatens to overwhelm routine capabilities. Preparedness involves a coordinated

and continuous process of planning and implementation that relies on measuring performance and taking corrective action (American Journal of Public Health. 2007 April; 97(Suppl 1): S9-S11).

**Health Care Associations:** A health care association is an organization with members who work in or share an interest in health care. Members of health care associations will often meet regularly to discuss upcoming news in their field or will host events for other members to meet and network.

**Professional Associations:** A professional association is an organization with members who work in or share an interest in a specific job field or industry. Members of professional associations will often meet regularly to discuss upcoming news in their field or will host events for other members to meet and network. The professional associations included in primary data collection for this report were professional associations with members representing government. The study team conducted interviews with representatives of the professional associations who were involved in the COVID-19 pandemic response.

**Secondary data:** Finding existing data from administrative datasets, public records, grant funding, etc. as opposed to interviews and surveys conducted by the study team.

**State Agency(ies):** When capitalized, refers to non-OHA state agency study participants. OHA study participants are referenced as OHA Staff and Managers, OHA Staff, OHA Manager, or OHA Director(s).

**Study team:** This includes Rede Group staff, Dr. Kara Skelton, Vashti Boyce, April Lawless, Tina Wesloskie, and P. Diane Reed.

**Study participant:** General term for anyone who responded to a survey, was interviewed, or participated in a focus group.

**Tribal organizations:** This refers to community based or non-profit organizations that primarily serve tribal members, including urban American Indians/Alaska Natives, and excludes Oregon's nine federally recognized tribes that are referred to as Tribal Nations in this report.

A full list of terminology and definitions can be found in Appendix A.

# Introduction

---

## Study purpose

The purpose of this study is to fulfill the requirements of Senate Bill 1554 (2022), which calls for a comprehensive study of Oregon's public health system COVID-19 pandemic response. The study aims to comprehensively examine Oregon's public health system response to the COVID-19 pandemic, identify lessons learned from the COVID-19 response, and outline recommendations for improving and strengthening Oregon's public health system capacity and resiliency for responding to future public health emergencies. Rede Group will submit results of this study to Oregon Health Authority, in three mandated reports in November 2022, March 2023, and September 2023.

This study is not an external evaluation of an individual's, team's, or agency's performance, but instead is a systematic examination of Oregon's complex and evolving public health system response to the COVID-19 pandemic. As such, this study takes into account the perspectives of a diverse array of organizations engaged in the pandemic response across the state. To ensure objectivity, reduce bias, and provide neutrality, OHA contracted with Rede Group (based on results of an open, competitive solicitation process) to conduct this study. Rede Group has no affiliation with Oregon's public health system response to the COVID-19 pandemic and was not involved in Oregon's public health system response.

## Public health system response

Public health is the science of protecting and improving the health of people and their communities (Center for Disease Control and Prevention [CDC], n.d.). Therefore, public health work includes promoting healthy lifestyles, researching disease and injury prevention, and detecting, preventing, and responding to infectious diseases.

A public health system, typically defined as, "all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction," is formed by a network of actors including government agencies, laboratories, hospitals, nongovernmental public and private agencies, and community members (CDC, 2021). Public health systems focus on protecting and promoting the health of populations across an array of ecological levels, including community-, state-, national-, and global-levels. Regardless of scale, a well-functioning public health system requires aligned goals, clarity about the distinct roles of each actor, a strong infrastructure that supports coordination and collaboration, and sufficient resources to accomplish its mission.

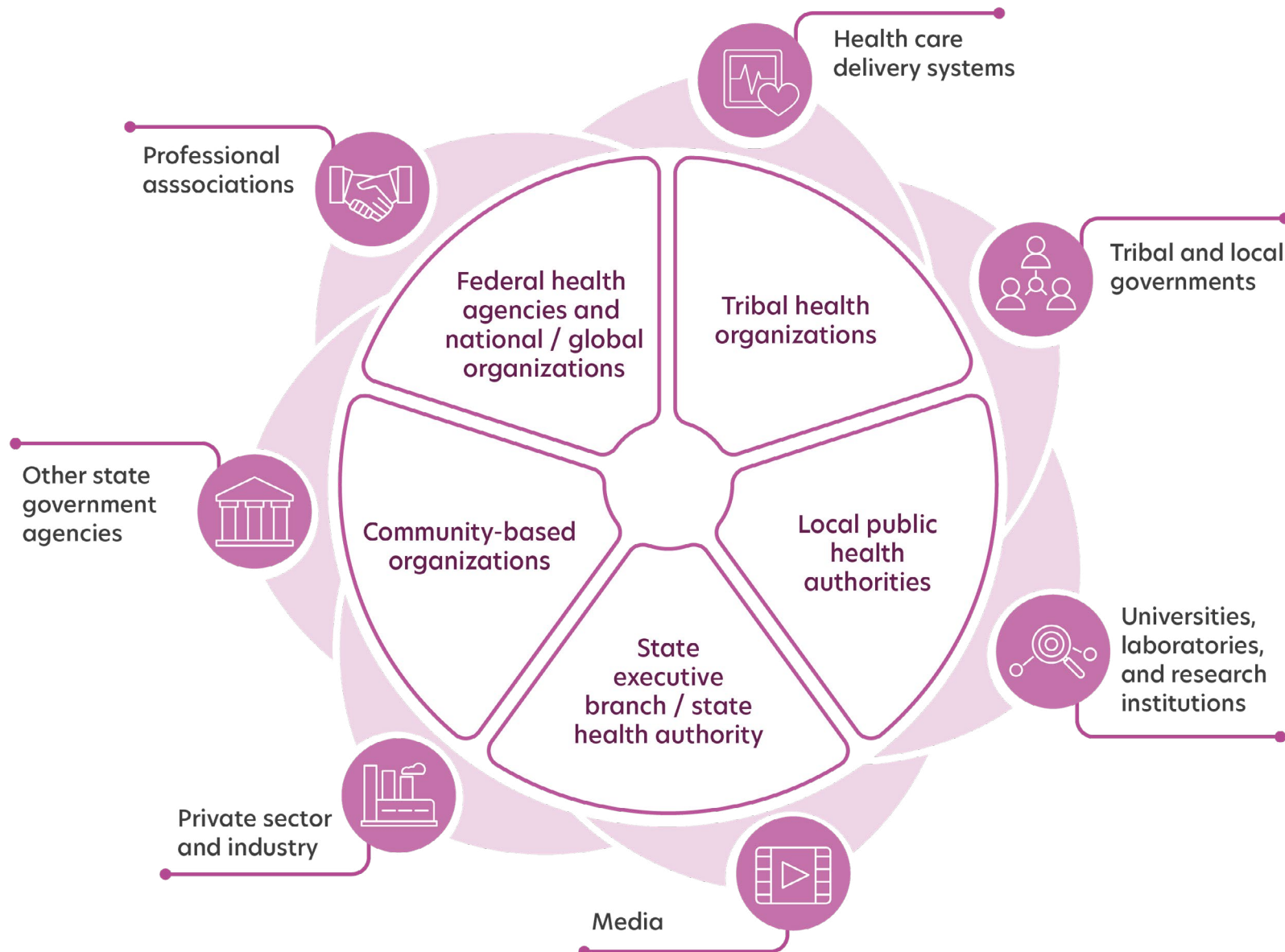
National standards for public health were initially released by the CDC in 1994 and updated in 2020 (CDC, 2021). The CDC outlines 10 essential public health services, spanning assessment and monitoring, investigation, communication, community partnership, program and policy implementation, regulation, equitable access to care, workforce development, evaluation and continuous quality improvement, and infrastructure. In 2015, the Oregon Legislature passed House Bill 3100, which aimed to improve the efficiency and effectiveness of Oregon's public health system through establishing a framework of 11 foundational capabilities and programs. In turn, HB 3100 launched an effort to modernize the public health system with focused investments on identified gaps in the foundational capabilities and programs.

Embedded within Oregon's public health system is a network of diverse partners composed of state, local, and tribal governments, health care delivery partners, private organizations, universities, professional associations, and other partners. For more than two years, Oregon's public health system has been responding to the COVID-19 pandemic, with each of these partners playing a critical role in the delivery of essential public health services. Whether messaging public health guidance for communities, contact tracing, providing essential goods for individuals during quarantine and isolation, delivering vaccines, or other critical public health pandemic response activities, the importance of each actor's role and the coordination of efforts within communities and across the state is essential.

Pursuant to Senate Bill 1554 (2022), this study covers Oregon's public health system response to COVID-19 from the beginning of the pandemic (March 2020) to July 2022. Although Oregon's public health response to COVID-19 during 2020-2022 included numerous entities and individuals (see Figure 1 on the following page), this study primarily focuses on governmental public health agencies and other organizations, such as community-based organizations, funded by the governmental public health system to support pandemic response. These entities included federal health agencies and national/global organizations, state executive branch/state health authority, tribal governments, local public health authorities, and community-based organizations. Importantly, Oregon's health care system, social service sector, higher education system, industries, and businesses were all represented in Oregon's public health system response to the COVID-19 pandemic. These partners, however, are beyond the scope of this study.



Figure 1: Public health system overview



## Overview of pandemic history

In December 2019, the novel coronavirus disease (COVID-19), caused by the SARS-CoV-2 virus, emerged from Wuhan, China and began spreading rapidly throughout China and across the globe. Over the last two and a half years (2020-2022), the COVID-19 pandemic has ravaged health care and public health systems, delivered lasting blows to the global economy, and forever changed the lives of individuals and communities. The global toll of the COVID-19 pandemic has been catastrophic, with 6,524,568 total COVID-19 deaths and 615,310,890 confirmed cases as of September 30, 2022 (World Health Organization [WHO], n.d.). Since the initial outbreak, the public health and emergency response communities have mobilized to research, report, and track the disease, implement evidence-based public health measures that prevent and mitigate widespread transmission, and attempted to resource communities to address the long-term health, social, and economic impacts of COVID-19.

Oregon's first case of COVID-19 was identified on February 28, 2020 and confirmed March 1, 2020. Though the latest research now indicates that COVID-19 was likely circulating in Oregon and across the U.S. as early as December 2019, widespread transmission and public awareness grew rapidly beginning in March 2020 (Basavaraju et al, 2020). At that time, Governor Kate Brown issued Executive Order (EO) 20-03, which declared a state of emergency in Oregon and authorized action to respond to, control, mitigate, and recover from the emergency. Between March 2020 and July 2022 Governor Brown issued 39 executive orders to control the spread of the virus and protect the public's health (see Figures 3-6 and Appendix B).

The pandemic progressed in multiple waves with COVID-19 cases surging and declining due to a variety of environmental factors as well as the evolution of the coronavirus itself. New information about the disease emerged and informed the mounting public health response. Evidence-based public health practices that Oregon implemented to help control the pandemic included public information campaigns, gathering bans, stay-at-home orders, restaurant and bar closures, school and workplace closures, mask mandates, and vaccine mandates, among others. Waves of federal and state emergency response and recovery funding supported

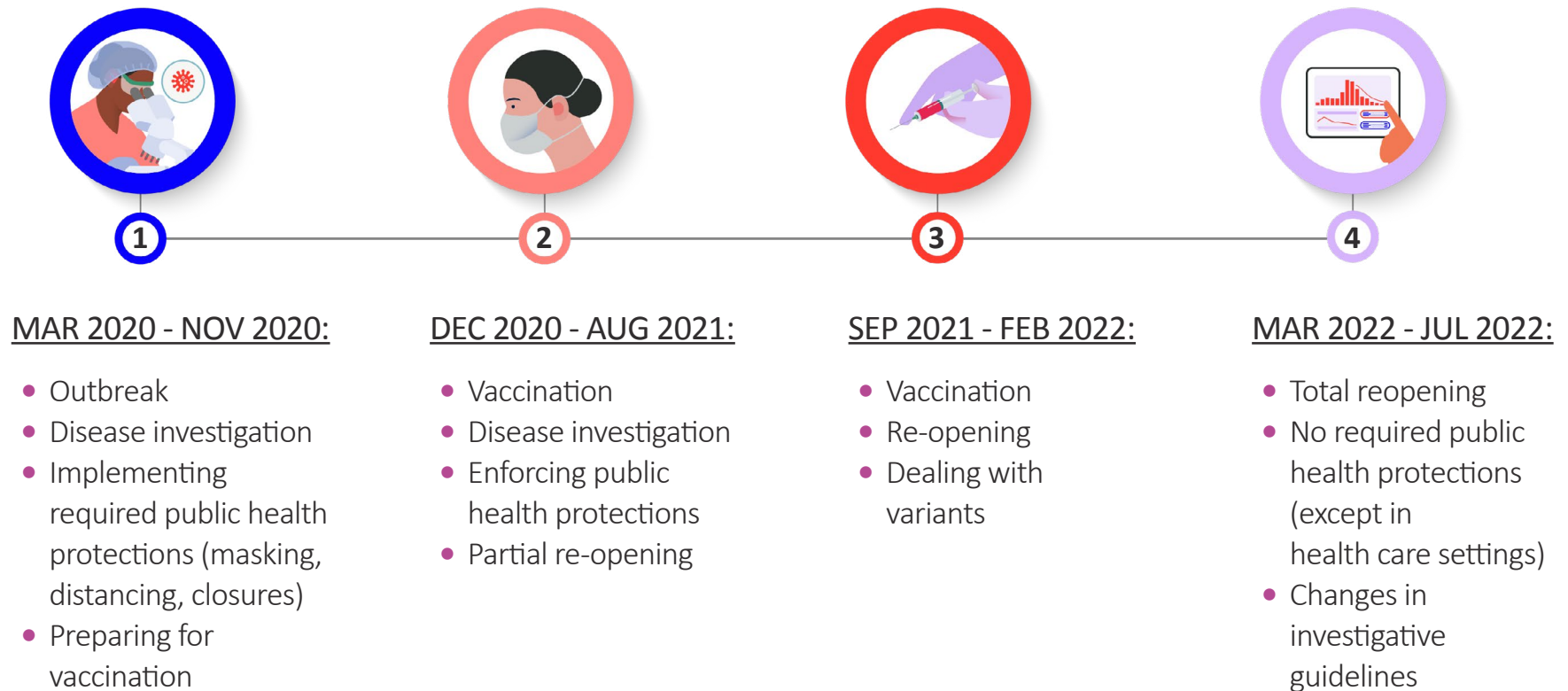
Oregon's public health system response as well. Despite these efforts, the impact of COVID-19 in Oregon has still been great, with 8,561 total deaths and 894,776 confirmed cases as of September 28, 2022 (Oregon Health Authority [OHA], accessed Oct. 1.).

One critical aspect of studying Oregon's public health response to COVID-19 is acknowledging that the burden of the pandemic was not experienced equally. The population health impacts of COVID-19 have cast light on longstanding inequities in access to health care, educational and economic opportunity, and safety. Racism, ableism, sexual orientation and gender identity discrimination, and other systemic biases have persistently undermined the physical, social, economic, and emotional health of entire communities and populations across Oregon and the nation long before the COVID-19 pandemic. Attention must be given to understanding the disparities in COVID-19 outcomes and intentionally addressing the root causes of inequities throughout the long-term COVID-19 public health response and recovery.

## **COVID-19 pandemic stages overview**

As of the publication date of this report, Oregon's public health response to COVID-19 is ongoing. This study is primarily focused on government-led and government-funded activities between March 2020 through July 31, 2022. The COVID-19 pandemic landscape has been complex and evolving since COVID-19 first arrived in Oregon. As the study team gathered data from key informants and analyzed a wide array of documents, distinct stages of the pandemic began to emerge. In an effort to acknowledge the transformation of the COVID-19 pandemic, and thus Oregon's public health system response to the pandemic, the study team, after consultation with OHA, developed a framework separating the pandemic into four distinct stages. Although delineations between stages are imperfect, these stages provided a framework for analyzing public health system capacity, mobilization, and response alongside COVID-19 health outcomes. Figure 2 was used to describe the pandemic stages for qualitative research used in this report.

Figure 2: Stages of public health response to COVID-19 in Oregon



## Executive orders

Figures 3-6 on the following pages detail the public health response executive orders (EOs) enacted from March 2020 through July 2022.

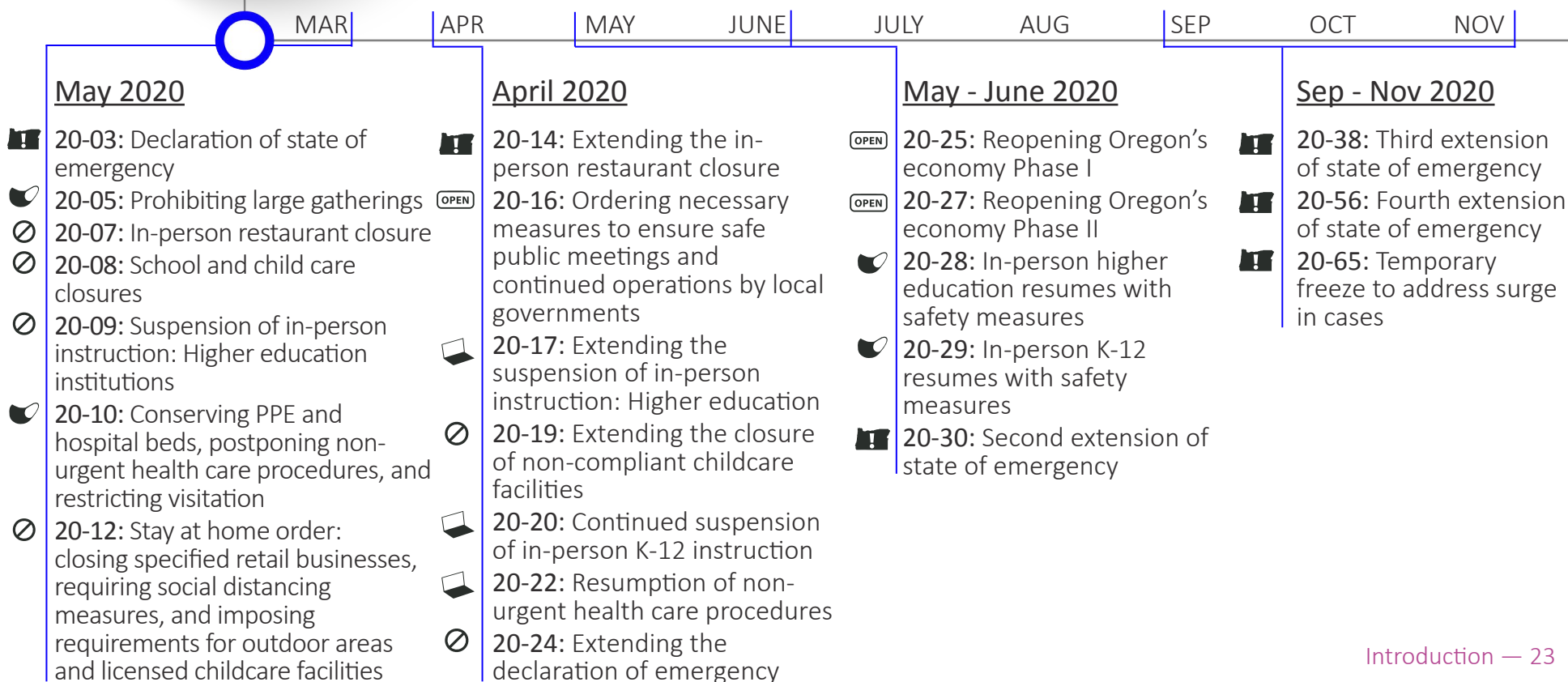
EOs were only included if they directly impacted the public health response to COVID-19 in Oregon, including those that prevented/limited transmission of COVID-19, bolstered the governmental and clinical workforce, and preserved necessary resources to treat individuals infected with coronavirus. For the purposes of this study, public health is defined as the science of protecting and improving the health of people and their communities.



Figure 3: Stage 1 executive orders: March - November 2020

**LEGEND:**

- 2X-XX** Executive order number  
(year - annual sequence)
- State of emergency
- Closure
- Virtual modality
- Safety measures  
(face coverings, social distancing, etc.)
- Reopening
- Vaccination



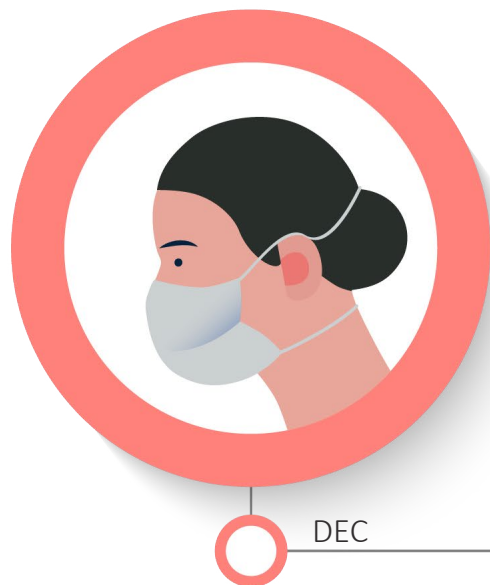











Figure 4: Stage 2 executive orders: December 2020 - August 2021

**LEGEND:**

- 2X-XX** Executive order number  
(year - annual sequence)
-  State of emergency
-  Closure
-  Virtual modality
-  Safety measures  
(face coverings, social distancing, etc.)
-  Reopening
-  Vaccination

DEC JAN FEB MAR APR MAY JUN JUL AUG

**FEB - APRIL 2021**

-  **21-05:** Sixth extension of state of emergency
-  **21-06:** Ordering public schools to offer fully on-site or hybrid in-person instruction, requiring all schools to continue to comply with health and safety protocols
-  **21-10:** Seventh extension of state of emergency

**JUNE - AUGUST 2021**



-  **21-15:** Rescinding all remaining COVID-19 restrictions; continuing state efforts to support ongoing COVID-19 vaccination, response, and recovery efforts
-  **21-29:** COVID-19 vaccination requirement for state executive branch

Figure 5: Stage 3 executive orders: September 2021 - February 2022

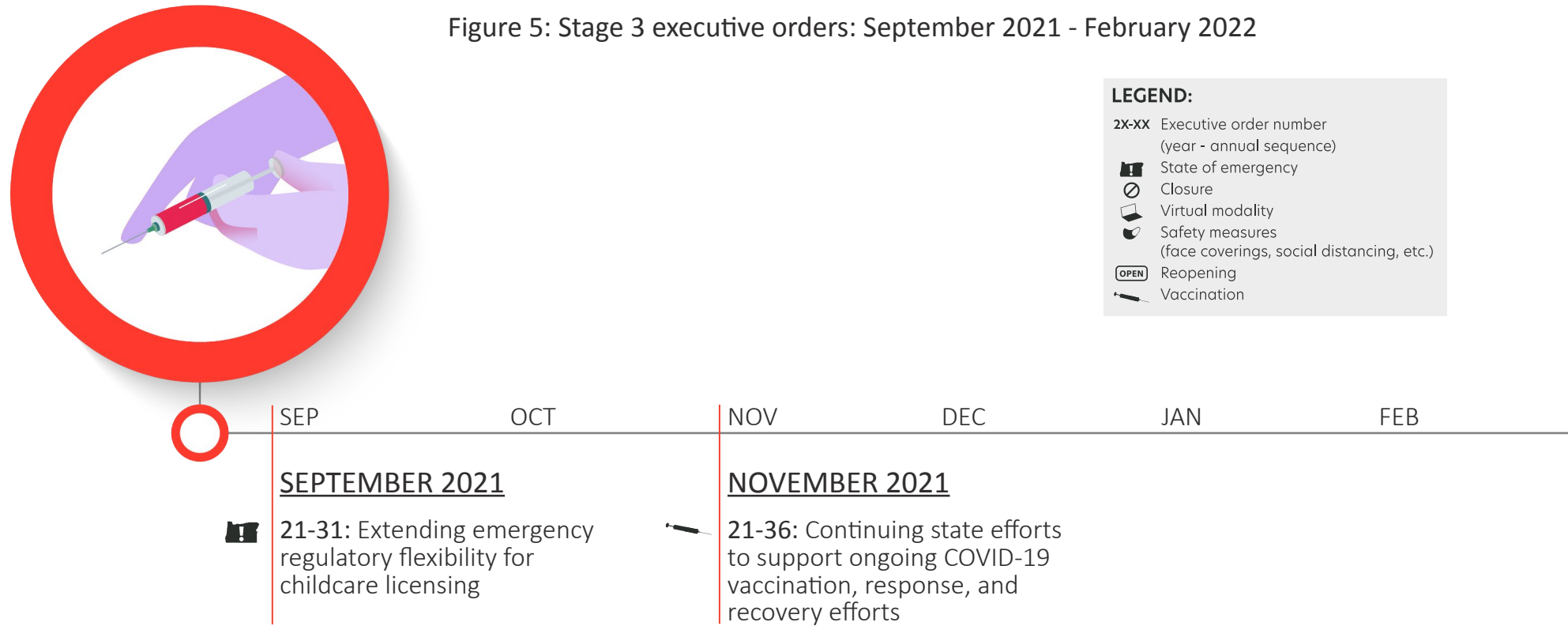
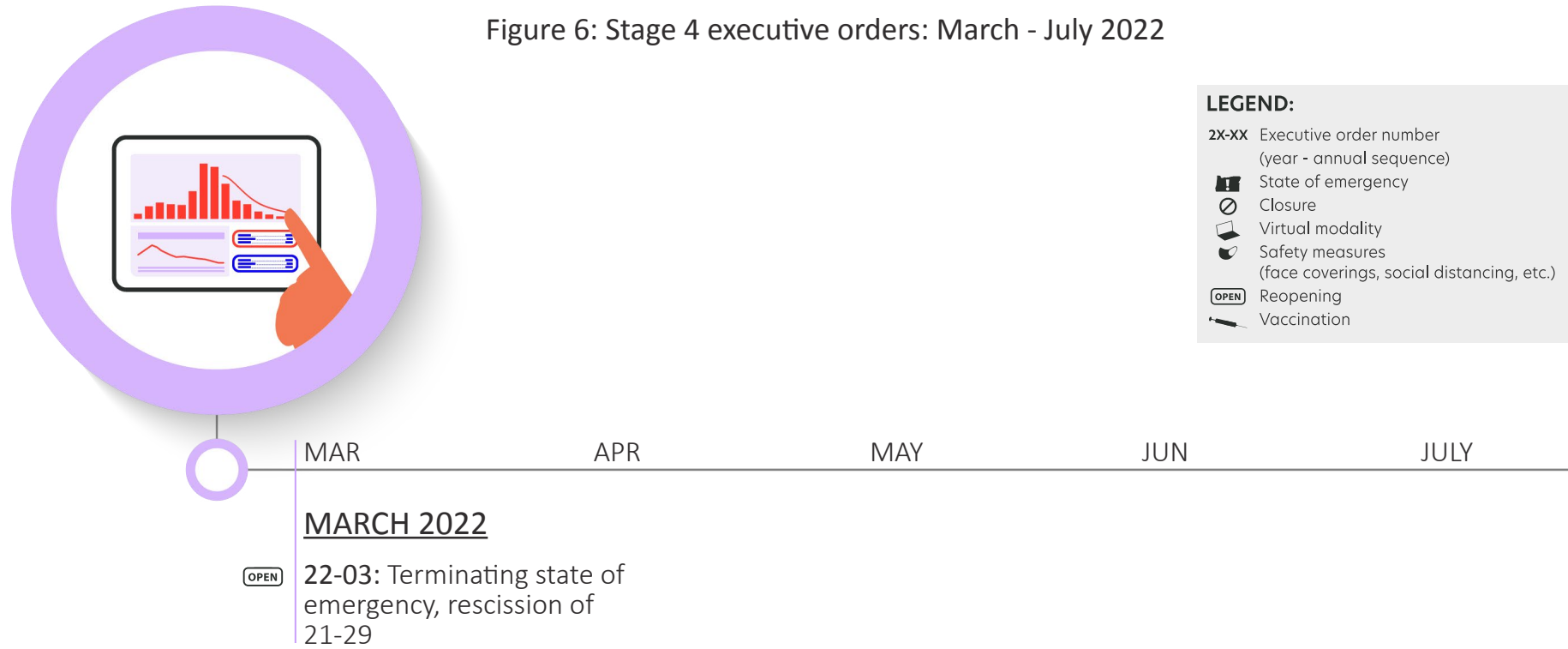




Figure 6: Stage 4 executive orders: March - July 2022



# Study design, methods + analysis overview

---

## Scope of study

The scope of this study was set forth by the 81st Oregon Legislative Assembly through Oregon Senate Bill 1554 (2022 Regular Session; see Appendix C). This study primarily focuses on the government-led and government-funded public health system's response to the COVID-19 pandemic. **For this first report, Rede Group applied a narrow definition of the term "public health system's COVID-19 response" to mean activities undertaken to equitably control the spread of a deadly, infectious disease.**

Several interested parties have offered perspectives on the scope of the study and have requested examination of specific topics or study questions. In each case, the study team collectively and carefully reviewed requests to determine whether or not inclusion of those questions or topics was appropriate.

Importantly, Rede Group understands that numerous pandemic-related public health impacts and specific public health system responses unfolded throughout 2020-2022. For example, due to pandemic-caused economic difficulty (layered on top of extant, pernicious socio-economic inequities), population-level food insecurity was exacerbated. In response, numerous actors in the public health system worked to get Oregonians the food they needed. However, the scope of this report does not include an in-depth overview of secondary public health effects of COVID-19. This is not intended to downplay the significance of these effects, but rather to acknowledge that within the time parameters for this report, developing a complete analysis of secondary public health effects was not feasible.

Other items of note about the scope of this report:

1. Senate Bill 1554 (SB 1554) called for an analysis of enforcement of COVID-19 public health requirements in Oregon's schools; data collection with schools is on-going and results will be shared in the second report (March 2023). OHA's migrant seasonal farmworker COVID-19 response program and the work specific farmworker partners will also be covered in the second report.
2. For some state and local governmental officials, pandemic response began prior to March 2020 as they utilized extant systems to monitor and track the spread of the disease to Oregon. The period of time between December 2019 and Oregon's first presumptive case on February 28, 2022 is referenced but not included for thorough analysis.

## Study questions + methods

This report covers eight components outlined in SB 1554. To ensure we were able to successfully answer the research questions set forth by the Oregon State Legislature, we used an exploratory sequential design for this study, a robust mixed-methods study design. A mixed-methods study design was most appropriate for this study, as it allows the integration of qualitative data to provide an enhanced understanding and interpretation of quantitative findings. With this design, the qualitative phase of the study, including data collection (see Appendices D-E for interview and focus group interview guides) and preliminary analysis precedes quantitative data collection (see Appendix F for survey instruments) and analysis. Quantitative data instruments were informed by qualitative study findings, enhancing the validity of the quantitative measures. This study design incorporated qualitative and quantitative methods in interviews, focus groups, surveys, document review, and secondary data analysis. An overview of data collected and analyzed for this report is shown on the following page and a detailed description of study methods is included in Appendix G.

Report 1 study questions:

1. Focus on the public health system, including federal, state, and local resources, and how funding was coordinated between the state, counties, and local governments and community organizations.
2. Identify efficiencies and deficiencies in the public health system response, areas for improvement, and needed investment.
3. Consider emergency management coordination with the public health system, including distribution of PPE, where vaccines and testing were provided, and isolation and quarantine best practices and guidance.
4. Analyze the enforcement of public health requirements by the state, local governments, and schools.
5. Examine outcomes related to public health modernization implementation, including the roles that public-private partnerships played and any challenges posed by the current intersection of state and county public health systems.
6. Compare the health equity outcomes related to the COVID-19 pandemic response, including second-hand health disparities resulting from the increased strain on hospitals, health systems, and resources.
7. Engage in a qualitative, in-depth analysis of utilization of resources, differing regulations, and enforcement of evidence-based pandemic control practices across the state.
8. Assess messaging in general, including whether best practices in public health communication were used during the COVID-19 pandemic.

The study team conducted:

- **106 interviews**  
with 117 participants, with a response rate of 90%;
- **11 focus groups**  
with 36 participants; and
- **132 surveys**  
with a response rate of 29%.

The study team analyzed secondary data from:

- **15 sources;** and reviewed over
- **1,000 records**  
from OHA, web research, and other state agencies.

## Study sampling

### Qualitative phase sampling

Qualitative data collection is both time and resource-intensive to collect. Given the time constraints of this study, it was not possible to interview every person involved in Oregon's public health system response to the COVID-19 pandemic. Therefore, the study team used both probability and purposeful sampling strategies. Stratified random sampling, a type of probability sampling strategy in which the population is divided into smaller subgroups called strata, was utilized to ensure representativeness of our evaluation sample to the larger target population and thus, generalizability of findings. In stratified random sampling, the population of key informants were grouped into mutually exclusive, non-overlapping sampling strata. Within each stratum, we then pulled a simple random sample by assigning each potential informant a number and used a random number generator to pull individuals. See Appendix G for additional information on sampling strategies.

### Quantitative phase sampling

Purposeful sampling was used by the study team to recruit participants for online surveys. With this sampling method, the survey was sent to specific members of each informant group. More details about the specific recruitment methods for each informant group can be found in Appendix H. Briefly, OHA provided lists of state-specific organizations, including LPHA contacts and City, County, and Tribal Emergency Management contacts.

## Analysis

### Qualitative Phase Analysis

The study team performed a series of qualitative data analyses to answer each report's key evaluation questions. All qualitative data were audio-recorded for accuracy and professionally transcribed. After transcription, all transcripts were analyzed using Dedoose mixed-methods software using thematic content

analysis. To do this, the study team developed an initial coding tree for each group and piloted the coding scheme on a small sample of transcripts. The study team then examined findings by many different variables, codes, and descriptors to identify the strongest themes.

## **Quantitative Phase Analysis**

Quantitative data, including surveys and health system data, were analyzed using standard descriptive statistics. Rede Group performed subclass analysis to examine differences across sociodemographic characteristics, including race, ethnicity, age, disability, and geographic location for each outcome of interest, when available. Rede Group also examined these metrics over time. See Appendix H for preliminary survey analysis.

## **Limitations overview**

There were many strengths to this study, including the robust study design and sampling strategy. Our health equity-centered approach was also a study strength, as we were able to include many community partners throughout the study. Community study partners informed and reviewed data collection tools, assisted with recruitment of study participants, and aided in the interpretation of data findings.

Study findings, however, should be interpreted in the context of limitations of this study. The largest limitation impacting this study was time constraints. The accelerated timeline of this study, including the due date for Report 1, hindered the study team's ability to be exhaustive of all of Oregon's public health system response. In effort to address this limitation, an array of study design features were used. Additionally, the retrospective nature of this study, which covers a period of over two years, introduced recall bias in which participants may not accurately recall past events. Other limitations of this study include public health workforce turnover, limited incentive availability for specific informant groups, documents lacking dates and other context, and reliance on self-reported data for online surveys. See Appendix I for detailed description of study limitations.

# Findings

---

## Public health workforce contributions

Staff at all of Oregon's local health departments, Tribal Health Offices, and OHA's Public Health Division shouldered much of the operational and leadership burden of mounting the public health response to the COVID-19 pandemic. A host of partners willingly supported governmental public health through shared responsibility and delivered a significant impact in controlling the spread of the virus. Still, statutorily a great burden fell on these government officials. Analysis of interviews and surveys across all study participant groups found the following:

- LPHA staff exerted exceptional, sustained effort throughout the pandemic, often doing so in hostile environments;
- LPHA staff had critical insights into the needs of their communities and had previously established trusting relationships that were effective in pandemic response;
- Tribal Health Offices worked tirelessly and faced extraordinary challenges (such as the effects of longstanding, deeply rooted systemic inequities) in keeping tribal members safe and healthy.
- Tribal Health Offices met the test as a trusted resource for Tribal members amidst an onslaught of general misinformation that caused fear and heightened mistrust of non-tribal government;

"I think the pieces that went well were the agency's desire to do the right thing. I was surprised at how many people were like, 'We want to be here.' And we were working seven days a week, 10-hour days, 12-hour days. And there were so many of us that said, 'I'm going to do whatever it takes to make sure that whatever's given to me or whatever's given to our team gets done.' So there was a big, it's like the public servant desire in the folks that were working on the agency command center."

— OHA Staff Interviewee

- OHA, Public Health Division (PHD) staff also exerted exceptional sustained effort throughout 2020-2022; they advocated for strong public health measures, stood-up systems, centered equity, and worked tirelessly to communicate massive amounts of information effectively; and
- Staff at these three governmental bodies understood and honored their responsibility to the people of Oregon.

This report will cover in more detail specific operational successes across the entire public health system. It will also cover systemic deficiencies and failures. Discussions of weaknesses in the public health system's response must never be construed as a criticism of people within the system. The report concludes unequivocally that Oregon's public health workforce, in concert with capable partners, served Oregonians unwaveringly with integrity and courage.

"We did really incredibly well and especially...where we had lots of backlash from our people in our county. We were threatened with assault, literally we had some constituents tell us they were going to shoot us in the face and we just said, 'Bring it on.'"

—LPHA Administrator Interviewee

"It just really took a toll on everyone in public service, including all direct services. That includes healthcare. It was just always one emergency after another. It was hard to experience it. It was hard to see coworkers and friends that you care about experience it."

—LPHA Administrator Interviewee



## Health equity

The CDC defines health equity as "the state in which everyone has a fair and just opportunity to achieve their highest level of health" (CDC, 2022). Awareness has been growing for decades about the persistence of health inequities caused by a long history of systemic and institutional bias and discrimination in the United States. Specific to public health emergencies, national events such as Hurricane Katrina and the Flint Michigan water crisis have shed light on the disproportionate health and social impacts of large-scale emergencies on populations that have been historically marginalized. As a result, recent federal, state, and local calls to action have been made to improve health equity within public health, health care, emergency management, and other sectors. This section will focus on findings related to health equity capacity and practice throughout the pandemic.

The vast majority of survey respondents, interviewees, and focus group participants shared experiences and insights related to Oregon's efforts to address health equity in its public health pandemic response. Study participants reflected on the extent to which Oregon's public health pandemic response gave all Oregonians a fair and just opportunity to be protected from COVID-19 and have their COVID-19-related health needs met. Health equity findings are important to understand for the purpose of reflection and improvements moving forward.

The following are key findings from study participants related to health equity in Oregon's public health pandemic response.

## Health equity as a value + priority

Most study participants, including OHA Directors, OHA Staff and Managers, LPHAs, and CBOs, named equity as a central focus in Oregon's public health system response to the COVID-19 pandemic. Study participants noted their high motivation to center equity throughout pandemic response efforts. This motivation was informed by an understanding of social determinants of health and existing health inequities; learning from past public health emergencies; and forecasting that the COVID-19 pandemic would exacerbate inequities and have a disproportionate impact on historically marginalized communities. This prediction was brought to bear as real-time data highlighted disparities in COVID-19 cases, hospitalizations, and deaths. Motivation and urgency to center equity persisted, and for many study participants, grew throughout the pandemic.

Study participants also noted a clear call to action from leadership and from communities. Oregon has been on its own journey to prioritize and operationalize health equity in the years prior to the pandemic. In October 2019, the Oregon Health Policy Board and Oregon Health Authority adopted a definition for health equity that acknowledges health equity as both a long-term goal and a daily practice (see definition on the right).

Oregon will have established a health system that creates health equity when all people can reach their full health potential and well-being and are not disadvantaged by their race, ethnicity, language, disability, age, gender, gender identity, sexual orientation, social class, intersections among these communities or identities, or other socially determined circumstances.

Achieving health equity requires the ongoing collaboration of all regions and sectors of the state, including tribal governments to address the equitable distribution or redistribution of resources and power; and recognizing, reconciling, and rectifying historical and contemporary injustices (OHA, n.d.).

Having this health equity definition alongside OHA's strategic goal of eliminating health inequities by the year 2030 created a sturdy foundation to build upon. OHA was seen as a leader in health equity work by other State Agency, LPHA, and City and County Emergency Management interviewees.

Another factor in the prioritization of health equity was Oregon's work on public health modernization. Since the passage of House Bill 3100 in 2015, Oregon has been working to modernize its public health system by improving capacity and effectiveness across four foundational programs and seven foundational capabilities. Two of the capabilities speak directly to the importance of health equity: health equity & cultural responsiveness, and community partnership development. Many study participants, particularly LPHA study participants and others with public health training, reflected that Oregon has been building practices and partnerships to support a stronger focus on health equity throughout Oregon's public health system for several years. Public health modernization funding was named as an important resource that LPHAs leveraged for developing partnerships with CBOs prior to and during the pandemic.

"I think that the biggest impact for us as an agency has been to take that health equity strategic goal seriously, and to see a sudden shift, at least policy wise, to looking at and integrating the words 'health equity', 'transformation', 'inclusion', and you sort of see this shift that everyone has a recognition that we need to use that language and that terminology in how we write policy and how we operationalize our processes."

— OHA Manager Interviewee

## Operationalizing health equity

Study participants described what it means to operationalize health equity in the context of a public health pandemic. A majority of study participants noted the importance of equitable access to information and resources as central elements in an equitable pandemic response. Study participants reported that accessible communications and public messaging requires:

- Having information translated into all languages spoken by Oregonians;
- Ensuring communication is accessible for individuals experiencing disabilities;
- Attention to broadband and technology access; and
- Culturally tailoring information for different communities across Oregon.

Regarding pandemic response resources, study participants noted the importance of equitable distribution of resources like PPE, tests, and vaccines, as well as equitable funding practices to adequately resource front-line organizations serving historically marginalized communities.

Study participants also spoke to the important values that undergird an equitable public health pandemic response, such as collaboration, trust, transparency, and inclusive and representative decision-making. When these values were present and shared amongst collaborators, equity work felt highly effective. In the absence of one or more of these values, equity work was limited and collaborators experienced confusion, frustration, and overwhelm.

"I would say that my findings with working with the county was that they definitely had a way that they did things and there wasn't necessarily a lot of flexibility. And so me knowing, I think, going into a future partnership, knowing that for that to be successful, I'm going to need to conform to what they already have established and not try to use a lot of my time to shift the way that they do things."

—CBO Interviewee

## Health equity challenges

While having a strong vision and prioritizing equity conceptually is important, it is not sufficient. Nearly all study participants named a gap in capacity, skills, and tools for meaningfully centering equity throughout Oregon's pandemic response efforts at the state and local level. While the breadth and depth of the equity challenges named by study participants varied, some commonalities in experiences and reflections emerged.

First, Oregon lacked an emergency management infrastructure that intentionally included equity practitioners and communities impacted by health inequities into decision-making. Study participants described incident command structures (ICS) as hierarchical, rigid, and primarily staffed by emergency responders. There was large variation in the inclusion of equity expertise in local incident management teams (IMT). Few IMTs had equity officers involved as decision-makers (in command-level positions), some had equity officers involved as participants who were consulted to varying degrees, and others had no representation of equity officers.

Second, equity capacity across the state were limited. While OHA has a dedicated Division of Equity and Inclusion, their team of equity practitioners was stretched far beyond their capacity. Demand for hands-on support, technical assistance, and tools for planning and decision-making was incredibly high. Many OHA Directors interviewed for this study identified their own knowledge and skill gaps around how to design an equitable pandemic response. LPHA interviewees spoke at length about their desire for a specific plan and guidance around how to center equity

"It is a traditional sort of bureaucratic structure that was not adept at responding in a way that was consistent with health equity and reaching priority populations. It was a very sort of military type model where there were just a handful of folks making some very important decisions that impacted a lot of people who were not well versed with the disciplines of equity and social determinants of health and accessibility and meaningful engagement in all those pieces."

—OHA Manager Interviewee

in their work. Other State Agency study participants noted they relied heavily on OHA to bring an equity lens to the pandemic response. CBO and Tribal Nation study participants that were leading front-line health equity work since day one of the pandemic had trouble building and sustaining their capacity as their work necessarily expanded.

Another area of stretched capacity was related to the collection, reporting, and use of data specific to race, ethnicity, language, or disability (REALD) and sexual orientation or gender identity (SOGI). Study participants noted that REALD data were collected as legislatively mandated, however, were not always collected consistently and there were varying levels of understanding and experience related to REALD data collection. According to a February 2021 report on REALD and COVID-19:

- Race and ethnicity data were available for 82.9% of COVID-19 cases and 62.9% of reported COVID-19 encounters;
- A preferred language was not documented for 40% of COVID-19 cases and 14.9% of COVID-19 encounters; and
- Disability information was not available for 65.2% of cases and 61.2% of encounters (OHA, 2021).

Additionally, REALD data were not shared back publicly on a regular basis except at high level categories of race and ethnicity (Asian, American Indian/Alaska Native, Black, Hispanic, Multiracial, Pacific Islander, and White). Study participants noted that OHA was in the process of putting plans in place to improve collection and reporting on SOGI data. This meant that there were not strong practices in place or sufficient capacity to build

"So the very beginning especially, not building in a specific, or having the tools or expertise or direct leadership being built in from an equity perspective. Also, the importance of through a response that community work engagement and community expertise and knowledge to build into that decision making was not well established at the beginning and definitely grew over time. But that was definitely an area of challenge at the beginning."

—OHA Director Interviewee

and adapt standard practices to improve data collection and reporting across governmental public health entities and the array of partners engaged in pandemic response activities. These capacity challenges hindered the use of REALD and SOGI data to inform Oregon's health equity work in response to the public health pandemic.

Third, buy-in for equity work varied significantly by region and also waxed and waned, especially in the face of the politicization of COVID-19. Study participants recalled encountering overt racism from some LPHAs and county officials and noted that health equity messaging doesn't resonate with many rural communities that are disenfranchised and distrust the government. Those who advocated for equitable approaches were often devalued and demeaned and had to fight for credibility, attention, and resources. CBOs and equity practitioners within OHA named this as a challenge more often than other respondents. They recalled multiple instances when they encountered resistance around prioritizing equitable access to information and resources. For example, CBOs and OHA staff who called for prioritizing migrant farmworkers in Oregon's vaccine roll-out; delaying the launch of the Get Vaccinated Oregon app to address accessibility issues; and keeping public health protections like masking mandates in place longer to protect vulnerable communities all received pushback and were told they were "penalizing the majority of people for this minority of people" (OHA Manager Interviewee). Many study participants observed that true equity values are brought to light when the time comes for difficult decision-making.

"Every single thing we did required a ton of advocating and convincing, so much that we wasted so much time... It was just a ton of convincing and fighting for every penny."

—OHA Manager Interviewee

## Health equity in practice throughout Oregon's pandemic response

There was large consensus across study participants that health equity efforts improved throughout Oregon's public health pandemic response.

Study participants named early equity missteps like a lag in translating and culturally tailoring communications materials; inequitable distribution of PPE across the state; and missed opportunities to develop trust in communities to improve compliance with statewide public health mandates and address vaccine hesitancy. Many found the lack of forethought on communication with marginalized communities "demotivating" and "avoidable" (CBO interviewees). CBOs in particular also wished there was more effort to combat misinformation. Rumors and myths circulated in communities and were hard to address without strong and consistent messaging statewide and from authority figures as well as trusted messengers like local doctors.

Alongside these early missteps, nearly all study participant groups noted the rapid and substantial resourcing of CBOs and the deepened collaboration with Tribal Nations and the honoring of their sovereignty as significant wins in the drive toward an equitable pandemic response. There was early recognition of the importance of resourcing CBOs and Tribal Nations, which had positive impacts on supporting health equity throughout the pandemic. The role that CBOs played during the pandemic was critical and their impact cannot be overstated; they kept communities safe, informed, and connected, and saved lives. They met needs on the ground every day while also engaging in crucial advocacy work to elevate the needs of their communities with decision-makers at the county and state level. CBO voices were central to informing Oregon's pandemic

"One of the frustrations in doing this work as long as I have is that people just assume that you just flip a switch and it's accessible. There's Google translate and you can get it in other languages, that ASL is just English but in a different format. And just a misunderstanding about how people view information, view the government, engage with information, and how they use that information to make decisions for themselves. And that all takes time. That takes resources, commitment from people, building trust. And they just didn't care."

—OHA Manager Interviewee



response and ensuring a focus on health equity and reaching historically marginalized communities. Tribal Nations also played a critical role in centering equity by tailoring their own pandemic response efforts to address the realities of existing health inequities in Tribal communities. They led public messaging and communication efforts, implemented public health mandates, conducted contact tracing and disease investigation, provided wraparound support, and coordinated vaccines.

Study participants across every participant group felt that equity issues became a central focus in vaccine roll-out. Study participants reflected that the Governor's Office and OHA missed opportunities to include historically marginalized communities in decision-making around prioritizing vaccinations, and also didn't have clear messaging and rationale for how populations were prioritized. Mass vaccination clinics were also noted as an equity misstep as they felt unwelcoming and unsafe to communities with valid distrust and fear in the government.

Throughout the vaccine roll-out process there were efforts to hear feedback from communities and adapt strategies to more effectively center equity in decision-making around prioritization of vaccines and vaccine communication with various populations. Some examples included having state and local public health staff out in communities to build trust and communicate about vaccines (e.g., going to local markets to build rapport with the Latinx community); having vaccines set aside early for Tribal Nations with the ability to prioritize populations differently than the rest of Oregon (e.g., prioritizing elders ahead of other populations); and shifting strategies from larger mass vaccination clinics to smaller local vaccine clinics often hosted by CBOs.

"When the pandemic first hit and we were dealing with the shutdown, the PPP loans and COVID-19 grants provided a lot of income that helped sustain and grow our programs as service providers."

—CBO Interviewee

"We could not show up in fatigues [military combat boots] and expect people who were non-documented or had concerns with the military in their home communities to feel comfortable getting vaccinated. We had some real conflict with our commitment to both lead with equity and showed up using the same tool."

—State Agency Interviewee

"Because we do everything through an equity lens, we were connecting constantly with partners who serve vulnerable communities and historically underserved and marginalized groups to get people to reduce barriers, basically. So we added in ways for people to get transportation to the vaccination events. We had home vaccinations through various first volunteer clinics. We were going out and vaccinating in homes."

—LPHA Interviewee

"My most difficult decisions had to do with allocating scarce resources during a time of shortage. The early days of the vaccine rollout were really difficult because there were a lot of people who really needed vaccines, that couldn't get it because we did not have the capacity to get vaccines to the right places at the right time."

— OHA Director Interviewee

Oregon continued to build its capacity and implement systems for equity-driven decision-making in the later stages of the pandemic. OHA Directors and OHA Staff and Managers interviewed for this study named tools used to inform resource allocation, including an equity impact framework. Multiple study participant groups named the importance of the COVID-19 Vaccine Advisory Committee and other groups composed primarily of representatives from historically marginalized and underserved communities, and organizations that serve them, that OHA pulled together to inform pandemic response strategies. Having structures for two-way communication like weekly partner meetings were an opportunity for Tribal Nations, LPHAs, and CBOs to hear state updates and also provide feedback around evolving community needs and concerns. Tribal Nation, CBO, and some OHA Staff and Manager interviewees named a palpable shift in mindset as decision-makers learned that prioritizing communities disproportionately impacted by COVID-19 required different strategies than prioritizing helping the most people possible, and they became more willing to make those difficult decisions.

"We really want to start at, 'Who are our vulnerable populations and why?' It doesn't matter that there's only 500 people. I think that COVID has helped push the conversation to talk about vulnerability and impact to a specific population, as opposed to, 'Show me the high numbers and then we'll talk.'"

—OHA Manager Interviewee

## Facilitators to achieving an equitable public health pandemic response

As they reflected on the pandemic overall, the majority of study participants were proud of their respective efforts to center equity while acknowledging they were imperfect. They noted several factors that facilitated or enhanced putting health equity into practice, including:

- Equity work depended on strong partnership networks with role clarity. All study participants noted that when strong partnerships were in place already, pandemic response work took off quickly and was bolstered by clearly delineated roles across communications activities, contact tracing, vaccination, wraparound supports, etc. Having partners familiar with and representative of the community ensured that early response efforts were grounded in community needs and aimed to address the disparate impacts of health inequities and disparate access to information, health care, and important resources.
- Adequate, timely, and flexible funding was another facilitator of health equity work. Decision-makers dedicated federal, state, and regional funding to resourcing CBOs and Tribal Nations to ensure that historically marginalized and underserved populations were prioritized for tailored communications and outreach, and for allocation of critical pandemic response resources.

"Just having the FTE available to really be responsive quickly was really helpful because things changed so fast and families needs were different hour to hour or week to week or month to month. Them allowing us to have funding that was very flexible, and I felt like they trusted us with knowing the families that we serve, knowing our population, and being able to quickly change how we were serving those families was like number one for us."

—CBO Interviewee

## Looking ahead

Lessons learned from Oregon's successes and failures in centering health equity in its pandemic response can inform improvements for the future. Study participants elevated key learnings related to building shared understanding, representative leadership, capacity, and infrastructure for equity work moving forward.

Key learnings are:

- **Importance of shared definitions and goals statewide**

The OHA health equity definition and strategic goal was foundational, but it wasn't shared across other agencies and there wasn't time to build shared understanding of the goal, its importance, and how OHA operationalizes a focus on health equity once the chaos of the pandemic hit.

- **Representation in leadership matters**

Many informants called attention to the need for state executive level and agency leadership to be reflective of historically marginalized communities. Having leaders and decision-makers reflect and represent diverse communities means equity work is an inherent value and practice rather than a cause that needs to be explained or fought for.

- **Resourcing CBOs and Tribal Nations**

The pandemic illuminated and validated the critical and irreplaceable role CBOs and Tribal Nations play in Oregon's public health system. Future public health emergency response will be

"Equity is a discipline and an approach, meaning that it requires people with specific skill sets, knowledge, and expertise; needs to be infused throughout the entire process and not limited to just one area (i.e. community engagement); and requires existing systems and procedures to be flexible or open to change in order to be incorporated."

—OHA Director Interviewee

stronger if Oregon continues to intentionally resource CBOs and Tribal Nations and supports their long-term sustainability.

- **Adapting decision-making structures and tools**

Several study participant groups, including CBOs, City and County Emergency Management, OHA Directors and Staff and Managers, and LPHAs, noted how impactful it was to have built equity capacity throughout the pandemic, including developing and using decision-making tools for centering equity. City, County, and Tribal Emergency Management focus group participants in particular noted how valuable it was to have equity officers as technical experts embedded into their work and desired to continue having equity deeply integrated into emergency operations in the future. Exploring ways to formalize, resource, and continually update these structural adaptations is important.

Overall, the prioritization of health equity was highlighted as an efficiency of the public health system's response to the COVID-19 pandemic, with significant room for improvement.

"Funding the CBOs and the tribes the way we did, now and into the future. The people that are on the ground doing the work, they're the experts. It doesn't matter if you're an MPH or a public health authority, it matters that you know your community and their needs. The state's responsibility is to support community needs. Whatever that tribe needs or whatever that county needs or whatever that region needs, it's our responsibility to support them. We are not the experts of them. They are the experts and they just need to tell us what they need and we need to support that."

—OHA Director Interviewee

## Public health emergency preparedness

Many entities within the public health system had procedures in place to respond to large-scale public health emergencies; however the resources needed to respond to COVID-19 eclipsed previous preparations and projected needs. Nonetheless, preparations that these and other entities made helped in response efforts. Frequently updated plans, more comprehensive training and preparation, clear communication and command structures, and preemptively built relationship networks were common themes that study participants cited to improve future public health responses to emergencies like COVID-19.

### Training + preparation

To prepare for public health emergencies, LPHA and OHA Staff, Manager, and Director study participants shared details about emergency preparedness plans, but, despite these plans, found the magnitude and duration of COVID-19 hindered their capacity for the initial and continued response. Additionally, a lack of emergency preparedness training and bilingual staff or training prevented some staff from LPHAs, OHA, and OEM from successfully implementing preexisting plans or engaging in response. Organizations did not prepare for the number of resources needed for the response, including space to store PPE, funding, availability of vaccines, and staffing. Additionally, CBO study participants shared frustration at the lack of preparedness by various sectors to disseminate information in a timely and culturally appropriate manner. Of LPHA study participants who felt their LPHAs were prepared, LPHAs shared that the preparedness of their leadership and governance structures allowed them to onboard staff quickly for the response.

### OHA

OHA Staff, Managers, and Directors shared about OHA's public health emergency preparedness through individual interviews. During interviews, staff from the OHA Director's Office shared that typical emergency management systems were not set up for a prolonged global pandemic. Emergency management systems were meant to respond to local emergencies and disasters like a flood or fire that is a shorter-term

incident and that requires mobilizing resources from other places. During the COVID-19 pandemic, every community, every county, every state, and the country were in dire need and resources (funding, PPE, vaccines, staffing, etc.) couldn't be pulled from elsewhere. Despite preparedness planning, the public health system was not prepared to respond to an emergency of this scale and duration.

Specifically related to training and preparation, LPHA and OHA Staff and Manager interviewees shared that their staff had not undergone sufficient training to know how to effectively respond to a pandemic. Although some staff had previous experience responding to the H1N1 pandemic, much of that expertise had been lost without ongoing training and many of those staff members were no longer working at these organizations. One OHA interviewee shared a need to be more creative during training scenarios, and another stated that there was a learning curve as people had to learn how to respond to a pandemic. This caused the response to an emergency of this scale to be chaotic and disorganized. OHA Staff and Manager interviewees cited the following factors as contributing to OHA's lack of preparedness to respond to COVID-19:

- Inability to obtain needed resources, such as PPE, vaccines, funding, and staffing; and
- Lack of preparedness for the duration and magnitude of the COVID-19 pandemic.

Lastly, with the expectation of a Continuity of Operations update in 2017, OHA's pandemic flu response plan had not been updated since 2008 and, thus, was likely outdated going into the pandemic (OHA, 2020). A replacement plan was put in place in March of 2020; however, this plan did not include functional supplements that described key activities and specific procedures and resources to support a pandemic response, including epidemiology and surveillance, health care coordination and surge capacity, vaccine distribution and use, information management, and community disease control and prevention.

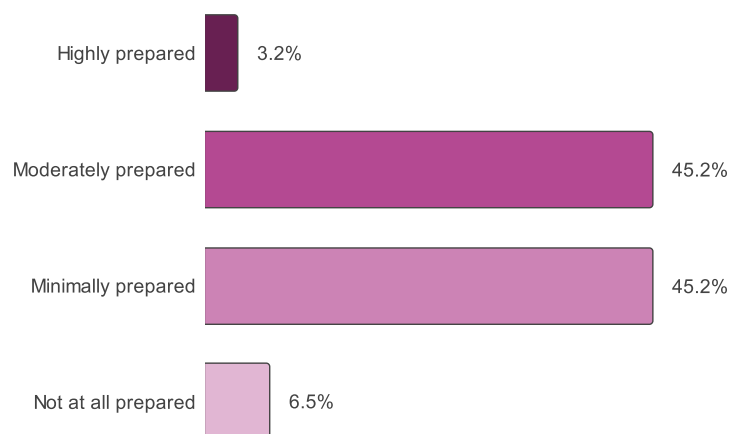


## LPHAs

LPHA leadership shared about emergency preparedness through interviews and surveys. When asked about the level of their LPHA's preparedness during Stage 1 (initial pandemic response), 48.4% (n=15) of respondents working on COVID-19 during Stage 1 felt their LPHA was moderately or highly prepared. Fifty-two percent (51.7%, n=16) responded that their LPHA was not at all or minimally prepared (see Figure 7). These data show the individual perception of their LPHA's preparedness by LPHA survey respondents.

LPHA interviewees who felt their LPHAs were prepared early cited a government structure that allowed them to hire and train staff quickly and leadership foresight to prepare for COVID-19 before state guidelines required they do so. Also mentioned by LPHA interviewees was a lack of functioning data systems to track COVID-19 data.

Figure 7: LPHA preparedness among LPHA staff working in Stage 1 (N=31)



"If we had not gone through that, not made assessments of the equipment we had [prior to COVID-19], we never would've been able to scale it up the way we did [to respond to COVID-19]. And that timing was very fortunate for us, but I think it drives home the point that you have to plan for these things, you have to be prepared, and that does take funding."

—LPHA Interviewee

Specifically related to training and preparation, LPHA interviewees cited the following factors as contributing to their LPHA's lack of preparedness to respond to COVID-19:

- Lack of physical space to store PPE;
- Underprepared for the length and magnitude of the COVID-19 pandemic, which led to staff burnout and fatigue;
- Difficulty hiring new staff and implementing new programs to respond to the pandemic; and
- Lack of robust and functioning data systems.

Finally, LPHA survey respondents were asked about the status of their LPHA's jurisdictional pandemic response plan. The majority of respondents (64.1%, n=25) reported that their LPHA had an existing plan, with over half of those (35.9%, n=14) reporting it was updated after the beginning of the pandemic. Five percent (5.1%) of respondents (n=2) reported that their LPHA did not have a plan (see Table 1).

**Table 1: Status of LPHA jurisdictional response plans (N=39)**

My LPHA had a plan that was developed or updated prior to the start of the COVID-19 pandemic	28.2%
My LPHA had a plan that was outdated that was updated after the start of the pandemic	35.9%
My LPHA did not have a plan at the start of the pandemic, but developed one after the start of the COVID-19 pandemic	10.3%
My LPHA does not have a plan	5.1%
I don't know	20.5%

"So I thought once we went through the pain of the first few months, once that was sort of put in place and some structures were developed, it went or worked pretty well."

—LPHA Interviewee

"High institutional knowledge but a lack of resources in place to be highly prepared."

—LPHA Survey Respondent

## City, County, and Tribal Emergency Management

OEM staff shared about preparedness and training through surveys. Most City, County, and Tribal Emergency Management survey respondents (54.6%, n=12) felt that their emergency management office/program was either highly or moderately prepared for the COVID-19 pandemic in general, not specific to pandemic start-up in Stage 1 like LPHAs. Of the respondents who felt minimally or not at all prepared, respondents reported that staff were not familiar with existing emergency plans or convening/coordinating an emergency operations center, or were not in a position to support telework and had to pivot quickly.

"We can barely focus on the hazards that affect our area regularly, let alone be resourced to plan for a pandemic.

—OEM Survey Respondent

"I had expectations that our Health Department had functional plans.... They did not."

—OEM Survey Respondent

"No prior knowledge of a pandemic, I believed that public health would have taken a more active role in the beginning."

—OEM Survey Respondent

## CBOs

Staff working at CBOs during the pandemic shared about CBO preparedness through interviews, focus groups, and surveys.

Interviewees from CBOs defined a public health system response as being on the frontlines of educating and supporting communities, with a focus on the most vulnerable communities. The following were described as key elements of the response:

- Built on a foundation of equity, equity-centered throughout response;
- Clear messaging and guidance delivered in a trauma-informed and culturally-responsive manner to community;
- Identifying and building resources to manage all the impacts of a global pandemic for communities;
- Maintaining a focus on broader public health issues and health outcomes (e.g., mental health, substance use disorder);
- Responsive to data and emerging information; and
- Urgency and efficiency in setting up response structures, teams, and processes.

Interviewees reported experiencing frustration with the lack of forethought that was put into getting information to the communities they serve. The communities that relied on CBOs were some of the most marginalized in the state and while CBOs made great impacts on their communities, the difficulties that were reported were described as "demotivating" and "avoidable."

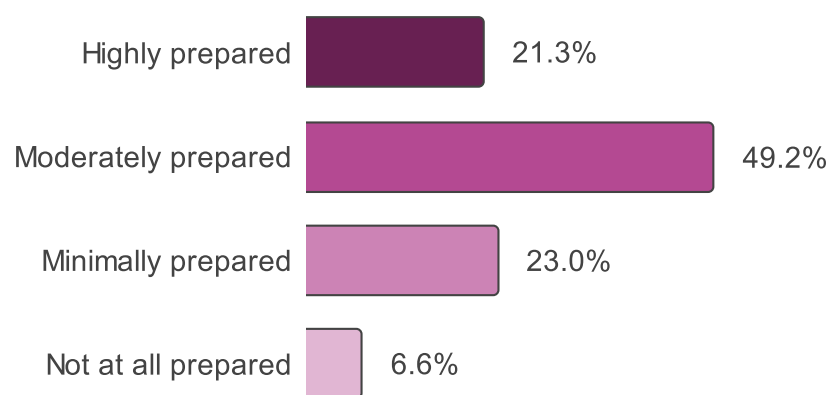
"We had the infrastructure in place to reach our community, but we lacked the resources to do so."

—CBO Survey Respondent

CBO survey respondents were asked how they would evaluate the level of their CBO's preparedness to date. Not all CBO survey respondents worked at their CBO from the beginning of response efforts. Their answers span the entirety of the pandemic and are not specific to pandemic start-up. Twenty-nine percent (29.6%, n=18) believed their CBO was not at all or minimally prepared, while 70.5% (n=43) believed their CBO was moderately or highly prepared (see Figure 8).

CBO focus group participants were asked what would have helped improve the rollout of vaccines in their communities. They shared a need for equitable resource and information distribution and accessibility, culturally and linguistically relevant thought partners, and translations, which, in their absence, deeply impacted vaccine rollout in the CBOs' communities. CBO study participants also expressed a desire to have had more training to equip them for an emergency response.

Figure 8: CBO preparedness (N=61)



"I would just have to say more accessibility to the resources and the information and other languages for the different cultures in the community."

—CBO Focus Group Participant

"Our CBO is consistently performing better with each vaccine drive, but there is always room for improvement."

—CBO Survey Respondent

"We immediately learned what we needed to do to protect our clients and the public and kept up with any updates provided by the CDC and OHA."

—CBO Survey Respondent

Overall, a lack of training and preparedness for a public health emergency such as the COVID-19 pandemic was highlighted by study participants as a deficiency in the public health system's response.

### **Strong relationships + command structures**

LPHAs and CBOs shared how relationships and communication formed the bedrock of their COVID-19 response. Conversely, when organizations lacked relationships, it was difficult to build those relationships in a short period to begin collaborating on response efforts. Additionally, for LPHAs, the ability to communicate and the adherence to command structures were elements that were important to their response. Command structures helped LPHAs focus their efforts and understand the chain of communication.

### **LPHAs + CBOs**

LPHA and CBO study participants shared about relationships through interviews. In their definition of the public health system response, some interviewees focused on the relationship between the state and counties, while others named OHA, OEM, other LPHAs, CBOs, and city and county emergency management as key actors sharing work. LPHA interviewees, in part, attributed their LPHA's preparedness to preexisting strong relationships with community organizations. Some LPHA interviewees felt that when strong relationships were not in place, work did not happen as efficiently or thoroughly as it could have, resulting in poorer preparation for and response to the pandemic.

"In this post COVID world, I think mandating people go through that [incident leadership] training [is necessary] and then rotating through response teams that get together and practice this work."

—OHA Manager Interviewee

Interviewees from CBOs attributed the success of public health response to collaborative relationships, including partnerships with other CBOs and LPHAs.

LPHA interviewees were found to have a consensus on the role of public health in alignment with existing emergency management and support structures. Interviewees agreed that following a chain of command existed for high-level decision-making during the response to the pandemic: Governor's Office making executive decisions, flowing through OHA, OEM, and other state agencies, who in turn gave guidance to counties, who then worked with local partners to implement requirements and communications to the public.

Most LPHA interviewees described specific aspects of their response under the broader umbrella of emergency preparedness and management. They named the incident command system and emergency management offices as key elements of the response.

## Looking ahead

Despite previous preparation for public health emergencies, study participants' reflections about their organizations' lack of preparedness for COVID-19 provides the opportunity to look ahead to future large scale public health emergencies and plan accordingly. Thorough and ongoing training on emergency response plans are needed, especially training for bilingual staff. Familiarity with plans is vital, as well as coordinating an emergency operations center.

"I would say our partnerships were our biggest success. Like I mentioned before, we're a small community, we already had really good relationships with a lot of different agencies. So like I said, we had people's personal numbers going into this, and so it was really pretty seamless. I think maybe one downside is that work never quit, because even when you go home, people have your personal number and they're calling and texting, which is fine."

—LPHA Interviewee

Reflecting on what worked well, ensuring government structures with flexibility to quickly hire and train staff is vital to response efforts, as well as the ability to telework. Additional efforts will be needed to base response in equity, tailor culturally appropriate communications, and be able to work on other ongoing public health issues for future response. Finally, strong preexisting relationships and ability to follow emergency command structures will be needed for a robust future response.

"I would define public health system response as a coordinated effort between stakeholders that have a lens of population health. So I think it means having a broad ... I mean, public health is literally everyone."

—LPHA Interviewee



## Funding

Federal funds were allocated or made available to claim for reimbursement through OHA to LPHAs, CBOs, Tribal Nations, and other partners through two main pathways: contractually-based funding and program elements (PEs).

Note: Due to the ongoing nature of the pandemic and a lack of detailed categorization and dates on many of the budget documents provided to the study team, total funding amounts and the number of fundees in each funding stream may vary to what is written in this report and are subject to change. A more detailed description of OHA funding for COVID-19 will be included in the second report.

According to documents provided to the study team by OHA and information collected from process interviews with OHA Director's Office and Public Health Division staff, OHA received federal funding from multiple funding streams over the course of the study period. OHA, PHD received over \$700 million in federal grant funds to spend and allocate for Oregon's pandemic response. In addition, over \$700 million in claims have been submitted for Federal Emergency Management Agency (FEMA) reimbursement for expenditures spent through OHA, PHD to support pandemic activities.

Multiple federal funding streams were awarded through various cooperative agreements with the Centers for Disease Control and Prevention, including:

- Public Health Crisis Cooperative Agreement;
- Hospital Preparedness Program;
- Epidemiology and Laboratory Capacity Emerging Infections Program;
- Immunization and Vaccines for Children; and
- COVID-19 Health Disparities Among Populations at High Risk and Underserved, Including Racial and Ethnic Minority Populations and Rural Communities.

The different cooperative agreement funding streams most often contained specific requirements about specific areas of work for which the funds could be used.

Examples of FEMA-reimbursement claims that have been submitted to FEMA include:

- COVID-19 response activities that went beyond what was funded by other federal grants;
- Wraparound services for individuals in isolation and quarantine;
- Vaccine access and distribution, including the Vaccine Operations Team – Equity (VOTE) which supports community-based vaccination events serving historically marginalized populations;
- Testing and vaccination sites and mobile clinics through the OHA Field Operations Team; and
- Distribution of and access to COVID-19 therapeutics to mitigate severe COVID-19 cases especially in high-risk individuals.

Other local, state and federal funding streams were also leveraged to support the pandemic response efforts throughout the state by various state, tribal, and local agencies and organizations responding to the pandemic.

Over \$700 million in COVID-19 funding has supported contracts and grants to LPHAs, Tribal Nations and the Urban Indian Program (NARA), CBOs, and other agencies and organizations for COVID-19 public health response activities around the state. OHA, PHD reported that they allocated:

- Over \$220 million in funding to LPHAs;
- Over \$29 million in funding to Tribal Nations and NARA; and
- Over \$89 million in funding to CBOs.

### **CBO funding through the Community Engagement Team**

The OHA, PHD Community Engagement Team provided funding to over 170 CBOs to support community engagement activities including COVID-19 prevention and education; wraparound services for people

facing isolation or quarantine, including direct client supports; and contact tracing. Multiple federal funding streams and FEMA-reimbursement claims supported these allocations. Agreements with CBOs outlined which funding streams could be used for which activities as different funding streams had different parameters. In addition to this CBO funding initiative, OHA, PHD supported CBOs through VOTE. There was also a separate initiative to support migrant and seasonal farmworker partner organizations through a separate program within OHA.

As described in the health equity section of this report, OHA provided funding and assets to CBOs as a pathway to best reach historically marginalized populations and bolster their efforts toward an equitable pandemic response. CBOs were asked about funding in interviews, focus groups, and surveys (see Appendices D-F). CBO study participants reported receiving COVID-19 response funding from federal, state, and local government as well as other public and private entities. Specific funding sources identified by CBOs across data collection methods included:

- Federal funding described above;
- Paycheck Protection Program (PPP) loans;
- ODE grants;
- LPHA grants and contracts;
- Health care Associations (such as CCOs);
- Other non-profit organizations (such as Oregon Food Bank); and,
- Philanthropy.

## **Funding through program elements (PEs) to LPHAs and tribal nations**

### **LPHAs**

LPHAs (and Tribes) received funding through OHA-issued intergovernmental agreements that included multiple program elements outlining scopes of work and deliverables for the different funding streams, each of which had different areas of work and budget parameters. LPHAs were authorized to use various PEs for pandemic response, which allowed them to shift funding and staffing from certain PEs to COVID-19 response. As of June 2022, LPHAs reported spending funds from several PEs on COVID-19 response. Some of these PEs were dedicated to COVID-19 response and others were dedicated to other deliverables which OHA deemed permissible to redirect to COVID-19 response expenses. Deliverables for PEs used for COVID-19 response activities varied and included running communicable disease programming, public health emergency preparedness and response activities, and providing immunization services.

LPHA study participants were asked about funding in the survey and in individual interviews. Many LPHA survey respondents were unable to answer questions about funding, since it was not a part of their role in the COVID-19 response. Five respondents reported affirmatively that their LPHA received COVID-19 funding from entities other than OHA, ten reported that they did not, and 24 did not know. Other sources of funding reported by LPHA study participants included the American Rescue Plan Act (ARPA), Foundation, CCO, Modernization dollars, General fund, and volunteer labor.

### **Tribal Nations**

According to funding guidance from March 4, 2020 provided to the study team, Tribal Nations and the Urban Indian Program (i.e., NARA) were initially authorized to use PE 31- Public Health Emergency Preparedness, PE 58/59- Public Health Modernization, and PE 65/66- Communicable Disease Response for general activities to support the COVID-19 response. The funding model for PEs was an equal split between Tribal Nations and NARA, except for PE 65/66-02 which was based on individual Tribal Nation activity selection and

preferred funding model. Allowable activities for Tribal Nations using funding from these PEs was similar to those allowed by LPHAs, and included staffing/capacity building, community interventions, and providing immunization services.

### **Uses of funding to support COVID-19 response activities at the local and tribal level**

The majority of study participants were asked about the use of funding to respond to the COVID-19 pandemic. The study participants highlighted in this section include LPHAs, CBOs, and Tribal Nations, who were responding to community needs at the county, city, and tribal level. During analysis, some common themes emerged for use of funding to respond to the COVID-19 pandemic across participant groups.

#### **Staffing + operations:**

LPHA, CBO, and Tribal Nation interviewees all named hiring staff as a primary use of COVID-19 funding. Study participants hired a mixture of temporary and permanent staff for their pandemic response, and used staff hours for all the categories of activities described below. CBO interviewees reported that operational costs included purchasing PPE for staff, and equipment for staff to transition to remote work (e.g., sit-stand desks, upgrading internet).

According to PE funding guidance for Tribal Nations, staffing-related costs could include any necessary staff support related to COVID-19 response activities, including conducting disease investigations; planning for distribution of COVID-19 vaccines; communicating about COVID-19 prevention; participating in development and exercise of Continuity of Operations Plans (COOP) related to COVID-19; and any activities promoting community resilience.

LPHAs were able to expand the role and capacity of public health and communicable diseases staff. Funding was designated to support hiring public health nurses who would provide an equivalent of six months of protected time for each communicable disease nurse selected by their LPHA to obtain infection control

training and prepare for the Certification in Infection Prevention and Control (CIC) certification exam. All 36 LPHAs were also allowed to fund public health nurses to conduct Infection Control Assessment Responses (ICARs). Lastly, funds could be used to support attendance of each of the 36 communicable disease RNs selected for infection prevention and control training through one relevant conference during the budget period.

Broad workforce development of LPHA staff; contracts for the provision of disease investigation services; and COOP development and exercise related to COVID-19; was also allowable under PE funding for LPHAs.

### **Community engagement + health equity:**

Through PEs, LPHAs were funded to provide education and activities related to community prevention, preparedness, and response and recovery. Related to health equity, allowable activities for LPHAs included providing education and immunization services to communities at highest risk of comorbidity from influenza, pneumonia, and COVID-19; supporting COVID-19 vaccine delivery with an equity focus; and ensuring long-term improvements for health equity and cultural responsiveness. “Activities promoting community resilience” was also listed as an allowable activity under PE funding for LPHAs and Tribal Nations.

### **Personal Protective Equipment + other supplies or equipment:**

Analysis of the interview data shows that LPHAs and Tribal Nations played a lead role in the purchase and distribution of personal protective equipment (PPE) and other supplies to their communities. Tribal Nation interviewees specifically reported purchasing and distributing supplies to allow for social

"We had no public health department. We stood up quickly. We started addressing the most important things first, getting policies together, training staff, letting the community know how we could help them"

—Tribal Nation Interviewee

"Just having the FTE available to be responsive quickly was really helpful. I felt like they trusted us with knowing the families that we serve, knowing our population, and being able to quickly change how we were serving those families was like number one for us."

—CBO Interviewee

distancing in clinical settings. According to PE funding guidance for Tribal Nations, allowable equipment expenses also included computers, telephones, software, and other equipment needed to assist with the COVID-19 response.

### **Testing + contact tracing**

Case investigation, contact tracing, and the provision of testing services were all funded activities. LPHAs were also allowed to support their COVID-19 County Testing Coordinators to participate in the local Regional Healthcare Coalition (RHCC) and assist with testing in high-risk settings and vulnerable populations. Tribal Nation and CBO interviewees also reported using funding for contact tracing. LPHA and Tribal Nation study participants also used funding for purchasing and distributing testing kits.

### **Vaccination**

According to PE funding guidance provided to LPHAs, allowable activities related to vaccination included planning, maintaining, and engaging the local and regional immunization infrastructure, including providing communication and training. LPHA, Tribal Nation, and CBO study participants were all involved in supporting vaccination in their communities to some degree. LPHA and CBO interviewees often reported working together to host vaccination events. This includes securing and setting up an event space for mass vaccination clinics, staffing vaccination events, conducting community outreach, purchasing vaccines, and the purchase and operation of mobile vaccination units (vans). Tribal Nation interviewees reported that funding was also used to provide community members with incentives for getting vaccinated.

### **Wraparound supports**

Although some LPHA interviewees mentioned providing wraparound supports for individuals in quarantine or isolation, our qualitative data analysis shows that Tribal Nations and CBOs were most involved in this aspect. LPHA involvement in providing wraparound services varied in what they did and across LPHAs depending on resources, etc. CBO interviewees reported a wide range of wraparound supports provided to

their communities, including food deliveries and rent and utility assistance. Tribal Nation interviewees specifically named temporary housing, economic support, grocery delivery, cleaning supplies, and support for tribal childcare services as some of the wraparound supports they were providing during the pandemic response.

### **Media + communications:**

COVID-19 communications were funded through PEs for LPHAs and Tribal Nations. LPHA interviewees reported that funding was used for media campaigns and other COVID-19-related communications. Some specific purchases named by LPHAs include billboards, an improved readerboard, and radio ad campaigns. LPHA interviewees also noted success in getting creative with their communication methods, and subcontracting with CBOs for translation and other communication services.

In addition to translating and culturally tailoring COVID-19 communications materials, CBO interviewees also reported using funding for the purchase of laptops, zoom accounts, and cell phones to stay connected and engaged with community members.

### **Necessary improvements to funding processes + mechanisms**

Nearly all key players in Oregon's public health response to COVID-19, including CBOs, LPHAs, and Tribal Nations, highlighted resources that could be used to better implement investments during a significant emergency response. They also discussed how federal fund allocation and use at the local and tribal level could go more smoothly in the future. During data collection, participants were asked about mechanisms for determining funding formulas and PEs, timelines for making funds

"We were serving as a wraparound services provider. When people tested positive in our clinic, we made sure that they could successfully quarantine by providing them with at least partial rent, grocery delivery that we paid for through state funds eventually, and paid their utilities so they didn't have to feel compelled to work."

—CBO Interviewee

"Our health administrator was a nurse practitioner and was really well known in the community. She and I did a lot of messaging through Facebook live sessions and videos. That was really well received by the community."

—LPHA Interviewee



available, disbursements, budget/reporting requirements, and flexibility within funding streams. Conversations through interviews and focus groups, as well as quantitative data collected from surveys, resulted in the following needs to be addressed for funding future public health emergencies.

The most frequently reported overarching challenge by CBO survey respondents was inadequate staff, while lack of adequate funding was the fourth most frequently mentioned challenge, with 31% of survey respondents indicating this as a challenge.

### **Unrestricted and flexible funding**

The need for unrestricted and flexible funding during emergency response was mentioned by CBO, LPHA, Tribal Nation, State Agency, and PHAB study participants. Many LPHA interviewees noted that limitations around the use of funds for specific funding streams were often confusing, adding stress during an already challenging time. Eighty-five percent (85%) of LPHA survey respondents reported that flexibility within funding streams for different PEs was needed to manage monetary resources during a public health emergency.

Spending funds was easy when the funding received was unrestricted and designated for general operations. For some grants, there were predetermined categories for what funds could be spent on with predetermined amounts for those categories that were inflexible, making it difficult for grant recipients to spend funds on certain response activities.

For Tribal Nations, although the amount of funding received met their needs, insufficient flexibility for how funding could be used caused concern that funding would go to waste because it needed to be spent on a particular aspect of their response, which was not always where the biggest need was.

"Response to changing environment: the learning curve was steep and pace of change was high."

—CBO Survey Respondent

"Public health funding is way too categorical, funds can only be used for certain activities."

—LPHA Interviewee

"They were all very set amounts and evenly distributed. There was no wiggle room, and that is unreasonable."

—CBO Interviewee

"It was difficult when the money was specifically earmarked for testing only, or for quarantine."

—Tribal Nation Interviewee

State Agency interviewees shared that they felt Oregon's public health organizations, particularly OHA, were generally underfunded compared to other state's public health organizations, and that being underfunded delayed response work. Several interviewees, including LPHA interviewees, felt that a more sustained investment into emergency management would better prepare Oregon for future emergencies and build a more robust public health system.

### **Predictable funding schedules + timelines**

LPHA and CBO interviewees discussed the need for predictable funding schedules and timelines to improve their emergency response. A few LPHA interviewees reported frustration with delays in funding disbursements from the state, resulting in short windows to spend down large amounts of funding. LPHA survey respondents also expressed this need, with 56% (n=22) of respondents noting "rapid timelines for making funding available" as a support needed to manage monetary resources during a public health emergency.

### **Simplified funding applications**

Professional Associations interviewees shared that the process for receiving funding was overall complicated, slow, and inequitable. However, the majority of CBO interviewees found the application processes to be generally straightforward, especially for OHA and foundation grants. CBOs felt that government agencies and other funders intentionally tried to streamline application processes to get funding out the door and into communities quickly, which was appreciated. That being said, a few CBOs believed gatekeeping occurred with funding, feeling that if you did not have a

"We need better funding for OHA so they can staff up."

—State Agency Interviewee

"Clear timelines (although probably impossible to predict) would have allowed for us to hire additional staff to help with education, outreach, and reengagement."

—CBO Survey Respondent

"We have funding for something and yet we're unable to hire for that position, or we're hiring someone in three months and we're supposed to spend it all before then."

—LPHA Interviewee

professional background in applying for funding, it was difficult to receive. It should be noted that the sampling frame for CBO study participants only included CBOs that received funding from OHA, so the perspective of CBOs that were successful in applying for and receiving funding may be overrepresented in this data.

### **Easier reporting, consistent requirements, and easy to use data systems**

LPHAs, CBOs, + Tribal Organizations reported that easier funding reporting would have improved their ability to respond to COVID, including clear communication about funding reporting requirements, consistent requirements, and reporting data systems that were easier to use. Approximately 16% (n=10) of CBO survey respondents reported that they did not encounter any barriers to efficient use of COVID-19 funds. The majority of respondents, however, (84%, n=51) reported experiencing at least one barrier. The most commonly cited barrier among CBO survey respondents was reporting requirements associated with the funding source (46%, n=28), followed by spending requirements for the funding source (43%, n=26) and the use of a reimbursement structure or model of funding (36%, n=22). Forty-one percent (41%) of LPHA survey respondents also indicated that streamlined reporting requirements would help with managing monetary resources.

Challenges with reporting also came up in CBO interviews. According to CBO interviewees, reporting requirements weren't communicated clearly, they changed multiple times, and the mechanisms for tracking data and submitting reports were cumbersome. Several CBO interviewees felt that

"I think other states' disbursement of federal funds was much more equitable and cognizant of the fact that local entities, be they cities, counties, or special districts, had born the brunt of the public health crisis, whereas in Oregon, they seemed to keep a significant amount of the funds for the state."

—Prof. Association Interviewee

"Submitting documentation was cumbersome and took weeks."

—CBO Survey Respondent

"We were eligible for additional funding, but declined to apply due to our experience with reporting for our existing COVID-19 funding through OHA."

—CBO Survey Respondent

they spent too much of their time helping clients fill out paperwork tied to reporting requirements.

Tribal Nation interviewees shared that there were not always clear guidelines on how the money could be spent, which led to confusion. Tribal Organization interviewees reported challenges securing tribe-specific funding as they did not want to be in competition with tribes for the same funds, and changing funding guidelines were also burdensome.

State Agency and OHA Staff and Manager interviewees both stated they did not have full visibility on all of the federal funds coming into the state, even though they felt it was their role to understand this process.

### **Grant + funding management technical assistance**

CBO study participants brought up several needs around technical assistance for grant and funding management. A few CBO interviewees believed gatekeeping occurred with funding, feeling that if you did not have a professional background in applying for funding, it was difficult to receive. Funding from sources other than OHA lacked a predictable schedule for receiving funds, which was challenging. Additionally, CBO interviewees that received funding tied to invoicing and reimbursements found that process burdensome and stressful, as CBOs reported that they didn't always have the right funding at the right time to respond to community needs. Lastly, several CBO interviewees noted they had difficulty coordinating multiple grants and understanding how some grants impact others.

"Every reporting period the report templates changed, so you would have to re-enter the previous information because you had to download the revised template. Also, the template had errors in the formulas."

—CBO Survey Respondent

"Funding is a blessing, but it's also a lot of work. It doubles or triples my workload, honestly."

—Tribal Nation interviewee

"We really did not have visibility on federal funds that were coming to our state."

—State Agency Interviewee

In surveys, nearly three quarters of LPHA respondents (n=23) identified a lack of staff capacity to stand up and maintain programs as the top barrier to efficient use of COVID-19 funds. Additionally, LPHA interviewees reported a complicated reporting process for FEMA funds, and recommended additional training and support to maximize these funds in the future.

### **Improved overall communication**

Communication about funding opportunities could be improved, especially for smaller and more emergent CBOs that don't have existing relationships or a history of partnering with state and local government. Streamlining grant and contract requirements and parameters was another area for improvement noted by the vast majority of CBO interviewees. CBO study participants expressed that funding streams often lack capacity for required administration to manage the funds, and that there is a need for clearer direction regarding funding uses and constantly changing funding guidelines.

A couple of LPHA interviewees reported they were initially hesitant about the decision to fund CBOs directly, due to unclear expectations about CBOs, lack of existing infrastructure to support funding of this size, and lack of CBOs in specific communities.

### **Solutions for Staffing + sustainability after COVID funding**

One of the biggest funding-related challenges reported by LPHA study participants was the surge staffing. Specifically, funding deadlines and

"They didn't explain to us how those grants could work with or interfere with each other. So if we charge something to one grant, maybe the rules are different for the other. None of that was very clear."

—CBO Interviewee

"The changes in directions for the funding and reporting wasted a lot of time and effort for CBOs and added to staff burnout."

—CBO Interviewee

"No information, unclear funding, totally unclear expectations of the CBOs, need I say more?"

—LPHA Interviewee

an inability of “roll-over” funds made it difficult to recruit necessary staff during the response, since the position could not be guaranteed for a set amount of time.

Many LPHA interviewees mentioned that COVID-19 specific funding has run out for some functions, yet LPHAs are continuing to do this work, forcing LPHAs to pull funds from other public health programs to continue to the COVID-19 public health response. In the long-term, several LPHA interviewees talked about planning for the day when COVID funds run out, and how they will sustain their services. Many are hoping to retain some of the staff they hired on as expansions to their emergency preparedness, incident command, and communications teams. There is also some curiosity and concern about what happens with other programs that had funding diverted to the pandemic response, now that it’s become clear that the pandemic response is more long-term than initially thought.

Tribal Organization interviewees and focus group participants reported that their funding opportunities did not come with FTE, which posed further problems for tribal organizations. This, along with higher staff burnout at nonprofits and difficulties hiring, impacted tribal organizations’ ability to push out funding to the community efficiently.

To respond to the pandemic, CBOs have grown their teams and expanded their work significantly and are now worried about how to financially sustain their size and operations. Several CBO interviewees noted that they would have appreciated support with planning for sustainability as COVID-19 funding runs out.

"But sometimes if you don't have enough people and you don't have the tools that they need in order for them to stay in the job and to grow in the job, you can't just [use] money alone to build a public health system."

—LPHA Interviewee

"All this money was poured into the system, hospitals and public health, and those physicians are not funded anymore, and so the rug is coming out from under us, and there's no more help, there's no more resources, right?"

— Health Care Assoc. Interviewee

## Looking ahead: streamlining + sustaining investments in public health

All of the necessary improvements identified by study participants in the previous section indicate a general desire to streamline funding processes and increase access to funding sources, especially during a public health emergency.

Across data collection methods, most participant groups reported that one of the biggest lessons learned from the COVID-19 pandemic was that Oregon's public health system overall is lacking critical, sustainable funding for permanent staff needed to stand up and maintain an effective emergency response.

Interviewees from the OHA Director's Office specifically noted that typical emergency management systems are not set up for a prolonged global pandemic. Emergency management systems are meant to respond to local emergencies and disasters like a flood or fire that is a shorter term incident and that requires mobilizing resources from other places. During the COVID-19 pandemic, every community, every county, every state and country was in dire need and resources (funding, PPE, vaccines, staffing, etc.) couldn't be pulled from elsewhere.

When asked about "lessons learned" throughout the pandemic response, State Agency and LPHA interviewees consistently stated that investments are needed in Oregon's response structures at the state and local level to ensure adequate numbers of staff who are fully trained and exercised, ready to address any future public health emergencies including pandemics and natural disasters.

"The recruitment for CBOs was good, however, the expectation for funds to carry out the response was delayed. Also, the initial response from the Public Health contact person was almost non-existent, and we needed more direct interaction from OHA. The position was finally eliminated, and OHA finally took over."

— CBO Survey Respondent

"I don't need one time funding. I need funding for staff, and maybe that means I will have to lay off people later, I don't know, but we can't provide public health services without the people."

— LPHA Interviewee



## Operationalizing the COVID-19 response

Numerous entities were involved in operationalizing the pandemic response, chiefly, public health and emergency management agencies. Emergency Management Coordination refers to the response structure in which Oregon state, county, city, and tribal government agencies, private sector organizations, and community based organizations, collectively respond to emergencies and disasters. As a result of the passing of House Bill (HB) 2927 in 2021, The Oregon Department of Emergency Management (OEM) was officially established as a stand-alone cabinet-level department and reports directly to the governor. OEM maintains Oregon's Emergency Operations Plan which describes the authorities, the structure, and the roles and responsibilities for managing any large-scale emergency.

The coordination of a state incident response is accomplished through emergency support functions (ESFs) which rely on both lead and coordinating agencies to accomplish specific capabilities. For example, during the COVID-19 response, Oregon Health Authority became the "lead" agency for ESF-8, Public Health and Medical Services which involves close coordination with the US Department of Health and Human Services, at the federal level. ESF representatives from state agencies work together within a state emergency operations center following a disaster in order to provide coordinated assistance to local jurisdictions that have exceeded their capacity to respond.

This section includes key findings related to emergency management coordination during the COVID-19 response including operational coordination, vaccine distribution and administration, personal protective equipment (PPE) distribution, and public information dissemination. Emergency management staff at both the state and local level participated in interviews, focus groups, and surveys and their responses are captured here along with data from other study participant groups. It is important to note that the information in this section does not solely reflect activities conducted or influenced by emergency management agencies, rather, it includes details on how these emergency management components were coordinated by all participating entities, regardless of their sector.



## Operational coordination

### Definition of the public health system response

Although LPHA interviewee responses varied greatly, there was overall consensus on the overarching structure of the public health system, the collaborative nature of the response, the focus on prevention, and the role of public health in alignment with existing emergency management and support structures. Interviewees agreed on a general chain of command when it comes to the public health system: the Governor's Office makes executive decisions, those decisions flow through OHA, OEM, and other state agencies who give guidance to counties, and counties work with their local partners to implement requirements and communicate with the public. LPHA interviewees named the incident command system and emergency management offices as key elements of the response.

Some LPHA interviewees focused on the relationship between the state and counties in their definition of the public health system response, naming Oregon Health Authority, Oregon Emergency Management, LPHAs, and local emergency management as key actors in this system.

One LPHA interviewee stated that although there was communication between some aspects of Oregon's public health system, there was sometimes a disconnect in bringing public health to the tables.

State Agency interviewees explained that the public health system response relates to establishing the structure of the healthcare system and ensuring it aligns to support the public health impacts of an emergency.

"When I think of the Oregon public health response, I think of emergency support function eight, which is health and medical in the emergency management framework, and the CDC's 15 core capabilities for public health emergency preparedness. We can't perform all these functions on our own, so, we focus on what we have the legal obligation to do in public health, and then beyond that, ensure that those folks who are most vulnerable, most susceptible to disease, death, have those protections in place.

—LPHA Interviewee

"It's really implementing all the preparedness planning that started at post 9/11 and putting that into practice in a larger scale."

—LPHA Interviewee

Interviewees made a strong connection to sector partnerships- state public health, local public health, and the healthcare sector- working together to collectively respond to a public health emergency or public health aspects of an emergency. There was emphasis on the healthcare system, its integration into the community, and its reliance on the public health system to support this work.

### **COVID-19 incident command system, unified command system, and other structures**

**Tribal Nations:** Tribal Nation interviewees coordinated with other Tribal Nations, local public health authorities, and OHA. Some interviewees mentioned that their tribe did not have the resources to have a tribal health department, and that there was no public health infrastructure in place at the tribal level to allow for staff to be prepared for this level of coordination.

**State Agencies:** The primary role of OEM was to set up and lead the state's emergency operations and coordination centers, joint information centers, and unified command structures in support of both the public health and emergency management components of the pandemic response. As a standard role of emergency management, a federal disaster declaration was made which led to a request for federal FEMA assistance and standing up the emergency coordination center for full engagement of state emergency management.

"I saw that the Oregon Health Authority was in close communication with CDC and as well as our neighboring states to try and align strategies and support systems and decisions. I saw our health system partners rely a lot on local public health to do direct service that is not in our normal scope of work. I saw our emergency management partners often communicate within their systems in absence of connection with public health. So we were in parallel instead of in the same room at the same tables when we needed to be..."

—LPHA Interviewee

In conjunction with the Governor's Office and as the subject matter experts on requesting declarations, OEM drafted and revised the emergency and disaster declarations, ensuring the proper statutes and references were listed. This included not only the public health statutes but also the general emergency management authorities needed to carry out the emergency components and elicit federal disaster resources. Emergency management became "...the focal point for engagement with FEMA for federal disaster assistance." (State Agency interviewee). Once the declarations were made, specific Oregon statutes provided emergency management the authority to coordinate emergency management activities and the state's preparedness response, recovery, and mitigation efforts.

One State Agency interviewee noted that there were several incident command and unified command structures set up at various times throughout the pandemic response that were led by either OHA, OEM, or other state leaders. Matters were also complicated by a series of wildfires that occurred in fall of 2020 and a winter ice storm that occurred in the beginning of 2021 that resulted in additional stresses on the already strained emergency response structures.

State Agency interviewees spoke of the Oregon Health Authority's agency operations center that was operational in the beginning of the response. According to interviewees, when the Oregon Health Authority became overwhelmed, the OEM set up the emergency coordination center (ECC). It was noted from one interviewee that there was limited presence from OHA at the ECC. The ECC included a unified command group comprised of OEM, OHA, and the Governor's Office. The primary objective was to operationalize the policy direction and inform the state ECC. Reportedly, OHA delegated their position in the unified command group to their Chief Financial Officer (CFO) and the Governor placed her Resiliency Officer/Policy Advisor in the unified command group. Although a State Agency interviewee explained this group was nominally effective, there were still decisions being made that were never shared back to the ECC and unified command group. This interviewee shared that often they would not hear about policy decisions (or policy decision changes) until they were announced at press conferences.

One State Agency interviewee explained that the ECC was demobilized In April and May of 2020, but still coordinated calls and helped to coordinate state agency actions. The agreed-upon plan was that state public health would run public health operations through their agency operations center. The COVID Response and Recovery Unit (CRRU) was set up and did not include all partners, including emergency management. Tangential to the CRRU was a multi-agency coordination group (MAC-G) that emergency management initially participated in. OEM was later removed from the decision-making level within the MAC-G, and their role at that point was only to listen and operationalize key components of the response back through the ECC.

**LPHAs:** In the beginning stages of the pandemic, LPHA interviewees explained that they were establishing their incident command structures. State Agency interviewees noted that they were also setting up and maintaining their structures and coordinating with other state agencies, LPHAs, and local emergency management programs and offices.

Whether it was LPHAs interacting with OHA, other state agencies, CBOs, their Board of Commissioners (BOC), law enforcement, or any other partnership, LPHA interviewees often felt like their specific role in the response was unclear, and a few said they felt like they were "gap fillers", stepping up wherever others in this list would or could not. Clearer procedural guidelines and stronger partnerships were recommended from interviewees to prevent this confusion in future responses.

Some LPHA interviewees felt like LPHAs should have "a seat at the table" at the state level or expressed concern over a top-down approach. Other LPHA interviewees condoned having decision-making power lie with the state.

"I think also communicating the shared responsibilities to our leadership. Many local public health authorities didn't know that they were local public health authorities until the pandemic. Distinguishing those roles and responsibilities versus their role versus our role as the administrator or the ones doing the public health work.

—LPHA Interviewee

"A lot of it was advocating to OHA what we thought was needed. It was very much a top down response. And from my perspective, that was most effective and needed. A piecemeal effort county by county for a global pandemic, to me, doesn't make a lot of sense.

—LPHA Interviewee

**City and County Emergency Management:** City and County Emergency Management Focus Group participants noted they were also setting up and/or participating in their jurisdiction's incident command system, unified command, and/or joint information center operations. City and County Emergency Management Focus Group participants spoke about coordinating with local public health frequently during the response. One interviewee noted that they assisted local public health in navigating emergency response functions and systems. Some City and County Emergency Management Focus Group participants said they had joint operations and unified command with public health and emergency management at the emergency operations center. One interviewee noted that public health's operations were located in the public health branch within their incident command system structure.

Two City and County Emergency Management Focus Group participants noted they established a multi-agency command (MAC) group including public health, emergency management, environmental health, County planning, and emergency medical services (EMS). The public health representatives in the MAC group would receive direction from OHA and recommendations from other local public health directors. The public health representatives would then bring that information back to the MAC group.

One City and County Emergency Management Focus Group participant noted that they had separate command structures between public health and emergency management. They conducted their own contact tracing out of the emergency management emergency operations centers, but they did this in conjunction with public health's department operations center.

"The county emergency management staff, I don't want to say they divorced themselves from it because that's not true, but they stepped back. They were still involved and remained that way. But the lead and the decision making and the management process was all handled through [county in Region 3] Public Health."

—City and County EM Focus Group Participant

Another City and County Emergency Management Focus Group participant noted that although public health remained the lead, they brought in an incident management team from the state fire marshal's office to assist them. Other interviewees noted that if a county did not activate their emergency operations center, public health took the lead response role through the public health department operations center.

Several City and County Emergency Management Focus Group participants noted that because there were municipal (city) emergency management agencies without a sister municipal public health department, they had to operate independently and unique from the county. Another City and County Emergency Management Focus Group participant acknowledged that there was a municipal emergency management department (through fire or law enforcement) but not a sister public health department at the municipal level. Therefore, they coordinated emergency response operations at one jurisdictional level up to the county. They further recognized that the county had the response authority and resources to assist them.

Yet another City and County Emergency Management Focus Group participant noted it was very challenging to have a municipal (city) emergency management department but not a municipal public health department.

"So the county doesn't have enough people to address the population within the [city in Region 1], so they have to work with the city emergency managers. But the city emergency managers had no direct authority around this. My understanding, I was not in directly on these conversations, but my understanding was that the county was not willing to delegate, at least initially, any of those authorities to the city to allow the city to make some of those decisions regarding the population."

—City and County EM Focus Group Participant

## Operational coordination in Stages 1 through 4

During Stage 1, State Agency interviewees explained that they were setting up and maintaining incident command and unified command system structures. Interviewees also discussed setting up and participating in various incident command and unified command system structures such as the COVID Response and Recovery Unit (CRRU), emergency coordination center, and joint information centers. One interviewee noted that they began to activate the Governor's Disaster Recovery Framework and the state's recovery function (SRF). However, they were quickly told to focus on solely leveraging federal funds.

OHA Staff and Manager interviewees spoke about the rapid and efficient ramping up of the Incident Management Team (IMT). They commented about the staff's diligence and teamwork.

During Stage 2, explained one State Agency interviewee, the CRRU was set up mostly in conjunction with Oregon Health Authority, operating consistently, and supported by emergency management to the extent possible as allowed by Oregon Health Authority. This interviewee explained that the early incident command system structures were demobilized when the CRRU was solidly in place.

OHA Staff and Manager interviewees explained that in Stage 4, there were specific challenges around mass staff turnover especially with temporary positions, as well as the CRRU dissolving.



## Operational coordination, communication, and responsiveness among state agencies

State Agency interviewees spoke consistently about the lack of coordination, communication, and responsiveness among the state agencies. Concerns included a perceived lack of collaboration among the various coordinating bodies such as the emergency coordination center (ECC) and CRRU. Additionally, interviewees reported significant role confusion among state agencies and various programs/departments and difficulty among non-OHA state agencies in connecting with or collaborating with CRRU. For example, one State Agency interviewee remarked that they were not incorporated into various conversations specifically regarding reopening strategies nor were provided with a statewide COVID vaccine strategy. This interviewee remarked that the CRRU was not part of the vaccine strategy which complicated vaccine administration further and resulted in their lack of planning for mass vaccine distribution events.

Many interviewees opined that role confusion made response operations difficult as state agencies had to first determine roles and responsibilities before actions could be taken. Concomitantly, confusion or over technical terms and nomenclature occurred, possibly adding to the confusion.

Several City and County Emergency Management focus group participants noted that the lack of decision-making authority and clarity around roles complicated emergency operations center and/or joint command operations. One participant stated that they did not always know who within the county was in charge, and it was very difficult to maintain continuity for longer term initiatives.

"Early in COVID, the OHA was like, 'You need to stop calling it an emergency coordination center and start calling it an emergency operation center. We need to operationalize our response.' I'm like, 'Well yeah, that's what you do at your agency operation center. You operationalize your public health response.' ODOT operationalizes their transportation response [etc.]. Emergency management, we coordinate, we operationalize through the ECC all the time, but function number one is coordination."

— State Agency Interviewee



"After a couple of months, we had the state ECC established, but not great coordination with OHA. At the state ECC, they sent one person down the first day we were activated. And then after that first day, didn't have any presence at all in state ECC. And then they sent folks who literally, when they would call back to OHA for information to inform what was happening at the ECC, would be told we can't share that. Some of the OHA folks would be in tears because they were so frustrated because of their lack of information since they were not up in Portland and down at the ECC. Just, OHA was unwilling to share information.

—State Agency Interviewee

"We would be told what policy decisions had been made, or we would find out what policy decisions had been made through press conferences at a later date. And then through the unified command group, we would try to take those policy decisions and operationalize them through the ECC. But again, there was still that disconnect between the Oregon Health Authority's operation center and the state emergency coordination center."

—State Agency Interviewee

"[OEM would say one thing] and then we would backtrack and OHA would say another."

—City and County EM Focus  
Group Participant

## Utilizing existing plans + structures

Stage Agency interviewees noted there were significant coordination issues with not following the already established plans and protocols for the response. One interviewee noted that the state was not following the state's emergency operations plan or what was outlined in the executive order that establishes the governor's disaster cabinet. Another State Agency interviewee commented that although there was a unified command established, the state did not follow the state's Capitalize Emergency Operations Plan. They noted this is because the Oregon Health Authority said to operate differently which received buy-off from the Governor's Office and executive leadership who deferred to the state's public health partners. They noted that the state's emergency operation's plan includes a specific annex on public health emergency operations, ESF-8, that outlines the key roles, responsibilities, and actions of public health in an emergency. They further remarked that there were many people in decision-making roles that did not understand the foundations and systems of emergency management.

Several City and County Emergency Management Focus Group participants noted that the state of Oregon did not have a published pandemic flu plan in place. This "...provided an aggravating factor when it came to really understanding what are we trying to accomplish here." (City and County Emergency Management Focus Group participant)

"OEM's role in recovery was exclusively to make sure that we were leveraging FEMA federal funds. And that was it."

—State Agency Interviewee

### **Policy decisions among varying decision-making authorities**

Several City and County Emergency Management Focus Group participants noted that the lack of decision-making authority complicated emergency operations center and/or joint command operations. One participant stated that they did not always know who within the county was in charge, and it was very difficult to maintain continuity for longer term initiatives. It was noted that OEM would say one thing and "...then we would backtrack and OHA would say another." (City and County Emergency Management Focus Group participant)

### **Operational coordination staffing**

One City and County Emergency Management Focus Group participant noted that their permanent employees were burned out and could not accomplish the demands of their regular job on top of the response.

Another City and County Emergency Management Focus Group participant remarked that staff turnover and constant staff changes were challenging.

### **Operating separate command structures**

One City and County Emergency Management Focus Group participant said that public health wanted to have a separate incident command structure with their own staffing within their own building. Even after attempts from emergency management to set up joint command, one interviewee noted that they declined and were just integrated into their own operations section.

"Building a program from scratch without staffing was an incredible challenge, and I think not a lot of people with experience both in a clinical setting or in an emergency, we just didn't have those resources..."

—City and County EM Focus Group Participant

"A lot of times, there was change and turnover. And so, we may build kind of a system in place and then you'd get a new person and then they would be learning again. So, almost like we're starting over from scratch."

—City and County EM Focus Group Participant

Another City and County Emergency Management Focus Group participant shared that because they did not have an emergency operation center and a good flow of information coming through.

One City and County Emergency Management Focus Group participant said that there were more resources available to help with response operations, but because public health was operating their separate department operations center, they were not receptive to accepting this assistance.

Another City and County Emergency Management Focus Group participant shared that the health and medical MAC took planning and staffing resources from their emergency operations center. This parallel structure was not then providing the information needed.

### **Public health operational coordination training and experience**

Several City and County Emergency Management Focus Group participants noted the lack of public health operational incident command system training and experience as a key challenge. This was particularly seen in joint command centers within the command group.

Another City and County Emergency Management Focus Group participant noted that some of the language and terminology was challenging for public health. Therefore, emergency management had to put a lot in place to make sure that they were not operating with a sense of urgency when it was not needed (and to operate with a sense of urgency when it was needed).

"We didn't know what they were doing and what they were not doing. It was very siloed, best way to put it, of public health's response."

—City and County EM Focus Group Participant

"We were in competition with our efforts and not in coordination, I did not feel like that was an effective framework for the response..."

—City and County EM Focus Group Participant

Another City and County Emergency Management Focus Group participant noted that the lack of Emergency operations center (EOC) experience from public health resonated mostly in the beginning of the response until several weeks had been spent in the EOC.

City and County Emergency Management Focus Group participants provided additional feedback on public health's operational coordination training and experience.

LPHA Survey respondents noted they had a variety of public health emergency preparedness and emergency management experience.

- "I've been a HO [health officer] for several years, we have a good response structure, but it had never been really practiced to a point to feel really ready for this"
- "I have knowledge, training, experience, and expertise related to communicable disease epidemiology and emergency preparedness. I was able to train all our Covid-19 case investigators and contact tracers to support the early disease interventions during 2020. EOC was stood up, JIC stood up and partners involved, workforce was surged after first major outbreak"
- "I had completed the required ICS trainings, and had several years of experience with communicable disease and outbreak response. I had not yet been involved in preparedness exercises, live or tabletop, and was not aware of details of public health emergency planning."

"When it comes time to stand up, these emergency command posts or disaster command posts, they struggle to get out of the weeds and get out of the operational side of things. They want to be directing boots on the ground at the event or at a dispensing location at a vaccination site. And it's like, 'No, no, no, your high level, step back.'"

—City and County EM Focus Group Participant

"My role along with my county emergency manager, we were more of instructors for the public health because they lacked the experience in response. We had to teach them how to do things on the fly."

—City and County EM Focus Group Participant

- "...had training, and plans, but no real life experience with a pandemic response"
- "Have the relevant trainings in ICS but was not in practice during H1N1, which would have been practical preparation"
- "I had completed the required ICS trainings and done exercises for points of dispensing, but no further"
- "I was new to the job and our department didn't emphasize much emergency preparedness aside from ICS courses"
- "I was 6 months into working in Public Health, I had completed the minimal/mandatory ICS online trainings but had not participated in any table top exercises or situational analysis. The PHEP coordinator was actually working in EM, not in PH"

"And because we have a lack of understanding about what an Incident Command System is, how our objectives are created, I think a lot of people in positions of power did not allow us to adjust our objectives to meet our resources, and so we blew out staff, we lost a lot of really, really good people, I think."

—City and County EM Focus Group participant

"Public health staff didn't have robust ICS Training - they adapted to a very complex model that others couldn't easily integrate into which provided challenges."

—Emergency Management Survey Respondent

## Lessons learned and improvements

**Healthcare Associations:** Healthcare Association interviewees discussed how the pandemic created stronger collaboration and coordination efforts and a good statewide area for improvement would be to continue and foster those strong collaborations. To continue to utilize the infrastructure that was created throughout the pandemic.

"I think one of the things that Oregon needs to figure out is what is a local function versus a state function versus a regional function. We're a unique state where I think a lot of things do need to happen regionally, and I just don't think we're there yet on some of the way the public health system is designed with a county-by-county structure. I think there's clearly things that need to be held at the state level, and things that need to be done locally. Regionally, I still don't think we have all of that figured out, or how we want to take this on. As I say, what functions need to be centralized, and what functions can be local, and what decisions can be made locally within some framework, whether it's reopening or setting-up vaccine sites, or whatever.

—Healthcare Association Interviewee

**State Agencies:** Several State Agency interviewees noted the importance of adhering to already established plans within the state public health emergency preparedness and emergency management systems while specifically stating "follow the plan." Although there was recognition that the state's Emergency Operations Plan was not perfect, State Agency interviewees explained that there are systems, infrastructure, and roles and responsibilities already established for emergencies. These plans provide the framework for how to organize the response and align with the federal response and recovery expectations. State Agency interviewees commented that to improve the preparedness and response to future pandemics, key leadership and decision-makers need to understand their agency's roles and responsibilities during emergencies and participate in training and exercises so that there is a commitment to following these existing and established plans and procedures.

One State Agency interviewee explained the criticality of state agency partnerships.

"There was too many disconnections, too many things happening in a vacuum, probably too much distrust, an unfamiliarity of what the emergency management system was, and an unwillingness to rely on the experts, the people that know how to do this work to help guide some of those decision making processes."

—State Agency Interviewee



Another State Agency interviewee explained that the joint COVID response structure that was set up should be fully funded, trained, and exercised as a standing operation going forward, particularly to address any future public health emergencies. A thoughtful investment into emergency management will better prepare Oregon for other emergencies such as the Cascadia Subduction Zone.

There were several comments and lessons learned shared from State Agencies that related to the very serious need to improve the relationship between emergency management and public health.

- "Public health needs to realize that they own the public health aspect of the response, but everything else needs to be able to leverage the full weight and strength of the enterprise, and the way you leverage that is through your Office of Emergency Management." (State Agency Interviewee)
- "So you've got to have this connectivity. You've got to understand that in a public health emergency, you've got the public health subject matter experts, but there are so many other things that are involved in public health emergency that the Oregon Health Authority or public health in general does not have expertise in, or shouldn't have responsibility for, like logistics, like all of the public information piece. Sure, you're the subject matter experts, you can tell me about how a contagion works and what protective measures to take, but you know what? We've got professionals that can better articulate how to share that information, how to get that information where it needs to go." (State Agency Interviewee)

"We need to look at it as an insurance policy, rather than looking for return on investment. You don't buy insurance and hope that you collect on it. You actually buy that so that you're prepared if something happens, to be able to deal with circumstances. And I think our approach and mindset toward emergency management needs to shift to that model versus, 'Should I really put money into this?'

—State Agency Interviewee

- "I think some of those learnable lessons are better connectivity, transparency, and a willingness to share information between public health and emergency management." (State Agency Interviewee)
- "I did not want to be in charge of a pandemic response. Still don't want to be in charge of a pandemic response, but I have a skillset and my team has a skillset. We have planned and trained and exercised for these types of events where we can be incredibly useful. And I think emergency management in Oregon and probably across the country was greatly marginalized and made to be ineffective to lead this response." (State Agency Interviewee)
- "But, you just had these structures in place and folks unwilling to even try to utilize the structures that had been trained and practiced and were quite frankly really time tested. I will say, if I had it to do over again, I would've been much more intentional about trying to permanently adhere myself to the side of the OHA director." (State Agency Interviewee)

**LPHAs:** LPHA interviewees had recommendations regarding the Operational Coordination of the COVID-19 pandemic.

- "Well, like I mentioned before, when suddenly the communication was severed between the Governor's Office and OHA, things got really tricky. I would say, in the future, making sure that the right decision makers are at all the meetings and have a voice would be really important locally. It's interesting because, like I mentioned, I felt like the LPHA did not have any decision making power, which sometimes was a frustration, but at other times it was a relief. Like I said, because it was so conservative here, if I would've said mask mandate, they would've hung me out to dry. Here's the thing, I'm pretty sure this whole study came about because when they decided to give the LPHAs decision making power, not a whole lot changed. At the state level, they're like, "Well, that's not what we wanted. Let's look at how we can do this better." I don't know what the answer is, but somehow I guess giving a little more voice to the LPHAs at the state level could be helpful." (LPHA Interviewee)

- "And my other lesson is Oregon is lopsided. We have more public health, OHA policy wonks, as I'm going to say. There are far more of those than there are actually boots on the ground. And so we did have a good partnership with OHA and we had lot really good communications, probably the best we've ever had, but I would like to stress in times of emergency, you need people that are actually on the ground doing the work, and Oregon really has more people in Salem than there... I mean, it does not correspond with the rest of the country." (LPHA Interviewee)
- "At a local level, I would say we need continued investment in public health and that emergency response framework and training. I think the funding being so categorical was pretty awful, pretty bad. I think that more collaboration between agencies would be helpful in the future so that we don't get conflicting guidance, and we have clearly what was the responsibilities that are outlined for each agency." (LPHA Interviewee)

### Operational coordination successes

Healthcare Association interviewees commented that having the healthcare association embedded into the OHA incident command team and having the healthcare association at meetings with OHA enabled them to deliver information to their members and bring information from their members to OHA.

One State Agency interviewee spoke about being able to mobilize an entire state even through a series of bumps along the way. This interviewee noted that they established an entire reporting mechanism to an animated dashboard in three days and noted when there is a "...level of latent capacity, when there is clear focus, urgency, direction, we are actually really, really capable."

One Stage Agency interviewee noted that in the beginning stages of setting up the unified command structure, they had streamlined access to information and were able to obtain situational awareness because they were co-located in the same building.

Another State Agency interviewee said that building the CRRU was the greatest contribution to the pandemic response. This interviewee stated that the CRRU was a single point where people knew their questions would be answered or their concerns heard and that many levels of staffing and leadership across multiple agencies participated in the CRRU.

Another State Agency interviewee said that the support and access to their emergency response structures was their agency's greatest contribution. This included connections to tribes and local governments and utilizing logistics resources such as the National Guard. Even though they felt underutilized by the larger CRRU structure, they were proud of what they brought to the table because overall it supported the local governments and solidified the partnerships with the National Guard.

One State Agency interviewee noted the success of the CRRU and encouraged that this system become a standing joint response for public health emergencies.

Another State Agency interviewee spoke about developing a COVID advice tracker that became a repository for any attorney researching COVID advice or legal recommendations. They shared that although that was a good resource, they needed to do a better job at developing better data management tools that document the legalities of a pandemic response.

OHA Staff and Manager interviewees said that the creation of the CRRU, the top down chain of command model and communication structure, and the emergency management structure and extensive documentation allowed for smoother and more efficient meetings and clear set of directions.

"It's just is a reminder that our community is all of us and it isn't segmented by which department can provide or does provide the service. So, that cross fertilization, I think, was really beautiful."

— State Agency Interviewee

"You had to build it. You couldn't just ask people to put it also on their playlist of things they do when the next big crisis happens. You have to build it. Invest in the insurance."

— State Agency Interviewee

One City and County Emergency Management Focus Group participant commented that their health department had a very robust incident management team system and were very knowledgeable. Therefore, coupled with emergency management's trained and regularly exercised personnel, there was a strong team in place for the response. Another City and County Emergency Management Focus Group participant agreed and said that because public health and emergency management were in a joint unified command structure, they were directly coordinating and supporting their local public health actions every day. Another interviewee noted that they played a supportive role to their Disease Control and Prevention staff, including procuring food, and linking them to employee and behavioral health assistance.

City and County Emergency Management Focus Group participants also spoke about setting up and integrating a joint information center for shared message development and handling media inquiries.

Another City and County Emergency Management Focus Group participant agreed and said their regional joint information system helped to provide support to local public health in message development and regional coordination.

Other City and County Emergency Management Focus Group participants remarked that the local officials supported standing up the emergency operations center which included reorganizing emergency management to aid in improving efficiencies. Another said that all response personnel were willing to step up and adapt to formerly unfamiliar environments. Emergency management personnel would acknowledge their lack of

"Having a joint information center with a collaboration, really got all of the influences in and made sure that we were supporting a good message."

—City and County EM Focus Group Participant

"There was a very strong and regional joint information system, which was connected to the regional Public Health multi-agency coordination group, which consisted of all the Local Public Health administrators who were their health officers and a few support people who were getting together several times a week in the beginning."

—City and County EM Focus Group Participant

medical background, and they were willing to solve problems quickly. This same interviewee applauded those in the academic medical field and specifically noted that they were able to ramp up and operate within the incident command structure.

## **Vaccine distribution + administration**

### **Definition of the public health system response**

Most respondents considered messaging, distribution (e.g., PPE, masks, vaccines) and contact tracing key elements of the public health system response. LPHAs explained that emergency support for the public health system response was related to the Public Health Emergency Preparedness (PHEP) 15 core capabilities, one of which is Medical Countermeasure Dispensing and Administration (vaccines). The Professional Associations also acknowledged that vaccine administration was part of the public health system response.

### **Roles in vaccine distribution and administration**

Study participants held various roles for Vaccine Distribution and Administration activities during the COVID-19 response.

LPHA interviewees reported they were prepared to receive the vaccine in December 2020 having recently completed drive-through vaccine exercises in November 2019. State Agency interviewees reported playing a significant role in vaccine administration including:

- Reviewing and implementing policy decisions regarding the vaccine, vaccine prioritization, and required workplace vaccinations;
- Operating or supporting the operation of mass vaccination and mobile clinics at the state and local levels;

- Assisting with vaccine-related supplies and distribution;
- Providing guidance; and
- Working with partners to coordinate services for vulnerable populations.

City and County Emergency Management focus group participants also reported having an integral role, including:

- Assisting with COVID-19 testing operations such as scheduling and conducting the actual testing;
- General vaccination coordination, set up, clinic planning and operations, and staffing
- Points of Dispensing (POD) operations and logistics, including securing venues;
- Data management and data entry;
- Tracking vaccine administration for first responder personnel at the municipal level;
- Developing local agreements for vaccine administration;
- Monitoring and staffing to support clinic operations; and
- Activities related to their own internal protocols and processes including distilling and disseminating testing and vaccine requirements for first responders and hiring temporary staff to support emergency operations;
- Facilitating the ordering of vaccines from the state and delivering them to the health department;
- Facilitating reimbursement for costs through ARPA funds;
- Facilitating agreements between the county and fire districts for staffing mass vaccination clinics; and
- Assisting with coordinating the vaccination of first responders including vaccination forms and recordkeeping.

City and County Emergency Management focus group participants explained that they utilized the existing infrastructure set up for early COVID-19 testing services to support vaccine administration once vaccines had

been distributed. One interviewee noted that the local jurisdiction had a point of dispensing (POD) plan but that the plan was developed for dispensing medications (i.e., pills).

Healthcare Organization interviewees reported they had various roles in vaccine distribution and managed a multitude of vaccination events. They provided information about allocation, rollout, and administration of vaccines to providers. They communicated regularly with state officials and the governor about supporting vaccinations and advertised for vaccinations throughout the entire pandemic. One interviewee said their Healthcare Organization was crucial in setting up mass vaccination events, mobile vaccination events, and daily vaccination via providers at hospitals and community organizations.

Stage Agency interviewees described their various roles in vaccine distribution and administration including:

- Assisting with vaccination clinics for migrant seasonal farmworkers;
- One State Agency noted that not only were they responding to the pandemic within their role of protecting employers and employees, but they were navigating vaccination requirements pursuant to the governor's orders as it related internally to the agency;
- Adopting rules for the Medical Relief Benefit for healthcare workers on the federal level. If a healthcare worker wanted to claim specific benefits, they had to be vaccinated or would need to undergo an exemption process.
- Working with OHA to address exposure concerns because many of the labor housing workers live in such close proximity to each other,
- Coordinating with OHA to make connections to specific employers, setting up on-site vaccination events, or getting employers connected to local community vaccination events.

OHA Staff and Manager interviewees noted their ongoing collaboration with LPHAs in assisting with gaps they had in emergency response. Some interviewees made it clear that all emergency response pieces including vaccine distribution and administration were handled in a flow of command that went from the state through LPHAs on out into communities, typically via CBOs.



## Vaccine distribution and administration in Stage 2

LPHA interviewees emphasized the importance of partnerships and coordination, while some interviewees placed an emphasis on vaccine success during this stage. Many interviewees reported they were proud of their vaccine-related work, resulting in high vaccine uptake. However, LPHA interviewees remarked they were starting to feel the impact of vaccine mistrust in their communities, and the politicization of the pandemic was taking a heavy toll on some of their efforts. Staff burnout was also starting to take its toll. Rural counties were reporting backlash to masking, vaccination, and shut-down requirements.

During this Stage, Healthcare Association interviewees stated that they supported their members in coordinating vaccinations in the following ways:

- Advocating for health centers to be a point of contact to deploy vaccinations within their communities and working to ensure all health centers had access to vaccines;
- Ensuring clinics had what they needed to vaccinate and were using vaccines to meet the State's goals related to equitable vaccine distribution;
- Working with both state and medical associations to brief their members about the status of the vaccination development, when to expect to receive vaccines; and
- Supporting the response of their members by talking to communities, volunteering in vaccination clinics, working within clinics to resolve the patient backlog, and helping them understand the implications of the distancing and masking requirements in their own clinics.

"I think that when we were engaging in our efforts to do door-to-door vaccine outreach, we did not do a good job of initially considering the safety of the teams that were going out into the community. I think our ability to have varied messages for the diverse, rural, urban, the vaccine hesitancy, kind of the stages of where people were at with their beliefs around vaccine. I think that we could have done a better job at knowing our community or working with our community to have them as partners with us."

—LPHA Interviewee

During Stage 2, Tribal Nation interviewees reported they were particularly focused on COVID-19 testing and vaccination. Interviewees shared that they were able to acquire vaccines quickly and that their clinics were successful.

In Stage 2, the State Agencies that were interviewed were heavily involved in the vaccine rollout. They were assisting the Governor's Office and OHA with navigating the legal complexities of the masking and vaccination requirements, including preparing for defense trials from lawsuits. Another State Agency explained they were immersed in the legal aspects of vaccination prioritization, primarily resulting from lawsuits that involved individuals who were not included in the first priority tier for vaccinations. Once there were enough vaccines for the entire population, this interviewee also assisted with the development of rules and guidance for required vaccines. Another State Agency assisted with vaccine administration at FEMA-operated vaccine clinics, operating as a conduit between FEMA and the other state agencies. This included setting up mobile and permanent vaccination sites. OEM was also directing and guiding city and county emergency management on standing up vaccine clinics and mass vaccination sites.

OHA Staff and Manager interviewees noted that during this stage, direction from the Governor and OHA leadership on the prioritization of vaccines was helpful, and they were grateful for the speed and decisiveness. Having vaccines available lifted spirits, and felt positive and motivational. OHA hired more staff, and the CRRU was set up. They launched Field Operations Teams with regional coordinators that conducted on-the-ground work like providing free on-site testing for congregate care settings and implementing mass vaccination clinics.

While some OHA Staff and Manager interviewees reported their gratitude for Governor and OHA leadership decision-making related to vaccine roll-out, others felt a lack of leadership and clear decision-making in the day-to-day operations of vaccine roll-out; staff were given conflicting objectives and goals, deadlines that felt arbitrary or unrealistic, and staff reported frequent gaps in communication. OHA Staff and Manager interviewees also began to experience pushback, and in some cases, threats and violence, related to the pandemic control efforts. Some staff felt fearful of the risks involved with putting on vaccine clinics in

communities with a lot of opposition to the vaccine, and several staff noted they received threats from people who knew they worked for OHA.

### **Vaccine distribution and administration in Stage 3**

LPHA interviewees reported that by Stage 3, they felt their vaccination events were going smoothly, for the most part, and that their relationships with community organizations and/or the public were being maintained.

Additionally, although the vaccine events were reported to be going well in most counties, the political climate had not softened, and there was still a lot of pushback around public health requirements. A few LPHA interviewees reported that they felt some pressure from the public, their BOC, or both to avoid vaccinating people under the age of 18, despite an Oregon law that gives 15-year-olds medical autonomy. Lastly, many LPHA interviewees experienced high staff turnover, which made it difficult to continue adapting to new variants and changing requirements.

In Stage 3, the PHAB focused on equity work, ensuring all marginalized groups were able to get vaccinated and were receiving vaccination messaging. The information provided to PHAB in Stage 3 was focused on the evaluation of the response (who was vaccinated and who wasn't, the outcomes, who was suffering and who wasn't, who was benefiting, and who was still having significant poor outcomes) and how to leverage health equity strategies.

"There were protests at [work office building]. During that time, any time I went out in a company car, I was usually yelled at. When I was on deployment with people, all sorts of things that happened during that time."

—OHA Manager Interviewee

"We had a really successful vaccination campaign. Our testing was going really well. We were leveraging all of our resources and assets in the best way for the broadest community reach."

—LPHA Interviewee

Healthcare Association interviewees during this stage said they were responding to variants and conducting awareness via the media to increase vaccination rates with the goal of not breaching the capacity of hospital Intensive Care Unit (ICU) units.

Tribal Nation interviewees noted that testing and vaccination remained at the forefront of tribes' priorities during Stage 3. Tribes worked to push out boosters and educate their communities on the importance of getting a booster shot.

In Stage 3, OHA Staff and Manager interviewees noted improved partnership and coordination between OHA and LPHAs especially around vaccine roll-outs and public messaging for different age groups. Several noted that vaccine messaging vastly improved by tailoring it for specific populations and overall better cultural responsiveness and because of the partnerships with CBOs.

#### **Vaccine distribution and administration in Stage 4**

LPHA interviewees remarked that they were continuing vaccination and outreach events at this time. At this point, testing events were also going smoothly and home tests were being distributed. One LPHA partnered with their local library to distribute tests.

"In Stage 3 we did have the variants, so the Delta and Omicron surge were harder on hospitals than anything before, especially during that Delta surge when we were seeing ICUs really at capacity. That's when we were doing a lot of media and trying to get people to get vaccinated because our ICUs were just packed."

—Healthcare Association Interviewee

"The libraries send books to each other all the time, so we utilized that network. We just dropped off 2,000 at home kits at one library and they send them out to all the other libraries and they've got 300 or 400 kits that people can come in and pick up."

—LPHA Interviewee

LPHA interviewees were also concerned about sustaining vaccine demands in Stage 4.

During Stage 4, Healthcare Association interviewees noted that they were still working on vaccine information dissemination and communication and provider redeployment.

"The Bi-Mart was closed and then Walgreens reduced its hours from 10:00 to 6:00 Monday through Friday, which has been a disaster. It's very hard to get regular prescriptions filled. I don't know what the impact of a fall booster shot is going to be on a system that is already so strained, especially when it's not normalized in all of our clinical practices. So that's the fear going forward, we don't have the resources for mass vaccination clinics anymore, our pharmacies are already struggling, our provider groups are also struggling with staffing, I don't know who's going to give these vaccines or how people in long-term care facilities are going to get them."

—LPHA Interviewee

"In stage four, I would say we're as directly involved as we ever have been because our people are going out to communities and community-based organizations that are specifically at risk to talk about this in as much as we help share information all throughout with our members about the vaccine so that they could have the confidence to talk to their patients. And that was the information we had was something like 50 to 60% of all their conversations with patients were a good six months were about the vaccine and they had information that we had provided."

—Healthcare Association Interviewee

## Coordination with OHA

City and County Emergency Management focus group participants spoke about several coordination issues with the state. One interviewee shared that one of the biggest challenges they faced was that the state set up state-run clinics at locations throughout the county without informing county staff that these clinics were being operated within their own county. Another noted that the state would hire contractors to assist local clinics even though the clinics were not asking for staffing assistance.

Another City and County Emergency Management focus group participant remarked that the state would deploy resources without coordinating with the local jurisdiction.

"We didn't ask for them, but they showed up anyway and they wouldn't leave. And then we have a veteran's home over in [city in region 2]. It's a state run facility. Anytime the veteran's home needed anything, they'd go directly to the state."

—City and County EM  
Focus Group Participant

"All of a sudden you have the state deploy the National Guard to [city in region 2] for a COVID outbreak and they never even told us, and so there was no coordination at the state's response level. They would drop off PPE. They'd go do quarantining. They would do testing, vaccines, and they would never say anything to anybody."

—City and County EM  
Focus Group Participant

## Vaccine hesitancy

One State Agency interviewee remarked that vaccine hesitancy was a key issue with vaccine distribution and administration.

One City and County Emergency Management interviewee stated their biggest challenge with vaccine administration was the cultural environment within their rural jurisdiction. This interviewee noted that they have a community with many anti-vaxxers.

"How this was managed and handled led to actually unfortunately a lot of people dying because they resisted vaccines, et cetera. So, I think unless that issue is addressed, and naturally the other piece is education, perhaps more education to help people understand. We had stories of people on their deathbed that said, 'We want the vaccine now.' And unfortunately that's too late. So, supporting public health professionals and public health decisions is something that would definitely change this narrative."

—State Agency Interviewee

"I can tell you that the only downfall we had was just the culture we have around here. It's largely conservative based, and there's a lot of controversy around whether to take the shot or whether not. So, we had a lot of resistance locally. We battled that. We talked about that all throughout the whole process, is how do we reach these folks that are resistant? How do we entice them?"

—City and County Emergency Management Interviewee

### **Equitable and accessible vaccine distribution and administration**

One LPHA interviewee expressed that they felt like the state was requiring them to address equity but did not give them a specific plan. Therefore, they developed their own local solutions.

The most significant challenge named by OHA Staff and Manager interviewees was the need for more community engagement to inform an equitable vaccine roll-out.

"So we actually bought two vans and we brought them out to all of those little areas around the county. But the state never had that plan. They stressed equity, but then they never had the plan."

—LPHA Interviewee

"In the early vaccine rollout, I think that the state had a strong focus on planning and a really strong emphasis on equity in their planning, but we did not have a strong set of concrete steps and actions that we could actually implement."

—OHA Manager Interviewee



One State Agency interviewee spoke about bringing in an equity advisor, at first to assist with the wildfire response.

Another State Agency interviewee spoke about their reliance on public health's ties to equity partners and committees such as health equity coalitions and vaccine equity workgroups. State Agency interviewees noted that there was a push from OHA to have their vaccine administration be informed through an equity lens.

"That position ended up doing some of the work on the vaccine stuff, looking at signage and making sure things were accessible and translations were the right way, but he was mostly focused on our wildfire recovery piece. Did not have a whole heck of a lot of conversations on the front end prior to vaccines about equity. I mean, we heard a little bit about it and talked about it a little bit, but I didn't get the sense that that was really informing a lot of our work."

—State Agency Interviewee

"The feedback that I got and my observations from what I heard was, they convened this group and said, 'Yeah, we want to be really equitable with how we're doing our distribution and prioritize communities of color and underserved communities and historically marginalized communities.' And then two-thirds of the way through that equity groups work were told, 'Well, legally, we really can't prioritize the things you guys are asking us to prioritize, but thanks for coming.' And it just kind of let the air out of the room and was so deflating."

—State Agency Interviewee

Another State Agency interviewee noted that the state did well in making information available in multiple languages and formats and ensuring vaccination sites were accessible for people with disabilities and limited access to transportation.

One State Agency interviewee noted that although the vaccines were not well received in some communities, they worked to identify strategies to increase vaccine administration among certain groups.

City and County Emergency Management focus group participants noted that county vaccination operations were focused on equity. As one participant shared “...trying to find those corners where you have marginalized, underrepresented populations and really doing targeted small clinics out to those communities.” Another interviewee shared that the clinics focused on the black, indigenous, and people of color (BIPOC) community resulting in 85% of the vaccines being administered to people of color and others who had underlying conditions.

"We started doing really clever things, like going to Hispanic markets and communities, and just continuing to show up every Tuesday, and building the trust, which was what we needed in relationship to be able to then administer vaccines. And a lot of those relationships weren't formally established with government employees and some of our ethnically diverse communities, so we really had to look at that differently."

—State Agency Interviewee

Another City and County Emergency Management Focus Group participant noted that their city and the county equity offices were heavily involved in messaging, selecting vaccination sites, and ensuring there were accessible communications. They also addressed equity by offering vaccination and testing clinics in areas of the city where the residents were more reliant on public than private healthcare systems.

One City and County Emergency Management Focus Group participant spoke about overcoming the cultural fears that existed and specifically referenced the Tuskegee studies on African Americans.

"So we're going to focus on parts of the city that are the lower income, the high density housing, non-native English speakers, all of that. So we looked at those hotspots and they figured out all the vaccination sites in the city based on that right from the get-go. That's one thing [city in Region 1] and [county in Region 1] both do very well on a regular basis. So very aware of that. I can absolutely give them credit for that, a 100%."

—City and County EM Focus Group Participant

"This concept that the government is now telling everybody that they have to be vaccinated and supplying that vaccine, and how do we trust that? And so there were a lot of conversations around, how do we connect with these communities and make sure that they know and understand that this isn't about any one individual, this isn't about any one government office. This is a collective and collaborative effort on everybody's part. Anybody who wants to see that or participate in it, is welcome."

—City and County EM Focus Group Participant

Another City and County Emergency Management Focus Group participant spoke about providing accessible communications to Spanish speakers and other languages like Somali. They utilized their local community college nurses to assist with this and had translators onsite. They also ensured there were Spanish speakers within the vaccine clinics who could answer questions, both along the route for the drive through portion and those that were administering the vaccines.

### **Vaccine distribution + administration partners**

LPHA interviewees credited the CBOs for their targeted outreach efforts for vaccination and for standing up, working in, and operating mobile vaccination units. LPHA interviewees mentioned several other partners such as community health workers who were tasked with directing people to vaccination resources and helping them navigate through the changing requirements. They partnered with their first responders to provide vaccines in a large county where not everyone could easily access the main hospital. Churches supported vaccine clinics and food drives, and libraries provided assistance with distributing supplies and tests. Fairgrounds, parks, and recreation departments were utilized as event spaces for vaccine clinics. Many LPHAs also named hospitals as key partners for education and vaccine delivery.

OHA Staff and Manager interviewees also applauded the efforts of CBOs in providing vaccination information, rollout, and COVID-19 testing. CBOs collaborated with OHA to create culturally relevant messaging and more direct pathways to disseminate vaccine information to communities. Different communities had unique questions about and perspectives

"We had so many partners. The vaccine distribution was culturally specific CBOs. It was a lot of our local fire agencies, our ambulance companies. The community college provided student nurses... Our equity liaison team convenes a weekly meeting of all of the CBOs in the county that receive COVID funding. And that's a space we come together to coordinate, to share successes and lessons learned, to talk about the work that's happening in the community, talk about what supports people need or help people need. We did a lot of culturally specific vaccine popup events. So it was lots and lots and lots of partnerships, lots and lots and lots.

—LPHA Interviewee

about vaccines and different barriers to receiving vaccines. One of the main barriers for communities was language. CBOs and OHA collaborated on translating information into various languages and distributing it in a way that made the most sense for the people they served. This helped to instill trust in the vaccine process as it was “...more comfortable for people with historical trauma to get COVID info or vaccines from the people they trusted at CBOs.” (OHA Staff and Manager Interviewee)

City and County Emergency Management Focus Group participants credited the use of Medical Reserve Corp (MRC) volunteers who were beneficial by screening individuals and assisting with other POD activities. There were approximately 900 MRC volunteers that assisted with the response. Another interviewee noted that coordinating with universities and utilizing their facilities, venues was a great opportunity.

A City and County Emergency Management Focus Group participant noted that the county did not initially have agreements with universities and school districts to administer vaccines. It was challenging and time consuming to execute these agreements while trying to also meet the demands of vaccine planning and operations.

### **Vaccine prioritization**

PHAB interviewees shared that OHA and governmental health did a good job of reaching priority populations with their vaccination rollout and in general with their pandemic response.

Tribal Nation interviewees noted that the state prioritized tribes when it came to allocating resources and setting their own vaccine prioritization

"I think it was especially beneficial in the vaccine push-out, roll out, because as a sovereign nation they can set their own priority list. We didn't have to follow OHA's, which enabled us to get vaccines out to the general population a little sooner than other agencies could, a lot sooner actually."

—Tribal Nation Interviewee

"The state [stepped up] and [met] their commitment to have the vaccines available to tribes early and at a higher level than were available to other parts of the counties in order to address those disparities and advance equity."

—Tribal Nation Interviewee

process allowed tribes to vaccinate their communities quickly and efficiently.

State Agency interviewees spoke about the initial confusion about who would be receiving the priority vaccinations when the vaccines first became available. One state agency remarked that there was some back and forth regarding prioritizing vaccinations for educators. Another interviewee commented about the complexity of vaccine prioritizations with the limited amount of vaccine.

One State Agency interviewee credited the work conducted around vaccine prioritization and administration with the education system to a better relationship between school districts and local public health. Many staff worked long hours gathering accurate workforce information for vaccine prioritization to support the education system.

### **Vaccine distribution and administration lessons learned and areas for improvement**

Healthcare Association interviewees provided some emergency management statewide improvement recommendations. They noted that the vaccine roll-out could be improved by utilizing existing databases such as the Patient Center Primary Care Home Program to identify vaccinators and to have a database in place to utilize previous/current vaccinators for additional vaccine efforts.

"Folks were asking for lots, and we had to make some hard decisions sometimes where you got lots minus some, because we didn't see the need there or we saw a greater need. So, there were times where, frankly, I think we felt a little bit like God, which was an uncomfortable position to have to say no to folks when you knew it was a life-saving opportunity, but we did it."

—State Agency Interviewee

"There is a database of 600 clinics that are certified PCPCH (Patient Center Primary Care Home Program) clinics across the state. At no time did anyone think to tap those clinics as high-functioning clinics that might be able to be a good place to ask who wants to be a vaccinator. ...The siloing that we could see from the outside within OHA was really, I don't know, surprising. And not surprising, distressing it just slowed stuff down so much. And the people working on trying to gather names of vaccinators didn't really know that data existed."

—Health Care Organizations  
Interviewee

"Yeah, I think definitely looking at that federal state partnership, coordination, communication. Also, communication I'd say and collaboration internally within the different teams working on this in the state. So for instance, those that were working on testing are separate from vaccination that are separate from therapeutics, and sometimes it seemed like there could be some better cross department or cross team collaboration and communication within OHA."

—Health Care Organizations  
Interviewee

"I think if the state had thought about... If there were a mechanism in the future where the state could engage medical societies like mine, anybody to help coordinate volunteering because we had a lot of members who wanted to do something and they were coming to us saying, 'How can we help? How can I give vaccines? What can I do that's safe? I'm retired but I still have time to give, and I don't want to get sick, but I could be on a call. I could be in a call center answering questions.'"

—Health Care Organizations  
Interviewee

## Vaccine distribution and administration successes

LPHA interviewees remarked that they were proud of their ability to center equity throughout their pandemic response, and a few mentioned high vaccination rates as their greatest contribution.

Tribal Nation interviewees also shared being proud of their vaccination efforts, contributing this success through their relationship building through other tribes or through building trust in their own communities.

PHAB interviewees noted that the design of vaccination events and the rollout of vaccinations went well.

"It's a quick gratifying answer, but it was the vaccine work, not just in the ability to deliver the actual vaccines to the community, but also for the collaboration with our community partners, and the team building aspect, and the ability for the tribe to do something really good within the community and share those resources.

—Tribal Nations Interviewee

"I do think that the governmental public health really made an effort to reach populations that might be underserved, that might not be native English speakers or English first language. There was a lot that they would come and present to us, like what was being done with the tribes, the vaccinations. They would come to present what was being done for certain groups. I do think that OHA in this area, recognized that it needs to have specific outreach and that was normally done best through some CBOs."

—PHAB Interviewee



State Agency interviewees commented on several successes with vaccine distribution and administration. Some State Agency interviewees remarked that they would take advantage of opportunities to vaccinate at already-established testing sites since testing had occurred several months prior to the vaccine becoming available. This included showing up at community events and mobile testing units and also offering vaccination services. This helped communities who may not have had the resources to travel to multiple locations for both services.

Another State Agency noted that the expansion of the Public Readiness and Emergency Preparedness (PREP) Act expanded the scope of practice on those individuals who could administer vaccines.

OHA Staff and Manager interviewees said establishing and deploying the Field Operations Teams was a successful strategy for vaccine rollout and operationalizing vaccine clinics. This team was deployed on a county-by-county basis, and mass vaccination events were hosted in metropolitan areas as well as other areas of the state and typically hosted by either the national guard or OHA Field Operations. OHA Field Operations staff were also dispersed across communities to help answer questions about vaccines (e.g., requirements, recommendations, vaccine rollout, co-occurring symptoms, etc.)

Healthcare Association interviewees spoke about several contributions to vaccine distribution and administration, including an alternative payment and care model program.

"We have an alternative payment and care model program, so to get work with the state, to get vaccinations carved out of that so that health centers were reimbursed not through their per member per month payment that they were getting, to be paid on top of that for vaccination was a huge win for our health centers that are part of that program... We're continuing to advocate for the needs of our members, and ensure that our members are able to keep the doors open and continue to provide access to the communities in which they serve."

—Healthcare Association  
Interviewee

Healthcare Association interviewees also commented that their members were involved in a federal state partnership with FEMA for mass vaccination sites, and their health centers took the lead.

City and County Emergency Management focus group participants noted they were proud of offering up spaces for vaccine clinics and their home vaccination services.

"And I think that that worked well, but it was a lot of work to stand those up. But I think that that relationship and now that we've done that, and we have some history from that, we can learn from that and we know that we've done it in the past and that that's a possibility to do in the future, those relationships and that infrastructure that was able to be stood up pretty quickly in order to have these large mobile vaccination sites, hospital... Sites in different communities. And that was between FEMA and the Biden administration and our state and the governor's office that we all came together, and health centers were involved in three of these areas throughout the state to help with running those."

—Healthcare Association Interviewee

"We were able to provide a service to our residents that I don't think they would ever receive before. And where else can you make a phone call and have somebody show up at your house two hours later to give you a COVID vaccine? That's pretty amazing in itself that we were able to do that."

—City and County EM Focus Group Participant

## Vaccine distribution + administration survey data

**LPHA Survey:** LPHA Survey respondents were asked about factors related to vaccine distribution and administration. When asked about funding for COVID-19 vaccination, 64% of respondents agreed or strongly agreed that their LPHA received adequate funding for vaccination (n=16). About a quarter of respondents were neutral and only 12% disagreed or strongly disagreed (see Figure 9).

Nearly all respondents (97%, n=34) reported that their LPHA coordinated or provided vaccination clinics. The most common types of vaccine distribution methods were pop-up clinics (n=33), drive through clinics (n=30), and school-based vaccination sites (n=2) (see Figure 10). Methods included in “other” are door-to-door, EMS fire, clinics in workplaces, community events, home health visits, drop-in, pcp clinics, and pharmacies.

The two most commonly reported challenges in coordination and implementation of LPHA vaccination plans were community confidence in vaccine or other issues (n=27) and staffing issues related to vaccine distribution (n=21) (see Figure 11).

Figure 9: LPHA received adequate COVID-19 funding (N=25)

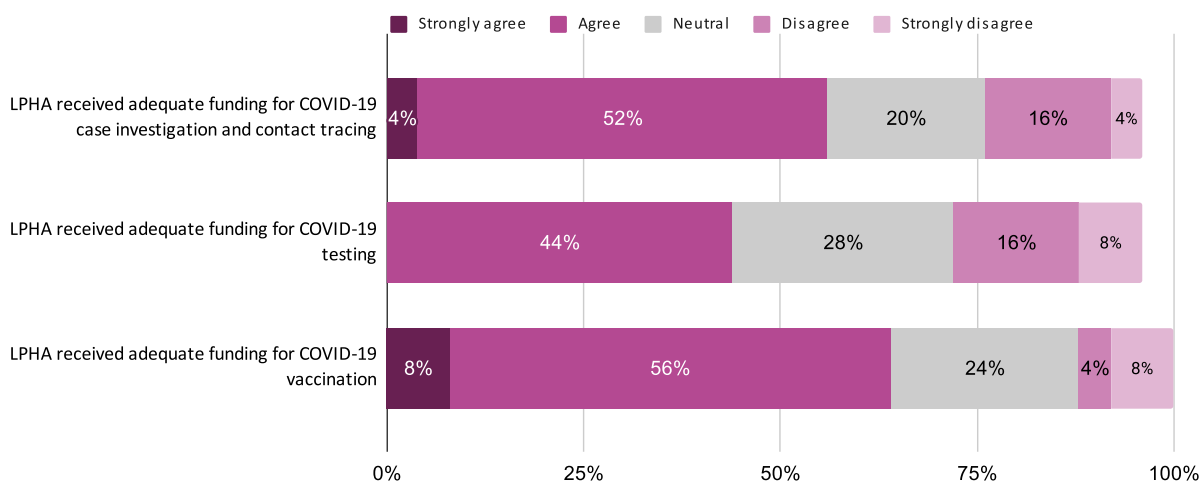


Figure 10: Types of vaccine distribution methods (LPHA respondents, N=35)

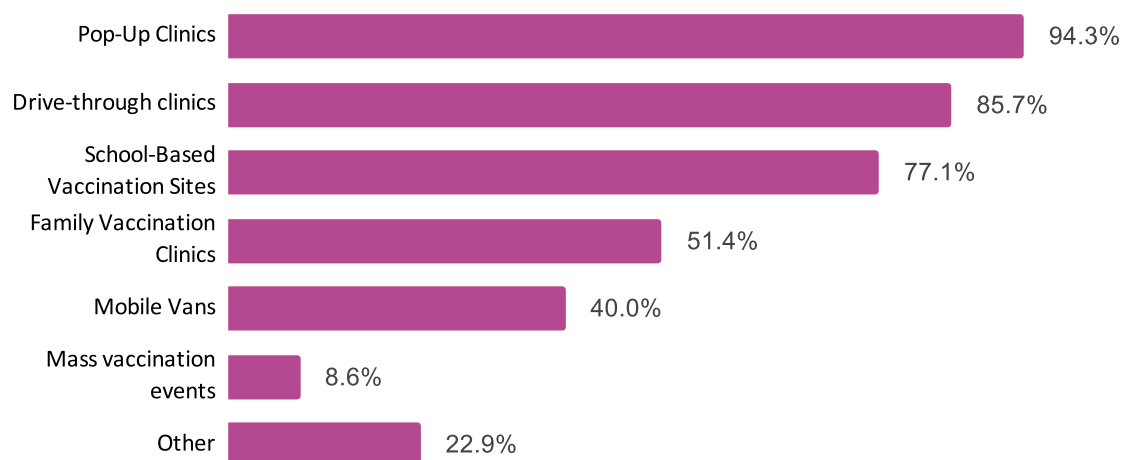
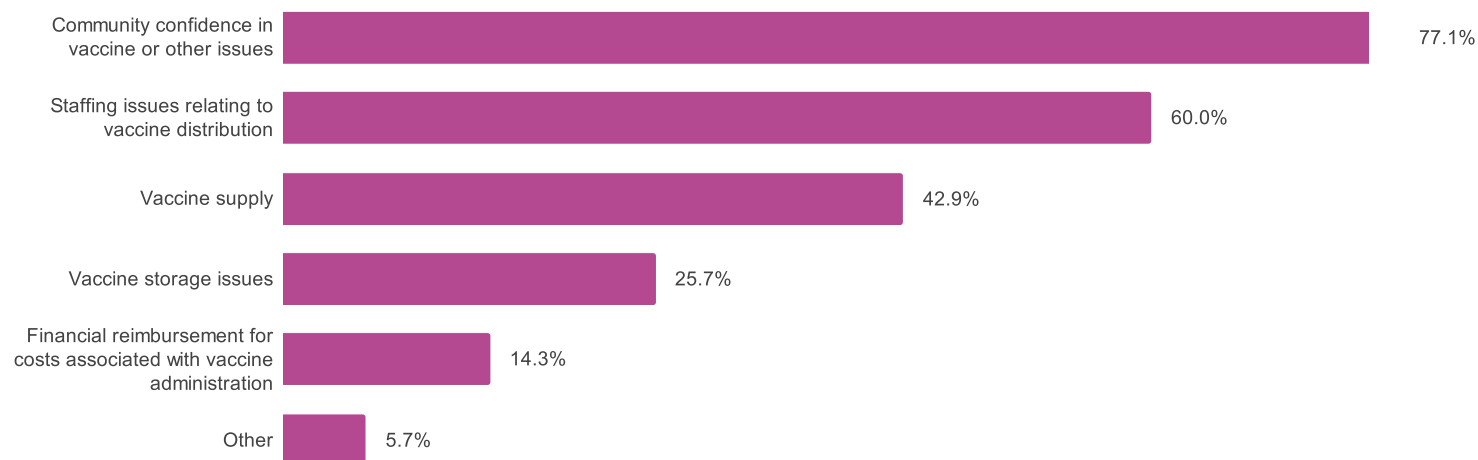


Figure 11: Challenges in coordination and implementation of LPHA vaccination plans (N=35)



Survey respondents were asked to rate Oregon's public health response to COVID-19 across a range of activities, including vaccine rollout and availability. Forty-one percent (41%) of respondents rated the vaccine rollout and availability as being excellent or good and 59% rating the activity as fair or poor (see Figure 12).

**Emergency Management Survey:** Emergency Management Survey respondents were asked to rate Oregon's Public Health System response to COVID-19, including vaccine rollout and availability (see Figure 13).

Figure 12: Rating of Oregon's public health system vaccination rollout and availability (LPHA respondents, N=39)

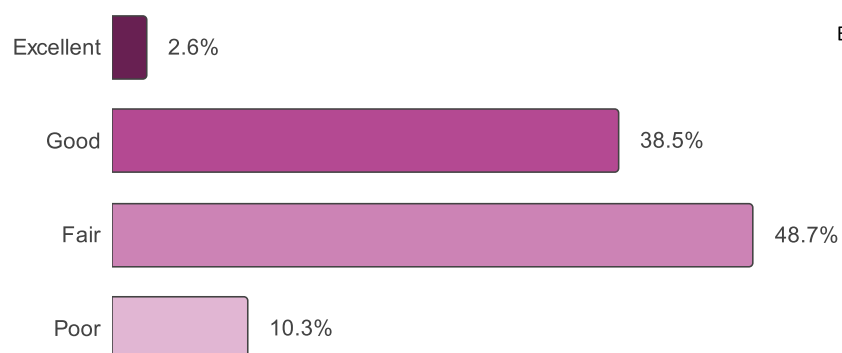
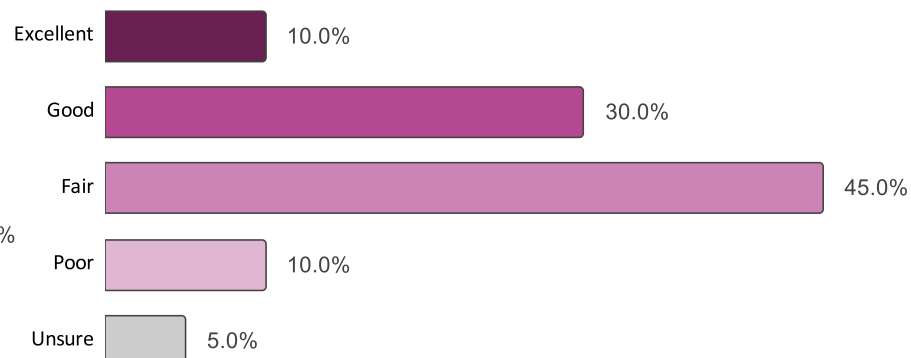


Figure 13: Rating of Oregon's public health system vaccination rollout and availability (Emergency Management respondents, N=20)

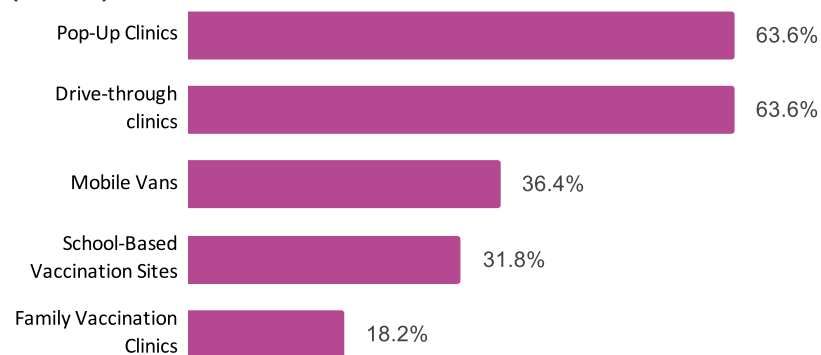


Almost all respondents (90.1%, n=20) reported their emergency management office provided support to LPHAs for vaccine distribution using various vaccine methods (see Figure 14).

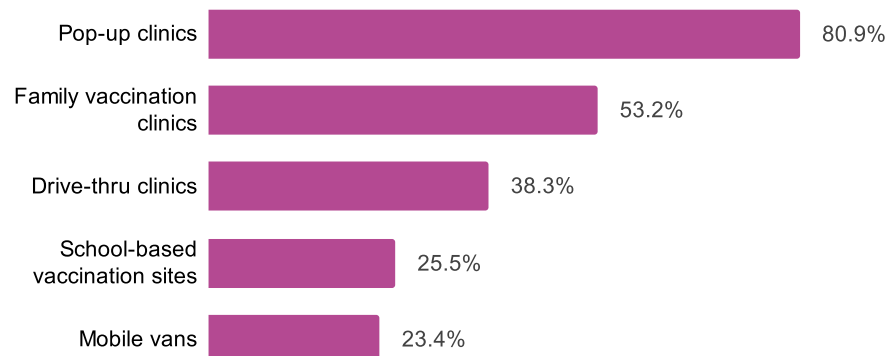
**CBO Survey:** CBO Survey respondents were asked to select response activities they conducted for the COVID-19 response, including activities relating to vaccine distribution and administration (see Figure 15).

About 66% of respondents reported they coordinated or provided vaccination clinics in their community; 18% reported their CBO did not coordinate or provide vaccination clinics. Nearly three-quarters of CBO survey respondents reported that they addressed vaccine hesitancy.

**Figure 14: Vaccine distribution methods supported by City, County, and Tribal Emergency Management (N=22)**



**Figure 16: Vaccine distribution methods used by CBOs involved in vaccine clinic coordination and response (N=47)**



**Figure 15: CBO COVID-19 vaccination activities (N=61)**

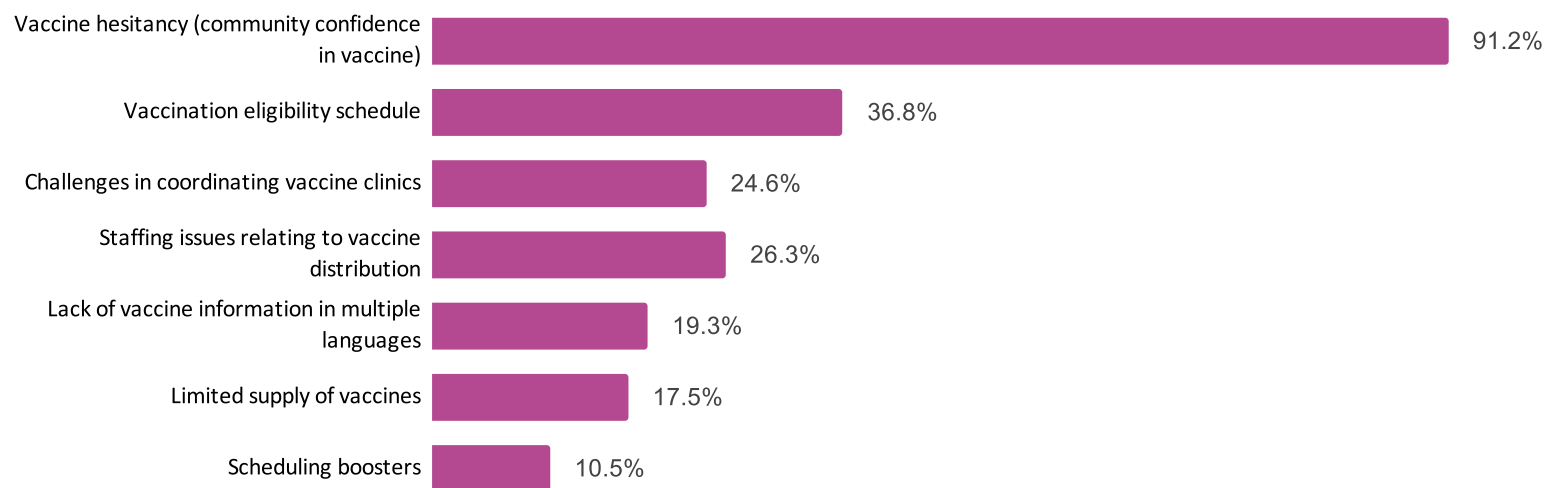


A breakdown of the vaccination distribution methods CBOs provided or supported are shown in Figure 16. Some CBOs provided additional distribution methods, including the following:

- Vaccination events with the county using their facilities;
- Faith-based sites;
- Locations serving vulnerable populations (e.g., congregate sites, disability-specific sites);
- Weekly clinics, including temporary sites CBOs rented as well as permanent clinic sites; and
- Culturally and linguistically responsive vaccination events.

Survey respondents were also asked to select from a variety of challenges they may have experienced in supporting vaccination efforts. The top five reported barriers were vaccine hesitancy (91.2%, n=52), vaccine eligibility schedule (36.8%, n=21), staffing issues related to vaccine distribution (26.3%, n=15), challenges in coordinating vaccine clinics (24.6%, n=14), and lack of vaccine information in multiple languages (19.3%, n=11) (see Figure 17).

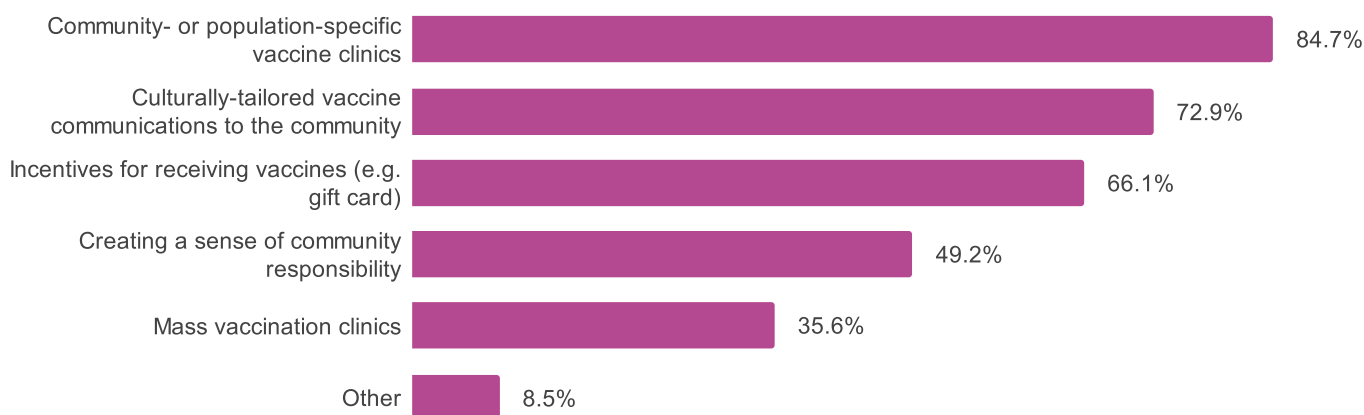
Figure 17: Barriers CBOs experienced when supporting vaccination efforts (N=57)



Respondents also provided feedback on what strategies helped increase COVID-19 vaccination uptake. The top three responses were community- or population-specific vaccine clinics (84.7%, n=50), culturally tailored vaccine communications to the community (72.9%, n=43), and incentives for receiving vaccines (66.1%, n=39 (see Figure 18)). The other responses provided were:

- “Drag performances doubled our attendance!”
- “Created welcome for PWD [Persons with Disabilities] was vital and got better over time.”
- “Communicating that we are keeping ourselves vaccinated so that those that are vulnerable will be safe.”
- “Collaborating with a group of CBOs with the same goals”
- “I don't like the idea of giving cash incentives which causes so much moral hazard in the community and makes same efforts much less effective.”

Figure 18: What was helpful in increasing the number of people who received the COVID-19 vaccine? (CBO respondents, N=55)





Overall, vaccine distribution and delivery was highlighted by a majority of study participants as an efficiency in the public health systems' response to the COVID-19 pandemic. LPHA, Tribal Nation, OHA, and City, County, and Tribal Emergency Management study participants identified the organization and distribution of COVID-19 vaccinations as one of their greatest accomplishments during the pandemic response. Partnerships with CBOs were essential to eliminating barriers to vaccination for historically underserved and marginalized groups.

"I think shifting away to smaller sites has just made all the difference. Being able to just have a community event. And there is a vaccine clinic and it's at a location that people know, and it's much smaller and they've got their appointment, they can come in and out, that just really improved the experience, and I think improved those numbers."

—CBO Interviewee

## Personal protective equipment (PPE) distribution

### Roles in PPE distribution

Study participants held various roles for PPE distribution during the COVID-19 response, including some current and ongoing activities.

Healthcare Associations' role in PPE distribution was largely to coordinate and communicate the availability and accessing supplies to their members. Additionally, they were asked to gather PPE supply needs from hospitals for the State. Another role was to provide funding to their health centers to purchase PPE.

State Agencies' roles varied and included PPE distribution or warehousing activities either from direct involvement, prioritization, or general and ongoing logistics. This included obtaining and distributing PPE for schools and school districts, businesses, healthcare facilities, private providers, correctional facilities, etc.

OHA played a significant role in PPE procurement and distribution, including, in part:

- Securing a major PPE stockpile from federal funds and state government;
- Making PPE distribution priority decisions from key hospital data;
- Applying risk assessments and an equity framework when making early decisions on PPE distribution; and
- Maintaining regional emergency coordinators to coordinate with county officials and LPHAs in requesting PPE.

City and County Emergency Management focus group participants explained that they also had a significant role in procurement and distribution of PPE, including working within their logistics sections to assist in the delivery of PPE and collecting and disseminating donated PPE. Larger jurisdictions were handling PPE warehousing and distribution out of their emergency operations center logistics section while some City and County Emergency Management focus group participants explained that they still receive requests for PPE from local departments, such as the library district because of the face-to-face public interactions.

## **PPE distribution in stage 1**

During Stage 1, many study group participants discussed that PPE distribution was a key activity. They noted that the backdrop of limited PPE resources and supply chain issues complicated PPE distribution. LPHA interviewees noted that they were conducting target outreach specifically noting their coordination with long-term care facilities (LTCFs), ensuring staff understood the various PPE recommendations. Healthcare Association interviewees explained that they were procuring PPE for their clinics and obtaining supplies through a preferential pricing contract with national parent associations. Tribal Nation interviewees stated they also struggled to obtain the limited PPE resources.

The Stage Agencies interviewed played several other roles in PPE distribution, such as:

- Distributing \$11 million dollars of free PPE to businesses in Oregon including working with a logistics supply firm to distribute PPE to Oregon businesses;
- Assisting in warehousing operations by reviewing existing caches of PPE to determine their viability and use for various employee sectors in the field; and
- Assisting in warehousing operations and the logistics of PPE dissemination, including distributing the limited PPE out to where it could be best utilized and attempting to procure additional PPE and supplies into the state for further distribution.

Emergency Management Survey respondents commented that the PPE end users were grateful and thankful for receiving the PPE.

## **Warehousing + storing**

An overarching observation among many of the study participants was a lack of available warehousing space. City and County Emergency Management focus group participants explained that they struggled with finding and allocating space and began to randomly place it in offices, empty closets, maintenance sheds,

and basements. One City and County Emergency Management focus group participant noted they still have PPE stored in several storage locations throughout the county, saying "I still have a bunch of PPE sitting in a warehouse. I still have about 500 gallons of hand sanitizer. Most of that I never even asked for, but it arrived."

State Agency interviewees assisted in staffing the warehouse, organizing supplies, answering questions relating to the PPE's viability and use, and administering KN95s and other PPE for labor housing workers.

The Oregon Department of Administrative Services was instrumental in the PPE warehousing and distribution processes as they operated a statewide inventory management and distribution center. There was a statewide recognition that Oregon Health Authority's existing logistics resources could not handle disseminating PPE to 36 different counties and that the entire state logistics enterprise would be needed.

City and County Emergency Management focus group participants in the rural counties struggled with warehousing staffing capacity. One respondent said they managed, "...the inventory and distribution by myself. I could have used a part time person to take over PPE Distribution."

## **Funding**

LPHA interviewees noted that they utilized some of the funding provided to purchase and distribute PPE and other related supplies. There were frustrations among the Professional Associations; interviewees explained that that funding was given to CBOs to support PPE and vaccinations instead of maintaining the funding at the county health department level. Finally, some tribal respondents noted that when funding for testing supplies finally came to the tribes, it was no longer needed for testing. Rather, it was needed for PPE and other uses.

## **Assistance from partners**

PPE distribution had assistance from many other partners throughout the response. LPHA interviewees noted that county commissioners and board members stepped up by purchasing PPE ahead of time along

with testing supplies. Another commissioner, "...literally with his own pickup truck, he was driving out delivering cases of N95s and stuff." (LPHA Interviewee)

Study participants spoke about the very important assistance from CBOs for PPE distribution. LPHA, OHA Staff and Manager, and State Agency interviewees and City and County Emergency Management focus group participants spoke highly of the CBO contribution in disseminating PPE. These CBOs served as hubs to the most impacted communities. Resources were then pushed out to those organizations who, in turn, distributed it to their community members. CBOs also helped to develop prioritization matrices for how to distribute PPE.

There was great collaboration and partnership with others such as the National Guard that handled logistics out of the warehouse and led to an efficient PPE distribution. A City and County Emergency Management focus group participant commented that public health had "really good existing relationships" with groups that emergency management did not previously have. Yet another participant spoke about a group called the Sewing Brigade that made thousands of masks to help support the early masking mandates.

### **Ordering, delivering, and receiving PPE**

Half of the Tribal Nation interviewees shared that PPE distribution processes went well between tribal, state, and local agencies; the other half noted that coordination with logistics changed and processes for ordering and shipping could be improved.

Stage Agency interviewees spoke about the lack of inventory control in the beginning of PPE dissemination mainly from an existing cache remaining from the H1N1 stockpiling. This resulted in OHA initially sending boxes of PPE without verifying the type or quantity of PPE within the boxes. OHA quickly became overwhelmed as there were reports of key stakeholders not receiving the correct amount of PPE that was ordered. Emergency management had to step in and worked with the Oregon Department of Administrative Services to procure a warehouse to manage the statewide logistic operations.

OHA Staff and Manager interviewees spoke about the use of the Smartsheet portal. This weekly report was generated from county governments and CBOs reporting their PPE and vaccine availability data.

City and County Emergency Management focus group participants spoke about different methods for receiving PPE within their local jurisdictions. Some interviewees would order PPE from the state and pick it up from the state warehousing locations. For others, the PPE would be shipped to them. Many participants noted that this worked well.

### **Receiving + storing PPE**

Some City and County Emergency Management focus group participants noted that they received last minute communications stating they were receiving trucks of PPE of which they were not prepared to receive. Individuals within the emergency operations centers who were not logisticians diluted the urgency of this causing chaos within the logistics section. Additionally, some explained that they received additional unusable PPE items such as donut gloves that could not be used at many businesses and hand sanitizer dispensers that did not fit the hand sanitizer already in stock.

City and County Emergency Management focus group participants spoke about the additional burden of maintaining storage and disposal for unused or expired items. One noted they still have several gallons of hand sanitizer in storage that will be expiring soon resulting in additional storage costs. Also, because hand sanitizer is an alcohol-based product, it must be treated as hazardous waste due to the ignitability characteristic, thus leading to the additional cost of disposing of a hazardous waste.

"From the state, from the emergency management side of things, anything that I wanted or needed for the county, I put in an op center request through emergency management, and it was granted. I also distributed, maintained and distributed the PPE. I still have a bunch. I generally got what I was asking for, within a reasonable amount of time. I mean, from my perspective, it seemed like everything on the state side worked out well.

—City and County EM Focus Group Participant

Additionally, they still have several thousand boxes of KN95s that are unusable because the emergency use authorization has now expired.

### **PPE Tracking + reporting**

Some State Agency interviewees shared that the constant tracking and updating of PPE dashboards for leadership was a source of frustration. Compiling data for the dashboard of available masks, gloves, and gowns was very time consuming and did not inform the bigger picture of how well the state was handling the response. They stated the MAC-G became obsessed with these numbers.

One State Agency interviewee explained that emergency management assisted with tracking and reporting burn rates. They found that the questions that they were asking hospitals about their PPE burn rate was leading them to request more than they needed at the time of the request.

### **PPE supply chain issues + shortages**

Several study participants commented that the lack of adequate supply chain was a key issue to efficient distribution of PPE.

"Definitely the supply chain was the biggest challenge. Those initial weeks and months of the pandemic were stressful times for everyone, but even more so for work locations that required the appropriate PPE to perform their work. We weren't able to supply that adequately for some time. The blame should be shared collectively as we did not prepare well enough for this type of supply distribution needs, and we need to collectively identify solutions for future situations that would require similar response efforts. The entire globe was competing for supplies - but can the United States, Oregon, and our jurisdiction adjust our preparations enough to be more resilient locally?

—City, County, and Tribal EM  
Survey Participant

## Push versus pull: PPE request process

Some City and County Emergency Management focus group participants had strong feelings about the State's decision to push PPE rather than using the pull method of distributing PPE. The push system is when PPE is being sent without requesting versus a pull system where PPE is requested/ordered and then delivered. Many participants remarked that the push system was extremely challenging and inefficient and would have preferred the pull method of ordering and receiving the PPE.

Another City and County Emergency Management focus group participant remarked that the pull method was working well: partners would request PPE and emergency management would order through the state request process.

"Our normal process in emergency management for requesting resources from the county, follows a process under the US Stafford Act, you exhaust your local options first, before you go to the next level of government. So for us, that would then be to the county, and then the county to the state. So that's how all everything is written, our processes, the whole bit, it's all set up on that. So that's what we were attempting to do. That's how the county was expecting us to make those requests as well."

—City and County EM Focus Group Participant

"We'll never recommend doing the push model for anything because it creates too much chaos."

—City and County EM Focus Group Participant



Furthermore, one City and County Emergency Management focus group participant explained that the push model was detrimental to having adequate warehousing space. They said that the local fire marshal was considering shutting down their warehouse due to hazardous materials such as hand sanitizers.

"The state just kept sending big trucks after big trucks, full of stuff. We didn't even know what was coming at times unless OEM got on the ball and sent us the invoice, which was very rare that tracked shipping list of what was coming beforehand, not with the driver. So it created a lot of problems."

—City and County EM Focus Group Participant

"Then the state decided to change that and go to a push method based on caseloads and population and that created such a mess that it was a mess up until last week when [county in region 2] finally got rid of the last of the excess PPE that the state basically forced on us and not giving us an option or anything like that."

—City and County EM Focus Group Participant

## Survey data related to PPE distribution

**LPHA Survey:** LPHA Survey respondents gave a favorable rating for Oregon's Public Health System Response to the distribution of PPE. Fifty-four percent (53.8%, n=21) marked that the distribution of PPE was "Good" or "Excellent" (see Figure 19).

**CCO Survey:** CCOs also gave a favorable rating for Oregon's Public Health System Response to the distribution of PPE (n=7). Seventy-one percent (71%) marked that the distribution of PPE was "Good" or "Excellent" (see Figure 20).

Figure 19: Rating of Oregon's public health systems distribution of personal protective equipment (LPHA respondents, N=39)

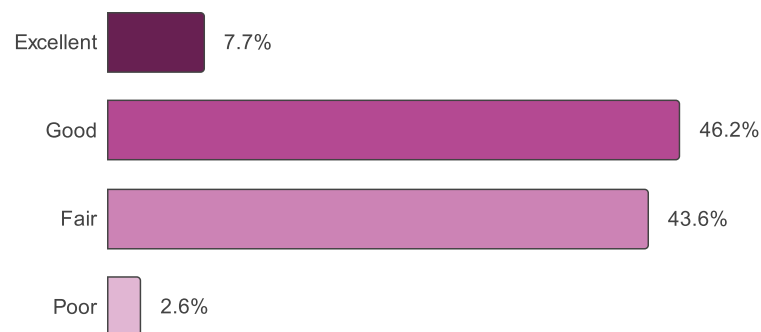
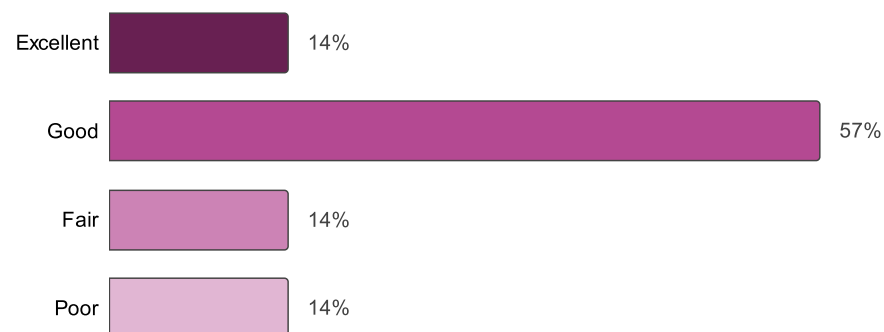


Figure 20: Rating of Oregon's public health systems distribution of personal protective equipment (CCO respondents, N=7)



**CBO Survey:** CBO Survey respondents were highly involved (82%) in the distribution of PPE during the COVID-19 response. The majority of CBOs surveyed (88.5%) utilized COVID-19 funding for PPE distribution (see Figures 21-22).

Figure 21: CBO respondents who supported distribution of personal protective equipment (N=61)



Figure 22: CBO respondents who utilized COVID-19 funding for personal protective equipment distribution (N=61)



## Public information dissemination

Most study participants considered messaging, distribution (e.g., PPE, masks, vaccines) and contact tracing key elements of the public health system response, which all involve public information dissemination. One LPHA focus group participant defined public information dissemination as "...a key part of our response and what we see as part of the public health system."

State Agency interviewees said that the public health system establishes a communication and reporting structure that moves information among other agencies (state and local) and the Governor's Office, and then out to the general public and media. An effective public health response requires communication to all communities and regions of the state, recognizing that different information dissemination approaches may be better suited to each individual community's circumstances.

## Roles in public information dissemination

Study participants played various roles in public information dissemination during the COVID-19 response. LPHA and State Agency study participants both described their involvement in integrating and disseminating public information through the pandemic response. OHA also had a significant role in public information dissemination which included deploying public information officers (PIOs). These PIOs represented several different groups that were divided into "general or medical" according to one interviewee, and acted as a liaison for that group. OHA interviewees also reported coordinating with CBOs to disseminate materials in a culturally relevant way. At the local level, Oregon counties are in control of their own

"After a few missteps in public messaging and public information and overwhelming the information center that the Oregon Health Authority had, we were able to consolidate efforts and have a true, by the plan, joint information center."

—State Agency Interviewee

public information dissemination. This means that in addition to public information disseminated by OHA or other state actors, it was up to each county government/LPHA to disseminate information to the public in whichever way they viewed as most appropriate and effective.

Additionally, City and County Emergency Management focus group participants reported setting up and maintaining a local Joint Information Center (JIC), and assisting both state and local public health officials with public information dissemination.

### **Public information structures**

Some State Agency interviewees remarked that the public information system was flawed because of the existence of two separate statewide Joint Information Centers (JICs). One interviewee noted that after messaging was developed at one of the JICs, OHA and Oregon Department of Human Services (ODHS) might not approve the content, or would sometimes go in a different direction with the messaging, as a reaction to negative press. This was a large source of frustration for public information personnel working on the pandemic response.

## **Looking ahead**

### **Public information dissemination successes**

OHA interviewees stated that many aspects of public information dissemination were successful, including the coordination of public information officers, creation of COVID Communications Units, and the

"[OHA] really wanted to maintain a tight grip on public information. So we had this ridiculous JIC north and JIC south, and trying to get messages approved took forever. It was just really disconnected and disjointed. After about three or four weeks, we finally consolidated the joint information center, and I think things worked pretty well at that point."

—State Agency Interviewee

top-down chain of command model and communication structure.

LPHA study participants reported that they placed a lot of emphasis on communication with the public and it helped them maintain credibility in their communities.

Many City and County Emergency Management Focus Group participants were very impressed with the collection of public information professionals and saw this as a key strength for the COVID-19 response. Several interviewees spoke about the competency, professionalism, and adaptability of their PIO staff. To enhance the coordination of public information professionals, PIOs were also able to leverage their existing networks. By adding a PIO into the ICS team and the ICS team, there was one person there was one person to go to for public information. This person was securing billboard space and engaging the media for interviews, monitoring social media, and facilitating translations for accessible communications.

Tribal governments felt that public information dissemination went well within their communities. They utilized radio, newspaper, social media, and flyers in public locations. They felt the materials received from OHA, CDC, Indian Health Service (IHS), and the Northwest Portland Area Indian Health Board (NPAIHB) were helpful and adaptable for their communities.

### **Public information dissemination lessons learned**

State Agency interviewees remarked that to increase trust among the public, early and transparent reporting was a critical strategy. This required that all response partners agree upon a plan and follow the plan, from

"I think my health department, in particular, we made ourselves available to the media, to community groups... just the willingness to talk through the hard questions with honest answers, I feel like I and my colleagues, I feel like that's where we really showed up."

—LPHA Focus Group Participant

"What worked really well was the vast availability of resources, whether it's OHA, or CDC, or Indian Health Services, for all the various public health interventions. There's just a wide variety of print and digital media available to use and make our own."

—Tribal Nation Interviewee

state-level decision-makers to those engaging directly with the public. State Agency study participants regretted not adequately preparing the public for the fact that information and guidance related to the pandemic would be changing constantly as expert knowledge evolved. One State Agency interviewee said that if they had to do it all over again, they would start every press conference with, "Here's what we know today. This information will change."

"One thing that did come out of [the challenges with public information dissemination] in a positive though, is that the county has realized that all the departments need a public information officer."

—City and County EM Focus  
Group Participant

## **Public health mandates: Compliance + enforcement**

Evidence-based, population-level public health mandates to slow the spread of the virus were central to Oregon's approach to responding to COVID-19. Acting under executive authority, Oregon's Governor, Kate Brown, issued over 40 Executive Orders (see Appendix B) specifying public health mandates. According to individuals from Brown's office and the OHA, public health mandates such as masking, school closures, limited social gatherings, and restrictions on indoor dining were developed with input from the federal Centers for Disease Control and Prevention and the Association of State and Territorial Health Officials. Officials at OHA's Public Health Division also consulted with neighboring states to gather evidence and input to inform decision-making. Importantly, these officials had to balance the potential benefit of public health mandates- which were set in place to slow transmission leading to fewer people getting infected and thus fewer hospitalizations and deaths- against the serious ramifications of closing schools, negatively affecting Oregon's economy, and creating social isolation.

### **Enforcing public health mandates in a public health emergency**

Interview and survey results demonstrate a system-wide understanding that enforcement of public health regulations during a pandemic is a complex issue that must take into consideration multiple competing factors, such as the appropriate level of enforcement given competing urgent priorities and the historical context of individuals and communities that have been (and continue to be) harmed by government enforcement structures. Other factors, such as the socio-political environment (including the potential for backlash), statutory and regulatory enforcement parameters, staff capacity and knowledge, and return on investment for enforcement activities, are equally important.

### **Enforcement of COVID-19 mandates**

Structurally, efforts to ensure compliance with public health mandates were knitted together using regulatory and enforcement authority housed at several government agencies, including the Oregon Occupational Safety and Health Administration (OR-OSHA), the Oregon Liquor Control Commission (OLCC),



the Oregon State Lottery (OSL), the Oregon Department of Agriculture (ODA), LPHAs and OHA. These agencies worked together with the governor's office to establish a triage system for managing complaints. Compliance and enforcement activities were complaint-driven, meaning that in order for noncompliance to be addressed, an individual would have to complain to a government agency. Both OR-OSHA and OHA had complaint forms available online or via telephone. Most LPHAs opted out of enforcement activities and therefore routed complaints to state agencies (OR-OHSA, OLCC, or OHA) for follow-up and enforcement based on the nature of the complaint.

Analysis of records and primary data collected in this study points to the following important factors about enforcement of public health mandates in the COVID-19 pandemic (2020- 2022):

- Enforcement of public health mandates was inconsistent across Oregon, especially after Stage 1 of the pandemic when the politicization of the response effort took root, and a widespread misinformation campaign marred the compliance landscape;
- Enforcement of public health mandates did not fall neatly into the jurisdiction of any one agency in Oregon nor does it naturally fall in the domain of local law enforcement. Enforcement authority was confusing to those who were not steeped in bureaucratic regulations and, thus, many individuals became frustrated with why more was not being done to effectively enforce the statewide mandates;
- Interviews with State Agencies, Health Care Associations, LPHAs, and City and County Emergency Management highlighted pandemic-response inconsistencies across Oregon, not only in enforcing public health mandates but also in other areas of the pandemic. They raised concerns that the localized decision-making of LPHAs created responses that put politics over health;
- State agencies (listed above) worked together to support compliance and enforce the mandates under their extant statutory authorities;
- Several State Agencies remarked there was a lack of available staff and the capacity to conduct adequate enforcement activities or that not all staff engaged in enforcement were prepared or effective;
- Lag times between a complaint being filed and follow-up caused frustration among some complainants and hindered the perception of the importance of the mandates;

- The role of governmental public health agencies in enforcing public health mandates was impacted by the following:
  - Issues with statutory enforcement authority for OHA coupled with the belief held by some that public health cannot or should not enforce laws and regulations.
  - A lack of desire to or experience in enforcing public health regulations at LPHAs- Common themes from LPHA individual interviews around enforcement challenges were that 1) enforcement is a great administrative burden with little reward to the county or community, 2) fear of deteriorating relationships within the community, and 3) LPHAs were confused about what to enforce, and who should be doing the enforcing. More than one LPHA reported they did not know where to go for help with enforcement.
- Problems created by the structure of enforcement impacted the entire pandemic response. The top challenge around compliance with public health mandates noted by CBOs was that Oregon did not have consistent enforcement mechanisms. With no apparent authority designated for enforcement, the role often fell to local businesses and CBOs that continued to operate to serve the community. In particular, the lowest-paid employees had to enforce public health mandates, which they felt was inequitable and ineffective. Many CBOs noted a lack of local leadership around compliance and enforcement was a challenge. According to CBO study participants, many county officials either wanted to stay neutral or openly disagreed with public health mandates;

"I didn't see any messaging really that was really strongly supporting any of the requirements. I felt like... Which I know is hard, but in our county, there was a lot of resistance. And even if I called the county and asked, 'Can you message this? Can you talk to people that are coming in?' And I just felt like they also felt the resistance, and so they were trying to stay neutral within that. And there just really wasn't leadership from our county really reinforcing that."

—CBO Interviewee

- State and local government agency representatives faced political and social opposition to public health mandates from vocal members of their communities or local elected officials. Not infrequently, enforcing the public health measures resulted in personal threats;
- Interviewees representing State Agencies, OHA Staff, Managers and Directors, LPHAs, and CBOs all noted that continuously changing guidelines were difficult for the public and that may have impacted adherence to public health mandates;
- Governmental public health agencies felt they were effective in providing education and support to individuals and businesses in complying with mandates. Interviewees and study participants outside of OHA reported that OHA performed well in communicating with the public about the mandates. Further, specific mandates that affected businesses were handled through emergency rule-making processes that allowed businesses to be prepared and informed about upcoming regulatory changes;
- Interviewees from seven of Oregon's nine federally recognized Tribal Nations reported that their tribes worked to abide by all the Executive Orders as a way to protect the community. Several noted that social distancing and refraining from gatherings presented cultural challenges because of a community value of interpersonal connection; Tribal Nations worked to explain the necessity of social distances toward the greater good of the community and especially elders;

"The attitude toward public health workers changed, while in the beginning months of the pandemic, they were celebrated as heroes. They quickly became villains in the eyes of many."

—State Agency Interviewee

"We had a lot of willful violations relating to masking. Unfortunately, this is where things probably got really heightened for our staff because we got a lot of threats, and anger, and meanness, and people showing up at our individual houses, having barbecues in front of their houses, chanting with bullhorns that they should be carted off to the gas chamber."

—State Agency Interviewee

- CBOs were essential in disseminating education and supporting compliance with public health mandates. Many CBOs noted a general will to comply with public health mandates was especially high for marginalized communities that already faced health disparities;
- CBOs directly supported community compliance with public health mandates by modeling compliance themselves (being diligent about mask-wearing and social distancing when interacting with clients and community members, for example). CBOs also built on the trust and relationships they had within the communities they served to communicate public health mandates and guidance in a way that was easy to understand. Several CBOs noted they played a 'cultural liaison' role by translating the evidence, explaining complex rules, and messaging the importance of complying in ways that spoke to the values in their communities. CBOs bought and supplied masks and other PPE and directly supported compliance with quarantine and isolation protocols by providing wraparound support for community members with COVID-19;
- Some CBOs felt that decision-making was not grounded in science and best practices for controlling the pandemic (allowing bars to stay open when gyms and churches were shut down, for example). They shared that as COVID-19 became more political, the evolving guidance seemed to be driven by public will and fear of backlash more than science; and
- Due to the complaint-driven nature of enforcement protocols, the level of adherence to public health mandates by individuals and businesses is unknown. The study team reviewed documents and data provided by OHA and OR-OSHA related to specific compliance and enforcement activities undertaken by OR-OSHA or OLCC.

"Most people in the community that I serve really wanted to follow the rules. They wanted to protect the people that they loved, and they were kind of on board with that. And I didn't see enforcement about any of that stuff happening."

—CBO Interviewee

"Asking public health to enforce those was crazy. There were no guidelines on enforcement. We had one place that went out of their way to be [difficult] and they opened up before they should've. OSHA still hasn't figured that one out, this was in 2020. So the state really needs to decide when we're going to do these things and who is going to enforce them."

—LPHA Interviewee

## Looking ahead

Examining how public health mandates should be enforced (including the level of enforcement) and delineating roles and responsibilities for state and local agencies at each stage of the compliance continuum is highly recommended. While several State Agencies worked diligently to support enforcement, without one centralized enforcement agency, their efforts left gaps for certain conditions. For example, a church with no employees might not be covered by OR-OSHA, OLCC (unless they had a liquor license), or Oregon Video Lottery. Additionally, regional variation, driven by elected officials who were opposed to certain recommendations, also created gaps in compliance and enforcement. As the state public health authority, OHA should convene local and state agency partners to determine if the enforcement mechanisms used in 2020- 2022 are the best fit for Oregon, given all the factors described above. If changes to the enforcement structure for public health mandates are deemed necessary by OHA, partners and the Oregon State Legislature should work to enact necessary statutory or regulatory changes. Finally, enforcement of public health mandates and various roles and responsibilities should be clearly articulated, and all parties in the public health system should educate themselves accordingly.

## Public health messaging + communication

Public health messaging and communication throughout the pandemic was critically important to keeping the public informed, reaching historically marginalized communities and populations, and sharing information between partner organizations (OHA, LPHAs, CBOs, tribes, etc.). Communication took many forms, including information provided to the general public from OHA and LPHAs through mass and social media. There were also internal systems of communication between Oregon's executive branch, the CDC, OHA, other state government agencies, LPHAs, CBOs, and the many health and business organizations affected by measures and rules created during the pandemic. The means and timing by which information was disseminated had a direct impact on the public's clarity and trust in the information. Best practices in public health communication ensure that messages are clear (expressed in plain language), inclusive (accessible by a wide range of abilities and languages), and trusted. It is imperative that best practices are followed not only to reach the general public, but especially to reach historically marginalized groups with potential to bear the harshest effects from the pandemic.

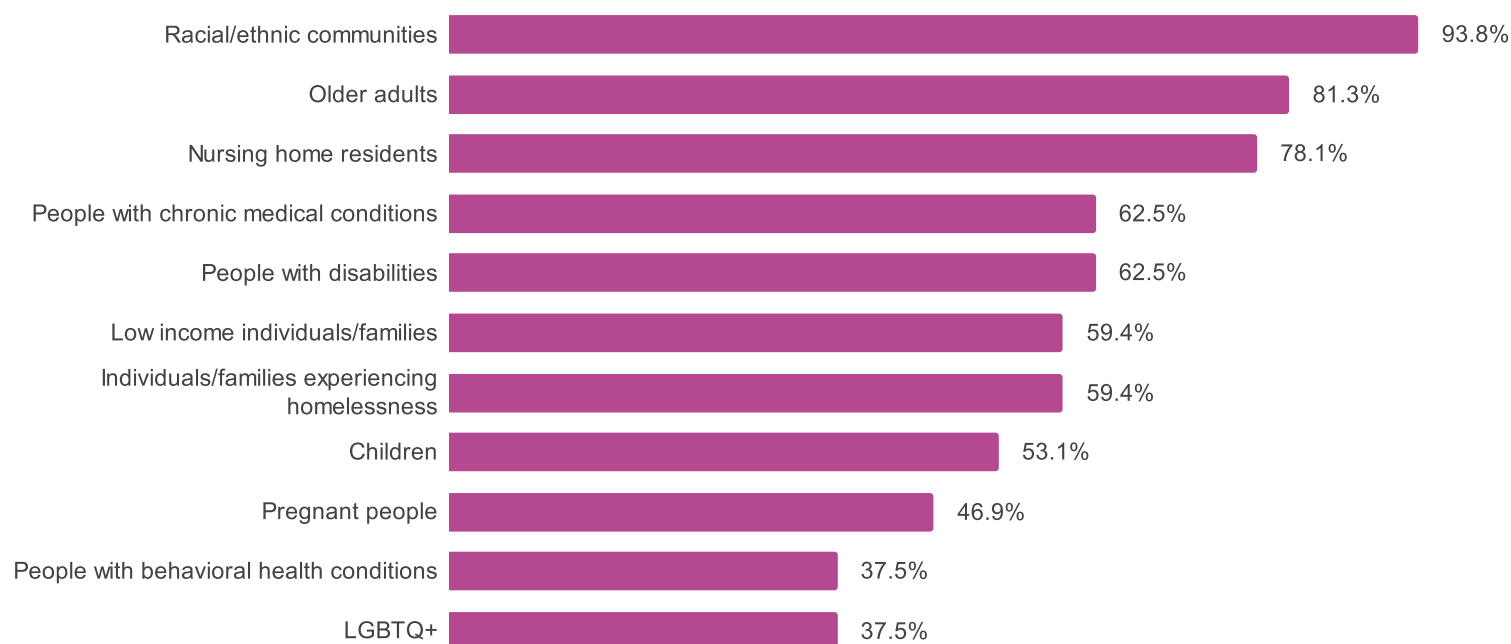
### Use of public health messaging best practices

Study participants reported that during a time when accessible, translated, and culturally tailored communication and public messaging were critical, OHA experienced a lag in producing this communication. Information from process and individual interviews with OHA Staff and Managers revealed that OHA did not have the bilingual and other staff necessary to move with the alacrity that was needed from the very start.

After the initial lag, OHA and LPHAs seemed to be successful at creating mass reach messaging in multiple languages and incorporated accessibility standards. In survey responses, 27 LPHAs reported that they created their own public health messages to accompany OHA's. All 27 of those LPHA respondents also indicated that they provided materials in multiple languages. Although not as strident with accessibility

standards, all LPHA survey respondents reported that they “sometimes” or “always” wrote in plain language, while 65% reported that messaging “sometimes” or “always” met ADA standards. It was common for LPHA survey respondents to prioritize community- or population-specific COVID-19 messaging, and nearly all reported prioritizing racial/ethnic communities. Many also reported prioritizing communication with older adults and nursing home residents. Conversely, interviews and focus groups with tribal organizations revealed that participants felt like there was not enough funding to create culturally specific communication for their communities.

**Figure 23: Populations that were prioritized by LPHA respondents for community-specific COVID-19 messaging (N=32)**



In the survey, CCOs reported providing public health messages that were distributed through their own websites, local news, social media, radio, newspapers, and phone calls or text messages. They also followed best practices in providing information in multiple languages, ensured messaging complied with ADA standards, and utilized plain language. Languages provided included English, Spanish, Simplified and Traditional Chinese, Russian, and Japanese. Additionally, three CCO survey respondents noted that materials could be requested in any other language or format.

CBO interviewees felt that the variety of communication methods offered was effective. Strategies such as including visuals, offering communications in different languages, utilizing mass media (especially local radio and TV), and engaging trusted messengers (like community leaders and doctors) strengthened receptivity of COVID-19 communications. Additionally, having materials with fewer words and larger text improved accessibility. Creating easily shareable, accessible, and culturally tailored messaging materials increased public trust. Many CBO interviewees specifically named OHA's Safe + Strong campaign as an example of effective messaging.

While communication was generally effective with many populations, a theme from CBO interviews shows that there were populations who were not targeted well with communication efforts, including: individuals with disabilities, the LGBTQ+ community, those without access to or frequent use of technology, rural and frontier communities, and communities who speak languages that are less common in Oregon and for whom translation was not prioritized.

"They rolled out from local radio ads, and all over from radio to TV ads, and getting doctors because we know that hearing something like this from a doctor's perspective is a much stronger message than hearing it from someone who doesn't know what they're talking about. The messaging was definitely much stronger."

—CBO Interviewee

"We've heard from a lot of our trans community folks that they felt totally invisible throughout the whole thing"

—CBO Interviewee



## Messaging about public health mandates

City, County, and Tribal Emergency Management, CCOs, and CBOs were surveyed and asked about their perception of OHA's communication with the public in each of the four stages identified in this study. Respondents were asked to rate the effectiveness of OHA's communications around areas such as stay-at-home orders, prohibition of public gatherings, prohibition of indoor dining, in-person school closures, isolation and quarantine guidance, and mask mandates for Stage 1. Overall, respondents indicated that they thought OHA's effectiveness was "mostly good" to "excellent." From CBO interviews and focus groups, we found that while CBOs noted many strengths of state public messaging, they wished communication had been stronger from the start. Specifically, CBOs expressed a need for information available in more languages from the very beginning of the pandemic, and lamented the absence of an early focus on local and culturally-tailored messaging. By the end of Stage 1, these initial gaps identified by CBO interviewees had become a regular part of communication efforts.

All survey respondent groups said that communication with the public from Stage 2 through Stage 4 was generally "good" to "excellent." The City, County, and Tribal Emergency Management respondents, along with CBO respondents, were more likely to rate the effectiveness of OHA's communication with the public as "fair" in Stage 4 compared with Stages 1 through 3. Communications in Stage 4 included information about continued isolation and quarantine guidance, mask mandates, vaccine availability, and lifting restrictions.

Some study participants also expressed frustration with inconsistencies in messaging about public health mandates. In some cases, this was due to conflicts between agency information, and in other cases, the rapidly disseminated and continually changing public health requirements created a perception of inconsistent guidance. Many CBO survey respondents (41%) reported inconsistent guidance from the federal and state government. Additionally, a majority of LPHA survey respondents reported inconsistent guidance from the federal government (82%) and the state government (69%); and City, County, and Tribal Emergency Management survey respondents also reported inconsistent guidance from the federal government (70%)

and the state government (65%). PHAB and CBO study participants noted that the changing guidelines and public health mandates were confusing, and CBO study participants specifically said that OHA and the Governor lacked transparency about why decisions were being made, specifically related to masking and reopening of businesses and public spaces, which put communities facing health disparities at greater risk. LPHA and City, County, and Tribal Emergency Management study participants reported that varying guidance from OHA and other state agencies such as OEM and OR-OSHA hindered the effectiveness of their response.

## **Widespread misinformation**

While OHA communication and messaging to the public was generally seen as "good" by survey respondents, widespread disinformation about the pandemic proved to be problematic, according to information gathered through interviews and focus groups with OHA Staff and Managers, LPHAs, and CBOs. A politically divisive climate coinciding with a powerful disinformation campaign created a space where disinformation was often as prevalent or more widespread than the messages coming from public health professionals. To combat this, it was imperative that public health messages were timely and consistent. Unfortunately, our data shows that this was often not the case.

The rate at which information passed from one sector or entity to the next was not consistent, leading to conflicting messaging from one organization to another.

In interviews, a majority of OHA Directors spoke about the challenges of navigating communications and public messaging in the current political environment. Decisions were highly politicized at every level, from school closures, to mask mandates, to public gathering bans, to prioritization of communities for vaccine roll-out. In many cases, OHA Director interviewees felt a sense of helplessness around misinformation and the overall lack of trust and willingness to comply with public health mandates and guidance.

LPHA interviewees reported that local public health departments received information in different ways depending upon who was set up to receive that information in each county. This meant that information

dissemination could happen quickly in some places, but much slower in others, leading to frustration when some LPHAs would hear about new mandates or guidance from OHA or other LPHAs prior to actually receiving the new information themselves.

We often heard from CBO interviewees that the messenger could be as important as the message when it came to trust. With the amount of information being communicated from differing and sometimes conflicting sources, it was difficult for the public to know what information could be trusted. Throughout the state, messenger selection was not often optimal. According to CBO interviewees, using non-elected, professional spokespeople who were seen as non-political were more trusted. This was especially important given the difficult communication landscape created by the politicization and widespread disinformation previously described.

### **Partnering with community based organizations**

CBOs, who were not responsible to enforce mandates but rather to help communities understand and meet the health requirements, often had a different experience than those described by LPHA and City, County, and Emergency Management study participants. A majority of CBO interviewees found two-way communication with OHA to be valuable. In fact, several CBO interviewees noted that they participated in weekly check-ins with OHA, which were opportunities to obtain information and stay up to date, offer feedback, and share concerns that were emerging in their communities. CBOs also appreciated the frequent data sharing from OHA and LPHAs, such as OHA's daily emails with case counts by county.

"Everyone's website updated at different times based on when they receive information. Therefore, the information that got shared with the public varied between CDC, Oregon Health Authority, various counties, etc. So I think you discredit yourself very quickly with the public when you do that."

—City and County EM Focus  
Group Participant

Interviewees also reported that OHA worked closely with CBOs to support them financially and to provide communications and technical assistance.

OHA set up communication channels for sharing data on COVID-19 in real-time. For example, OHA established the Community Engagement Team in the Public Health Division that led an extensive work effort to build relationships with culturally-specific and other community based organizations. The CBOs were then seen as the trusted voice within their communities and able to reach historically marginalized populations that OHA may not have been able to reach in a meaningful way.

Even with the weekly check-ins and other efforts, communication was difficult. The vast majority of CBO study participants named inconsistent and quickly changing information as a challenge. The time needed to receive, translate and culturally-tailor, and then disseminate the information to the community was a challenge for CBOs.

### **Joint information centers**

The regional Joint Information Centers (JICs) used throughout the pandemic were often mentioned as key to help provide timely, consistent message development, and regional coordination. JICs provided a space where everyone, including LPHAs and Emergency Management teams, could develop, review, and refine regional messaging. This was recognized by both LPHAs and Emergency Management staff as critical to distributing

"They were giving up-to-date information during weekly check-ins. So I felt like there was a lot of clear communication."

—CBO Interviewee

"OHA provided cash support and a lot of technical assistance. They have been incredible partners and super responsive. They provided a ton of training."

—CBO Interviewee

"Information could change dramatically and it was hard to keep up and distribute that information, particularly to a population like ours, which is really low in technology."

—CBO Interviewee

a common message in each region of Oregon. See the Public Information Dissemination section of this report for more information about JICs from the State Agency and City and County Emergency Management participant perspective.

## **Looking ahead**

After an initial lag, OHA was able to rapidly and substantially resource CBOs and provide technical assistance for messaging and communication. According to OHA Staff, Managers, and Directors and CBO study participants, having this relationship in place prior to a public health emergency would have made CBO response efforts more effective in the initial Stages. OHA participants have also expressed a desire to hire more permanent bilingual staff before the next public health emergency to expedite message translation.

Findings in this report suggest that it is imperative for OHA, LPHAs, CBOs, and CCOs to continue to work together to make timely, consistent, accessible, and culturally-tailored information a standard practice during public health emergencies.

As described in other sections of this report, CBOs will likely play a key role in reaching historically marginalized populations. The importance of geographically and culturally tailored communication strategies developed at the state and local level cannot be understated, especially when the traditional approach focusing on elected officials as trusted messengers was ineffective.

According to Emergency Management and LPHA study participants, the Joint Information Centers were a manageable and reliable strategy for consistent message development within regions, and these study participants would support the continuation of this strategy in the future. Overall, study participants highlighted inconsistent guidance from the State and Federal Governments as a deficiency in the public health system's response to the COVID-19 pandemic. It's clear from the data that rapid and transparent dissemination of information from OHA to LPHAs and other partners was difficult to establish but critical to

the effectiveness of pandemic response activities and the maintenance of public trust. Ensuring consistency in public health messaging will improve the response to future emergencies.

Additionally, though it was likely impossible to fully prepare for the disinformation campaign faced by public health during this emergency, politicization of public health that created and exacerbated community mistrust was identified by study participants as an overall deficiency in the public health system's response to COVID-19 pandemic. We now know that a plan to combat this challenge in the future will be a crucial piece of public health emergency response planning. While OHA hired a firm and worked with influencers throughout the state to combat this disinformation, findings in this report suggest that ample funding, planning, and relationship building needs to be bolstered in order to help amplify the voice of public health during an emergency response.

## Public health modernization

Since 2013, Oregon has been rebuilding its governmental public health system to ensure essential public health protections for all people in Oregon through equitable, community-centered, and accountable services. Oregon established the framework for achieving a modern public health system in House Bill 3100 (2015). Public health modernization focuses on improving population health within four foundational program areas: communicable disease control, environmental health, prevention and health promotion, and access to clinical preventive services (OHA, 2022). Since 2017, the Oregon State Legislature has invested in public health modernization, allocating funds to local public health authorities (starting in 2017), federally recognized Tribes and the Urban Indian Health Program (starting in 2019), and community-based organizations (starting in 2021). Funding has increased for local public health authorities (LPHAs) in each biennium since 2017 and for federally recognized Tribes since 2019. In 2021, the Oregon Legislature allocated an additional \$45 million in funding. The additional investment brought the total investment in public health modernization to \$60.6 million.

Table 2: Distribution of legislative Public Health Modernization investments since 2017

Year	2017-2019	2019-2021	2021-2023
LPHAs	\$3.9 M	\$10.3 M	\$33.4 M
Federally recognized tribes and NARA		\$1.1 M	\$4.4 M
CBOs			\$10 M
OHA	\$1.10	\$4.2 M	\$12.8 M
Total	\$5 million	\$15.6 M	\$60.6 M

(OHA, 2022, p. 9)

## **Public health modernization implementation + the public health system's COVID-19 response**

Respondents across multiple data sources (CBOs, LPHAs, OHA Directors, and OHA Staff and Managers) provided information about the outcomes of public health modernization, making it clear that efforts to rebuild the public health system had a consequential influence on pandemic operations and outcomes. Notably, public health modernization focused Oregon's public health system on shoring up seven foundational capabilities:

- Health equity and cultural responsiveness
- Assessment and epidemiology
- Community partnership development
- Emergency preparedness and response
- Communications
- Policy and planning
- Leadership and organizational competencies.

Comprehensibly, each of these capabilities were critical to the public health system's response to COVID-19. In particular, study participants pointed to emergency preparedness and response, partnership development, and health equity as core areas strengthened before 2020 through public health modernization.

### **Public-private partnerships**

Public health modernization's emphasis and capacity building in creating and sustaining public-private partnerships set the stage for improved responses to the COVID-19 crisis. The efficacy of public-private partnerships and, specifically, engaging community-based organizations was pronounced and echoed by numerous study participants. OHA Staff, Managers, and Directors reported strong partnerships with CBOs and health systems, and LPHAs reported that during the initial stages of the pandemic, a steady flow of



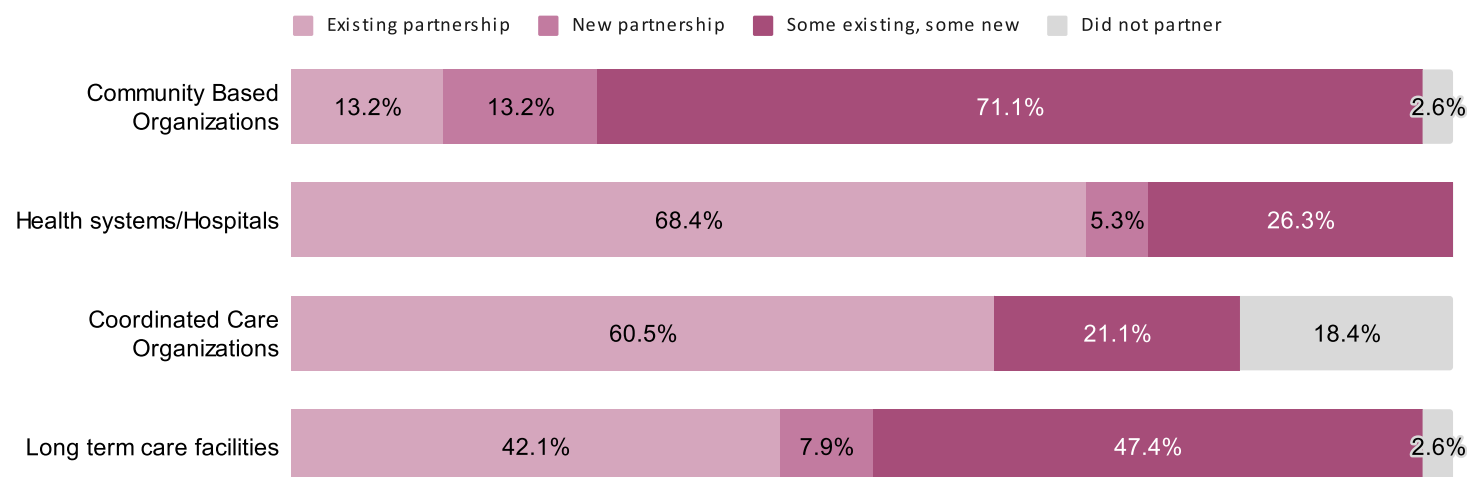
funding, including modernization funding, allowed LPHAs to contract with CBOs for wraparound support services and other pandemic-specific activities. During the second stage of the pandemic, efforts to vaccinate the entire adult population were coordinated by LPHAs and, to a great extent, facilitated through public-private partnerships. Some LPHA study participants had a small number of partners, and others named a long list of CBOs, clinics, schools, and others that helped support their communities throughout the pandemic response. Partners noted by LPHAs included:

- **CBOs** were involved in many aspects of the pandemic as noted throughout this report. CBOs helped communicate with the public in general and targeted ways; reached vulnerable populations like the unhoused and those with MH/SUD; staffed vaccination and testing events; distributed PPE; and provided wraparound supports, such as food box deliveries;
- **Hospitals and health care entities** such as hospitals and health systems partnered with OHA and LPHAs throughout the pandemic; at the local level, however, regional differences occurred with respect to the role of health system partners in supporting public health requirements and requirements and protections including vaccination;
- **Community health workers** aided in getting messaging out, directing people to vaccination resources, and helping them navigate through the changing requirements;
- **Fire and EMS:** while not necessary a public-private partnership, some LPHAs said they partnered with their first responders to provide vaccines in a large county where not everyone could easily access the main hospital; and
- **Churches** were sometimes engaged in vaccine clinics and food drives.

Not surprisingly, all LPHA survey respondents reported partnering with health systems and hospitals on some aspect of the pandemic response, and the vast majority reported partnerships with CBOs and long-term care facilities. LPHAs reported collaborating with hospitals and health systems for COVID-19 testing, PPE distribution, vaccination, to a lesser extent, targeted health equity response, population-specific communication, and supporting the enforcement of public health mandates (see Figure 24).

Long-term care facilities presented specific public health challenges in the pandemic because they were congregate settings that served individuals at greater risk of severe complications from COVID-19. LPHAs leveraged existing partnerships and created new partnerships to activate and maintain appropriate public health responses. Some LPHA and OHA interviewees reported missteps early on in the pandemic related to long-term care facilities, but collaborating with these facilities was reported as a necessity and an opportunity.

Figure 24: Types of LPHA partnerships for COVID-19 response (N=38)

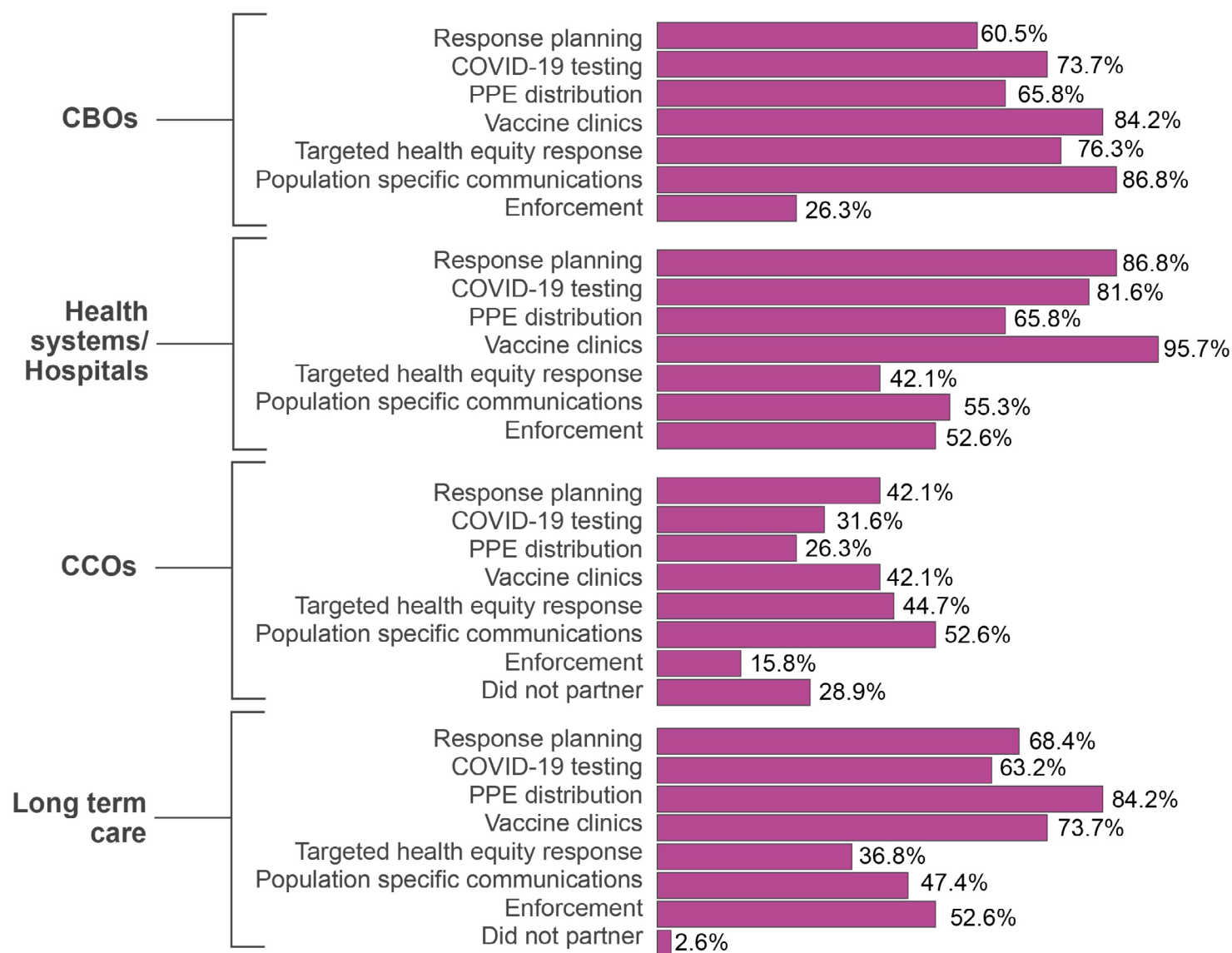


LPHAs reported fewer partnerships with CBOs going into the pandemic, and CBOs' experiences in partnerships with LPHAs varied. Some CBOs encountered pushback when they tried to offer feedback and share ideas for new ways of approaching work in the community. In contrast, others felt that their feedback was welcome, and there was a collaborative energy of all partners being "in the work" together to have a positive impact. It is possible that LPHAs' capacity to partner with CBOs improved over the course of the pandemic as more new partnerships were developed and advanced through the stages of effective collaboration, including trust building.

Tribal Nation interviewees also reported a wide range of partnerships that were important to their response to the COVID-19 pandemic. The most frequently mentioned partnerships were with other Tribal Nations, CBOs, LPHAs, OHA, IHS, long-term care facilities, and schools. Other partnerships that were mentioned were with local public safety, community workers, local hospitals, Oregon DHS, correctional facilities, NPAIHB, the National Guard, the Governor's office, and the CDC. These partnerships served a variety of functions, including:

- Coordinating COVID-19 testing and vaccination;
- Regular meetings to share information;
- Acquiring PPE, testing supplies, and vaccination supplies;
- Discussing funding processes; and
- Coordinating care for community members.

Figure 25: Types of activities LPHAs partnered on (N=38)



## Cross-jurisdictional work

Some OHA Staff and Managers and LPHA interviewees noted that regional staffing structures, with shared staff serving several counties (specifically in the domain of epidemiology), were beneficial because they had been put in place prior to the pandemic and led to enhanced capabilities throughout the pandemic.

## Immunization capacity

Several OHA Staff and Managers and LPHA interviewees opined that a shift in local health departments' provision of clinical preventive services (prompted by public health modernization) may have led to a lack of public health infrastructure for population-level vaccine events; the study team was not able to gather sufficient evidence about the implications of public health modernization. The question of local-level capacity for vaccinations and the division of labor among LPHAs, health care providers, and CBOs will be examined in Report 2.

## Equity and centering community

Pages 34-47 in this report provide details about health equity findings from this study phase. However, it is essential to note that governmental agency study participants often tied increased capability and emphasis on centering community needs to public health modernization efforts. Many study participants reported that the statewide public health system's focus on the equity and cultural responsiveness foundational capability likely improved Oregon's response to the pandemic. Many noted that while there is still much work to be done to address health inequities in Oregon, a focus on health equity and developing partnerships with organizations that work directly with the community was essential.

Community-based organizations were not specifically asked about public health modernization because for most CBO study participants, the terminology was not routinely utilized within their scope; however, CBOs reported actively seeking partnerships with governmental public health organizations (i.e., state and local public health) to support the public health response and serve their communities. As noted above,

experiences of CBOs vary with respect to how deftly they were integrated into the public health response.

As can be seen in Figure 25 on page 157, LPHA's partnered with CBOs in a compendium of public health response activities including: response planning, COVID-19 testing, PPE distribution, vaccination, targeted health equity response, population specific communication and, to a lesser extent, supporting enforcement of public health mandates.

### **Overall impressions of state health department functionality**

Public health modernization outcomes, specifically leadership and organizational competencies, can be evaluated through the lens of the governmental public health agencies' ability to respond to a public health emergency. For this phase of the study, questions rating response effectiveness focused on the Oregon Health Authority, Public Health Division's leadership and response activities. In a survey, CBO and CCO (N=66) respondents generally gave high ratings for OHA's ability to engage in COVID-19 response activities (see Figure(s) 26-27). Expressly, CCO respondents indicated that OHA was most successful at performing the tasks that the public health system was expected to accomplish, making connections with other organizations, and providing information across local health systems.

"Public health modernization is an approach for revolutionizing how we do public health and centering community, centering equity, and sharing power and leadership. Being able to fund community partners is something that OHA hasn't done before. To take dollars and put them into black and brown communities to support pandemic..."

—OHA Staff Interviewee

"Our team really prioritized equity and accessibility. It certainly wasn't perfect, but it was more foundational instead of something to think about on the side."

—OHA Manager Interviewee

Figure 26: CBO respondents rating how well OHA was able to engage in the following activities during COVID-19 response (N=59)

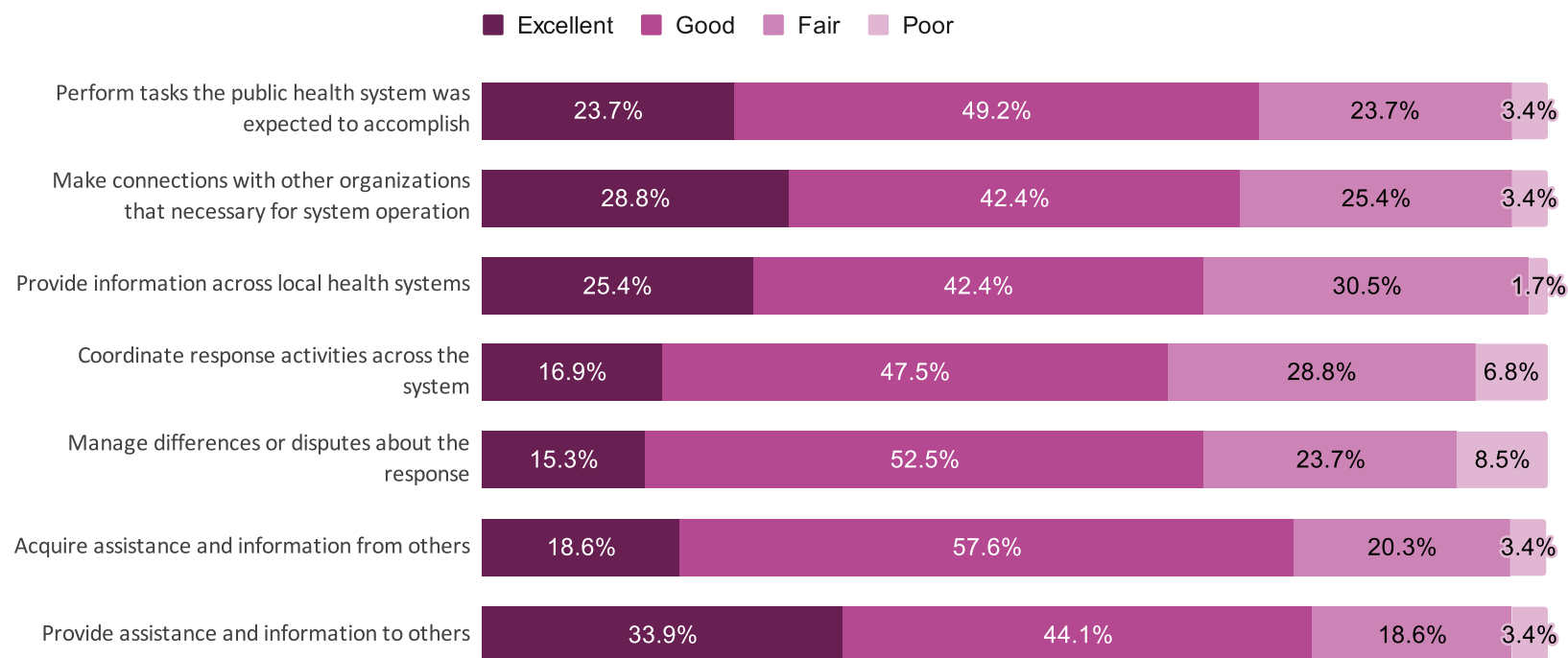
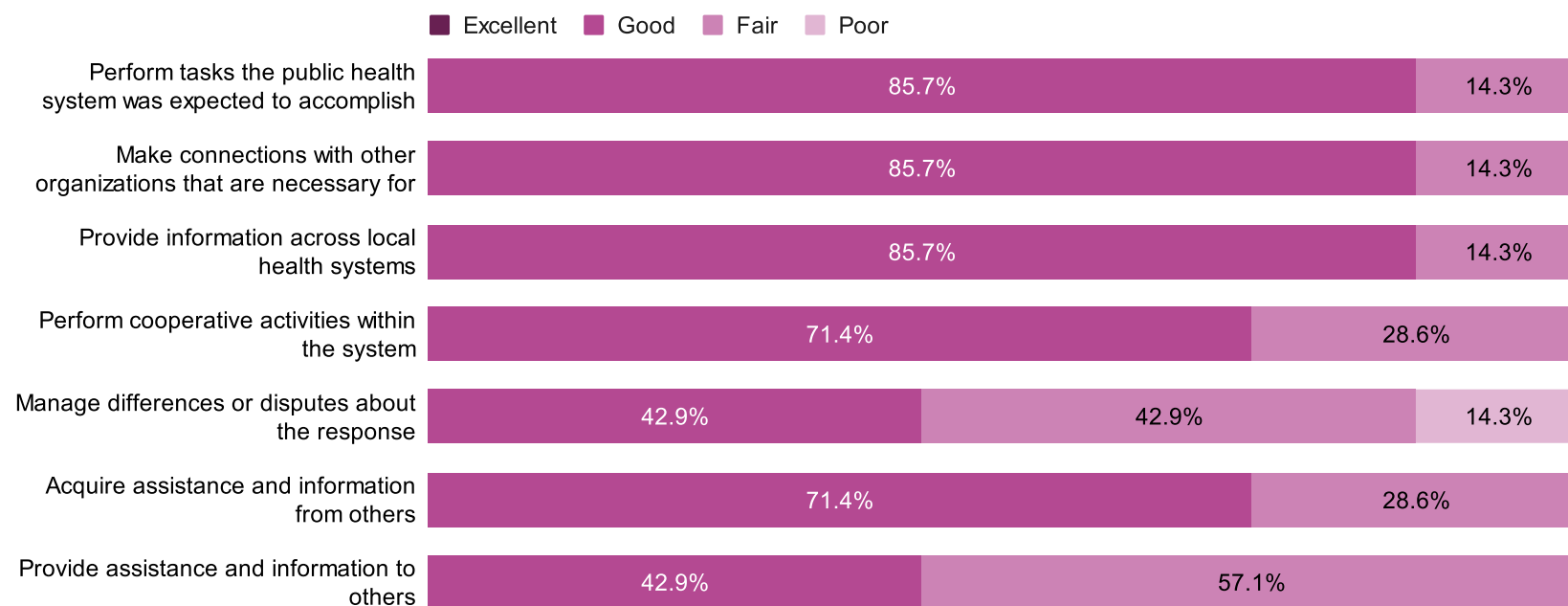


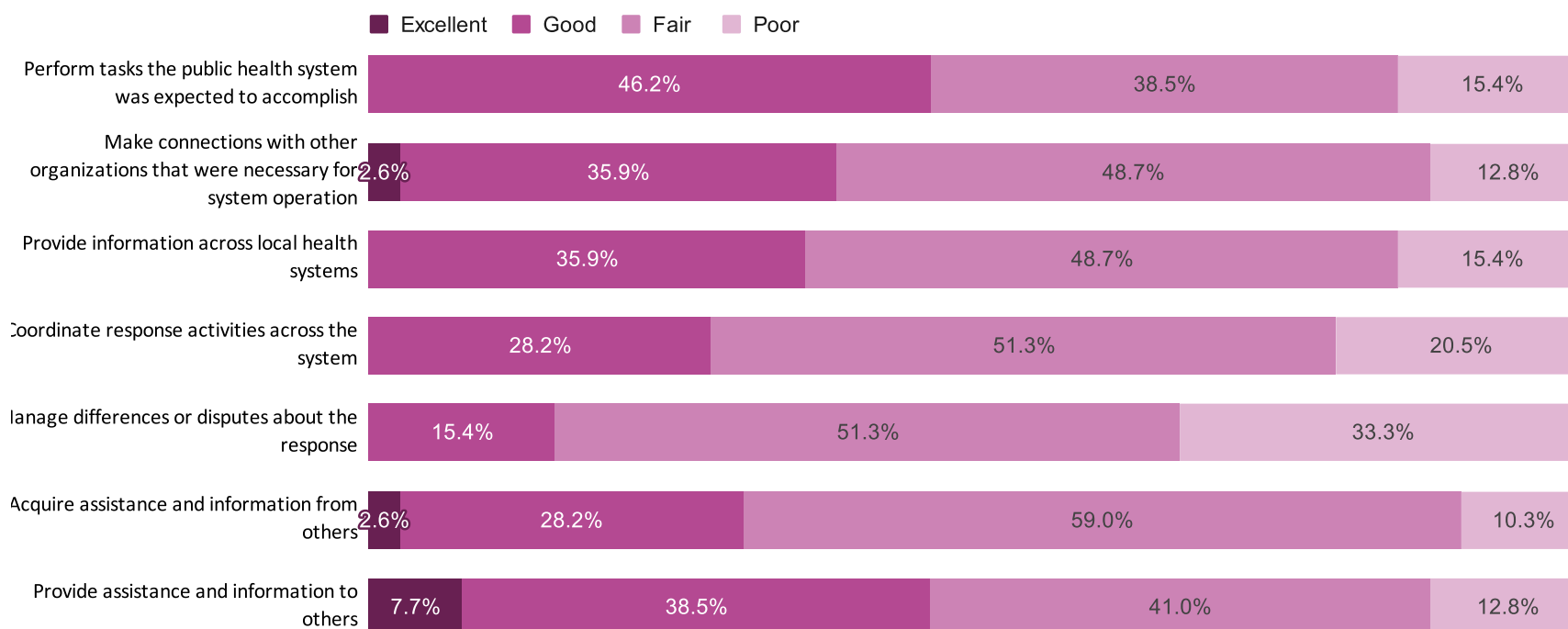
Figure 27: CCO respondents rating how well OHA was able to engage in the following activities during covid-19 response (N=7)





LPHAs were less satisfied with OHA’s ability to conduct public health activities, with over half of LPHAs surveyed rating OHA as poor or fair in all activities (see Figure 28). And over half of CCOs (in agreement with LPHAs) rated OHA as poor or fair at managing differences or disputes about the response (see Figure 27).

Figure 28: LPHA respondents rating how well OHA was able to engage in the following activities during covid-19 response (N=39)



### Data accessibility + availability

All CCO survey respondents (n = 7/7) rated data accessibility and availability in the COVID-19 response as "good" (see Appendix H). Many OHA Staff and Manager interviewees described the OHA data team as high functioning, and noted that they had been building their capacity prior to the pandemic. Several study participants agreed that data sharing was timely, responsive, and transparent. One Healthcare Association interviewee also felt that OHA did a great job with data transparency by sharing the sources of the information disseminated and by maintaining and updating excellent data dashboards. In contrast, several LPHA respondents noted that key databases used to track pandemic data in real time were difficult to use or prone to crashing.

### Establishing the CRRU

OHA Staff and Managers and State Agency study participants described establishing the COVID-19 Response and Recovery Unit (CRRU) as an important facilitator in the pandemic response. The CRRU was described as a single point of contact where people knew their questions would be answered or their concerns heard. Study participants also reported that staff and leadership across multiple agencies participated in the CRRU, and because of this, the CRRU supported coordination across multiple agencies and levels of leadership. In contrast, some State Agencies reported that CRRU was not as accessible as they would have hoped and questioned whether or not it was effective at the enterprise level. There is little doubt that CRRU performed key functions with success in centering equity and science-based decision making.

"I think them dedicating resources to those data, that data infrastructure, was super important and super helpful for us. I think they did a really good job on the data front."

—Health Care Assoc. Interviewee

### Engaging with feedback

Starting in March of 2021, OHA created a COVID-19 feedback system and team for the residents of Oregon to ask questions about public health mandates, compliance with mandates, and offer concerns and recommendations regarding COVID-19. Importantly, this system consolidated and streamlined OHA's work in supporting the public through developing and operating a central repository for questions and a system for tracking OHA's responses. OHA's approach in creating this feedback system was to further their goal of centering equity as a part of the public health system response to COVID-19. The OHA COVID-19 feedback team facilitated the process and collaborated across OHA and other partners to follow-up on and resolve every unique piece of feedback received. Throughout the pandemic the COVID-19 feedback team received and resolved over 4,300 pieces of feedback from Oregonians. Steps that the team took to resolve issues included providing information to clarify public health mandates, aggregating feedback and synthesizing it for the CRRU's awareness and action, elevating questions and concerns to other agencies and partners, and referring compliance-related needs to the appropriate governance and licensing authorities. OHA's primary enforcement partners, Oregon Occupational Safety and Health Administration (OR-OSHA) and OLCC used this feedback system to understand Oregon's key enforcement issues. The following enforcement activities occurred in response to the feedback people provided: tracking complaints, investigating, providing education, issuing fines, revoking licenses, and providing referrals to other enforcement agencies.

## COVID-19 health outcomes

COVID-19 health outcomes of interest for Report 1 include the following: measures of community spread, measures of disease severity, strain on the hospital system, and vaccination metrics. State-level findings are reported below. Due to the large number of outcomes analyzed for this study, additional COVID-19 health outcomes, including those by geography (e.g., region, county) and sociodemographic characteristics (e.g., race, ethnicity, sex, age, disability) can be found in Appendix J.

### Overall Summary

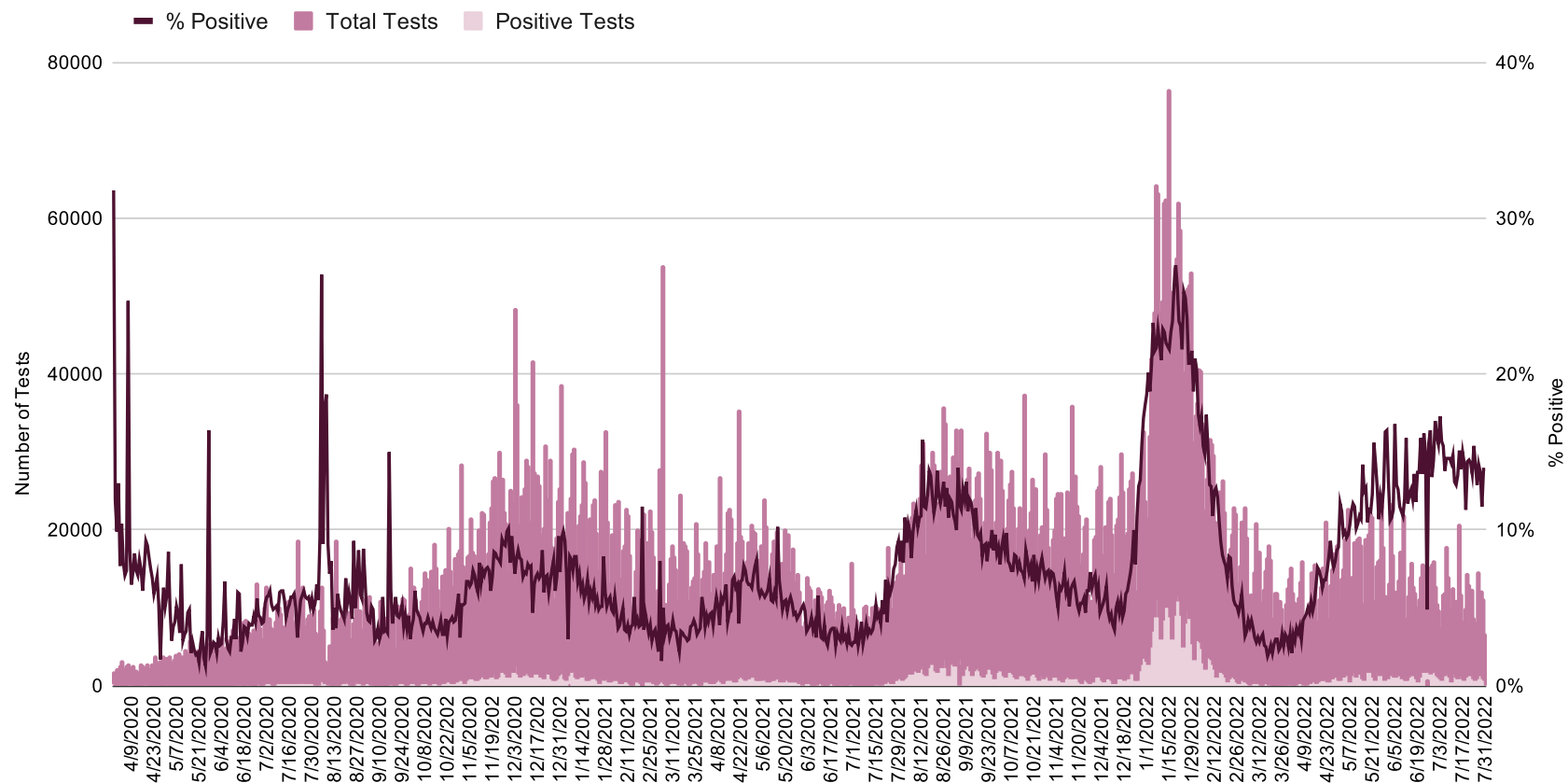
As of the week of July 31, 2022, OHA recorded 860,300 COVID-19 cases in Oregon. There were 34,376 hospitalizations (4%) and 8,291 died. The COVID-19 case rate peaked at 1,332,25 during the week of January 10, 2022.

### Testing Metrics

Figure 29 presents the total number of COVID-19 tests administered daily with both positive and negative results, overlaid with the percent of tests that were positive daily. Tests are counted by the date the test report (i.e., electronic laboratory report) was received by public health. Test counts reflect the number of individual tests, not the number of individuals tested. The percent positivity was higher at the beginning of the pandemic when testing was limited to people who most likely had COVID-19.

In Stage 1, a total of 2,035,249 COVID-19 tests were administered. The highest numbers of tests in this stage were reported on November 23, 2020 with 27,723 tests. In this stage, the number of positive tests peaked on August 5, 2020 at 26.4%. In Stage 2, a total of 4,305,984 COVID-19 tests were administered. On March 4, 2021, there were 52,906 tests, which was the highest number of tests administered in this stage. In Stage 3, a total of 4,129,239 COVID-19 tests were administered. On January 14, 2022, 62,799 tests were administered, which was the largest volume of tests administered in a single day during this stage. In Stage 4, 1,772,921 COVID-19 tests were reported. There were 21,943 tests reported on May 26, 2022, which was the largest number of tests reported in a single day during this stage.

Figure 29: Oregon COVID-19 testing over time

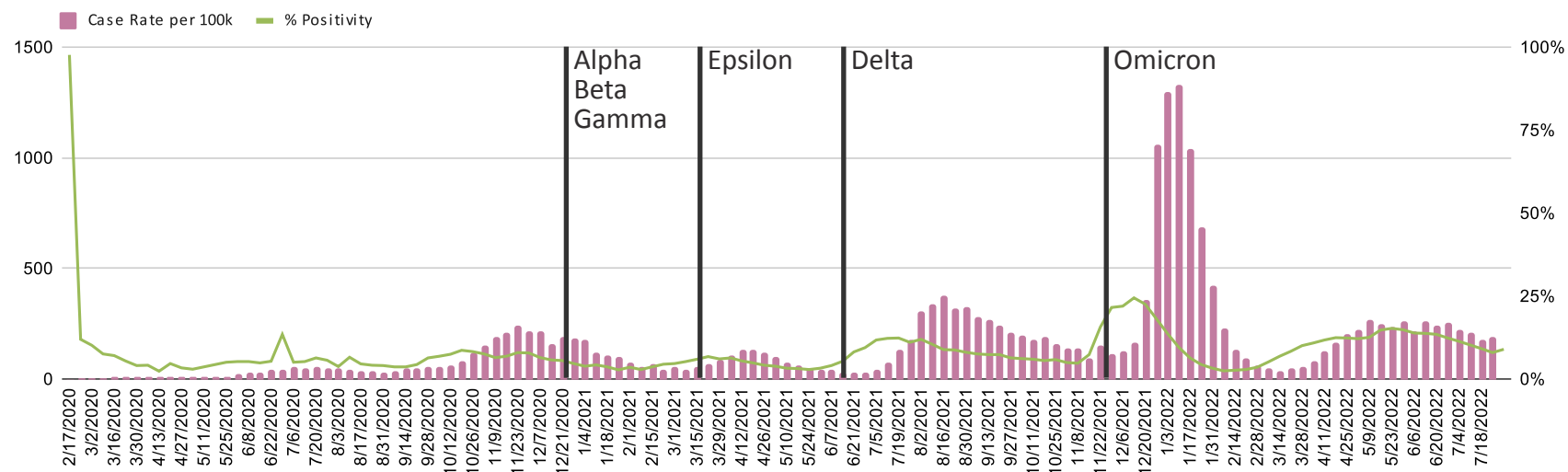


## COVID-19 cases

### COVID-19 case rate

Figure 30 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). The state of Oregon saw six distinct waves or surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-August 2020 and peaked the week of July 6, 2020 with a case rate of 56.04 per 100,000. The second wave that occurred between September and December 2020 was larger and peaked the week of November 23, 2020 with a case rate of 239.98 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (132.07 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (379.08 per 100,000) was seen, which occurred during the peak of this wave (the week of August 16, 2021). Case rates after this wave never quite reached the low rates after the third wave. During the spread of the Omicron variant, the fifth wave occurred in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,332.25 per 100,000. After this fifth wave, case rates reached rates similar to those seen in late February and March of 2021 (case rate of 37.41 per 100,000 the week of March 14, 2022). The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

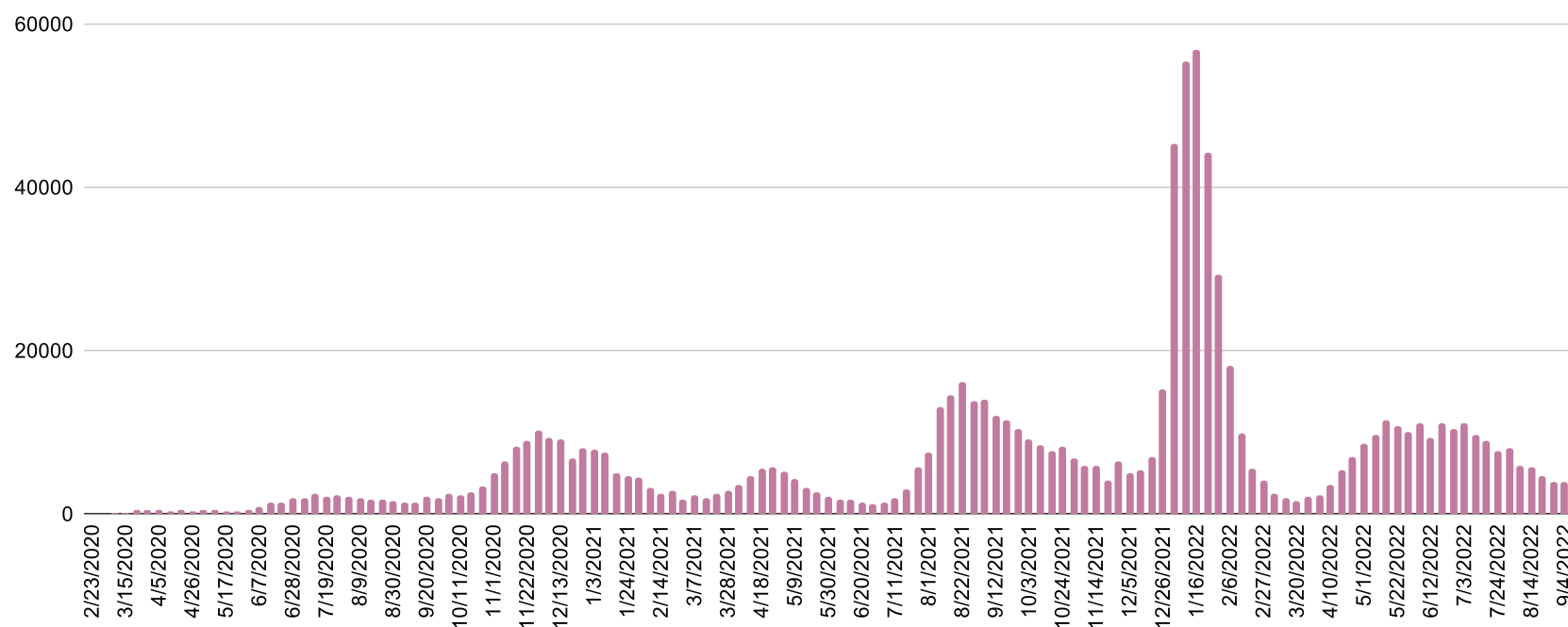
Figure 30: Oregon COVID-19 case rates over time with variants of concern



## COVID-19 case counts

Figure 31 displays the weekly number of COVID-19 case counts. As of the week of July 31, 2022, there have been 860,300 recorded cases of COVID-19 in Oregon. There were approximately 73,825 COVID-19 cases in Oregon during Stage 1, 197,913 COVID-19 cases in Stage 2, 420,794 COVID-19 cases in Stage 3, and 167,768 COVID-19 cases in Stage 4. The number of COVID-19 cases more than doubled in Stage 2 and again more than doubled in Stage 3. In Stage 3, the largest COVID-19 case count peaked at 56,842 during the week of January 16, 2022. Similar to case rates, the chart below shows six waves of COVID-19.

Figure 31: Oregon weekly COVID-19 cases over time

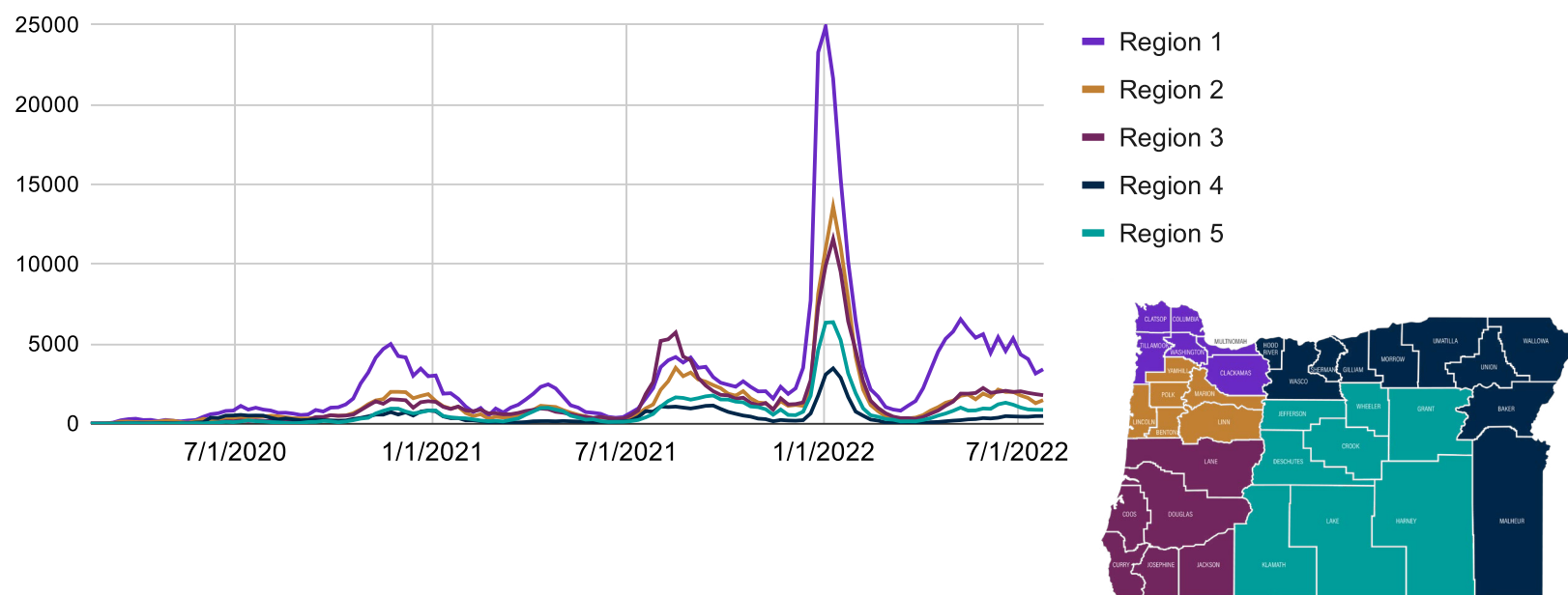




## Regional cases over time

Figure 32 is a multi-series line chart that presents weekly COVID-19 cases for each region. Similar to statewide COVID-19 cases, there were 6 distinct waves. Region 1 had the highest frequency of cases across all waves except for the fourth (Delta) wave, where Region 3 had the highest number of cases. All regions experienced the highest number of COVID-19 cases during the fifth (Omicron) wave. Region 1 saw the largest number of COVID-19 cases the week of January 3, 2022, a week prior to other regions experiencing their peak. During the week of January 3, 2022, Region 1 saw 24,871 COVID-19 cases. Regions 2, 3, 4, and 5 experienced the highest number of weekly COVID-19 cases the week of January 10, 2022. During this week, Region 2 had 13,617 cases, Region 3 had 11,580 COVID-19 cases, Region 4 had 3,468 cases, and Region 5 had 6,364 cases.

Figure 32: Weekly COVID-19 cases over time by region



## Disease severity

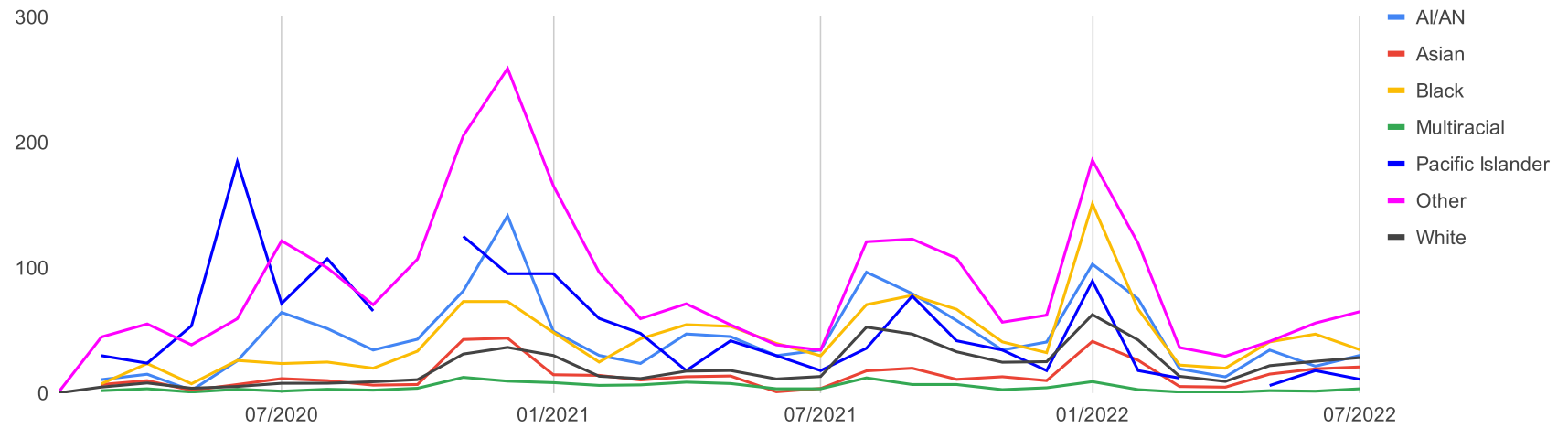
### Number of hospitalized COVID-19 patients, by sex

Since the start of the pandemic until August 11, 2022, there were a total of 442,353 COVID-19 cases among females. Of these 442,353 cases, a total of 16,370 females (3.7%) were hospitalized with COVID-19. During this same time frame, there were 389,540 COVID-19 cases among males, of which, 17,665 (4.5%) males were hospitalized with COVID-19. Hospitalization status is unknown for 282,151 COVID-19 cases that were female and 246,957 COVID-19 cases that were male. Current data suggest that males were more frequently hospitalized in comparison to females. Given the large number of COVID-19 cases in which hospitalization status is unknown, however, it cannot be said with certainty that males were more likely to be hospitalized in comparison to females. To date, there have been zero hospitalizations among non-binary individuals with COVID-19 (80 non-binary individual's hospitalization status is unknown and 128 were not hospitalized). A total of 28,244 COVID-19 cases have occurred among individuals who refused to provide their sex or for which sex is unknown. There have been 235 hospitalizations of individuals whose sex was unknown. The hospitalization status is unknown for 21,611 individuals whose sex is unknown or who refused to provide their sex.

### Hospitalization rate, by race

Figure 33 displays the COVID-19 hospitalization rate by race. Consistently throughout the COVID-19 pandemic, hospitalization rates have been highest among individuals who identify as American Indian/Alaskan Native, Black, Pacific Islander, and Other in comparison to those individuals who identify as Asian, White, or Multiracial. During Stage 1, Pacific Islanders had the highest hospitalization rate, peaking the month of June 2020, with 184.5 hospitalizations per 100,000. In Stage 2, individuals who identified as Other had the highest hospitalization rate, which peaked during December 2020 at 258.9 per 100,000 (n=371). In Stage 3 individuals who identified as Other had the highest hospitalization rate, which peaked during January 2022 at 185.7 per 100,000 (n=266). In Stage 4, individuals who identified as Other had the highest hospitalization rate, which peaked during July 2022 at 64.9 per 100,000 (n=93).

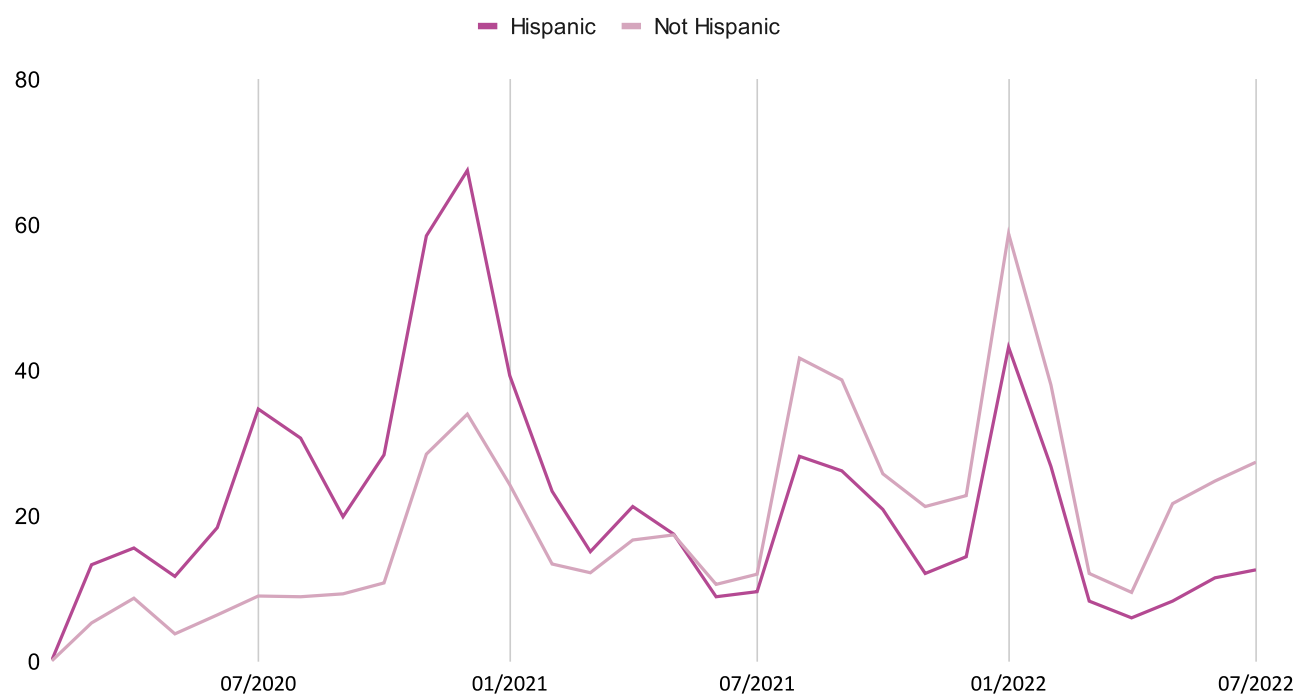
Figure 33: Hospitalization rate per 100,000 by race



## Hospitalization rate, by ethnicity

Figure 34 displays the COVID-19 hospitalization rate by ethnicity. During Stage 1 of the pandemic, the hospitalization rate among Hispanic individuals peaked during the month of July 2020, with a rate of 34.7 per 100,000 (n=196). In Stage 2, the hospitalization rate among Hispanic individuals peaked during December 2020, with a rate of 67.5 per 100,000 (n=381). During Stages 1 and 2, hospitalization rates of Hispanic individuals were higher (in some instances more than double than those of non-Hispanic individuals). During Stages 3 and 4, hospitalizations of Hispanic individuals started to align with those non-Hispanic individuals.

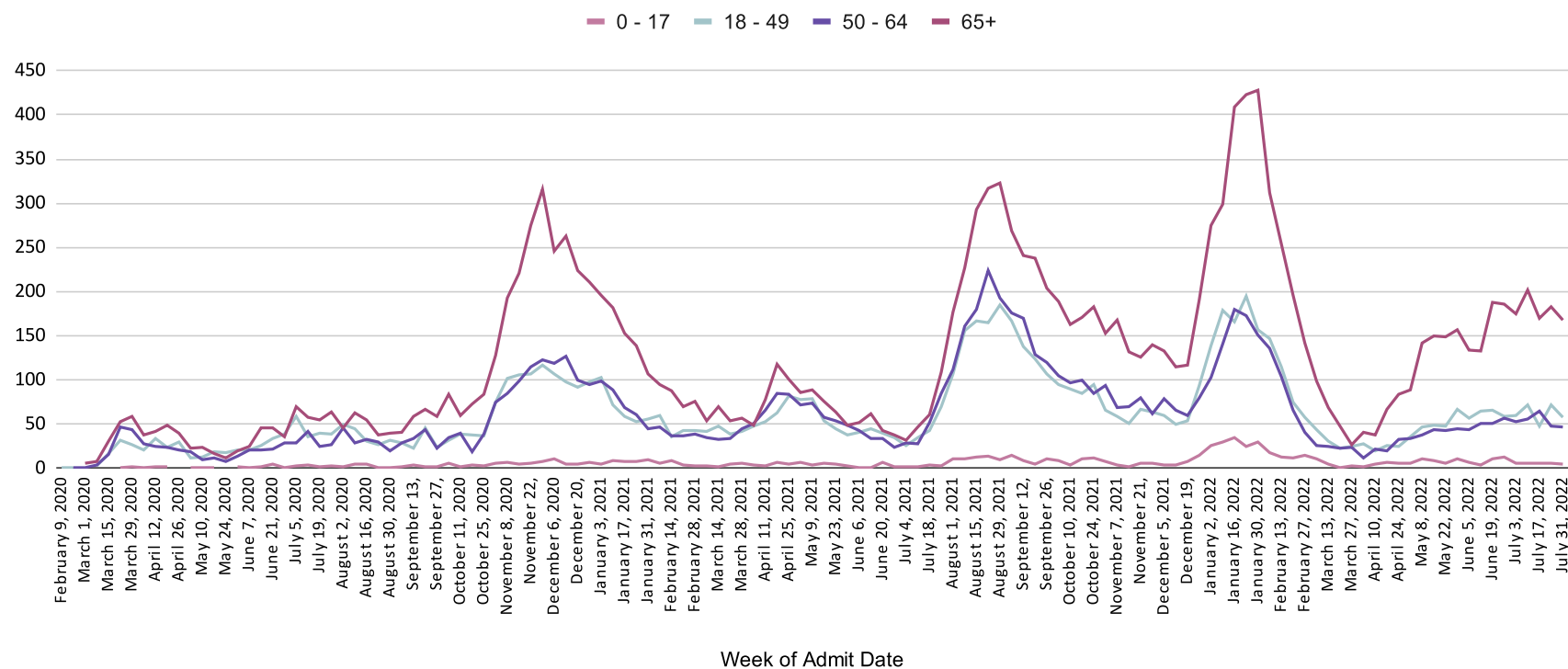
Figure 34: Hospitalization rate per 100,000 by ethnicity



## Number of hospitalized COVID-19 positive patients, by age

Figure 35 is a multi-series line chart displaying the total number of weekly hospitalizations by age category since the start of the COVID-19 pandemic until July 2022. Across all stages of the COVID-19 pandemic, adults aged 65 and over had the largest number of hospitalizations in Oregon, with a total of 15,870 individuals aged 65 and over ever being hospitalized. Additionally adults aged 65 and over represent approximately half (48.7%) of all COVID-19 hospitalizations in Oregon. Adults 18-49 years of age represented the second highest percentage of COVID-19 hospitalizations (24.5%). Adults 18-49 years of age had a total of 7,996 hospitalizations, of which most (n=2,697) occurred during Stage 2. Although adults 50-64 years of age experienced the second highest number of hospitalizations in Stage 1 and 2, they accounted for 24.3% of hospitalizations (n=7,909). The highest number of hospitalizations among 50-64 year olds occurred in Stage 2 (n=2,903), peaking the week of August 22, 2021, with 224 hospitalizations. Children aged 0-17 years of age had the lowest number of hospitalizations (n=820), representing 2.5% of all COVID-19 hospitalizations in Oregon. Among 0-17 year olds, there were 820 hospitalizations, with the highest number of hospitalizations occurring in Stage 3 (n=337). The number of hospitalizations among 0-17 year olds peaked the week of January 16, 2022 with 35 hospitalizations.

Figure 35: Hospitalizations by age category over time



## Total COVID-19 deaths

Figure 36 is a column chart that displays the number of monthly COVID-19 deaths over time. As of the week of July 31st, 2022, there have been 8,291 COVID-19 deaths in the state of Oregon. Between March 2020 and July 2022, there were 8,261 COVID-19 deaths. September 2021 and February 2022 were the months with the highest number of COVID-19 deaths (646 and 460, respectively).

Figure 36: Monthly COVID-19 deaths over time

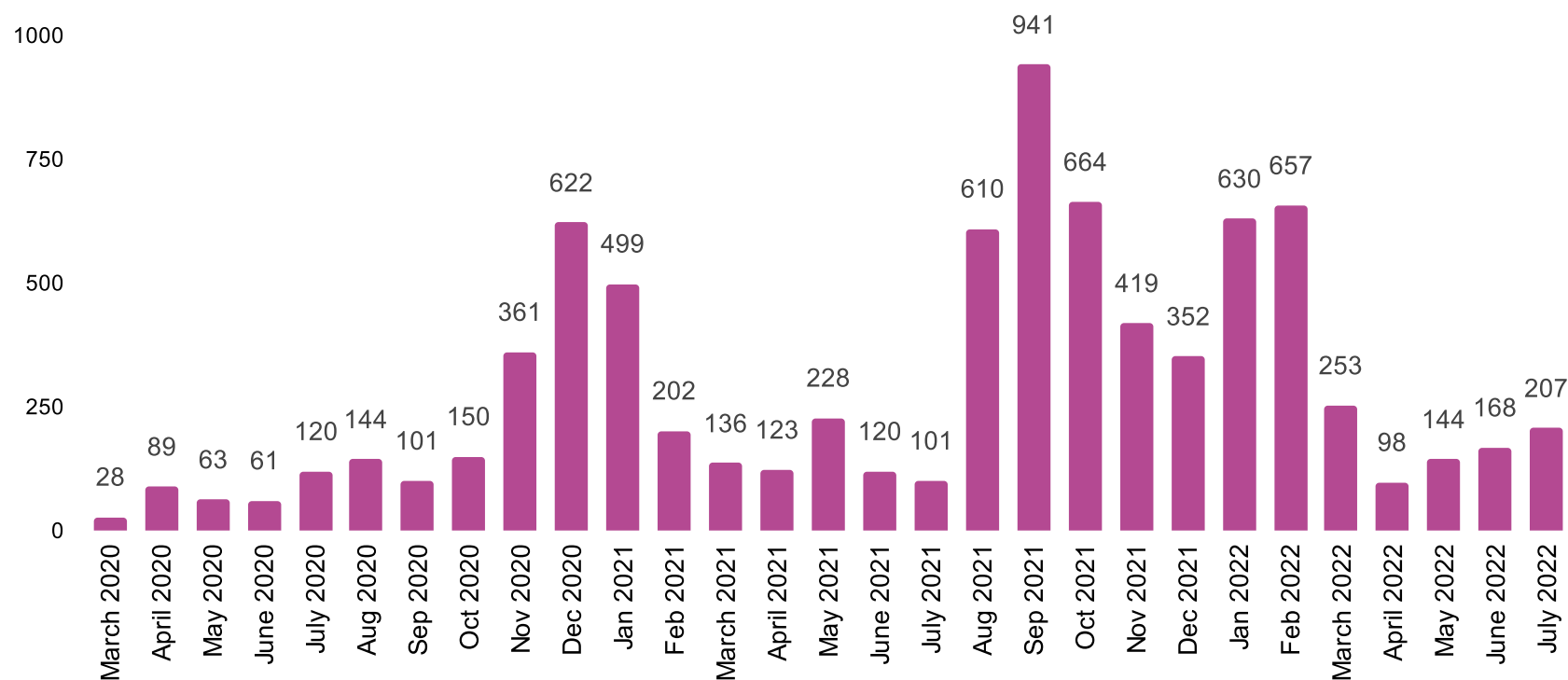
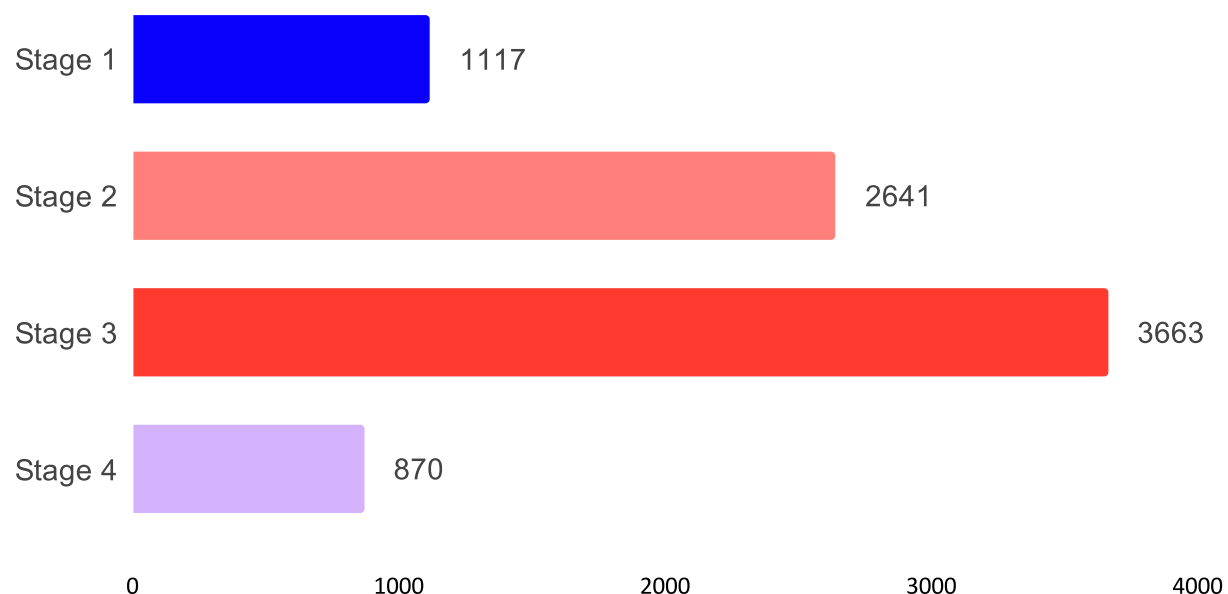


Figure 37 is a column chart that displays the total number of COVID-19 deaths in each stage. Between March 2020 and July 2022, there were a total of 8,291 COVID-19 deaths in the state of Oregon. The most (44.2%, n=3,663) COVID-19 deaths occurred in Stage 3, which was also the stage marked with the highest number of COVID-19 cases. Stage 2 saw the second highest number of COVID-19 deaths, with 31.8% (n=2,641) deaths occurring during this stage.

Figure 37: Total COVID-19 deaths in Oregon by stage

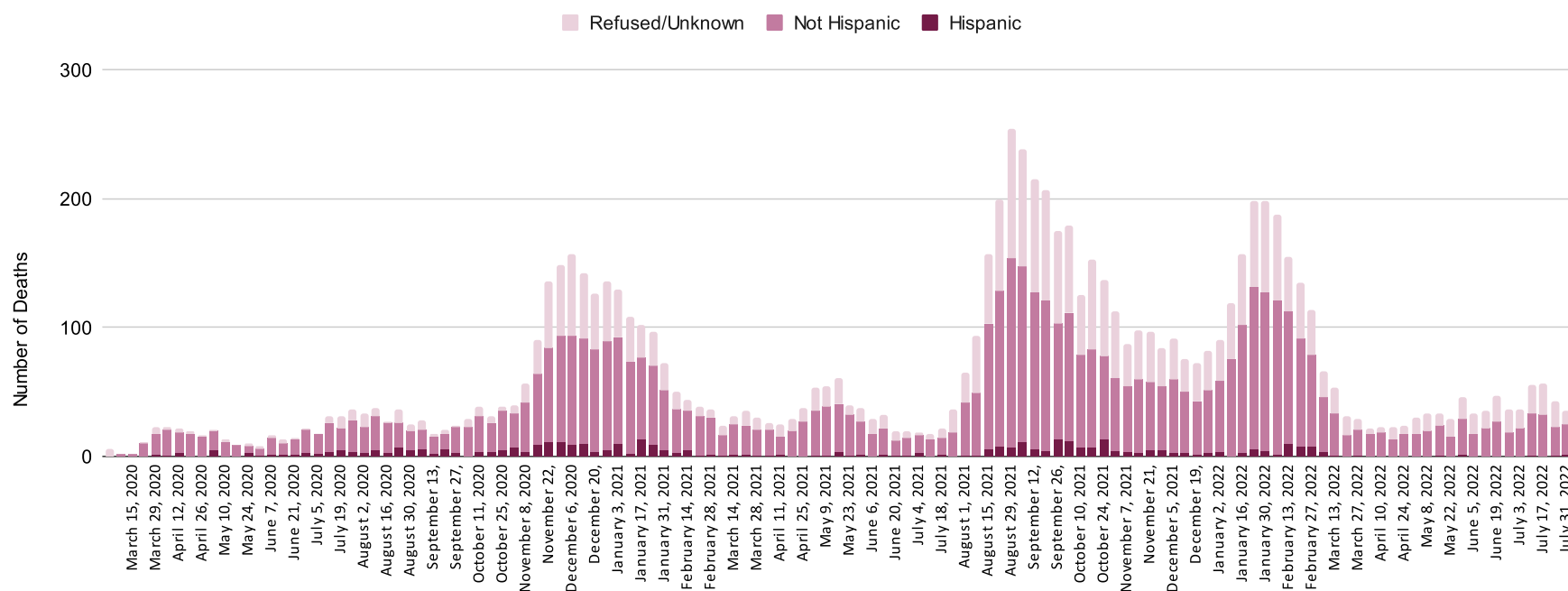




## Total COVID-19 deaths, by ethnicity

Figure 38 is a stacked column chart that displays the total number of weekly deaths by ethnicity over time. Approximately 13% of Oregonians identify as Hispanic or Latino/a/x ethnicity, but individuals who identify as Hispanic have made up approximately 5.3% of all COVID-19 deaths in Oregon. In Stage 1, there were approximately 139 COVID-19 deaths among Hispanic individuals. In Stage 2, there were approximately 130 deaths among Hispanic individuals. In Stage 3, there were approximately 154 deaths among Hispanic individuals. In Stage 4, COVID-19 deaths among Hispanic individuals started to decline substantially. As of July 2022, there were 16 deaths among Hispanic individuals that occurred during Stage 4. As of the week of July 31, 2022, there have been a total of 439 COVID-19 deaths among Hispanic individuals, giving an overall death rate of 77.81 per 100,000.

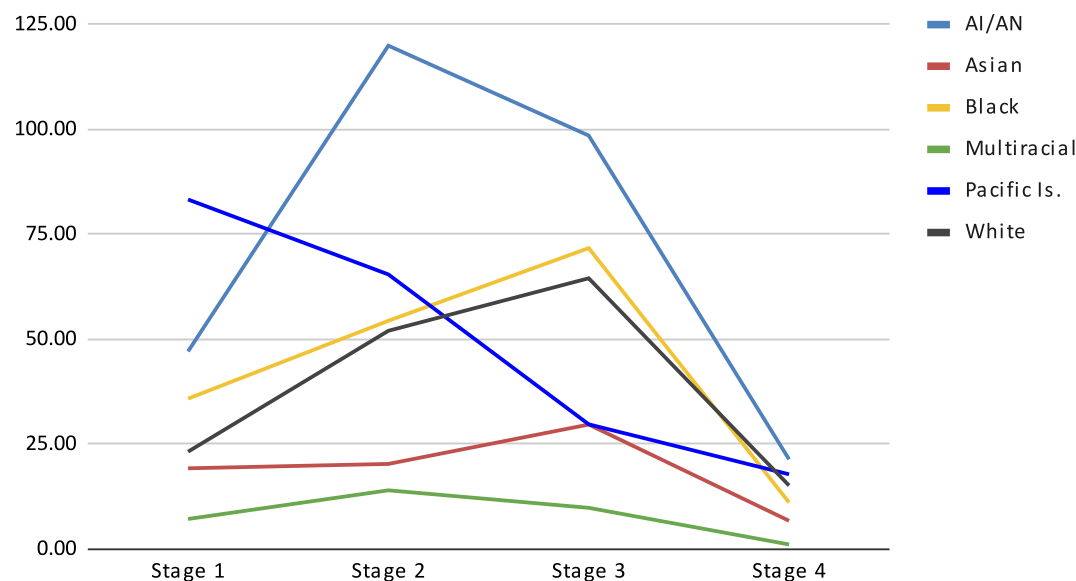
Figure 38: COVID-19 deaths by ethnicity over time



## Total COVID-19 death rate, by stage and race

Figure 39 is a multi-series line chart that displays the COVID-19 death rate (per 100,000) for each stage by race. In Stage 1, individuals who identified as Pacific Islander had the highest death rate (83.33 per 100,000), followed by individuals who identified as American Indian or Alaskan Native (47.14 per 100,000). In Stage 2, however, individuals who identify as American Indian or Alaskan Native had the highest death rate (119.99 per 100,000), followed by individuals who identify as Pacific Islander (65.48 per 100,000). In Stage 3, individuals who identify as American Indian or Alaskan Native continued to have the highest death rate (98.56 per 100,000), followed by Black individuals (71.76 per 100,000). In Stage 4, individuals who identified as American Indian or Alaskan Native had the highest death rate (21.43 per 100,000) followed by Pacific Islander (17.86 per 100,000). The death rate for all races except American Indian/Alaskan Native, Pacific Islanders, and Multiracial individuals peaked during Stage 3.

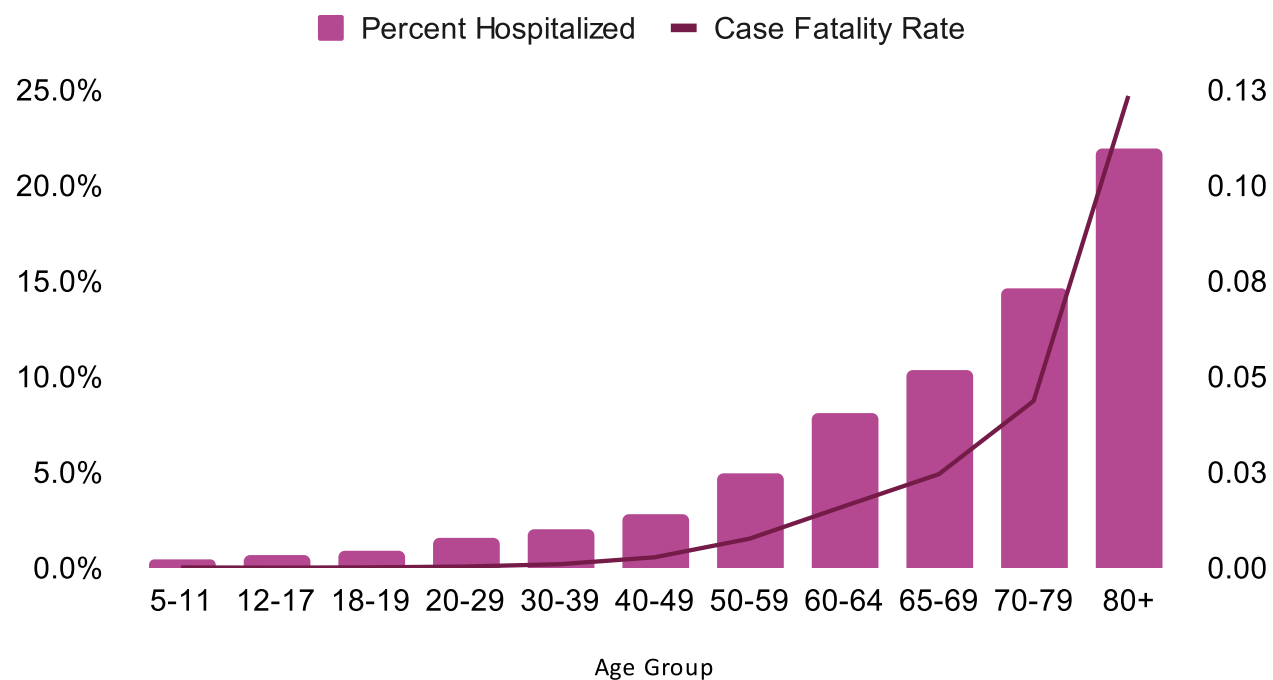
Figure 39: COVID-19 death rate by stage and race



## Total COVID-19 deaths and hospitalizations, by age group

Figure 40 is a combination chart displaying the percent of COVID-19 patients that were hospitalized (the column chart) and case fatality (the line chart) by age group. In Figure 40, we see that as age increases, so does COVID-19 case fatality. The highest rate of COVID-19 case fatality was seen among individuals aged 80+, with a rate of 12.3% as of July 2022. As of July 2022, there have been five COVID-19 deaths among children less than 18 years of age. Among individuals 18 years of age and older, there have been 8,270 COVID-19 deaths as of the week of July 31, 2022. Hospitalizations were highest among individuals 80 years of age or older, for which there was a hospitalization rate of 21.8% as of August 2, 2022.

Figure 40: Oregon COVID-19 hospitalizations and case fatality rate by age group (corrected)



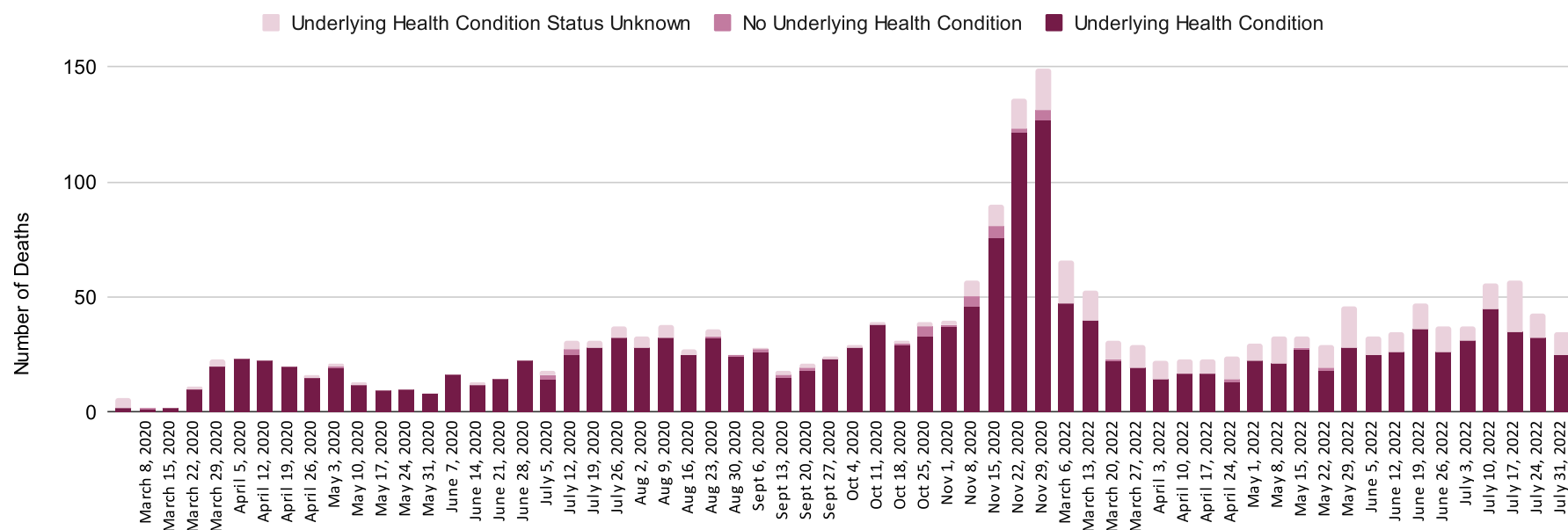
## **COVID-19 cases and deaths by disability status**

COVID-19 data for Oregonians with intellectual or developmental disabilities are updated by OHA on a quarterly basis. As of June 6, 2022, there have been approximately 4,655 COVID-19 cases among people with intellectual or developmental disabilities. This number includes individuals who live in congregate settings and in family or individual homes. Among individuals with intellectual or developmental disabilities, there have been 62 deaths (case fatality rate of 0.13).

## **Crude mortality rate COVID-19 deaths, by underlying health condition status**

Figure 41 is a stacked column chart that presents the number of COVID-19 deaths by underlying health condition status. As of July 2022, approximately 73.18% (n=6,091) of COVID-19 deaths were among individuals with underlying health conditions, 23.6% (n=1,963) of COVID-19 deaths occurred among individuals whose underlying health condition status was unknown, and 3.23% (n=269) of COVID-19 deaths were among individuals who did not have an underlying health condition. Towards the end of Stage 2 and continuing until Stage 4, a larger number of deaths occurred among individuals whose underlying health condition status is unknown.

Figure 41: Deaths by underlying health condition status over time



## COVID-19 deaths by hospitalization status

Figure 42 is a stacked area chart displaying the weekly number of COVID-19 deaths by hospitalization status. Between March 2020 and July 2022, the majority (67.1%; n=5,565) of COVID-19 deaths occurred among hospitalized individuals. As the pandemic progressed, a larger percent of COVID-19 deaths were among individuals whose hospitalization status was unknown.

Figure 42: COVID-19 deaths by hospitalization status over time

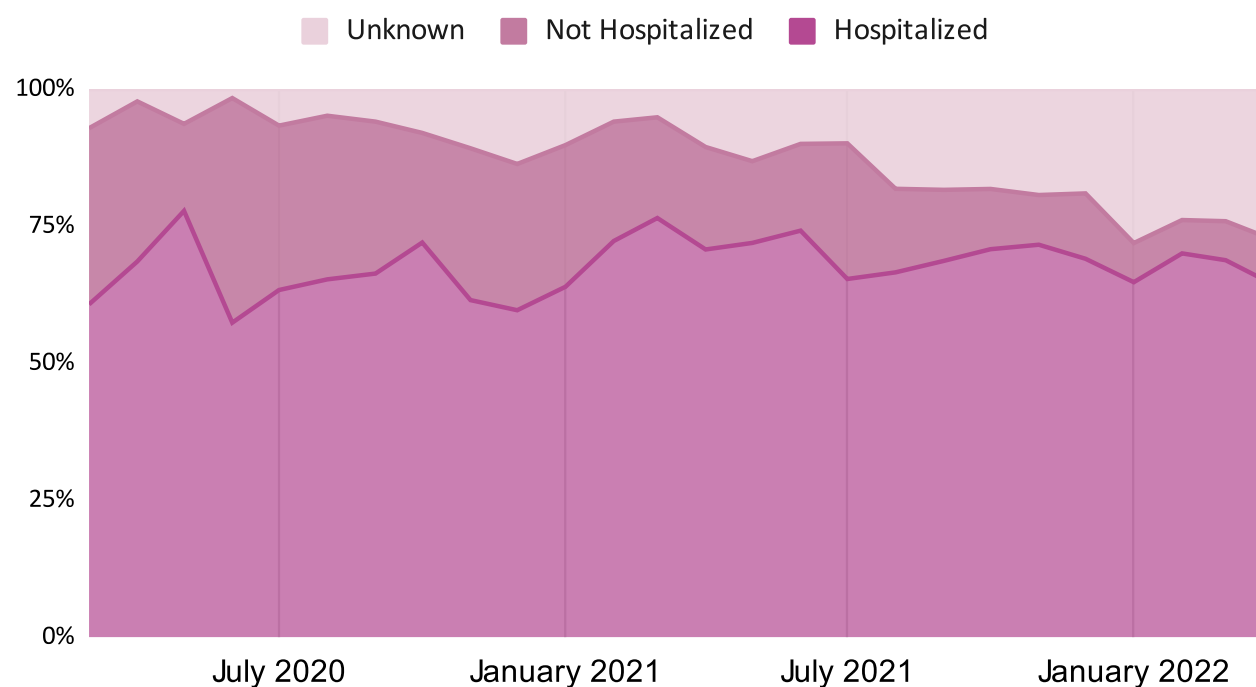
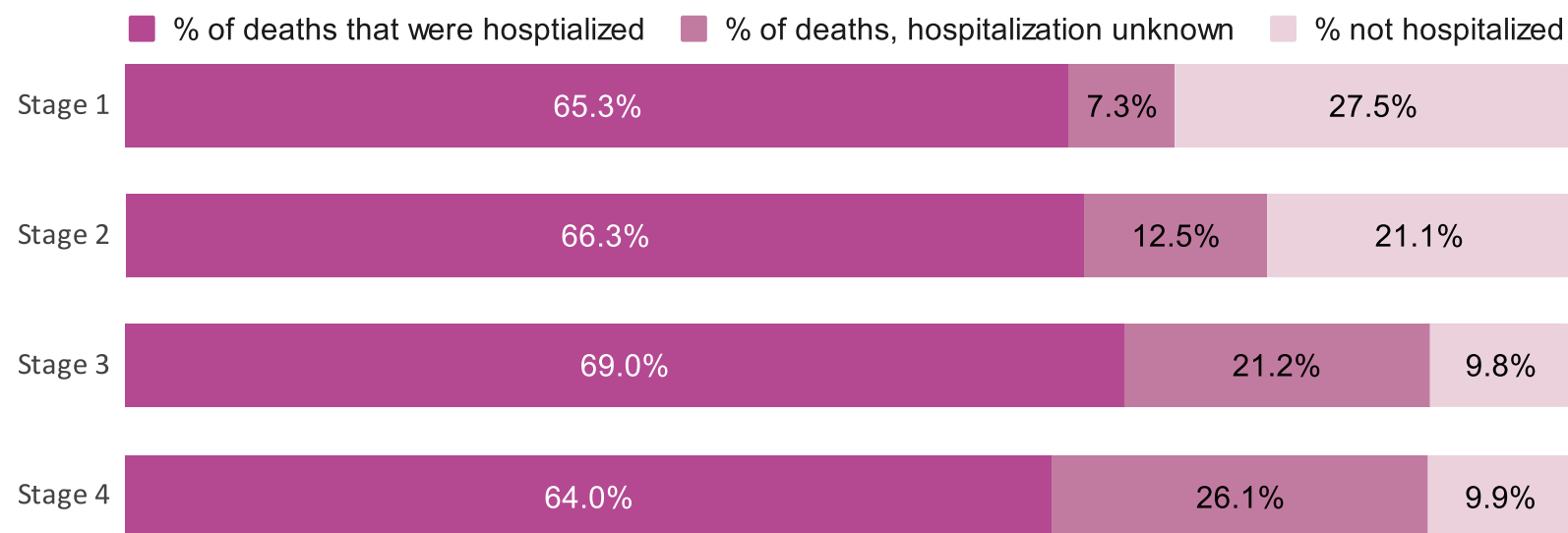


Figure 43 is a stacked bar chart that displays COVID-19 deaths based on hospitalization status in each stage. In Stage 1, there were 1,117 deaths, of which 65.3% (n=729) occurred among hospitalized individuals, 27.5% occurred among individuals who were not hospitalized (n=307), and 7.2% (n=81) occurred among individuals whose hospitalization status was unknown. In Stage 2, there were 2,641 deaths, of which 66.3% (n=1,752) occurred among hospitalized individuals, 21.1% occurred among individuals who were not hospitalized (n=558), and 12.53% (n=331) occurred among individuals whose hospitalization status was unknown. In Stage 3, there were 3,663 deaths, of which 69.0% (n=2,527) occurred among hospitalized individuals, 9.83% occurred among individuals who were not hospitalized (n=360), and 21.2% (n=776) occurred among individuals whose hospitalization status was unknown. In Stage 4, there were 870 deaths, of which 64.0% (n=557) occurred among hospitalized individuals, 9.9% occurred among individuals who were not hospitalized (n=86), and 26.1% (n=227) occurred among individuals whose hospitalization status was unknown. From stage to stage, the percent of deaths among individuals who were not hospitalized, as well as those individuals whose hospitalization status is unknown, decreased (Figure 46).

Figure 43: COVID-19 deaths by hospitalization status, by stage



## Multisystem inflammatory syndrome

COVID-19 associated multisystem inflammatory syndrome is a rare, but serious illness that can occur after COVID-19 infection, affecting both adults and children. Importantly, diagnostic criteria are different for adults and children.

### Multisystem Inflammatory Syndrome in Adults (MIS-A)

According to OHA, “COVID-19 associated multisystem inflammatory syndrome in adults (MIS-A) is defined by fever, multisystem involvement which must include severe cardiac illness or rash and conjunctivitis, laboratory evidence of inflammation and recent COVID-19 infection” (OHA, 2022). Importantly, MIS-A includes individuals >21 years of age only. Incidences of MIS-A are being monitored by the Acute and Communicable Disease Prevention Program but data have not yet been released.

### Multisystem Inflammatory Syndrome in Children (MIS-C)

According to OHA, “COVID-19-associated multisystem inflammatory syndrome in children (MIS-C) is defined by fever, multisystem involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurologic), laboratory evidence of inflammation and recent COVID-19 infection” (OHA, 2022). MIS-C includes young adults and children aged <21 years of age. On May 13, 2020, Oregon identified the first case of MIS-C (OHA, 2020). By May 12th, 2021, there were 35 cases of MIS-C.



## Strain on hospital systems in Oregon

### Emergency department visits for COVID-like illness in Oregon

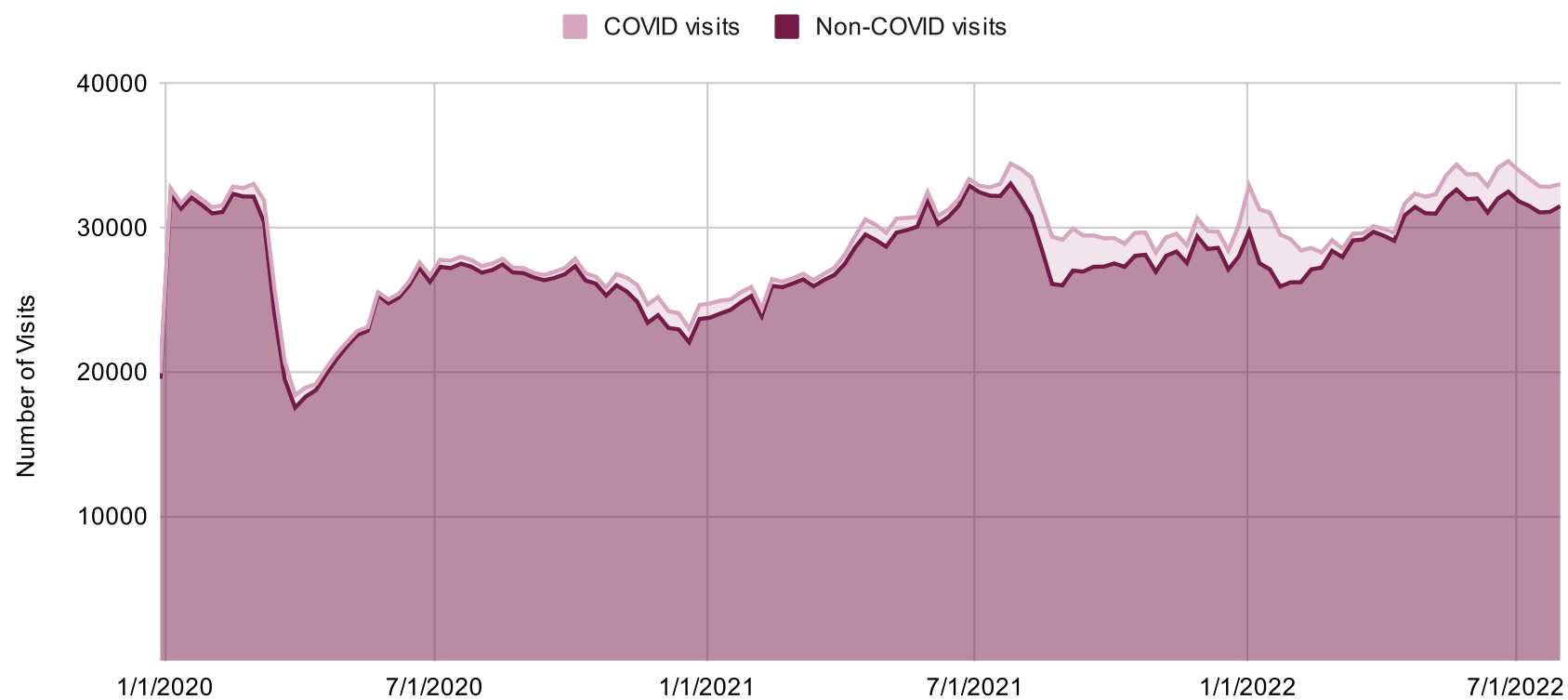
Figure 44 displays the number of emergency department visits for COVID-like illness in Oregon over time. During the Delta and Omicron variants, there were a higher number of emergency department visits for COVID-like illness in Oregon. Increases in emergency department visits for COVID-like illness coincide with a higher number of COVID-19 positive patients that were hospitalized during these variants (Figure 47). In Stage 1, the percent of emergency department visits for COVID-like illness peaked the week of March 15, 2020, with emergency department visits for COVID-like illness representing 6.6% (n=1,710) of all emergency department visits in Oregon. In Stage 2, the percent of emergency department visits for COVID-like illness peaked the week of August 22, 2021 at 11.2% (n=3, 278), corresponding with the peak in COVID-19 cases during the Delta variant. During the Omicron variant in Stage 3, emergency department visits for COVID-like illness peaked the week of January 16, 2022 at 12.6% (n=3,926). In Stage 4, emergency department visits for COVID-like illness peaked the week of July 3, 2020, representing 6.3% (n=2,132) of all emergency department visits in the state.

Table 3 presents the total number of emergency department visits for COVID-like illness by stage. Between March 2020 and July 2022, there were 142,289 emergency department visits for COVID-like illness. Emergency department visits for COVID-like illness were least frequent during Stage 1, with approximately 23,534 emergency department visits. Although Stage 3 lasted roughly six months, the largest number of emergency department visits for COVID-like illness occurred during this stage (n=54,302).

Table 3: Emergency department visits for COVID-like illness

	Total ED Visits	% of ED visits for COVID-like illness
Stage 1	23534	2.3%
Stage 2	35,429	3.2%
Stage 3	54,302	6.8%
Stage 4	29024	4.1%

Figure 44: Oregon emergency department visits over time



## COVID-19 vaccinations across racial + ethnic groups

Table 4 displays vaccination metrics across racial and ethnic groups as of August 24, 2022. In the state of Oregon, individuals who identify as Asian, Black, and Native Hawaiian or Pacific Islander have at least 80% of the population vaccinated. Individuals who identify as Hispanic have the highest percentage of people in order to reach 80% COVID-19 completion, with 17.7% of the Hispanic population in Oregon remaining to reach this goal. Next are those who identify as White, with approximately 5.2% remaining to reach 80%, followed by those who identify as American Indian or Alaskan Native (4.9% remaining to reach 80%).

**Table 4: COVID-19 vaccinations across racial and ethnic groups**

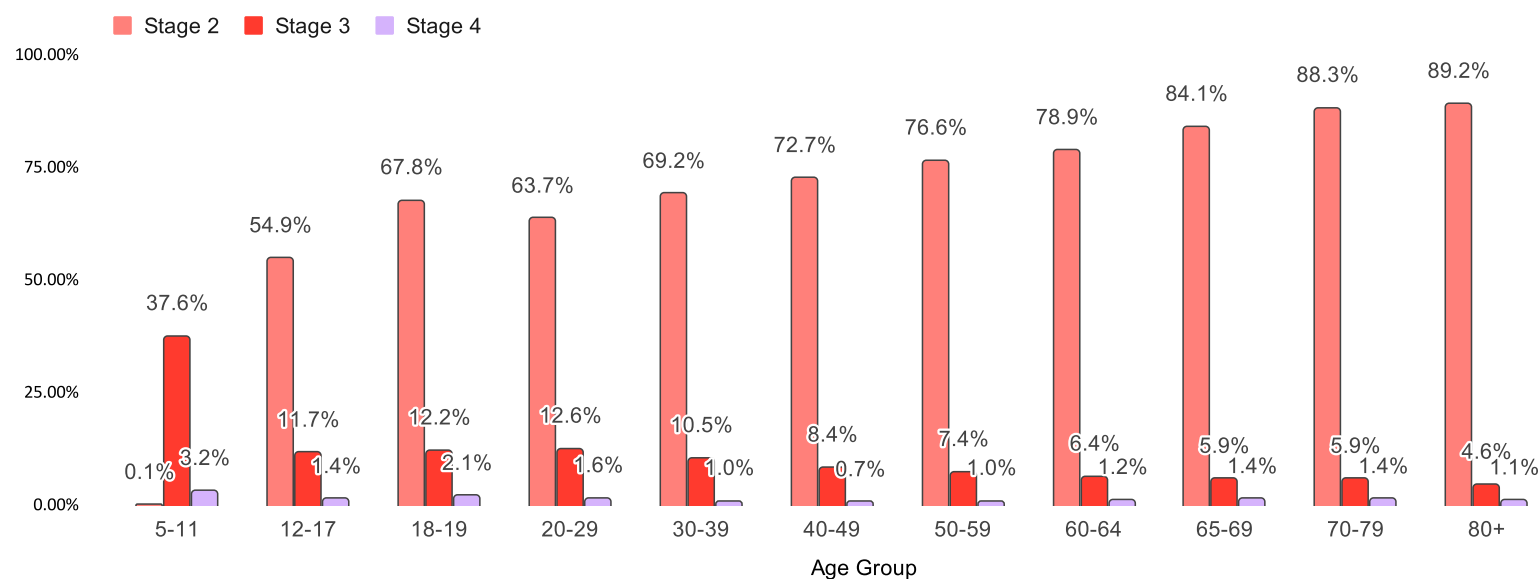
Demographic Category	# One Dose	# Series Complete	#Booster Dose	# Second Booster Dose
AI/AN	98,560	90,553	44,729	8,031
Asian	205,170	183,990	115,907	18,622
Black	93,896	83,250	39,663	6,603
Hispanic	312,312	276,758	127,174	14,832
NH/PI	45,324	41,343	21,441	3,599
White	2,327,138	2,150,292	1,334,286	386,356
Other Race	34,526	24,830	9,221	1,005
Unknown	136,752	102,777	41,821	4,944

Note: 4.2% of vaccinated individuals have an unknown racial or ethnic identity and 1.1% identify as a 'Other Race.' Thus, vaccination rate estimates for race and ethnicity are likely underestimated and may be lower than statewide estimates where people who are grouped as unknown or 'Other Race' are included.

## COVID-19 vaccinations across age group

Figure 45 is a bar chart displaying the percentage of individuals with at least one COVID-19 vaccination by age group and stage vaccination was received as of September 30, 2022. As COVID-19 vaccinations were not available until Stage 2, Stage 1 is not displayed. The majority of COVID-19 vaccinations for individuals aged 12+ occurred during Stage 2, when vaccines first became available. For 5-11 year olds, as the COVID-19 vaccine did not become available to this population until October 29, 2021 (Stage 3). Interestingly, there were some vaccinations among 5-11 that occurred prior to authorization of COVID-19 vaccines for this age group.

Figure 45: Percent with at least one dose of vaccine among age groups, by stage



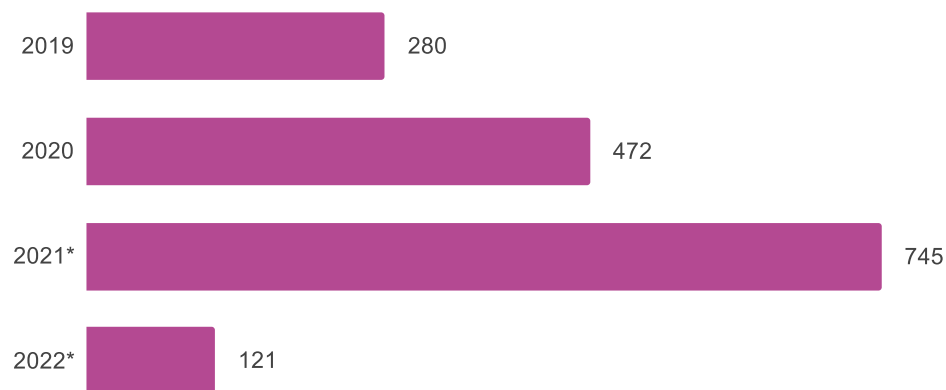
## Indirect effects of COVID-19/secondary health outcomes

In addition to the direct effects of COVID-19 on health outcomes, such as morbidity and mortality, there were indirect effects of the COVID-19 pandemic on population health metrics, health indicators, and non-COVID-19 mortality (e.g., drug-related deaths). In this report, we focused on indirect effects of the COVID-19 health pandemic on indicators that aligned with Healthier Together Oregon (HTO) priorities, were prioritized by our community study partners, and had recent data available.

### Opioid deaths by year

Figure 46 is a column chart displaying the number of opioid overdose deaths in Oregon between 2019-2022. The number of opioid deaths has nearly doubled every year since 2019. In 2020, opioid overdose deaths increased by approximately 68.6% (n=192). In 2021, opioid overdose deaths continued to increase. By the end of 2021, there were an additional 273 opioid overdose deaths in Oregon- a 57.8% increase from 2020. Opioid overdose deaths in Oregon are much higher than that of the United States, where opioid overdose deaths had increased by approximately 30% each year since 2019.

Figure 46: Unintentional opioid overdose deaths in Oregon by year

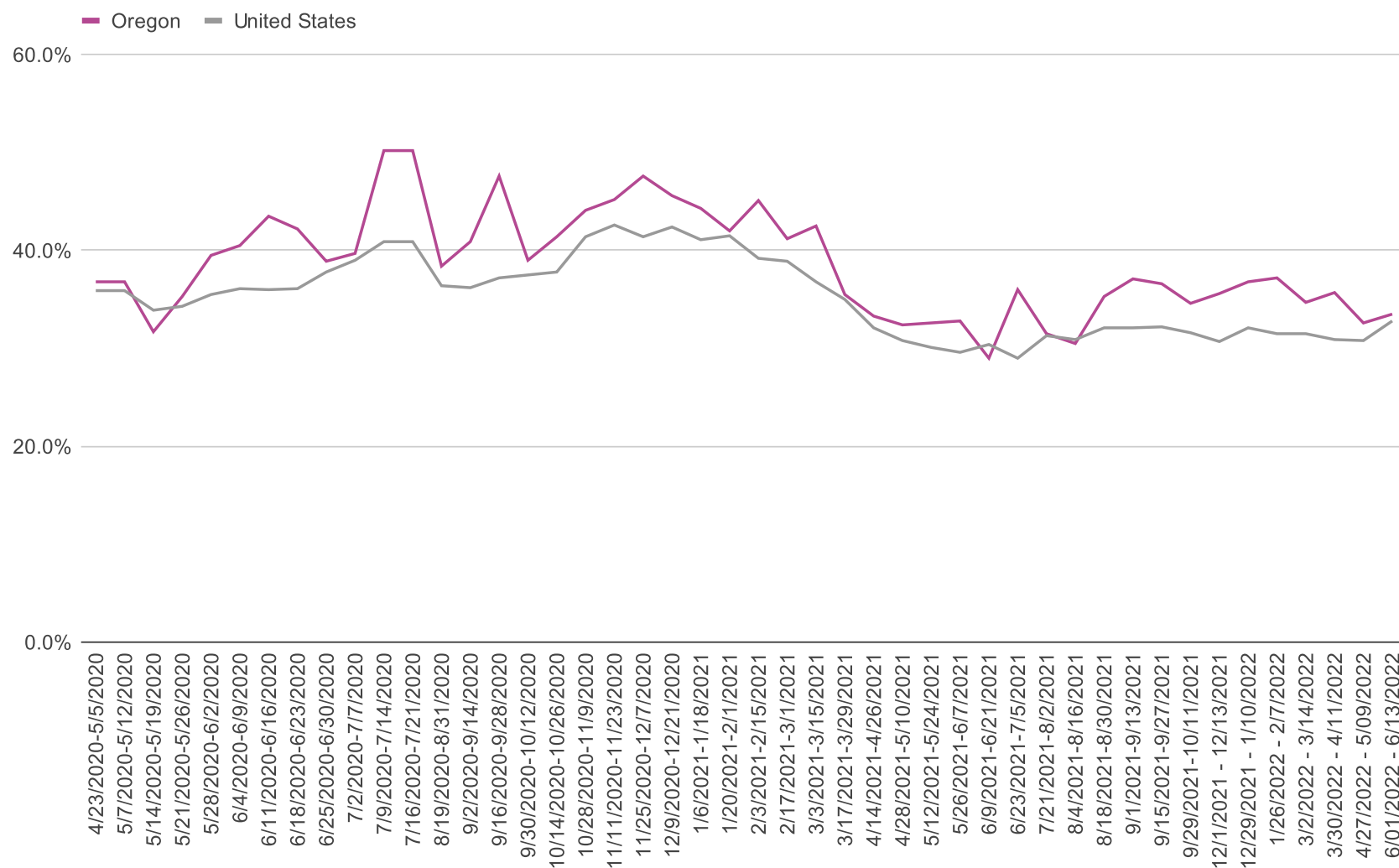


\*As opioid deaths are dependent on mortality data, both 2021 and 2022 data were incomplete when this report was written.

## **Anxiety + depression during COVID-19**

Figure 47 displays respondents who reported symptoms of anxiety or depressive disorder on more than half or nearly all of the past seven days during the pandemic. The percent of adults experiencing anxiety or depression in Oregon was slightly higher than the United States, with approximately one-third of respondents reporting symptoms at any point in time between May 2020 and June 2022. The percent of adults experiencing anxiety or depression increased during the Stage 1 of the pandemic, peaking July 9-21, 2020, with approximately 50.2% of Oregonians reporting symptoms of anxiety or depressive disorder. Towards the end of Stage 2, and continuing into the first part of Stage 3, the percent of Oregonians reporting symptoms of anxiety or depressive disorder declined. There was a slight increase at the end of Stage 3 that continued into Stage 4, which coincides with higher rates of COVID-19 cases, hospitalizations, and deaths that were seen with the Omicron variant.

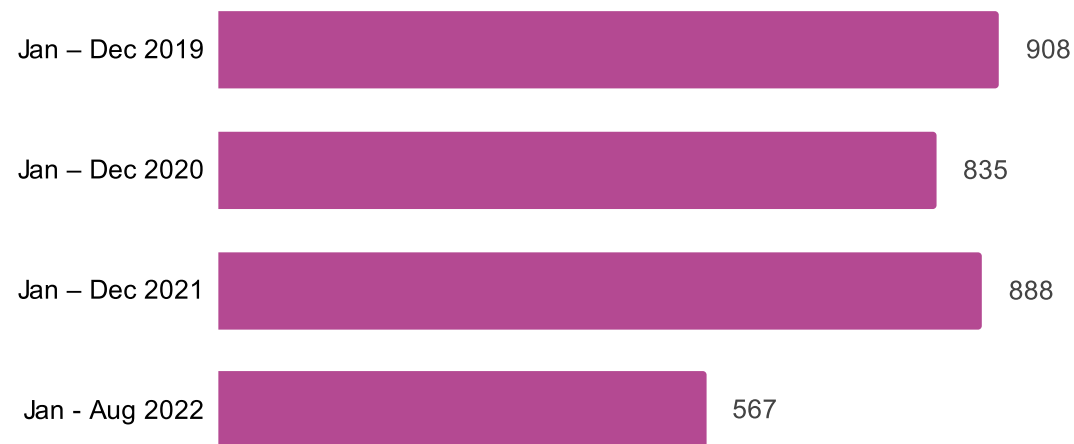
Figure 47: Adults reporting symptoms of anxiety or depressive disorder during the COVID-19 pandemic



## Suicide deaths

The yearly number of suicide deaths for the state of Oregon showed no increase since 2019. Instead, there appeared to be a slight decrease in the number of suicides from 2019 to 2021. Nationally, the US had seen modest declines in suicide rates since 2019.

Figure 48: Suicide deaths in Oregon by year

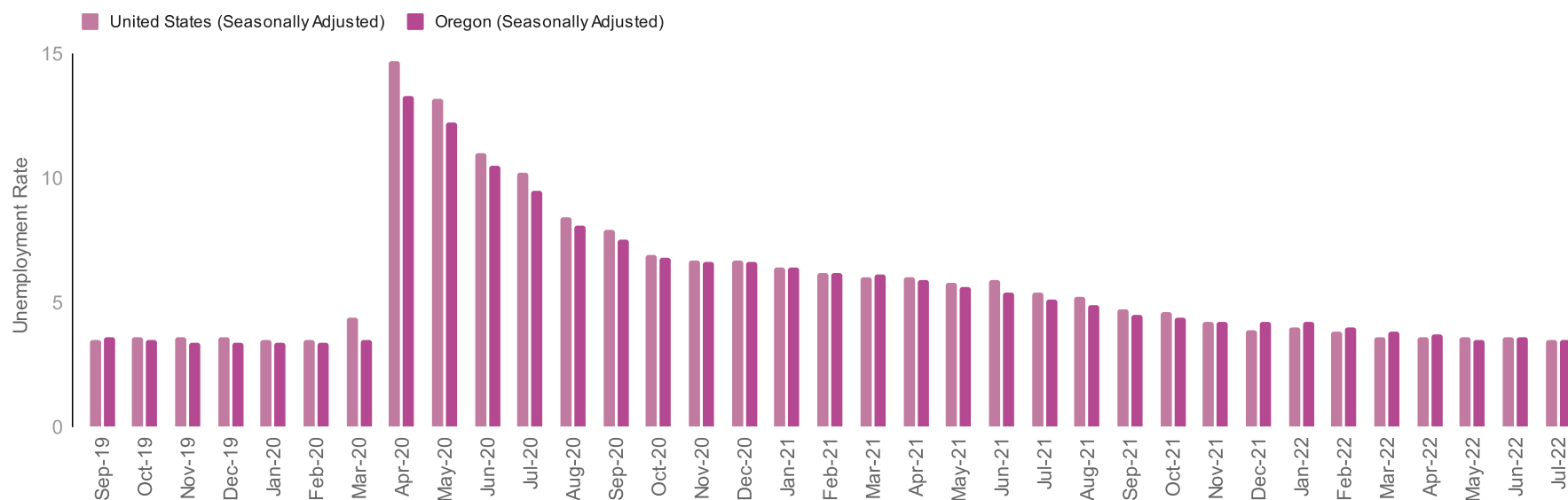




## Seasonally adjusted unemployment rate by year

Figure 49 is a clustered column chart comparing the adjusted unemployment rates in Oregon and the United States. Overall, Oregon and the US unemployment trends are comparable. Although Oregon's unemployment rate had a sharp increase at the beginning of the pandemic (13.3), this rate was lower than the US unemployment rate of 14.7. Since this peak, unemployment rates in Oregon have gradually declined back to pre-pandemic levels, with Oregon's unemployment rate in July of 2022 at 3.5.

Figure 49: Oregon and United States unemployment rates by month



# Recommendations

---

## Preparing for future public health emergencies

The following are high-level recommendations based on the findings in this report.

### **Public health capacity:**

Sustained state funding is necessary to rebuild the public health system and recover from the strains on the systems caused by the COVID-19 pandemic. As the COVID-19 pandemic is ongoing and additional population-level health emergencies have surfaced, the Oregon State Legislature must fund the public health system at the level requested in the OHA's 2023-2025 budget request for \$286,000,000 devoted to public health modernization and \$32,000,000 to develop a pandemic response information system. The Oregon PHAB should continue to guide the OHA in the most effective disbursements of public health modernization funds throughout the system, including continuing to fund public health-focused community-based organizations. With any resources allocated, Oregon's public health systems must continue to modernize to leverage resources most effectively through public-private partnerships, regional approaches, and focus on equity.

### **Ongoing operational coordination between OEM and OHA:**

1. Explore the concept of a fully resourced, flexible, and scalable unified command structure between the OEM and OHA in support of future public health emergencies. This would allow the full weight and power of the authorities outlined in the ORS §401 et seq to be utilized. Additionally, OEM and OHA should commit resources to develop and participate in an integrated Multi-Year Training and Exercise Program (MYTEP) with a specific focus on executive leadership training. MYTEP goals may include achieving a thorough understanding of the agencies' roles and responsibilities and updating the state's Emergency Operations Plan and its associated annexes.

2. OEM and OHA should work together to establish an equity-specialists team that is formally adopted into the response structure, including roles and responsibilities, job actions sheets, inclusion into the MYTEP training and exercises, and integration into the state's emergency plans and procedures.

## **Health equity**

1. Ensure that timely and accurate morbidity, hospitalization, and mortality data about historically marginalized communities (those most likely to experience health inequity) are collected and available to those communities and partnering organizations serving them as well as government public health.
2. OHA should continue to fund public health-focused CBOs serving historically marginalized communities.

## **Equitable communications:**

1. The public health system should adopt standards that reflect an understanding that information isn't ready to be externally communicated until it is accessible for ALL Oregonians. This will require more attention and effort to ensure accessibility, especially for the most marginalized communities.
2. Hiring, recruiting, and retaining bilingual, and preferably bicultural, staff into various public health agencies and departments- as opposed to hiring that is done solely in response to a critical need- is vital. Job descriptions for these positions must include: language translation, culturally adaptive messaging and communications, and liaising with CBOs and directly with the communities represented.
3. Proactive planning must include monitoring American Community Survey data and other data related to languages spoken by Oregonians, tracking internal capacity and coverage across public health agency staff, and building reciprocal relationships with external partners to fill language and cultural gaps.

4. Finally, including CBOs in the top tier of communications and in the first phase of information exchange with OHA, alongside LPHAs and Tribal Nations, during a public health emergency response- as well as during ongoing public health operations- would ensure that as many Oregonians as possible have reliable, relatable, and trustworthy sources of information.

### **Enforcement of public health mandates:**

1. Local and state agency partners should be convened in a formal committee to determine if the enforcement mechanisms used to protect the public's health from COVID-19 in 2020-2022 are the best fit for Oregon, given all the factors described in this report. Minimally, this committee should include OHA, DOJ, LPHAs, CBOs, OR-OSHA, and OLCC.
2. If changes to the enforcement structure for public health mandates are deemed necessary by OHA and partners, work to enact necessary statutory or regulatory changes should be undertaken swiftly so that education and training can follow.
3. Regardless of the structure of enforcement of public health mandates, various compliance roles and responsibilities must be clearly articulated, and all parties in the public health system should educate themselves accordingly.

### **Messaging**

1. OHA, LPHAs, CBOs, and CCOs should continue to work together to make timely, consistent, accessible, and culturally-tailored information a standard practice during public health emergencies. The importance of geographically and culturally tailored communication strategies developed at the state and local level cannot be understated, especially when the traditional approach focusing on elected officials as trusted messengers was ineffective.

2. Joint Information Centers should be supported as a strategy in the future.
3. Ensuring consistency in public health messaging will improve the response to future emergencies and should be a priority. It's clear from the data that rapid and transparent dissemination of information from OHA to LPHAs and other partners was difficult to establish but critical to the effectiveness of pandemic response activities and the maintenance of public trust.
4. Ample funding, planning, and relationship building need to be bolstered in order to help amplify the voice of public health during an emergency response. Although it was likely impossible to fully prepare for the disinformation campaign faced by public health during this emergency, politicization of public health that created and exacerbated community mistrust was an overall deficiency in the public health system's response to COVID-19 pandemic. We now know that a plan to combat this challenge in the future will be a crucial piece of public health emergency response planning.

# References

---

- Centers for Disease Control and Prevention. (CDC). (n.d.). national initiative to address COVID-19 health disparities among populations at high-risk and underserved, including racial and ethnic minority populations and rural communities. <https://www.cdc.gov/publichealthgateway/partnerships/COVID-19-Health-Disparities-OT21-2103.html>
- Centers for Disease Control and Prevention. (March 18, 2021) The 10 essential public health services: To protect and promote the health of all people in all communities. <https://www.cdc.gov/publichealthgateway/publichealthservices/es>
- Centers for Disease Control and Prevention. (2022, July 1) What is health equity? <https://www.cdc.gov/healthequity/whatis/index.html>.
- CDC Foundation (n.d.) What is public health?. <https://www.cdcfoundation.org/what-public-health>.
- Oregon Health Authority. (n.d.) Covid-19 Updates. <https://govstatus.egov.com/OR-OHA-COVID-19>.
- Oregon Health Authority (n.d.) Health equity definition. <https://www.google.com/url?q=https://www.oregon.gov/oha/HPA/HP/TFUHC%2520Meeting%2520Documents/Health-Equity-Definition-October-2019-HEC-Presentation-to-OHPB.pdf&sa=D&source=editors&ust=1667333182794042&usg=AOvVaw3iqIWAaETv-ZC4A0cDVjk>
- Oregon Health Authority (n.d.) Programmatic and service deliverables <https://www.oregon.gov/oha/ph/providerpartnerresources/localhealthdepartmentresources/pages/program-elements.aspx>
- Oregon Health Authority (2020, March) High impact Pathogen Plan of Operations. <https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/DISEASESURVEILLANCEDATA/INFLUENZA/Documents/Oregon-High-Impact-Pathogen-Plan-of-Operations.pdf>

- Oregon Health Authority. (2020, May 13). OHA announces 1st case of COVID-19-linked pediatric condition. <https://www.oregon.gov/oha/ERD/Pages/OHA-announces-1st-case-of-COVID-19-linked-pediatric-condition.aspx>
- Oregon Health Authority. (2021, February 19) COVID-19 REALD report Oregon's race, ethnicity, language and disability summary novel coronavirus (COVID-19) <https://sharedsystems.dhsoha.state.or.us/DHSForms/Served/le1128136.pdf>.
- Oregon Health Authority. (2022, June) Public Health Modernization: Report to Legislative Fiscal Office: In fulfillment of ORS 431.139 and ORS 431.380 <https://www.oregon.gov/oha/PH/ABOUT/TASKFORCE/Documents/2022-Public-Health-Modernization-Funding-Report.pdf>
- Oregon Health Authority. (2022, October 20). Novel Coronavirus Disease 2019 (COVID-19) Interim Investigative Guidelines. <https://www.oregon.gov/oha/PH/DISEASES/CONDITIONS/COMMUNICABLEDISEASE/REPORTINGCOMMUNICABLEDISEASE/REPORTINGGUIDELINES/Documents/Novel-Coronavirus-2019.pdf>
- Oregon Legislative Fiscal Office (2020, October). Budget information report: a summary of federal coronavirus funding for Oregon. <https://www.oregonlegislature.gov/lfo/Documents/2020%20Report%20-%20Federal%20Coronavirus%20Funding%20for%20Oregon.pdf>
- Sridhar V Basavaraju et al., (2020, November 20) Serologic testing of US blood donations to Identify Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)—reactive antibodies: December 2019–January 2020. Clinical Infectious Diseases, Volume 72 (Issue 12), pages [e1004-e1009](https://academic.oup.com/cid/article/72/12/e1004/6012472). <https://academic.oup.com/cid/article/72/12/e1004/6012472>
- World Health Organization. (n.d.) WHO Coronavirus (COVID-19) dashboard. <https://covid19.who.int>.

# Appendix

---

- A.** Terminology
- B.** COVID-19 Executive Orders Timeline
- C.** Senate Bill 1554
- D.** Qualitative Interview Guides
- E.** Qualitative Focus Group Guides
- F.** Survey Instruments
- G.** Detailed Methods
- H.** Preliminary Survey Analysis
- I.** Detailed Limitations
- J.** COVID-19 Health Outcomes
- K.** Secondary Health Outcomes



# Appendix A: Terminology

[Appendix A: Terminology](#)

[Terminology](#)

[Acronyms](#)

[Key terms](#)

## Terminology

### Acronyms

ACDP	Acute and Communicable Disease Prevention Section
AOC	Association of Oregon Counties
ARPA	(Federal) American Rescue Plan Act
BOC	Board of Commissioners
BOLI	Oregon Bureau of Labor Industries
CARES	Coronavirus Aid, Relief, and Economic Security Act
CBO	Community-based organization
CDC	Centers for Disease Control
CET	Community Engagement Team
CCO	Coordinated care organization
CFO	Chief Financial Officer
CIC	Certification in Infection Prevention Control
CLHO	Coalition of Local Health Officials
CMS	Centers for Medicare & Medicaid Services
COVID-19	Novel coronavirus disease
CRF	Coronavirus Relief Fund
CRR	COVID Response and Relief
CRRU	COVID Response and Recovery Unit
DCBS	Dept. of Consumer and Business Services
ODHS	Oregon Department of Human Services

DOJ	Department of Justice
EANS	Emergency Assistance to Non-Public Schools
ECC	Emergency Coordination Center
ELC	Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases
EMS	Emergency medical services
EO	Executive Order
EOC	Emergency operations center
EOP	Emergency operations plan
Epi	Epidemiology/epidemiologist
ESF	Emergency Support Functions
ESSER	Elementary and Secondary School Emergency Relief
FAA	Financial Assistance Agreement
FBO	Faith-based organization
FEMA	Federal Emergency Management Agency
FG	Focus Group
FTE	Full Time Equivalent
HAI	Health care associated infection
HAI/AR (HAI-AR)	Healthcare Associated Infections and Antimicrobial Resistance
HAN	Health Alert Network
HO	Health Officer
HSPR	Health Security, Preparedness and Response (HSPR) Program

IAP	Incident Action Report
ICS	Incident Command Structures
ICS 201	Incident Briefing
ICARs	Infection Control Assessment Responses
ICU	Intensive Care Unit
IHS	Indian Health Service
IMT	Incident Management Teams
IPC	Infection Prevention and Control
JIC	Joint Information Center
LOC	League of Oregon Cities
LPHA	Local public health authority
LRN	Laboratory Response Network
MAC or MACG	Multiagency coordination Statewide Multi agency Coordinating Group
MRC	Medical reserve corps
MYTEP	Multi-year Training and Exercise Plan
NARA	Native American Rehabilitation Association
NIMS	National Incident Management System
NPO	Nonprofit organization
OAFP	Oregon Academy of Family Physicians
OAHS	Oregon Association of Hospital and Health Systems
ODE	Oregon Department of Education
ODHS	Oregon Department of Human Services

OEM	Oregon Department of Emergency Management
OHA	Oregon Health Authority
OPCA	Oregon Primary Care Association
Ops	Operations
ORS	Oregon Revised Statutes
OR-OSHA	Occupational Safety and Health Administration
OSPHD	Oregon State Public Health Division
OSTLTS	Office for State, Tribal, Local, and Territorial Support
PAPR	Powered Air Purifying Respirator
PCR	polymerase chain reaction
PCPCH	Patient Center Primary Care Home Program
PE	<a href="#">Program Element</a>
PH	Public health
PHAB	Public Health Advisory Board
PHD	Public Health Division
PHEP	Public Health Emergency Preparedness
PHEPR	Public Health Emergency Preparedness and Response
PHL	Public Health Laboratory
PIO	Public information officer
POIC	Portland Opportunities Industrialization Center
POD	Point of Distribution
PPE	Personal protective equipment

PPP	Paycheck Protection Program
PREP	Public Readiness and Emergency Preparedness
PWD	Persons with Disabilities
REALD	Race, ethnicity, language or disability
RHCC	Regional Healthcare Coalition
RFP	Request for proposals
SB 1554	<a href="#">Senate bill 1554</a>
SOGI	Sexual orientation or gender identity
SOP	Standard Operating Procedure
SRF	State's recovery function
SUD	Substance use disorder
USDA	United States Department of Agriculture
VHA	Veterans Health Affairs
VOTE	Vaccine Operations Team – Equity

## Key terms

### Emergency management:

For the purposes of this study emergency management includes Oregon state, county, city, and tribal offices that are responsible for the mitigation, preparation for, response to, and recovery from emergencies and natural disasters, acts of terrorism, or other man-made disasters.

### Public health emergency preparedness (PHEP):

PHEP programs are administered at the state, county, and tribal levels. PHEP is the capability of the public health and health care systems, communities, and individuals, to

prevent, protect against, respond to, and recover from health emergencies, particularly those in which scale, timing, or unpredictability threatens to overwhelm routine capabilities. Preparedness involves a coordinated and continuous process of planning and implementation that relies on measuring performance and taking corrective action. (American Journal of Public Health. 2007 April; 97(Suppl 1): S9-S11)

#### Health Care Associations:

A health care association is an organization with members who work in or share an interest in health care. Members of health care associations will often meet regularly to discuss upcoming news in their field or will host events for other members to meet and network.

#### Process interview(s):

For the purposes of this study, process interviews are interviews conducted with individuals with knowledge in specific areas of the pandemic to provide context and background information for the study. Process interviews followed a purposeful sampling strategy and were not transcribed or analyzed for themes.

#### Professional Associations:

A professional association is an organization with members who work in or share an interest in a specific job field or industry. Members of professional associations will often meet regularly to discuss upcoming news in their field or will host events for other members to meet and network. The professional associations included in primary data collection for this report were professional associations with members representing government. The study team conducted interviews with representatives of the professional associations who were involved in the COVID-19 pandemic response.

#### Secondary data:

Finding existing data from administrative datasets, public records, grant funding, etc. as opposed to interviews and surveys conducted by the study team.

State Agency(ies): When capitalized, refers to non-OHA state agency study participants. OHA study participants are referenced as OHA Staff and Managers, OHA Staff, OHA Manager, or OHA Director(s).

Study team:

This includes Rede Group staff, Dr. Kara Skelton, Vashti Boyce, April Lawless, Tina Wesloskie, and P. Diane Reed

Study participant:

General term for anyone who responded to a survey, was interviewed, or participated in a focus group.

Tribal organizations:

This refers to community based or non-profit organizations that primarily serve tribal members, including urban American Indians/Alaska Natives, and excludes Oregon's nine federally recognized tribes that are referred to as Tribal Nations in this report.



# Appendix B: COVID-19 Executive Orders Timeline

## Overview

Table 1 below is a table created by the study team to organize all executive orders enacted by Governor Kate Brown in response to the COVID-19 pandemic. The first three columns containing the executive order number, date, and title are all directly copied from the Governor's Office [website](#). Each executive order is hyperlinked in the first column so that the full text may be reviewed. The last two columns, Population affected and Required Action, were created by the study team for analysis. These executive orders, in consultation with OHA, were used to craft the four stages of the pandemic that the study team used for data collection and analysis. The study team elected to only include executive orders that related to the public health system defined in this report.

**Table 1. Oregon executive orders in response to the COVID-19 pandemic from March 2020 - March 2022**

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO 20-03</a>	3/8/2020	Declaration of Emergency Due to Coronavirus (COVID-19) Outbreak in Oregon	Oregonians	Declaration of Public Health Emergency - State level agencies including the OHA Public Health Director, Governor's Coronavirus Response Team, State Emergency Coordination Center, OEM, and all other state government is tasked with coordinating with each other, providing guidance, deploying emergency health care professionals, and creating guidance.
<a href="#">EO 20-05</a>	3/12/2020	Prohibiting Large Gatherings Due to Coronavirus (COVID-19) Outbreak in Oregon	Oregonians	Prohibit social, spiritual, and recreational gatherings of 250 people or more. Schools, some workplaces, and stores are exempt if they maintain 3 feet of social distancing.

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-06</a>	3/17/2020	Declaration of Abnormal Disruption of the Market due to COVID-19	Oregonians	Governor - declaration of abnormal disruption to the market. Residents - report unlawful trade practices such as excessive prices to the Dept of Justice.
<a href="#">EO_20-07</a>	3/17/2020	Prohibiting on-premises consumption of food or drink and gatherings of more than 25 people	Food and Drink Establishments; Oregonians	Food and drink establishments can no longer allow patrons to consume food and drink on the premises, but they can offer take-out and delivery. Allowed gatherings are reduced from 250 people or less to 25 people or less.
<a href="#">EO_20-08</a>	3/17/2020	School closures and the provision of school-based and child care services in response to Coronavirus (COVID-19) outbreak	Schools; Oregonians with children in the K-12 school system	Closure of K-12 public schools; direction to state agencies and Early Learning Center to coordinate and ensure funds are distributed for schools and childcare providers. Some requirements outlined for public schools, including the continuation of school-based meals and supplementary learning (homework).
<a href="#">EO_20-09</a>	3/19/2020	Suspension of in-person instructional activities at higher education institutions in response to Coronavirus (COVID-19) outbreak	Colleges and universities; Oregonian, out-of-state, and international students.	Colleges and universities must limit on-campus activities to critical function and take instruction online.

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-10</a>	3/19/2020	Conserving personal protective equipment and hospital beds, protecting health care workers, postponing non-urgent health care procedures, and restricting visitation in response to Coronavirus (COVID-19) outbreak	All patients and potential patients in Oregon	Cancel and postpone all elective procedures that use essential PPE (ex. Masks, gowns, beds, ventilators, cleaning supplies) with some exemptions for life-saving procedures. Limit all non-essential visitation at hospitals and other healthcare facilities. Screen all visitors to health care facilities.
<a href="#">EO_20-11</a>	3/22/2020	Temporary moratorium on residential evictions for nonpayment, in response to Coronavirus (COVID-19) outbreak	Renters and Homeowners	Law enforcement is prohibited from responding to terminations of tenancy due to nonpayment.
<a href="#">EO_20-12</a>	3/23/2020	Stay Home, Save Lives: Ordering Oregonians to stay at home, closing specified retail businesses, requiring social distancing measures for other public and private facilities, and imposing requirements for outdoor areas and licensed childcare facilities	Residents of Oregon; businesses; workplaces; government buildings; childcare facilities; outdoor recreation and travel	Individuals must stay home as much as possible. When outside of the home, individuals must maintain 6 feet of distance, even outside. All gatherings are prohibited where 6 feet of social distancing cannot be maintained. All businesses closed to on-site traffic, but food and drink establishments can continue to offer take-out/delivery. Exemptions given to businesses providing food, grocery, health care, medical, pharmacy, or pet store services. All businesses must

Executive Order (EO) #	Date	Title	Population Affected	Required Action
				comply with social distancing guidelines. Work in offices is prohibited if telework is available. Everyone in office must comply with social distancing guidelines. All licensed childcare facilities must close unless they can have the same group of kids each day and that group is made of 10 or fewer children. Facilities must prioritize the needs of first responders, emergency workers, and health care professionals. All public and private campgrounds are closed. Parks and Rec must close any areas where social distancing cannot be maintained. Individuals are directed to limit travel to essential needs.
<a href="#">EO 20-13</a>	4/1/2020	Temporary Moratorium on Certain Evictions and Terminations of Rental Agreements and Leases, in Response to Coronavirus (COVID-19) Outbreak	Renters, landlords	Landlords of residential and non-residential properties are prohibited from terminating a lease and/or taking any action relating to eviction, including filing, serving, delivering, or acting on any notice of termination of tenancy due to nonpayment. (nonresidential properties include hotels and health buildings)
<a href="#">EO 20-14</a>	4/7/2020	Extending the duration of executive order no. 20-07 (prohibiting on-premises consumption of food or drink)	Food and Drink Establishments; Oregonians	Extension of EO_20-07: prohibition of on-site consumption of food and drink, effective until terminated by the governor.

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-15</a>	4/7/2020	Extending the duration of executive order no. 20-06 (declaration of abnormal disruption to the market due to COVID-19)	Oregonians	Extension of EO_20-06: declaration of abnormal disruption to the market, effective until terminated by the governor.
<a href="#">EO_20-16</a>	4/15/2020	Keep Government Working: Ordering necessary measures to ensure safe public meetings and continued operations by local governments during Coronavirus (COVID-19) outbreak	Government officials; Oregonians	Participation in government and public meetings is considered essential. Wherever possible, public meetings must be held over phone/internet. When held in person, 6 feet of social distancing must be maintained. Outlines some specific exemptions to existing rules (pre-executive order) about required in-person meetings that can now be online.
<a href="#">EO_20-17</a>	4/17/2020	Extending executive order no. 20-09 (suspension of in-person instructional activities at higher education institutions)	Colleges and universities; Oregonian, out-of-state, and international students.	Extension of EO_20-09: Colleges and universities are prohibited from conducting non-essential in-person instruction and activities through June 13, 2020.
<a href="#">EO_20-18</a>	4/17/2020	Protecting CARES Act recovery rebate payments from garnishments, so those funds can be used for essential needs	Oregonians	Issues necessary directives to prohibit the garnishment of CARES Act Recovery Rebates, except in certain cases (criminal).

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-19</a>	4/23/2020	Extending directives regarding closure of licensed childcare facilities, in response to Coronavirus (COVID-19) outbreak	Childcare facilities; families; Early Learning Division (ELD)	All childcare facilities who are not approved by ODE to remain open as emergency childcare facilities, must remain closed. ELD is directed to provide further guidance.
<a href="#">EO_20-20</a>	4/23/2020	Continued suspension of in-person K-12 instructional activities and the provision of school-based services in response to Coronavirus (COVID-19) outbreak	K-12 schools; students and families	Schools must stay in session remotely. They can still receive State School Funds if they follow requirements outlined in paragraph 4 (continuation of educational services).
<a href="#">EO_20-22</a>	4/27/2020	Allowing measured resumption of non-urgent health care procedures using personal protective equipment, and continuing restrictions on visitation in response to Coronavirus (COVID-19) outbreaks	Patients; healthcare providers	Elective and non-urgent procedures may resume only if they comply with administrative rules and guidance by OHA. OHA is directed to provide such guidance. OHA must also provide guidance on any updates/continuation of prohibition of non-essential visitors in healthcare facilities.  Rescinds EO_20-10 (conserving PPE).
<a href="#">EO_20-24</a>	06/06/2020	Extending the COVID-19 declaration of emergency (executive order no. 20-03) for an additional 60 days, through July 6, 2020	Oregonians	Extension of EO_20-03: declaration of state of emergency for an additional 60 days, through July 6, 2020.

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-25</a>	05/14/2020	A Safe and Strong Oregon: Maintaining essential health directives in response to COVID-19, and implementing a phased approach for reopening Oregon's economy	Oregonians; Oregon businesses and workplaces; government buildings	Baseline requirements for Oregonians and Oregon businesses to adhere to. Establishes requirements for phased reopening of Oregon.
<a href="#">EO_20-27</a>	06/05/2020	A Safe and Strong Oregon (Phase II): Maintaining essential health directives in response to COVID-19, and continuing to implement a phased approach for reopening	Oregonians; Oregon businesses and workplaces; government buildings	Phased reopening, rescinds and replaces previous EO 20-25. Outlines requirements to enter Phases II + III of reopening, EO 20-25 outlined requirements to enter Phase I reopening.
<a href="#">EO_20-28</a>	06/12/2020	Operation of higher education institutions during Coronavirus pandemic	Higher education institutions	In person restrictions: in person only if minimum standards are followed (face coverings, physical distancing, sanitizations, monitoring, isolations procedures. By 9/1/2020 institutions are required to have a written plan with internal enforcement and complaint process, and comply w/other EOs.

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-29</a>	06/24/2020	Ready Schools, Safe Learners: K-12 instructional activities and the provision of school-based services during 2020-2021 academic year in the face of the ongoing Coronavirus (COVID-19) outbreak	K-12 schools	In person restrictions: in person instruction if complies with guidance published by OHA and ODE. Develop a written plan by 8/15/2020 or start of 2020/2021 school year to comply with guidance, provide continuity of ed services, ODE and Oregon State Board of Education and the Teachers Standards and Practices Commission promulgate necessary rules, OHA/ODE/other state agency enforce rules.
<a href="#">EO_20-30</a>	06/30/2020	Second extension of executive order 20-03 and COVID-19 state of emergency; rescinding executive order 20-13 and executive order 20-18	Oregonians; Oregon renters	Extension of state of emergency for 60 days until 9/4/20. Declaring revaluation (by Governor) or EOs every 60 days. Temporary evictions moratorium (EO 20-13) rescinded. Rescindment of EO-20-18.
<a href="#">EO_20-37</a>	12/31/2020	Extending House Bill 4204's mortgage foreclosure moratorium until December 31, 2020	Oregonian homeowners with a mortgage	Extension of mortgage foreclosure moratorium "emergency period".
<a href="#">EO_20-38</a>	09/01/2020	Third extension of executive order 20-03 and COVID-19 state of emergency; rescinding executive order 20-16	Oregonians; Oregon renters	Extension for state of emergency for 60 days until 10/3/20. Rescinding EO 20-16 (public meetings and local government operations) because it is now HB 4212.



Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_20-56</a>	09/28/2020	Third extension of executive order 20-03 and COVID-19 state of emergency; rescinding executive order 20-16	Oregonians; Oregon renters	Temporary eviction moratorium period (9/30-12/31/2020); landlords cannot deliver a termination notice without cause or for rental nonpayment.
<a href="#">EO_20-58</a>	10/23/2020	Enhanced health and safety requirements for certain employer-provided housing during agricultural off-season in response to Coronavirus (COVID-19) outbreak	Temporary work housing or employer-provided housing occupants and housing operators in Oregon	Housing operators to ID appropriate physical distance and sanitation in housing. Housing operator to plan and implement activities, including: appropriate # of toilets in home or portable toilets, appropriate # and spacing of beds, cleaning housing between occupants, providing cleaning materials at no cost to occupants. If a resident contracts COVID, the operator must implement policies and procedures to ID and isolate sick occupants.
<a href="#">EO_20-65</a>	11/17/2020	Temporary freeze to address surge in COVID-19 cases in Oregon	All Oregonians and businesses.	Freeze period to slow COVID surge. Home gatherings limited to 6 people , faith institutions + funerals limited to max 25 indoors, 50 outdoors. No indoor dining. Following was prohibited: gyms/fitness centers, indoor rec activities, museums, indoor/outdoor events, zoos, gardens, aquariums, outdoor entertainment activities, indoor pools, sports, athletic activities. Grocery stores, retail, farmers markets, indoor/outdoor malls, state agency operations limited to 75%

Executive Order (EO) #	Date	Title	Population Affected	Required Action
				capacity. Businesses facilitate telework.
<a href="#">EO 21-05</a>	02/25/2021	Sixth extension of executive order 20-03 and COVID-19 state of emergency	Oregonians	Extension of state emergency for additional 60 days, though May 2 2021.
<a href="#">EO 21-06</a>	03/21/2021	Ordering public schools to offer fully on-site or hybrid in-person instruction, requiring all schools to continue to comply with health and safety protocols to control COVID-19	K-12 schools	EO 20-29 rescinded, replaced with this EO. All learning institutions must deliver services through a hybrid instructional model (by 3/29/21). OHA and ODE continue to publish guidance on conduct of in person activities. Public and private schools can offer distance learning for the remainder of 2021 school years.
<a href="#">EO 21-10</a>	04/29/2021	Seventh extension of executive order 20-03 and COVID-19 state of emergency	Oregonians	Extension of the state of emergency for additional 60 days, though June 28, 2021. EOs 20-06 and 20-15 abnormal market disruptions' rescinded, EO 20-58 allowed to expire on 4/30/31,
<a href="#">EO 21-14</a>	06/11/2021	Extending House Bill 2009's mortgage foreclosure moratorium until September 30, 2021	Oregonians; mortgage holders	Extension of mortgage foreclosure moratorium's emergency period provisions under HB 2009 until 9/30/21
<a href="#">EO 21-15</a>	06/25/2021	Rescinding all remaining COVID-19 restrictions; continuing state efforts to support ongoing COVID-19	Oregonians	Rescission of all remaining pandemic EO's: EO 20-66 (county risk framework), EO 20-22 (non-urgent healthcare procedures), EO 21-06 (k-12 schools), EO 20-28 ( Higher Education), EO 20-19 (Childcare

Executive Order (EO) #	Date	Title	Population Affected	Required Action
		vaccination, response, and recovery efforts		facilities). Extension of OR 20-03 (state of emergency) until 12/31/21
<a href="#">EO_21-29</a>	08/13/2021	COVID-19 vaccination requirement for state executive branch	Oregon executive branch employees	On or before 10/18/21 employees must provide a proof of vaccination or written request for an exception.
<a href="#">EO_21-30</a>	08/16/2021	Extending House Bill 2009's mortgage foreclosure moratorium until December 31, 2021	Oregonians; mortgage holders	Extension of mortgage foreclosure moratorium's emergency period provisions under HB 2009 until 12/31/21
<a href="#">EO_21-31</a>	09/01/2021	Extending emergency regulatory flexibility for childcare licensing; amending executive order 21-15	Oregonians utilizing childcare, and childcare providers	Amending part of EO 21-15, extending EO 21-15 through 12/31/21. Amending including additional flexibility for unlicensed childcare services.
<a href="#">EO_21-36</a>	12/21/2021	Continuing state efforts to support ongoing COVID-19 vaccination, response, and recovery efforts; extending executive order 20-03; rescinding executive order 21-15 and executive order 21-31	Oregonians, oregonians utilizing childcare, and childcare providers	EO 20-03 (state of emergency) extended until 6/30/22, rescission of EO 21-15 (Rescinding all COVID-19 restrictions) and EO 21-31 (flexibility for childcare)

Executive Order (EO) #	Date	Title	Population Affected	Required Action
<a href="#">EO_22-03</a>	03/17/2022	Terminating COVID-19 state of emergency; rescinding executive order 20-03, executive order 21-29, and executive order 21-36	Oregonians; Executive Branch employees	Rescission of EO 20-03 (state of emergency), EO 21-36, and EO 21-29 (COVID vaccine requirement for Executive Branch employees)

# Appendix C: Senate Bill 1554

81st OREGON LEGISLATIVE ASSEMBLY--2022 Regular Session

## Enrolled Senate Bill 1554

Sponsored by Senator STEINER HAYWARD, Representatives REYNOLDS, HAYDEN, Senator PATTERSON, Representative DEXTER; Senators GELSER BLOUIN, SOLLMAN, Representatives ALONSO LEON, CAMPOS, EVANS, GRAYBER, HIEB, HOLVEY, MARSH, MOORE-GREEN, NELSON, PRUSAK, REARDON, SALINAS, SCHOUTEN (Presession filed.)

CHAPTER .....

AN ACT

Relating to public health preparedness; and declaring an emergency.

**Be It Enacted by the People of the State of Oregon:**

**SECTION 1. (1) The Oregon Health Authority shall study the state's public health response to the COVID-19 pandemic and prepare the reports described in this section.**

**(2) At a minimum, the study shall initially:**

**(a) Focus on the public health system, including federal, state and local resources and how funding was coordinated between the state, counties and local governments and community organizations;**

**(b) Identify efficiencies and deficiencies in the public health system response, areas for improvement and needed investment;**

**(c) Consider emergency management coordination with the public health system, including distribution of personal protective equipment, where vaccines and testing were provided and isolation and quarantine best practices and guidance;**

**(d) Analyze the enforcement of public health requirements by the state, local governments and schools;**

**(e) Examine the efficacy of enforcement of pandemic control evidence-based practices, including any statewide public health mandates, at the county and local levels;**

**(f) Examine outcomes related to public health modernization implementation, including the roles that public-private partnerships played and any challenges posed by the current intersection of state and county public health systems;**

**(g) Compare the health equity outcomes related to the COVID-19 pandemic response, including second-hand health disparities resulting from the increased strain on hospitals, health systems and resources;**

**(h) Engage in a qualitative, in-depth analysis of utilization of resources, differing regulations and enforcement of evidence-based pandemic control practices across this state; and**

**(i) Assess messaging in general, including whether best practices in public health communication were used during the COVID-19 pandemic.**

**(3)(a) The authority shall prepare a report that, in addition to information regarding the topics described in subsection (2) of this section, includes at least:**

**(A) A broad review of the COVID-19 pandemic;**

(B) Identification of areas in the public health system COVID-19 response that need improvement;

(C) Recommendations to improve the public health system COVID-19 response;

(D) A summary of key lessons learned; and

(E) Recommendations for improving:

(i) Public health system resiliency; and

(ii) Other deficiencies identified in the study.

(b) The authority shall submit, in the manner provided in ORS 192.245, the report described in paragraph (a) of this subsection to an interim committee of the Legislative Assembly related to public health not later than November 15, 2022.

(4) In addition to the study described in subsection (2) of this section, the authority shall perform a study to:

(a) Identify any local epidemiological data and capacity issues, including those that affected the reporting of data to statewide data systems;

(b) Clarify the roles of hospitals, long-term care facilities and local public health programs in response coordination;

(c) Compare health and health system data, including COVID-19 positivity rates, rates of COVID-19 infection, hospital capacity and other core metrics, with the efficacy of statewide public health mandate enforcement; and

(d) Investigate specific public health workforce challenges.

(5)(a) The authority shall prepare a report that, in addition to information regarding the topics described in subsection (4) of this section, includes at least:

(A) An in-depth report of nongovernmental and community partner contributions to the COVID-19 response; and

(B) Recommendations for improving specific public health workforce challenges.

(b) The authority shall submit, in the manner provided in ORS 192.245, the report described in paragraph (a) of this subsection to an interim committee of the Legislative Assembly related to public health not later than April 1, 2023.

(6) The authority shall submit, in the manner provided in ORS 192.245, a report that includes a final evaluation and synthesis of the topics described in subsections (2) and (4) of this section and a final analysis, including the findings and recommendations described in subsections (3) and (5) of this section, to an interim committee of the Legislative Assembly related to public health not later than September 1, 2023.

(7) In order to perform the studies described in subsections (2) and (4) of this section and prepare the reports described in subsections (3), (5) and (6) of this section, the authority shall contract with an independent third-party consultant with experience in performing public health after-action studies and preparing reports. The consultant shall perform the studies in partnership with urban, rural, frontier, small and large counties in this state, and shall perform all assessments as a neutral party.

**SECTION 2.** Section 1 of this 2022 Act is repealed on April 1, 2024.

**SECTION 3.** Notwithstanding any other provision of law, the General Fund appropriation made to the Oregon Health Authority by section 1 (1), chapter 668, Oregon Laws 2021, for the biennium ending June 30, 2023, for health systems, health policy and analytics, and public health, is increased by \$899,573 for the purpose of carrying out section 1 of this 2022 Act.

**SECTION 4.** This 2022 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2022 Act takes effect on its passage.

**Passed by Senate February 28, 2022**

.....  
Lori L. Bocker, Secretary of Senate

.....  
Peter Courtney, President of Senate

**Passed by House March 3, 2022**

.....  
Dan Rayfield, Speaker of House

**Received by Governor:**

.....M.,....., 2022

**Approved:**

.....M.,....., 2022

.....  
Kate Brown, Governor

**Filed in Office of Secretary of State:**

.....M.,....., 2022

.....  
Shemia Fagan, Secretary of State

## Appendix D: Qualitative Interview Guides

[Community-based Organizations](#)

[Department of Justice](#)

[Health Care Associations](#)

[Local Public Health Authorities](#)

[Oregon Department of Emergency Management](#)

[Oregon Health Authority Directors](#)

[Oregon Health Authority Staff + Managers](#)

[Occupational Safety and Health Administration](#)

[Professional Associations](#)

[Public Health Advisory Board](#)

[State/Government Agencies](#)

[Tribal Nations](#)

[Tribal Organizations](#)



## Community-based Organizations

### Roles, responsibilities, decision making

1. Can you please describe the communities your organization serves.
2. Can you please state your current role at your organization and describe how you were involved in the COVID-19 public health system response.
3. Looking at the COVID-19 stages, how has your role changed throughout the COVID-19 pandemic?
  - a. PROBE for
    - Key responsibilities in addition to job titles
    - Date for which they started at their CBO (or phase)

### Community Based Organizations

Next we would like to turn to the specific role of community based organizations.

4. As we stated earlier, the goal of this study is to assess Oregon's public health system response to the COVID-19 pandemic. How would you define "public health system response"?
  - a. Probe: What do you think are key elements of Oregon's public health system response?
5. For each stage, what roles did your organization play in the COVID-19 public health response?
  - a. PROMPT for walking interviewee through each stage

### Partnerships:

6. Can you describe any important partnerships or collaborative relationships with other organizations or agencies related to your CBO's COVID-19 response work?
  - a. Probe: what about government agencies such as local or state public health?
7. In what ways, if any, did the Oregon Health Authority and your Local Public Health Authority provide support for your CBO in the public health response to the COVID-19 pandemic.

- a. Probe: TA, communications, funding, etc.
- 8. What are the lessons learned about your partnerships that should be applied in the future?

### **Funding:**

Now, we are going to discuss pandemic-specific funding to CBO's and use of funds.

- 9. How was funding for CBOs linked to the public health response in your community?
  - a. Probe for what agency/organization they received funding from
  - b. Probe for how this funding helped to fill pandemic response gaps in the community
- 10. What, if anything, stands out for you about the processes for receiving funding from OHA for your agency?
  - a. Probes: mechanisms for determining funding formulas and program elements, timelines for making funds available, disbursements, budget/reporting requirements, and flexibility within funding streams.
  - b. Probe for what worked well and areas of improvement

### **Enforcement of public health measures**

Now we are going to move into a series of questions about the enforcement of public health requirements in response to COVID-19 in the community.

- 11. From your perspective, in what ways did enforcement mechanisms work or not work?
  - a. How did you observe the enforcement of masking mandates?
  - b. What about other public health mandates, such as no indoor dining, no indoor gatherings, closure of gyms, etc.?
  - c. How was enforcement experienced in your community?
- 12. In what ways can state and local partnerships be improved to increase compliance with statewide requirements in the community your CBO serves?

### **Communications and messaging**

Next I'd like to turn to the topic of public health communication use during the COVID-19 pandemic.

13. In what ways did COVID-19 related communication and messaging work or not work?

- a. Probe for community needs, response gaps, tailoring of messaging to specific communities, disseminated in culturally-specific media
- b. Probe for
  - i. communication about statewide mandates
  - ii. vaccine-specific communication
  - iii. Local requirements
  - iv. In what ways could state and local communications be improved to increase compliance with statewide requirements in the community your CBO serves?

## **Wrap up**

That is all the prepared questions we have for you.

14. Do you have any additional thoughts or recommendations you'd like to share about the public health system response to the COVID-19 pandemic?

## Department of Justice

### Introductions

1. Let's start with your name(s) and current role in [ organization name ].

### Overall public health response

2. Next I'd like to ask you (*or both of you*) how you define the term "public health system response" as it relates to public health emergencies such as COVID-19??
  - a. Probe: What are key elements of Oregon's public health system response?

### Roles, responsibilities, decision making

3. Can you briefly describe how you were/are involved in the COVID-19 public health system response.
4. How is DOJ typically involved in public health emergency response efforts?
5. Are you able to describe other Division's at DOJ's roles in supporting the pandemic response?

**We recognize that the public health system response likely shifted across the span of the COVID-19 pandemic. For the purposes of this interview, we are going to be talking about the COVID-19 pandemic in stages.**

< SCREEN SHARE chronological stages graphic, walk through stages. Leave graphic up as screen share during full interview, share pdf in chat if requested by interviewee >

### COVID-19 Chronological Stages:

**Stage 1** - *March 2020 - November 2020*: outbreak, disease investigation, implementing public health protections (masking, distancing, shutdowns), preparing for vaccination

**Stage 2** - *December 2020 - August 2021*: vaccination, disease investigation, enforcing public health protections, and partial reopening

**Stage 3** - *September 2021 - February 2022*: vaccinations, reopening and dealing with variants

**Stage 4** - *March 2022 - Present June 2022*: total reopening, no public health protections, and changes in investigative guidelines

We will be referencing these stages during our conversation today. When answering a question, you do not need to worry so much about the exact months but rather, use these stages as a general guideline to reference responses in different periods. In addition, when answering questions here today, please only discuss the stages when you were at the [agency name] and working on the pandemic response.

6. For each stage, can you walk me through the main bodies of work you were involved in personally?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of their key activities in that stage
7. Looking back at each of these stages is there anything that stands out to you as an area DOJ could have handled differently to bring about a better outcome?
8. Looking back at each of these stages is there anything that stands out to you as something that other sectors within the public health system could have handled differently to bring about a better outcome?
9. Are there one or two things you absolutely would do the same?

### **Emergency management**

10. Was [agency name] involved in the distribution of personal protective equipment?
  - a. [IF yes] Can you describe any barriers or challenges you encountered in operationalizing PPE distribution?
  - b. Can you describe things that went well with PPE distribution?
11. Was [agency name] involved in supporting vaccination efforts in stages 2-4?
  - a. [IF yes] What worked well?
12. From your perspective, what statewide improvements in emergency management could be made?

### **Implementations and Enforcement of public health measures**

Now we are going to move into a series of questions about the implementation of public health requirements in response to COVID-19.

13. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about [agency name's] role in **implementing** the public health requirements?
- a. Probe: Shutdown order, masking, social gatherings, etc.
  - b. [IF they had a role] Can you describe any challenges or barriers you encountered in implementing public health protection requirements?
  - c. [IF they had a role] Can you describe any facilitators or activities you did that were effective to implement public health protection requirements?
14. What was [agency name's] role in **enforcing** the public health protection requirements?
- a. [IF they had a role] Can you describe any challenges or barriers you encountered in enforcing public health protection requirements?
  - b. [IF they had a role] Can you describe any facilitators or effective activities you experienced in enforcing public health protection requirements?
15. In what ways could the system be improved to increase adherence to statewide mandates and requirements?
- a. Probe: In what ways were communications related to statewide mandates and requirements sufficient or deficient?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

16. Please describe how [agency name] coordinated and collaborated with partners throughout the pandemic, including who your partners were, and what worked well and didn't work well?
- a. PROBE for partnerships with:
    - i. OHA
    - ii. County governments
    - iii. Tribal governments
    - iv. OEM
    - v. CBOs

### **Overall response**

17.Overall, what was your agency's greatest challenge during responding to the pandemic?

18.Overall, what was your agency's greatest contribution to the pandemic response?

19.How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

### **Wrap up**

Those are all the prepared questions we have for you.

20.Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

# Health Care Associations

## Introductions

1. Let's start with your name(s) and current role or job title(s) in [ organization name ].

## Overall public health response

2. Next I'd like to ask you (*or both of you*) how you define the term "public health system response" as it relates to public health emergencies such as COVID-19?
  - a. Probe: What are key elements of Oregon's public health system response?

## Roles, responsibilities, decision making

3. In what ways, if any, is your organization *typically* involved in public health emergency response efforts (not including COVID-19)?
4. Can you briefly describe how you were/are involved in the COVID-19 public health system response.
5. For each stage, can you walk me through the areas of focus you were involved in personally?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of their key activities in that stage.
  - b. In what ways did you provide support to your membership to respond to the COVID-19 pandemic during each stage?

## Emergency management

6. In what ways, if any, was your agency involved in the distribution of personal protective equipment?
  - a. Can you describe any barriers or challenges you encountered in operationalizing PPE distribution?
  - b. Can you describe things that went well with PPE distribution?
7. In what ways, if any, was your agency involved in supporting vaccination efforts during stages 2-4?
  - a. What worked well?
  - b. What could be improved?



8. From your perspective, what statewide improvements in emergency management could be made?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

9. Please describe how your organization coordinated and collaborated with partners for public health response throughout the pandemic, including who your partners were, and what worked well and didn't work well?
  - a. PROBE for partnerships with:
    - i. Oregon Health Authority
    - ii. Local public health authorities
    - iii. Tribes
    - iv. Office of Emergency Management
    - v. Hospitals/health systems
    - vi. Long-term care facilities
    - vii. Schools
    - viii. CBOS
    - ix. Businesses

### **Overall response**

10. Overall, what was your agency's greatest challenge during responding to the pandemic?
11. Overall, what was your agency's greatest contribution to the pandemic response?
12. From your experience, were there aspects of the pandemic response that were handled well by the Oregon Health Authority?
13. From your experience, were there aspects of the pandemic response that were handled poorly by the Oregon Health Authority?
14. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

### **Wrap up**

Those are all the prepared questions we have for you.

15. What, if any, additional thoughts or comments, or recommendations would you like to share about the public health system's response to the COVID-19 pandemic?

## Local Public Health Authorities

### Roles, responsibilities, decision making

1. I would like to start by asking you (*or both of you*) to state your current role at the health department and describe how you were involved in the COVID-19 public health system response.
2. Looking at the COVID-19 stages, how has your role changed throughout the COVID-19 pandemic?
  - a. PROBE for
    - Key responsibilities in addition to job titles
    - Date for which they started at the health department (or phase)

### Overall public health response

Next, I would like you to think about your LPHA's response across the different stages.

3. As we stated earlier, the goal of this study is to assess Oregon's public health system response to the COVID-19 pandemic. How would you define "public health system response"?
  - a. Probe: What are key elements of Oregon's public health system response?
4. For each stage, can you walk us through one aspect of the response that your LPHA performed well and another aspect of the response that did not work as well?
  - a. PROMPT for walking interviewee through each stage and extracting one efficiency and one deficiency.

### Funding

Now, we are going to discuss pandemic-specific funding to LPHAs and use of funds.

5. How was additional funding for LPHAs linked to the public health response in your community?
6. What, if anything, stands out for you about the processes for receiving funding from OHA for your agency?

- a. Probes: mechanisms for determining funding formulas and program elements, timelines for making funds available, disbursements, budget/reporting requirements, and flexibility within funding streams.
- b. Probe for what worked well and areas of improvement

## **Emergency management**

Now, we would like to explore a little about emergency management coordination within the public health system, including distribution of PPE, where vaccines and testing were provided, and isolation and quarantine guidance.

- 7. In what ways did state and local emergency response coordinate with state and local public health authorities related to:
  - a. Personal protective equipment distribution?
  - b. Vaccine distribution and testing?
  - c. Public information dissemination?
- 8. How were different communities' needs taken into consideration for PPE distribution, vaccine distribution and testing, and public information dissemination?
  - a. Racial/ethnic, elderly and aging, sexual and gender minorities, people with disabilities, people experiencing mental health challenges or substance use disorders, people experiencing houselessness, rural, etc.
- 9. What worked well?
- 10. What statewide improvements in emergency management could be made?

## **Enforcement of public health measures**

Now we are going to move into a series of questions about the enforcement of public health requirements in response to COVID-19.

- 11. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about the public health requirements implemented by your LPHA across the stages of the pandemic?
  - a. Probe: Shutdown order March 2020 - May 2020, masking, vaccinations for school attendance

12. How was your LPHA involved in enforcement of the public health requirements you described above?

13. In regards to implementing and enforcing public health protections, what would you say was the biggest success of your LPHA?

a. Probe for another success if it seems like they have another.

14. What were the greatest challenges your LPHA faced related to implementing or enforcing public health protections?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

15. Please describe how your LPHA coordinated and collaborated with partners throughout the pandemic, including who your partners were, and what worked well and didn't work well?

a. PROBE for partnerships with:

- i. Hospitals
- ii. Long-term care facilities
- iii. Schools
- iv. CBOs (ask to list which ones)

### **Overall response**

16. Can you describe one or two public health system response decisions you had to make that were particularly difficult?

17. Overall, what was your agency's greatest challenge during responding to the pandemic?

18. Overall, what was your agency's greatest contribution to the pandemic response?

19. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies at a local level?

### **Wrap up**

Those are all the prepared questions we have for you.

20. Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

# Oregon Department of Emergency Management

## Introductions

1. Let's start with your name(s) and current role in the Office of Emergency Management.

## Overall public health response

2. Next I'd like to ask you how you define the term "public health system response" as it relates to public health emergencies such as COVID-19?
  - a. Probe: What are key elements of Oregon's public health system response?

## Roles, responsibilities, decision making

3. Can you briefly describe how you were/are involved in the COVID-19 public health system response.
4. How is your agency typically involved in public health emergency response efforts?

**We recognize that the public health system response shifted across the span of the COVID-19 pandemic. For the purposes of this interview, we are going to be talking about the COVID-19 pandemic in stages.**

< SCREEN SHARE chronological stages graphic, walk through stages. Leave graphic up as screen share during full interview, share pdf in chat if requested by interviewee >

## COVID-19 Chronological Stages:

**Stage 1** - *March 2020 - November 2020*: outbreak, disease investigation, implementing public health protections (masking, distancing, shutdowns), preparing for vaccination

**Stage 2** - *December 2020 - August 2021*: vaccination, disease investigation, enforcing public health protections, and partial reopening

**Stage 3** - *September 2021 - February 2022*: vaccinations, reopening and dealing with variants

**Stage 4** - *March 2022 - Present June 2022*: total reopening, no public health protections, and changes in investigative guidelines

We will be referencing these stages during our conversation today. When answering a question, you do not need to worry so much about the exact months but rather, use these stages as a general guideline to reference responses in different periods. In

addition, when answering questions here today, please only discuss the stages when you were at the Office of Emergency Management and working on the pandemic response.

5. For each stage, can you walk me through the main bodies of work you were involved in personally?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of their key activities in that stage

## **Emergency management**

6. How were incident command structures for Emergency Management and Public Health initially set up?
  - a. Was a unified command structure with Public Health established?
  - b. Did your office/program staff participate in the MAC-G?
  - c. What were the challenges? What worked well?
7. For each stage of the pandemic, did incident command structures change?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of changes in incident command structures
8. How were equity officers/managers integrated into the incident command structure?
  - a. If they were not integrated, how was the issue of equity and access for specific populations addressed?
  - b. What were the challenges? What worked well?
9. How did OEM coordinate with state, tribal, and local public health authorities for information **sharing**?
  - a. What were the challenges? What worked well?
  - b. Probe: Are there pathways that should have been in place to improve information sharing between key partners?

10. In what ways did OEM coordinate with or provide support to state, tribal, and local public health for public information **dissemination**?
- a. What were the challenges? What worked well?
  - b. Probe: What about coordination of public information and notifications to the community
  - c. Probe: Did you activate and/or participate in a Joint Information Center/System?
11. In what ways, if any, was the OEM involved in the distribution of personal protective equipment?
- a. Can you describe any barriers or challenges you encountered with PPE distribution?
  - b. Can you describe things that went well with PPE distribution?
12. In what ways, if any, was the OEM involved in supporting vaccination efforts in stages 2-4?
- a. What worked well?
  - b. What were some challenges?
13. What statewide improvements in emergency management structures or systems could be made to improve future pandemic response?

### **Implementations and Enforcement of public health measures**

Now we are going to move into a series of questions about the implementation of public health requirements in response to COVID-19.

14. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about the OEM's role in **implementing** public health requirements?
- a. Probe: Shutdown orders, masking, public gathering restrictions, isolation and quarantine, etc.
  - b. **[IF they had a role]** Can you describe any challenges or barriers you encountered in implementing public health protection requirements?



- c. Probe: Which agencies did you work with in implementing public health requirements?
  - d. [IF they had a role] Can you describe any facilitators or activities you did that were effective to implement public health protection requirements?
15. What was the OEM's role in **enforcing** the public health protection requirements?
- a. [IF they had a role] Can you describe any challenges or barriers you encountered in enforcing public health protection requirements?
  - b. Which agencies did you work with to enforce public health requirements?
  - c. [IF they had a role] Can you describe any facilitators or effective activities you experienced in enforcing public health protection requirements?
16. In what ways could the system be improved to increase adherence to statewide mandates and requirements?
- a. Probe: In what ways were communications related to statewide mandates and requirements sufficient or deficient?

### Overall response

- 17. Overall, what was your agency's greatest challenge during responding to the pandemic?
- 18. Overall, what was your agency's greatest contribution to the pandemic response?
- 19. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

### Wrap up

- 20. Are there additional staff within the Office of Emergency Management that you think we should speak with about OEM's role in COVID-19 pandemic response?
- 21. Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

## Oregon Health Authority Directors

### Roles, responsibilities, decision making

As we progress through the interview, we will work through each stage. For now, we're only going to talk about stage one.

#### Stage One

1. Let's start with Stage One. I understand that you had extensive management and leadership responsibilities throughout the pandemic response. During Stage One, can you tell me about 2-3 of your key pandemic-response priorities? Or, in other words, what was front and center for you during this stage?
2. Can you tell me about 2-3 critical decision points OHA faced during this stage?
3. *<For each critical decision point listed by the interviewee>*  
Why did you make the decision you made?
  - a. What information or resources did you use to make this decision?
  - b. Who did you consult with to make this decision?
  - c. Who did you have to get permission from to make the decision?
4. Looking back, would you have made a different decision?
  - a. If so, can you tell me more about that?

#### Stage Two

5. Now looking at Stage Two, what were 2-3 of your key priorities? Or, in other words what was front and center for you during this stage?
6. Can you tell me about 2-3 critical decision points OHA faced during this stage?
7. *<For each critical decision point listed by the interviewee>*  
Why did you make the decision you made?:
  - a. What information did you use?
  - b. Who did you have to consult?
  - c. Who did you have to get permission from to make the decision?
8. Looking back, would you have made a different decision?
  - a. If so, can you tell me more about that?

#### Stage Three

9. For Stage Three, what were 2-3 of your key priorities? Or, in other words, what was front and center for you during this stage?
10. Can you tell me about 2-3 critical decision points OHA faced during this stage?
11. *<For each critical decision point listed by the interviewee>*  
Why did you make the decision you made?
  - a. What information or resources did you use to make this decision?
  - b. Who did you consult with to make this decision?
  - c. Who did you have to get permission from to make the decision?
12. Looking back, would you have made a different decision?
  - a. If so, can you tell me more about that?

#### **Stage Four**

13. For Stage Four, what were 2-3 of your key priorities? Or, in other words, what was front and center for you during this stage?
14. Can you tell me about 2-3 critical decision points OHA faced during this stage?
15. *<For each critical decision point listed by the interviewee>*  
Why did you make the decision you made?
  - a. What information or resources did you use to make this decision?
  - b. Who did you consult with to make this decision?
  - c. Who did you have to get permission from to make the decision?
16. Looking back, would you have made a different decision?
  - a. If so, can you tell me more about that?

#### **Pandemic Response**

17. Now, I will walk you through a list of factors that may or may not have affected OHA's pandemic response. This list was created based on responses from LPHA administrators.

*<Interviewer switch screen share to responses scale>*

Please rate each of these factors on a scale of 1-4, with 1 being "Not a challenge at all" and 4 being "This was a significant challenge that negatively affected OHA's ability to respond."

(Potentially rotate response)

1. Staffing surge capacity at OHA for the public health response
2. Challenges with data/or data infrastructure
3. Identifying and applying internal decision-making frameworks for centering equity in pandemic response (i.e., equity impacts of shut down orders)
4. Ineffective previously established collaborative relationships between elements of the overall public health system (local, state, community)
5. Ineffective previously established relationships with other state government agencies
6. Ineffective collaborative relationships within OHA
7. Administrative issues with receiving or distributing funding
8. Inconsistent guidance from federal government
9. Politicization of COVID-19 response
10. Balancing or prioritization of non-COVID-19 related public health issues
11. Ineffective communication and coordination systems internally or externally
12. Staff overall well-being (e.g., burnout, mental health, physical illness, threats)
13. Other (anything you thought was a major challenge that wasn't on this list): \_\_\_\_\_

*<For factors rated as a 4, probe>*

- Why was this factor challenging? and
- How did it affect the OHA's ability to respond?

18. [BADEN AND HARGUNANI ONLY] From your perspective, what role did CCO's play in the public health response to COVID?
19. What do you think is the biggest lesson learned from Oregon's public health system response to the COVID-19 pandemic?

## **Wrap up**

Those are all of the prepared questions we have for you.

20. What, if any, additional thoughts or comments, or recommendations would you'd like to share about the public health system's response to the COVID-19 pandemic?

## **Oregon Health Authority Staff + Managers**

### **Roles, responsibilities, decision making**

1. I would like to start by asking you to state your current role at the Oregon Health Authority and describe how you were involved in the COVID-19 public health system response.
  - a. Probe for
    - i. Level of decision making (specific to COVID-19 response)
2. How has your role changed throughout the stages of the COVID-19 pandemic?
  - a. PROBE for
    - Key responsibilities in addition to job titles
    - Date for which they started at the OHA (or phase)

### **Public health system response**

Next, I would like you to think about OHA's public health response to COVID-19 across the different stages of the pandemic.

3. As we stated earlier, the goal of this study is to assess Oregon's public health system response to the COVID-19 pandemic. How would you define "public health system response"?
  - a. Probe: What are key elements of Oregon's public health system response?
4. Can you walk us through one aspect of OHA's public health responses that you were involved in that you believe went well and another aspect of the response that did not work as well? Please do this for each stage of the pandemic that you were working in your current position.
  - a. PROMPT for walking interviewee through each stage and extracting one efficiency and one deficiency.

### **Funding**

Now, we are going to discuss pandemic-specific funding and use of funds. Again, if you are unable to speak to any of the questions from your personal involvement in Oregon's public health system response, please let us know and we will skip that question.

5. How did the allocation of federal funds through OHA support local and Tribal COVID-19 response activities?
6. What, if anything, stands out for you about the processes for providing funding to LPHAs and Tribes for COVID-19 response activities?
  - a. Probes: mechanisms for determining funding formulas and program elements, timelines for making funds available, disbursements, budget/reporting requirements, and flexibility within funding streams.
  - b. Probe for what worked well and areas of improvement

### **Emergency management**

Now, we would like to explore a little about emergency management coordination within the public health system, including distribution of PPE, where vaccines and testing were provided, and isolation and quarantine guidance.

7. In what ways did state and local emergency response coordinate with state and local public health authorities related to:
  - a. Personal protective equipment distribution?
  - b. Vaccine distribution and testing?
  - c. Public information dissemination?
8. How were different communities' needs taken into consideration for PPE distribution, vaccine distribution and testing, and public information dissemination?
  - a. Racial/ethnic, elderly and aging, sexual and gender minorities, people with disabilities, people experiencing mental health challenges or substance use disorders, people experiencing homelessness, rural, etc.
9. What worked well?
10. What statewide improvements in emergency management could be made?

### **Enforcement of public health measures**

Now we are going to move into a series of questions about the enforcement of public health requirements in response to COVID-19.

11. How was OHA involved in enforcement of the public health requirements you described above?

a. Probe:

i. How were decisions about enforcement of public health requirements made by OHA?

1. Probe: Shutdown order March 2020 - May 2020, masking, vaccinations for school attendance

ii. What was OHA's involvement in enforcing public health requirements?

12. What would you say was the biggest success regarding enforcement of public health requirements?

a. Probe for another success if it seems like they have another.

13. What do you think were the greatest challenges your division/department faced regarding implementing or enforcing public health protections?

### **Public Health Modernization**

Our next question is about public health modernization and the COVID-19 pandemic.

14. Can you describe ways that Oregon's Public Health Modernization initiatives affected the pandemic response, if at all?

### **Communications and messaging**

Next I'd like to turn to public health communication use during the COVID-19 pandemic.

15. In what ways did OHA's external COVID-19 related communication and messaging work or not work?

a. Probe for

i. Communication about statewide mandates

ii. Vaccine-specific communication

b. Probe:

i. Community needs

ii. Response gaps

iii. Tailoring of messaging to specific communities and dissemination channels (e.g., culturally-specific media)



16. In what ways could state communications be improved to increase adherence to statewide mandates and requirements?

### **Collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

17. Please describe how your division/department/unit collaborated with partners throughout the pandemic, including who your partners were, successes, and challenges?

- a. PROBE for partnerships with:
  - i. LPHAs
  - ii. Hospitals
  - iii. Long-term care facilities
  - iv. CBOs
  - v. Any additional public-private partnerships

### **Data**

We'd like to talk a little about epidemiological data for COVID. I just want to remind you that if you are unable to speak to any of the questions from your personal involvement in Oregon's public health system response, please let us know and we will skip that question.

18. Can you describe the preparedness of OHA's disease reporting databases and the extent to which these existing databases supported or hindered the public health system response to the COVID-19 pandemic?

19. What resources were available to help support and address state and local data and capacity issues?

- a. Probe for state, federal support

20. Can you describe how COVID-19 data were used to drive decision making about the public health response in Oregon?

- a. Probe for:
  - i. How did the use of epidemiological data for tracking and making decisions about COVID response work or not work?

21.What additional database specific resources are needed to ensure Oregon’s successful response to any future public health emergencies?

### **Overall response**

22.Can you describe one or two public health system response decisions you had to make that were particularly difficult?

23.Overall, what was your division/department/unit’s greatest challenge during responding to the pandemic?

24.Overall, what was your division/department/unit's greatest contribution to the pandemic response?

25.How do you think lessons learned from Oregon’s public health system response to COVID-19 can inform future response to public health emergencies?

### **Wrap up**

Those are all of the prepared questions we have for you.

26.Do you have any additional thoughts or recommendations you’d like to share about the public health system’s response to the COVID-19 pandemic?

# Occupational Safety and Health Administration

## Introductions

1. Let's start with your name(s) and current role in Oregon OSHA.

## Overall public health response

2. Next I'd like to ask you (*or both of you*) how you define the term "public health system response" as it relates to public health emergencies such as COVID-19?
  - a. Probe: What are key elements of Oregon's public health system response?

## Roles, responsibilities, decision making

3. Can you briefly describe how you were/are involved in the COVID-19 public health system response.
4. How is your agency typically involved in public health emergency response efforts?

**We recognize that the public health system response likely shifted across the span of the COVID-19 pandemic. For the purposes of this interview, we are going to be talking about the COVID-19 pandemic in stages.**

< SCREEN SHARE chronological stages graphic, walk through stages. Leave graphic up as screen share during full interview, share pdf in chat if requested by interviewee >

## COVID-19 Chronological Stages:

**Stage 1** - *March 2020 - November 2020*: outbreak, disease investigation, implementing public health protections (masking, distancing, shutdowns), preparing for vaccination

**Stage 2** - *December 2020 - August 2021*: vaccination, disease investigation, enforcing public health protections, and partial reopening

**Stage 3** - *September 2021 - February 2022*: vaccinations, reopening and dealing with variants

**Stage 4** - *March 2022 - Present June 2022*: total reopening, no public health protections, and changes in investigative guidelines

We will be referencing these stages during our conversation today. When answering a question, you do not need to worry so much about the exact months but rather, use these stages as a general guideline to reference responses in different periods. In addition, when answering questions here today, please only discuss the stages when you were at the Oregon OSHA and working on the pandemic response.

5. For each stage, can you walk me through the main bodies of work you were involved in personally?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of their key activities in that stage

### **Emergency management**

6. Was Oregon OSHA involved in the distribution of personal protective equipment?
  - a. [IF yes] Can you describe any barriers or challenges you encountered in operationalizing PPE distribution?
  - b. Can you describe things that went well with PPE distribution?
7. Was Oregon OSHA involved in supporting vaccination efforts in stages 2-4?
  - a. [IF yes] What worked well?
8. From your perspective, what statewide improvements in emergency management could be made?

### **Implementations and Enforcement of public health measures**

Now we are going to move into a series of questions about the implementation of public health requirements in response to COVID-19.

9. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about Oregon OSHA's role in **implementing** the public health requirements?
  - a. Probe: Shutdown order, masking, social gatherings, requirements for workplaces, physical distancing requirements, providing a safe workplace, employee testing, requirements for vaccinations in the workplace, and isolation and quarantine measures, etc.
  - b. [IF they had a role] Can you describe any challenges or barriers you encountered in implementing public health protection requirements?

- c. [IF they had a role] Can you describe any facilitators or activities you did that were effective to implement public health protection requirements?
- 10. What was Oregon OSHA's role in **enforcing** the public health protection requirements?
  - a. [IF they had a role] Can you describe any challenges or barriers you encountered in enforcing public health protection requirements?
  - b. [IF they had a role] Can you describe any facilitators or effective activities you experienced in enforcing public health protection requirements?
- 11. How did you work/partner with employers to implement and/or enforce public health workforce guidance and/or requirements?
- 12. In what ways could the system be improved to increase adherence to statewide mandates and requirements?
  - a. Probe: In what ways were communications related to statewide mandates and requirements sufficient or deficient?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

- 13. Please describe how Oregon OSHA coordinated and collaborated with partners throughout the pandemic, including who your partners were, and what worked well and didn't work well?
  - a. PROBE for partnerships with:
    - i. OHA
    - ii. County governments
    - iii. Tribal governments
    - iv. OEM
    - v. CBOs

### **Overall response**

- 14. Overall, what was your agency's greatest challenge during responding to the pandemic?
- 15. Overall, what was your agency's greatest contribution to the pandemic response?
- 16. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

## **Wrap up**

Those are all the prepared questions we have for you.

17. Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

## Professional Associations

### Introductions

1. Let's start with your name(s) and current role or job title(s) in [ organization name ].

### Overall public health response

2. Next I'd like to ask you (*or both of you*) how you define the term "public health system response" as it relates to public health emergencies such as COVID-19?
  - a. Probe: What are key elements of Oregon's public health system response to the COVID-19 pandemic?

### Roles, responsibilities, decision making

3. Can you briefly describe how you were/are involved in the COVID-19 public health system response.
4. How is [organization name] typically involved in public health emergency response efforts?
5. For each stage, can you walk me through the main bodies of work you were involved in personally?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of their key activities in that stage.

### Funding

Now, we are going to discuss the utilization of pandemic-specific funding such as CARES 2020/2021 and ARPA in Oregon

6. Did your organization or your members receive funding for pandemic response from any source(s)?
  - a. IF YES, can you elaborate on how you or your members used funding for public health response? Feel free to refer to the stages graphic.
7. What, if anything, stands out for you about the processes for receiving funding from OHA for your agency?

- a. Probes: mechanisms for determining funding formulas and program elements, timelines for making funds available, disbursements, budget/reporting requirements, and flexibility within funding streams.
- b. Probe for what worked well and areas of improvement
- c. What resources might be needed to better implement investments during a significant emergency response

### **Emergency management**

- 8. In what ways, if any, was [agency name] or your members involved in the distribution of personal protective equipment?
  - a. Can you describe any barriers or challenges you encountered in operationalizing PPE distribution?
  - b. Can you describe things that went well with PPE distribution?
- 9. In what ways, if any, was [agency name] or your members involved in supporting vaccination efforts in stages 2-4?
  - a. What worked well?
  - b. What did not work well?
- 10. From your perspective, what statewide improvements in emergency management could be made?

### **Implementation and enforcement of public health measures**

Now we are going to move into a series of questions about the implementation of public health requirements in response to COVID-19.

- 11. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about your agency's role in **implementing** the public health requirements?
  - a. Probe: Such as with the shutdown order in March 2020, masking requirements, etc.
  - b. [IF they had a role] Can you describe any challenges or barriers you encountered in implementing public health protection requirements?
  - c. [IF they had a role] Can you describe any facilitators or activities you did that were effective to implement public health protection requirements?



12. What was your agency's role in **enforcing** the public health protection requirements?
- a. [IF they had a role] Can you describe any challenges or barriers you encountered in enforcing public health protection requirements?
  - b. [IF they had a role] Can you describe any facilitators or effective activities you experienced in enforcing public health protection requirements?
13. In what ways could the system be improved to increase adherence to statewide mandates and requirements?
- a. Probe: In what ways were communications related to statewide mandates and requirements sufficient or deficient?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

14. Please describe how [agency name] coordinated and collaborated with partners throughout the pandemic, including who your partners were, and what worked well and didn't work well?
- a. PROBE for partnerships with:
    - i. OHA
    - ii. County governments
    - iii. City governments
    - iv. Tribal governments
    - v. OEM
    - vi. CBOs

### **Communication**

15. How was your agency involved in communicating about COVID-19 with key audiences?
- a. PROBE for communications about various topics
    - i. What about communicating with audiences about pandemic-related restrictions?
    - ii. What about communicating with audiences about vaccines?
    - iii. What about communicating with the public about general precautions related to containing disease transmission?

16.What changes should Oregon consider related to messaging or delivering communications about masking and distancing restrictions?

### **Overall response**

17.Overall, what was your agency's greatest challenge during responding to the pandemic?

18.Overall, what was your agency's greatest contribution to the pandemic response?

19.How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

### **Wrap up**

Those are all the prepared questions we have for you.

20.Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

## Public Health Advisory Board

### Roles, responsibilities, decision making

1. Can you please state your current role on the Public Health Advisory Board and how long you have been a part of the PHAB.
2. Looking at the COVID-19 stages, can you please describe the roles and responsibilities of the PHAB for each stage.
  - a. Potential probes: Advising OHA on: funding models, vaccination planning and delivery, equity response
3. How well do you think PHAB did at performing its functions during the pandemic?
4. Can you remember any specific COVID-19 related policies that PHAB considered during the pandemic?
5. How effective were policy-level discussions? Did you feel like you had the information, the time, the structures, and support you needed to be able to provide advice and make recommendations?

### Governmental public health response

Now we'd like to talk with you a little about the public health response by government agencies. As you may know, the main actors in the governmental public health system in Oregon include the Oregon Health Authority, County Health Departments, and Tribal Health Organizations.

6. From your experience, were there aspects of the pandemic response that were handled well by governmental public health?
  - a. Can you elaborate on any experiences where the governmental public health system demonstrated specific strengths?
7. Now, looking at areas for improvement, from your experience, were there aspects of the pandemic response that were handled poorly by governmental public health?
  - a. Can you elaborate on any experiences where the governmental public health system demonstrated specific weaknesses?

### Public Health Modernization

Turning to the topic of public health modernization and the COVID-19 pandemic.

8. How does, if at all, the pandemic experience inform the future of Oregon's Public Health Modernization framework?

### **Communications and messaging**

Next, I'd like to turn to the topic of public health communication use during the COVID-19 pandemic.

9. In what ways did COVID-19 related communication and messaging work or not work?
  - a. Probe for community needs, response gaps, tailoring of messaging to specific communities, disseminated in culturally-specific media
  - b. Probe for
    - i. communication about statewide mandates
    - ii. vaccine-specific communication
    - iii. Local requirements
    - iv. In what ways could state and local communications be improved to increase compliance with statewide requirements?

### **Overall response**

10. Overall, what was PHAB's greatest challenge during responding to the pandemic?
11. Overall, what was PHAB's greatest contribution to the pandemic response?
12. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

### **Wrap up**

Those are all the prepared questions we have for you.

13. Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

## State/Government Agencies

### Introductions

1. Let's start with your name(s) and current role in [ organization name ].

### Overall public health response

2. Next I'd like to ask you (*or both of you*) how you define the term "public health system response" as it relates to public health emergencies such as COVID-19??
  - a. Probe: What are key elements of Oregon's public health system response?

### Roles, responsibilities, decision making

3. Can you briefly describe how you were/are involved in the COVID-19 public health system response.
4. How is your agency typically involved in public health emergency response efforts?

**We recognize that the public health system response likely shifted across the span of the COVID-19 pandemic. For the purposes of this interview, we are going to be talking about the COVID-19 pandemic in stages.**

< SCREEN SHARE chronological stages graphic, walk through stages. Leave graphic up as screen share during full interview, share pdf in chat if requested by interviewee >

### COVID-19 Chronological Stages:

**Stage 1** - *March 2020 - November 2020*: outbreak, disease investigation, implementing public health protections (masking, distancing, shutdowns), preparing for vaccination

**Stage 2** - *December 2020 - August 2021*: vaccination, disease investigation, enforcing public health protections, and partial reopening

**Stage 3** - *September 2021 - February 2022*: vaccinations, reopening and dealing with variants

**Stage 4** - *March 2022 - Present June 2022*: total reopening, no public health protections, and changes in investigative guidelines

We will be referencing these stages during our conversation today. When answering a question, you do not need to worry so much about the exact months but rather, use these stages as a general guideline to reference responses in different periods. In

addition, when answering questions here today, please only discuss the stages when you were at the [agency name] and working on the pandemic response.

5. For each stage, can you walk me through the main bodies of work you were involved in personally?
  - a. PROMPT for walking interviewee through each stage to elicit explanation of their key activities in that stage

### Emergency management

6. Was [agency name] involved in the distribution of personal protective equipment?
  - a. [IF yes] Can you describe any barriers or challenges you encountered in operationalizing PPE distribution?
  - b. Can you describe things that went well with PPE distribution?
7. Was [agency name] involved in supporting vaccination efforts in stages 2-4?
  - a. [IF yes] What worked well?
8. From your perspective, what statewide improvements in emergency management could be made?

### Implementations and Enforcement of public health measures

Now we are going to move into a series of questions about the implementation of public health requirements in response to COVID-19.

9. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about [agency name's] role in **implementing** the public health requirements?
  - a. Probe: Shutdown order, masking, social gatherings, etc.
  - b. [IF they had a role] Can you describe any challenges or barriers you encountered in implementing public health protection requirements?
  - c. [IF they had a role] Can you describe any facilitators or activities you did that were effective to implement public health protection requirements?
10. What was [agency name's] role in **enforcing** the public health protection requirements?

- a. [IF they had a role] Can you describe any challenges or barriers you encountered in enforcing public health protection requirements?
  - b. [IF they had a role] Can you describe any facilitators or effective activities you experienced in enforcing public health protection requirements?
11. In what ways could the system be improved to increase adherence to statewide mandates and requirements?
- a. Probe: In what ways were communications related to statewide mandates and requirements sufficient or deficient?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

12. Please describe how [agency name] coordinated and collaborated with partners throughout the pandemic, including who your partners were, and what worked well and didn't work well?
- a. PROBE for partnerships with:
    - i. OHA
    - ii. County governments
    - iii. Tribal governments
    - iv. OEM
    - v. CBOs

### **Overall response**

13. Overall, what was your agency's greatest challenge during responding to the pandemic?
14. Overall, what was your agency's greatest contribution to the pandemic response?
15. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies?

### **Wrap up**

Those are all the prepared questions we have for you.

16. Do you have any additional thoughts or recommendations you'd like to share about the public health system's response to the COVID-19 pandemic?

## **Tribal Nations**

### **Roles, responsibilities, decision making**

1. Can you please state your current role and describe how you were involved in the COVID-19 public health system response.
2. Looking at the COVID-19 stages, how has your role changed throughout the COVID-19 pandemic?
  - a. PROBE for
    - Key responsibilities in addition to job titles
    - Date (or phase) for which they started at their role

### **Overall public health response**

Next, I would like you to think about your Tribe's public health response across the different stages.

3. As we stated earlier, the goal of this study is to assess Oregon's public health system response to the COVID-19 pandemic. How would you define "public health system response"?
  - a. Probe: What are key elements of Oregon's public health system response?
4. For each stage, can you walk us through one aspect of the response that your Tribe performed well and another aspect of the response that did not work as well?
  - a. PROMPT for walking interviewee through each stage and extracting one efficiency and one deficiency.
5. In what ways did being a sovereign nation impact public health requirements and the pandemic response in your Tribal community, if any?

### **Funding:**

Now, we are going to discuss pandemic-specific funding to Oregon Tribes and use of funds.



6. How was COVID-19 funding for Tribes linked to the public health response in your community?
  - a. Probe for how this funding helped to fill pandemic response gaps in the community
7. What, if anything, stands out for you about the processes for receiving COVID-19 specific funding for your Tribe?
  - a. Probes: mechanisms for determining funding formulas and program elements, timelines for making funds available, disbursements, budget/reporting requirements, and flexibility within funding streams
  - b. Probe for what worked well and areas of improvement

### **Emergency management:**

The next few questions are about emergency management coordination within the public health system, including distribution of PPE, where vaccines and testing were provided, and isolation and quarantine guidance.

8. In what ways did Tribal, state, and local emergency response coordinate with your Tribe related to:
  - a. Personal protective equipment distribution?
  - b. Vaccine distribution and testing?
  - c. Getting COVID information to the community?
9. How were the needs of your community taken into consideration for PPE distribution, vaccine distribution and testing, and getting COVID information to the community?
10. What worked well?
11. What statewide improvements in emergency management could be made to better prepare Oregon's public health response?

### **Enforcement of public health measures:**

Now we are going to move into a series of questions about the enforcement of public health requirements in response to COVID-19.

12. Oregon's public health system response to the pandemic included many public health requirements. Can you tell us about public health requirements, if any, that were implemented by your Tribe across the stages of the pandemic?
- a. Probe: Shutdown order March 2020 - May 2020, masking, vaccinations for school attendance
13. How was your Tribe involved in enforcement of the public health requirements you described above?
14. In regards to implementing and enforcing public health protections, what would you say was the biggest success of your Tribe?
- a. Probe for another success if it seems like they have another.
15. What were the greatest challenges your Tribe faced related to implementing or enforcing public health protections?

### **Communications and messaging:**

Next I'd like to turn to the topic of public health communication during the COVID-19 pandemic.

16. In what ways did COVID-19 related communication and messaging work or not work?
- a. Probe for community needs, response gaps, tailoring of messaging to specific communities, disseminated in culturally-specific media
  - b. Probe for
    - i. communication about statewide mandates
    - ii. vaccine-specific communication
    - iii. Local requirements
17. In what ways could communications be improved to increase adherence to statewide mandates and requirements in your community?

### **Epidemiological data:**

The next question is focused on data.

18. How did your Tribe use epidemiological data or databases to support COVID response?

- a. Probe: What support(s) from outside entities did your Tribe receive for finding, accessing, or using epidemiological data for COVID response in your community?

### **Public health response system collaboration and coordination**

Now, we are going to discuss collaboration within the public health system response.

19. Please describe how your Tribe coordinated and collaborated with partners throughout the pandemic, including who your partners were, and what worked well and didn't work well?

- a. PROBE for partnerships with:
  - i. LPHAs
  - ii. OHA
  - iii. Hospitals
  - iv. Long-term care facilities
  - v. Schools
  - vi. CBOs

### **Overall response:**

- 20. Can you describe one or two public health system response decisions you had to make that were particularly difficult?
- 21. Overall, what was your Tribe's greatest challenge during responding to the pandemic?
- 22. Overall, what was your Tribe's greatest contribution to the pandemic response?
- 23. How do you think lessons learned from Oregon's public health system response to COVID-19 can inform future response to public health emergencies at a local level?

### **Wrap up:**

Those are all the prepared questions we have for you.

- 24. Do you have any additional thoughts or recommendations you'd like to share about the public health system response to the COVID-19 pandemic?

# **Tribal Organizations**

## **Organizational Roles**

1. Can you please share a little about your organization and what your role is?
2. Can you please describe how you and your organization have been involved in COVID-19 response?
3. How has your organization's role changed during the pandemic, if at all?
  - a. What did it take for your organization to shift focus and roles to meet the urgent needs during the pandemic?
  - b. In what ways did this role and/or service address gaps in the services needed for your community?
  - c. Why was taking this role and offering these services important?

## **Supports**

4. What types of resources did your organization receive during the COVID-19 pandemic?
  - a. Prompts: Funding, Data, Staffing, Other (mental/spiritual health)
  - b. How were these resources helpful or unhelpful?
  - c. How did these resources impact your ability to meet community needs?
5. What types of organizations or agencies did you receive support from?
  - a. Prompts: state, county public health, other community based organizations
  - b. What about this support was helpful?
  - c. What about this support was unhelpful?

## **Challenges**

6. What were the organizational challenges of offering these services?
  - a. How did your organization overcome or go around these challenges?
  - b. In what ways did these challenges hinder, stop, or burden your organization's ability to respond to COVID?

- i. What is the impact these challenges had on safeguarding your community and staff-team?
- ii. Do these challenges still exist and how do they have implications for responding to future crises?
- iii. How can these challenges be addressed for future planning for crisis response?

### **Partnerships**

- 7. Can you please describe any new partnerships that you have built due to your role during the pandemic.
  - a. What types of activities or services did you collaborate on with these partners?

### **Communications and messaging**

I would like to shift to talk a little about communications provided by the Oregon Health Authority about COVID-19 throughout the pandemic.

- 8. In what ways did COVID-19 related communication and messaging from the state work or not work for your community?
  - a. Probe for community needs, response gaps, tailoring of messaging to specific communities, disseminated in culturally-specific media

### **Wrap up**

- 9. What do you think was your organization's greatest contribution to the public health response to COVID-19?
- 10. What would you tell the Oregon state legislators about any changes, policies, practices, and/or funding needed to be in place now to prepare us for safeguarding the people in ongoing COVID-19, and other public health crises?
- 11. Do you have any final thoughts or recommendations you'd like to share with us today?

## Appendix E: Qualitative Focus Group Guides

[Appendix E: Qualitative Focus Group Guides](#)

[City, County, and Tribal Emergency Management](#)

[Community-based Organizations](#)

[Tribal Organizations](#)

## City, County, and Tribal Emergency Management

1. To start, please introduce yourself using your first name and pronouns if you would like.
2. Can you please share, at a high level, what your role is/was in responding to the COVID-19 pandemic.
3. How were command structures for Emergency Management and Public Health initially set up in your jurisdiction?
  - a. Did you establish a unified command structure with Public Health?
  - b. Probe: How did these structures change as the pandemic continued?
  - c. What were the challenges? What worked well?
4. How did your local emergency management program/office coordinate with tribal and local public health authorities for **information sharing**?
  - a. What were the challenges? What worked well?
5. In what ways did your local emergency management program/office coordinate with or provide support to tribal and local public health authorities for **public information dissemination**?
  - a. What were the challenges? What worked well?
6. In what ways did your local emergency management program/office coordinate with or provide support to tribal and local public health authorities in the **distribution of personal protective equipment**?
  - a. What were the challenges? What worked well?
7. In what ways did your local emergency management program/office coordinate with or provide support to tribal and local public health authorities for **distributing and administering vaccines**?
  - a. What were the challenges? What worked well?

8. How were equity officers/managers integrated into the incident command structure?
- a. If they were not integrated, how was the issue of equity and access for specific populations addressed?
  - b. What were the challenges? What worked well?
9. Can you tell us about your EM office/program's role in **implementing** public health protection requirements?
- a. Probe: Shutdown orders, masking, public gathering restrictions, isolation and quarantine, etc.
10. What was your EM office/program's role in **enforcing** public health protection requirements?
- a. Probe: Shutdown orders, masking, public gathering restrictions, isolation and quarantine, etc.
11. Overall, what was your agency's greatest challenge during responding to the pandemic?
12. Overall, what was your EM office/program's greatest contribution to the public health response to COVID-19?
13. Do you have any final thoughts you'd like to share with us today?



## Community-based Organizations

1. To start, please introduce yourself using your first name, pronouns if you would like, and tell us the organization you represent and the populations served by your organization.

*Facilitator and notetaker start.*

2. Can you please describe your organization's role in supporting the public health response to the COVID-19 pandemic?
3. How has your organization's role in Oregon's COVID-19 response changed during the pandemic, if at all?
4. What types of resources did your organization receive to support the community your organization served during the COVID-19 pandemic?
  - a. Prompt for:
    - i. Resources from government agencies
    - ii. Resources from other community organizations
    - iii. Resources from health care organizations
5. Please describe any new partnerships that your organization has built during the pandemic.
6. What challenges has your organization experienced related to your work on the public health response to COVID-19?
7. What was your organization's greatest contribution to the public health response to COVID-19?

*If needed:* Public health response includes how CBOs, Tribes, government organizations like OHA, and others across Oregon worked on the COVID-19 pandemic.

8. What strategies or approaches did your CBO use that were successful in improving adherence to public health mandates in the community your CBO serves?
  - a. Probe for: What strategies or approaches do you think could have improved adherence in the community your CBO serves to public health mandates intended to slow the transmission of COVID-19?
9. What do you think could have improved the roll out of COVID-19 vaccinations in the community your CBO serves?
10. What do you think could have increased the number of people getting the COVID-19 vaccinations in the community your CBO serves?
11. If you could share one thing with Oregon state legislators about your experience in supporting the community your CBO serves through the pandemic, what would that be?
12. Do you have any final thoughts you'd like to share with us today?

# Tribal Organizations

## INTRODUCTION

1. Please use the chat function to include your name, tribe, pronouns, and the organization you represent and one thing you're looking forward to.

## THEME: **Organizational Response to COVID-19**

2. What **was the role** of your organization?
  - a. How has your organization's role changed during the pandemic, if at all?
  - b. What did it take for your organization to shift focus and roles to meet the urgent needs during the pandemic?
  - c. In what ways did this role and/or service address gaps in the services needed for your community?
  - d. Why was taking this role and offering these services important?

## THEME: **Resources and Challenges for COVID-19 Response (organizational/individual)**

### Supports

3. What types of resources did your organization receive or not receive during the COVID-19 pandemic? Please share about them and how they were helpful or unhelpful – and the implication to meeting community needs.
  - a. In what ways did entities like the state or county public health support your organization to offer these services?
  - b. What about this support was helpful?
  - c. What about this support was unhelpful
    - i. Funding
    - ii. Data
    - iii. Staffing
    - iv. Other (mental/spiritual health)

### Challenges

4. What were the **organizational challenges of offering these services**?
  - i. Funding
  - ii. Data
  - iii. Staffing
  - iv. Other
  - b. How did your organization overcome or go around these challenges?
  - c. In what ways did these challenges hinder, stop, or burden your organization's ability to respond to COVID?
    - i. What is the impact these challenges had on safeguarding your community and staff-team?
    - ii. Do these challenges still exist and how do they have implications for responding to future crises?
    - iii. How can these challenges be addressed for future planning for crisis response?
5. Can you please describe any new partnerships that you have built due to your role during the pandemic?
6. What was your organization's greatest contribution to the public health response to COVID-19?
7. What would you tell the Oregon state legislators the changes, policies, practices, funding needed to be in place now to prepare us for safeguarding the people in ongoing COVID, and public health crisis? What are the crises of today? What are the needs of tomorrow?
8. Do you have any final thoughts you'd like to share with us today?

## Appendix F: Survey Instruments

### Public Health Response to COVID-19 in Oregon - CBO Survey 2022

**Thank you for agreeing to complete this survey. Your responses are valuable to our understanding of the Oregon public health system's response to the COVID-19 pandemic. The purpose of this study is to identify lessons learned and recommendations for improvement in response to large-scale public health emergencies and public health system resiliency (the ability to recover from emergencies).**

**This survey contains questions related to funding, funding mechanisms, emergency management coordination, enforcement and compliance, data, health equity, public private partnerships, the public health workforce, and more.**

**We will not ask for any identifying information in the survey. Data collected will be reported in the aggregate, and responses to open ended questions may be quoted anonymously.**

**This survey will take approximately 30 minutes to complete. Please complete the survey by September 2, 2022. We understand that you may have not been working on COVID-19 response in your organization during the entire pandemic or may not be able to answer a particular question or set of questions due to your role in the COVID-19 response; we have incorporated response options to account for these circumstances. Please do your best to answer all the questions relevant to your time working on COVID-19 response and your role.**

**If you have any questions or difficulties accessing the survey, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co).**

\* 1. In which region of Oregon does your agency/organization provide services? (These regions are based on modified emergency response regions to include at least 5 counties per region)

- ☐ 1. Region 1: Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
- ☐ 2. Region 2: Benton, Lincoln, Linn, Marion, Polk, Yamhill
- ☐ 3. Region 3: Coos, Curry, Douglas, Jackson, Josephine, Lane
- ☐ 4. Region 4: Baker, Gilliam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco
- ☐ 5. Region 5: Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Wheeler

\* 2. How many employees are currently employed at your organization?

- ☐ Fewer than 10
- ☐ 10-24
- ☐ 25-49
- ☐ 50-99
- ☐ 100-249
- ☐ More than 250

\* 3. What is your role in your organization? (Please select all that apply)

- ☐ Executive director
- ☐ Finance director
- ☐ Program coordinator
- ☐ Other (please specify)

4. How long have you been in your current role?

- ☐ 6 months or longer
- ☐ Less than 6 months

Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 5. What was your previous role?

Public Health Response to COVID-19 in Oregon - CBO Survey 2022



\* 6. Looking at the pandemic stages graphic above, during which phases were you involved in COVID-19 response activities at your CBO? (Please select all that apply)

- ☐ Stage 1
- ☐ Stage 2
- ☐ Stage 3
- ☐ Stage 4
- ☐ All stages

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 7. Prior to the COVID-19 pandemic, did your CBO ever partner with Oregon Health Authority or a Local Public Health Authority/County Health Department to assist in emergency response?

- ☐ Yes
- ☐ No
- ☐ Unsure

\* 8. Prior to the COVID-19 pandemic, did your CBO ever provide public health resources or support?

- ☐ Yes
- ☐ No
- ☐ Unsure

\* 9. Based on your experience to date, how would you evaluate your CBO's overall level of preparedness to respond to the COVID-19 pandemic?

- ☐ Not at all prepared
- ☐ Minimally prepared
- ☐ Moderately prepared
- ☐ Highly prepared

\* 10. Please elaborate on why you selected your response to the question above.

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 11. Which of the following COVID-19 specific funding-related challenges did your CBO encounter? (Select all that apply)

- ☐ Lack of existing infrastructure for processing and administrative oversight of funds
- ☐ Challenges regarding allowable use of grant funds
- ☐ Learning new financial systems
- ☐ Spending money within the given time frame
- ☐ Other (please specify)

\* 12. For which of the following areas did your CBO use COVID-19 funding? (Select all that apply)

- ☐ COVID-19 response planning
- ☐ Contact tracing
- ☐ COVID-19 testing communications
- ☐ Personal Protective Equipment (PPE) distribution
- ☐ Vaccination clinics
- ☐ Addressing vaccine hesitancy
- ☐ Culturally-tailored, population-specific COVID-19 communications
- ☐ Translating federal, state or local COVID-19 communications (e.g., flyers, social media posts, videos, campaigns, etc.)
- ☐ Quarantine/isolation support
- ☐ Wraparound supports
- ☐ Securing other funding
- ☐ Hiring new staff
- ☐ Other (please specify)



\* 13. Which of the following, if any, were a barrier to efficient use of COVID-19 funds? (Select all that apply)

- ☐ The length of time it took to receive funds
- ☐ Frequency of receiving funds (e.g., every three months)
- ☐ Reporting requirements associated with the funding source
- ☐ Reimbursement structure or model of funding
- ☐ Spending requirements for funding source (e.g., could only spend money on specific items)
- ☐ Hiring new employees
- ☐ County-level administrative requirements
- ☐ None of these
- ☐ Other (please describe)

\* 14. Which of the following, if any, do you think are needed to lessen the burden for CBOs in managing monetary resources during a significant emergency response? (Select all that apply)

- ☐ Assistance with applying for additional funds
- ☐ Rapid timeline for making funds available
- ☐ Flexibility within funding streams for different program elements
- ☐ Streamlined reporting requirements
- ☐ Better advertisement/information sharing of available funding sources
- ☐ Other (please describe)



\* 15. During any of the stages, did your CBO worry if you would continue to have enough funds to support your community in managing the COVID-19 pandemic?

	Yes	No	Unsure	I was not working on COVID-19 response in my organization at this stage
Stage 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 16. What was the month your CBO began formal COVID-19 response? We want to know when your CBO began responding to COVID-19, regardless of funding status. Please provide the month and year.

\* 17. In which of the following ways did your CBO respond to the COVID-19 pandemic?

- ☐ Perform COVID-19 monitoring and contact tracing
- ☐ Facilitate distribution of PPE within the community
- ☐ Develop and conduct outreach strategies specific to the needs of your CBO priority populations
- ☐ Ensure access to accurate and timely COVID-19 information in multiple languages
- ☐ Provide feedback on ways to better serve community members
- ☐ Provide vaccination clinics within your local community
- ☐ Disseminate COVID-19 information to the community
- ☐ Provide wraparound services
- ☐ Other (please specify)

\* 18. Which of the following barriers, not related to funding, did your CBO experience during response to the COVID-19 pandemic?

- ☐ Lack of locally available PPE
- ☐ Difficulty onboarding new staff
- ☐ Creating scripts for contact tracing
- ☐ Lack of culturally-tailored communications, including language accessibility
- ☐ Other (please specify)

\* 19. Which of the following challenges hindered the effectiveness, scale, or quality of your CBO's COVID-19 response? (Select all that apply)

- ☐ Did not have enough staff
- ☐ Lack of adequate funding
- ☐ Lack of training on emergency response
- ☐ Lack of guidance from state government
- ☐ Inconsistent guidance from state government
- ☐ Lack of guidance from federal government
- ☐ Inconsistent guidance from federal government
- ☐ Other (please specify)

\* 20. Reflecting on OHA's response to the COVID-19 pandemic, how well do you believe OHA was able to:

	Poor	Fair	Good	Excellent
Perform tasks the public health system was expected to accomplish (the public health system is all public, private, and voluntary entities that contribute to the protection of the health of the population within a jurisdiction)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that necessary for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate response activities across the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

21. Did your CBO coordinate or provide vaccination clinic(s)?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 22. Which types of vaccination distribution methods did you use? (Select all that apply)

- ☐ Mobile vans
- ☐ Pop-up clinics
- ☐ Drive-thru clinics
- ☐ School-based vaccination sites
- ☐ Family vaccination clinics
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

23. Which of the following were helpful in increasing the number of people who received the COVID-19 vaccine?

- ☐ Mass vaccination clinics
- ☐ Community- or population-specific vaccine clinics
- ☐ Incentives for receiving vaccines (e.g. gift card)
- ☐ Culturally-tailored vaccine communications to the community
- ☐ Creating a sense of community responsibility
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

\* 24. Which of the following barriers did your CBO experience when supporting vaccination efforts in your community?

- ☐ Vaccine hesitancy (community confidence in vaccine)
- ☐ Vaccination eligibility schedule
- ☐ Challenges in coordinating vaccine clinics
- ☐ Staffing issues relating to vaccine distribution
- ☐ Lack of vaccine information in multiple languages
- ☐ Limited supply of vaccines
- ☐ Scheduling boosters
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)



\* 25. During any of the following stages, did your CBO receive technical assistance (TA) from any agencies/organizations to inform your COVID-19 response activities?

	No	Yes	My CBO was not involved in COVID-19 response during this stage	Don't know
Stage 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 26. Which agencies or organizations did you receive technical assistance (TA) from? (Select all that apply).

- ☐ Oregon Health Authority
- ☐ Local Public Health Authority/County Health Department
- ☐ Health Care Partner (e.g., hospital, clinic, etc.)
- ☐ Did not receive technical assistance
- ☐ Other (please specify)

\* 27. Which of the following supports would have been helpful for your CBO when first responding to the COVID-19 pandemic in your community?

- ☐ Dedicated staff contact at governmental partner organizations (e.g., LPHA, OHA) for my CBO
- ☐ COVID-19 communications in languages other than English (videos, flyers, scripts, etc.)
- ☐ Communication about and support applying for funding opportunities
- ☐ Other (please specify)

Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 28. Thinking about response to the COVID-19 pandemic, did your CBO have existing partnerships, develop new partnerships, or did not partner with the following organizations?

	Existing partnership	New partnership	Some existing and some new partnerships within this sector	Did not partner
Other community based organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - K-12 education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - Higher ed (college, university, trade schools)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health systems/Hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinated Care Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Public Health Authority/County Health Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long term care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oregon Health Authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tribes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
None of the above	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

The next several questions will ask you about how your CBO communicated about public health mandates with the public.

\* 29. In which of the following ways did your CBO provide COVID-19 information to the community?

- ☐ CBO website
- ☐ Pre-recorded informational videos or webinars
- ☐ Real-time (live) videos, webinars, or other type of informational session
- ☐ Fliers and pamphlets distributed in the community (on-site)
- ☐ Local news or radio stations
- ☐ Social media posts (e.g., Twitter, Instagram, Facebook)
- ☐ In-person events
- ☐ Telephone calls
- ☐ E-mails or text communications
- ☐ Churches or church-based event
- ☐ Other (please specify)

\* 30. When developing targeted public health messaging, how often did your CBO do the following:

	Always	Sometimes	Rarely	Never	Not applicable because we did not create targeted messaging
Make sure COVID-19 messaging was available in multiple languages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging was culturally appropriate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging met ADA standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging was written in plain language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop messaging aimed at restoring or promoting trust in the COVID-19 response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



\* 31. In which of the following languages did your CBO make COVID-19 messaging available?

(Select all that apply)

- ☐ English
- ☐ Spanish
- ☐ Chinese
- ☐ Vietnamese
- ☐ Korean
- ☐ Russian
- ☐ Tagalog
- ☐ American Sign Language (ASL)
- ☐ Not applicable because we did not create targeted messaging
- ☐ Other (please specify)

\* 32. What populations did your CBO prioritize for community- or population-specific COVID-19 messaging? (Select all that apply)

- ☐ Older adults
- ☐ Nursing home residents
- ☐ People with chronic medical conditions
- ☐ Low income individuals/families
- ☐ Children
- ☐ People with disabilities (e.g. physical, mental, emotional, cognitive, etc.)
- ☐ People with behavioral health conditions
- ☐ Racial/ethnic communities
- ☐ LGBTQ+
- ☐ Pregnant people
- ☐ Individuals/families experiencing homelessness
- ☐ None
- ☐ Other (please specify)

\* 33. Which racial/ethnic communities did you prioritize for culturally-specific COVID-19 messaging? (Select all that apply)

- ☐ Hispanic or Latino/a/x populations
- ☐ Arabic populations
- ☐ Chinese populations
- ☐ African American/Black populations
- ☐ Micronesian populations
- ☐ Pacific Islander populations
- ☐ Korean populations
- ☐ Russian populations
- ☐ Somali populations
- ☐ Vietnamese populations
- ☐ None
- ☐ Other (please specify)



34. For each stage, what were the biggest barriers for your CBO in disseminating COVID-19 information to the community?

Stage 1	<input type="text"/>
Stage 2	<input type="text"/>
Stage 3	<input type="text"/>
Stage 4	<input type="text"/>

\* 35. How did your CBO handle COVID-19 misinformation in the community?

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 36. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 1 (March - November 2020)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (Higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 37. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 2 (December 2020 - August 2021)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (Higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 38. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 3 (September 2021 - February 2022)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 39. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 4 (March - July 2022)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

\* 40. Which of the following do you think would have helped your CBO in a more effective response to the COVID-19 pandemic in your community?

- ☐ Existing contracts from OHA that could be activated in the event of a public health emergency
- ☐ Clearly defined roles and boundaries for response across CBOs
- ☐ Existing partnerships with other community, health care, and governmental organizations
- ☐ Other (please specify)

41. Do you have any final lessons learned about Oregon's public health response to the Covid-19 pandemic that you'd like to share?

## Public Health Response to COVID-19 in Oregon - CBO Survey 2022

Thank you for taking the time to complete this survey, we really appreciate your perspectives and feedback. Information you've provided will be included in up to three reports on Oregon's public health response to COVID-19 for the Oregon legislature (November 2022, April 2023, September 2023). If you have any additional thoughts or questions, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co). Thanks again!

## OR COVID-19 Response Study - CCO Survey 2022

**Thank you for agreeing to complete this survey. Your responses are valuable to our understanding of the Oregon public health system's response to the COVID-19 pandemic. The purpose of this study is to identify lessons learned and recommendations for improvement in response to large-scale public health emergencies and public health system resiliency (the ability to recover from emergencies).**

**This survey contains questions related to funding, funding mechanisms, emergency management coordination, enforcement and compliance, data, health equity, public private partnerships, the public health workforce, and more.**

**We will not ask for any identifying information in the survey. Data collected will be reported in the aggregate, and responses to open ended questions may be quoted anonymously.**

**This survey will take approximately 15 minutes to complete. Please complete the survey by September 2, 2022. We understand that you may have not been working on COVID-19 response in your organization during the entire pandemic or may not be able to answer a particular question or set of questions due to your role in the COVID-19 response; we have incorporated response options to account for these circumstances. Please do your best to answer all the questions relevant to your time working on COVID-19 response and your role. Please do not share this survey link with anyone else, but feel free to ask your colleagues for answers to these survey questions.**

**If you have any questions or difficulties accessing the survey, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co).**

## OR COVID-19 Response Study - CCO Survey 2022

**\* 1. In which region(s) of Oregon does your CCO provide services? (These regions are based on modified emergency response regions to include at least 5 counties per region)**

- ☐ Region 1: Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
- ☐ Region 2: Benton, Lincoln, Linn, Marion, Polk, Yamhill
- ☐ Region 3: Coos, Curry, Douglas, Jackson, Josephine, Lane
- ☐ Region 4: Baker, Gilliam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco
- ☐ Region 5: Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Wheeler

\* 2. What is your current role?

- ☐ President/Chief Executive Officer
- ☐ Chief Financial Officer
- ☐ Chief Operating Officer
- ☐ Chief Medical Director
- ☐ Other (please specify)

\* 3. How long have you been in your current role?

- ☐ 6 months or longer
- ☐ Less than 6 months

OR COVID-19 Response Study - CCO Survey 2022

Previous role

4. What was your previous role?

OR COVID-19 Response Study - CCO Survey 2022

Stages of COVID-19



\* 5. Based on the stages listed in the graphic, during which phases were you involved in COVID-19 response activities?

- ☐ Stage 1
- ☐ Stage 2
- ☐ Stage 3
- ☐ Stage 4
- ☐ All stages

## OR COVID-19 Response Study - CCO Survey 2022

### Preparedness

**The next several questions will ask about overall preparedness, capacity, and expertise to respond to the COVID-19 pandemic.**

\* 6. Prior to the COVID-19 pandemic, did your CCO ever partner with the Oregon Health Authority or a Local Public Health Authority/County Health Department to assist in emergency response?

- ☐ Yes
- ☐ No
- ☐ Unsure





\* 7. How would you evaluate your CCO's overall level of preparedness to respond to the COVID-19 pandemic at each stage?

	Not at all prepared	Minimally prepared	Moderately prepared	Highly prepared
Stage 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 8. Please elaborate on why you selected your response to the question above.

OR COVID-19 Response Study - CCO Survey 2022

\* 9. Reflecting on the Oregon Health Authority's response to the COVID-19 pandemic, how well do you believe OHA was able to:

	Poor	Fair	Good	Excellent
Perform tasks the public health system was expected to accomplish (the public health system is all public, private, and voluntary entities that contribute to the protection of the health of the population within a jurisdiction)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that are necessary for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform cooperative activities within the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 10. How would you rate each of the following aspects of Oregon's public health system response to COVID-19?

	Poor	Fair	Good	Excellent
Prioritization of health equity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 response planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribution of Personal Protective Equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Testing availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccination rollout and availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact tracing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data accessibility and availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff recruitment and hiring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public/private partnerships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quarantine/isolation facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wraparound supports during quarantine (rent, food, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## OR COVID-19 Response Study - CCO Survey 2022

### Vaccine

\* 11. Did your CCO coordinate or provide vaccination clinic(s)?

- ☐ Yes
- ☐ No
- ☐ Don't know

## OR COVID-19 Response Study - CCO Survey 2022

### Vaccine distribution

12. Which types of vaccination distribution methods did you use? (Select all that apply)

- ☐ Mobile Vans
- ☐ Pop-Up Clinics
- ☐ Drive-through clinics
- ☐ School-Based Vaccination Sites
- ☐ Family Vaccination Clinics
- ☐ Other (please specify)

OR COVID-19 Response Study - CCO Survey 2022

Partnerships

\* 13. How did your CCO partner with the following organizations or agencies as part of the COVID-19 response? (Select all that apply)

	Partnered for COVID-19 response planning	Partnered for COVID-19 testing sites	Partnered for PPE distribution	Partnered for vaccine clinics	Partnered for culturally-responsive, targeted health equity response	Partnered for community- or population-specific communications	Partnered for enforcement of public health mandates or requirements	Did not partner during pandemic response	I cannot answer; this was not included in my role in the Covid-19 response
Community Based Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - K-12 education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - Higher Ed (college, university, trade school)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospitals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long-term care facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tribes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Health Authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oregon Health Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

\* 14. Thinking about your COVID-19 response partners, did your CCO have existing partnerships, develop new partnerships, or not partner with the following organizations?

	Existing partnership	New partnership	Some new and some existing partnerships	Did not partner	I cannot answer; this was not included in my role in the Covid-19 response
Community Based Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - K-12 education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - Higher Ed (college, university, trade school)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long term care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tribes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Public Health Authorities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oregon Health Authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## OR COVID-19 Response Study - CCO Survey 2022

### COVID-19 Communications

\* 15. Which of the following mass-reach communication platforms did your CCO use to communicate COVID-19 information?

- ☐ CCO Website
- ☐ Local news stations
- ☐ Social media
- ☐ Radio stations
- ☐ Newspapers
- ☐ We did not use mass-reach communication platforms
- ☐ I cannot answer; this was not included in my role in the Covid-19 response
- ☐ Other (please specify)

\* 16. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 1 (March - November 2020)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 17. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 2 (December 2020 - August 2021)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

OR COVID-19 Response Study - CCO Survey 2022

\* 18. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 3 (September 2021 - February 2022)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 19. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 4 (March - July 2022)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes to investigative guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 20. Did your CCO develop and disseminate any COVID-19 public health messaging?

- ☐ Yes
- ☐ No
- ☐ Unsure

OR COVID-19 Response Study - CCO Survey 2022

Messaging



21. When developing targeted public health messaging, how often did your CCO do the following:

	Always	Sometimes	Rarely	Never
Make COVID-19 messaging available in multiple languages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging met ADA standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging was written in plain language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. In which of the following languages did your CCO make COVID-19 messaging available?

- ☐ English
- ☐ Spanish
- ☐ Arabic
- ☐ Simplified Chinese
- ☐ Traditional Chinese
- ☐ Chuukese
- ☐ Hmong
- ☐ Korean
- ☐ Russian
- ☐ Somali
- ☐ Vietnamese
- ☐ American Sign Language (ASL)
- ☐ Other (please specify)

23. What populations did your CCO prioritize for community- or population-specific COVID-19 messaging?

- ☐ Older adults
- ☐ Nursing home residents
- ☐ People with chronic medical conditions
- ☐ Low income individuals/families
- ☐ Children
- ☐ People with disabilities (e.g. physical, mental, emotional, cognitive, etc.)
- ☐ People with behavioral health conditions
- ☐ Racial/ethnic communities
- ☐ LGBTQ+
- ☐ Pregnant people
- ☐ Individuals/families experiencing homelessness
- ☐ Other (please specify)

- ☐ None of the above

24. Which racial/ethnic communities did your CCO prioritize for culturally-specific COVID-19 messaging?

- ☐ Hispanic/Latinx populations
- ☐ Arabic populations
- ☐ African American/Black populations
- ☐ Chinese populations
- ☐ Micronesian populations
- ☐ Pacific Islander populations
- ☐ Korean populations
- ☐ Russian populations
- ☐ Somali populations
- ☐ Vietnamese populations
- ☐ Other (please specify)

- ☐ None of the above

OR COVID-19 Response Study - CCO Survey 2022

Wrap up

25. Please share any additional thoughts on your experience of Oregon's response to the COVID-19 pandemic.



Thank you for taking the time to complete this survey, we really appreciate your perspectives and feedback. Information you've provided will be included in up to three reports on Oregon's public health response to Covid-19 for the Oregon legislature (November 2022, April 2023, and September 2023). If you have any additional thoughts or questions, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co). Thanks again!

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Survey Introduction

Thank you for agreeing to complete this survey. Your responses are valuable to our understanding of the Oregon public health system's response to the COVID-19 pandemic. The purpose of this study is to identify lessons learned and recommendations for improvement in response to large-scale public health emergencies and public health system resiliency (the ability to recover from emergencies).

This survey contains questions related to funding, funding mechanisms, emergency management coordination, data, health equity, public private partnerships, and more.

We will not ask for any identifying information in the survey. Data collected will be reported in the aggregate, and responses to open ended questions may be quoted anonymously.

This survey will take approximately 30 minutes to complete. **Please complete the survey by September 28, 2022.** There are a few open comments questions that are optional to complete if you would like to add additional details to your responses.

If you have any questions or difficulties accessing the survey, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co).

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

\* 1. In which region of Oregon does your Emergency Management office/program provide services? (These regions are based on modified emergency response regions to include at least 5 counties per region)

- ☐ Region 1: Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
- ☐ Region 2: Benton, Lincoln, Linn, Marion, Polk, Yamhill
- ☐ Region 3: Coos, Curry, Douglas, Jackson, Josephine, Lane
- ☐ Region 4: Baker, Gilliam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco
- ☐ Region 5: Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Wheeler

\* 2. What type of jurisdiction is your EM program/office a part of?

- ☐ City
- ☐ County
- ☐ Tribe
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Survey introduction

**Thank you for participating in our survey. Your feedback is important to our understanding of the Oregon public health system's response to the COVID-19 pandemic. The purpose of this study is to identify lessons learned and recommendations for improvement in response to large-scale public health emergencies and public health system resiliency (the ability to recover from emergencies).**

**This survey contains questions related to funding, funding mechanisms, emergency management coordination, enforcement and compliance, data, health equity, public private partnerships, the public health workforce, and more.**

**We will not ask for any identifying information in the survey. Data collected will be reported in the aggregate, and responses to open ended questions may be quoted anonymously.**

**This survey will take approximately 30-45 minutes to complete. Please complete the survey by September 2, 2022. We understand that you may have not been working on COVID-19 response in your organization during the entire pandemic or may not be able to answer a particular question or set of questions due to your role in the COVID-19 response; we have incorporated response options to account for these circumstances. Please do your best to answer all the questions relevant to your time working on COVID-19 response and your role.**

**If you have any questions or difficulties accessing the survey, please contact Elizabeth Pascal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co).**

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Demographics

\* 1. In which region of Oregon does your agency/organization provide services? (These regions are based on modified emergency response regions to include at least 5 counties per region)

- ☐ Region 1: Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
- ☐ Region 2: Benton, Lincoln, Linn, Marion, Polk, Yamhill
- ☐ Region 3: Coos, Curry, Douglas, Jackson, Josephine, Lane
- ☐ Region 4: Baker, Gilliam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco
- ☐ Region 5: Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Wheeler

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

**Thank you for agreeing to complete this survey. Your responses are valuable to our understanding of the Oregon public health system's response to the COVID-19 pandemic. The purpose of this study is to identify lessons learned and recommendations for improvement in response to large-scale public health emergencies and public health system resiliency (the ability to recover from emergencies).**

**This survey contains questions related to funding, funding mechanisms, emergency management coordination, enforcement and compliance, data, health equity, public private partnerships, the public health workforce, and more.**

**We will not ask for any identifying information in the survey. Data collected will be reported in the aggregate, and responses to open ended questions may be quoted anonymously.**

**This survey will take approximately 30-45 minutes to complete. Please complete the survey by September 2, 2022. We understand that you may have not been working on COVID-19 response at your Tribe during the entire pandemic or may not be able to answer a particular question or set of questions due to your role in the COVID-19 response; we have incorporated response options to account for these circumstances. Please do your best to answer all the questions relevant to your time working on COVID-19 response and your role.**

**If you have any questions or difficulties accessing the survey, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co).**

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

### Demographic questions

**\* 1. In which region of Oregon is your Tribe located? (These regions are based on modified emergency response regions to include at least 5 counties per region)**

- ☐ Region 1: Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
- ☐ Region 2: Benton, Lincoln, Linn, Marion, Polk, Yamhill
- ☐ Region 3: Coos, Curry, Douglas, Jackson, Josephine, Lane
- ☐ Region 4: Baker, Gilliam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, Wasco
- ☐ Region 5: Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Wheeler

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

## Role

\* 2. What is your role?

- ☐ Health Administrator
- ☐ Member of Tribal COVID-19 Response Team
- ☐ Other (please specify)

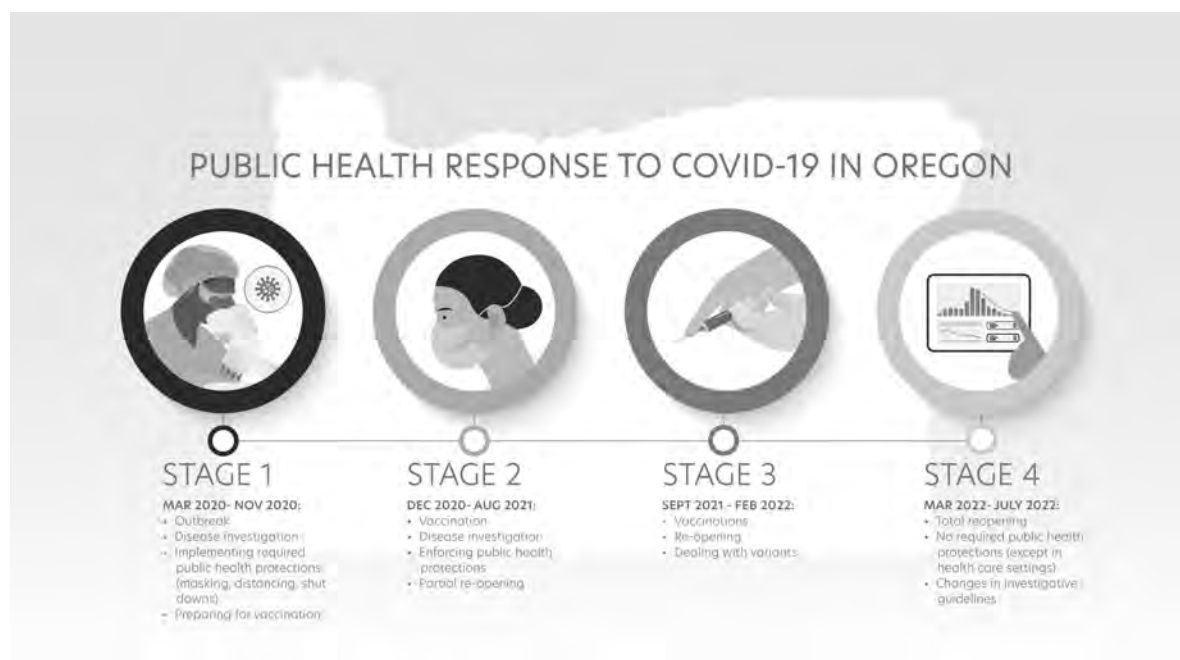
\* 3. How long have you been in your current role?

- ☐ 6 months or longer
- ☐ Less than 6 months

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

4. What was your previous role?

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022



\* 5. Looking at the pandemic stages graphic, during which stages were you involved in COVID-19 response activities at your Tribe? (Please select all that apply)

- ☐ Stage 1
- ☐ Stage 2
- ☐ Stage 3
- ☐ Stage 4
- ☐ All stages

### Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

**The next several questions will ask about overall preparedness, capacity, and expertise to respond to the COVID-19 pandemic.**

\* 6. Based on your experience to date, how would you evaluate your Tribe's overall level of emergency preparedness to respond to the COVID-19 pandemic?

- ☐ Not at all prepared
- ☐ Minimally prepared
- ☐ Moderately prepared
- ☐ Highly prepared

\* 7. Please elaborate on why you selected your response to the question above.

\* 8. Thinking about when you first began working on COVID-19, how would you rate your individual level of emergency preparedness to respond to the pandemic (e.g., knowledge, training, experience, expertise)?

- ☐ Not at all prepared
- ☐ Minimally prepared
- ☐ Moderately prepared
- ☐ Highly prepared

\* 9. Please elaborate on why you selected your response to the question above.



\* 10. Which of the following best describes an emergency response plan for your Tribe?

- ☐ We had a plan that was developed or updated prior to the start of the COVID-19 pandemic
- ☐ We had a plan that was outdated that was updated after the start of the pandemic
- ☐ We did not have a plan at the start of the pandemic, but developed one after the start of the COVID-19 pandemic
- ☐ We do not have a plan
- ☐ I don't know

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

**The next several questions will ask about your Tribe's response the COVID-19 pandemic.**

\* 11. When did your Tribe begin a formal COVID-19 response?

- ☐ Date of Oregon's emergency declaration
- ☐ Date of first COVID-19 case in Tribe
- ☐ Date of federal emergency declaration
- ☐ Other (please specify)



\* 12. For **Stage 1 (March - November 2020)**, state whether your Tribe reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response at this stage	I cannot answer; this was not included in my role
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 13. For **Stage 2 (December 2020 - August 2021)**, state whether your Tribe reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response at this stage	I cannot answer; this was not included in my role
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



\* 14. For **Stage 3 (September 2021 - February 2022)**, state whether your Tribe reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response at this stage	I cannot answer; this was not included in my role
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 15. For **Stage 4 (March - July 2022)**, state whether your Tribe reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response at this stage	I cannot answer; this was not included in my role
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

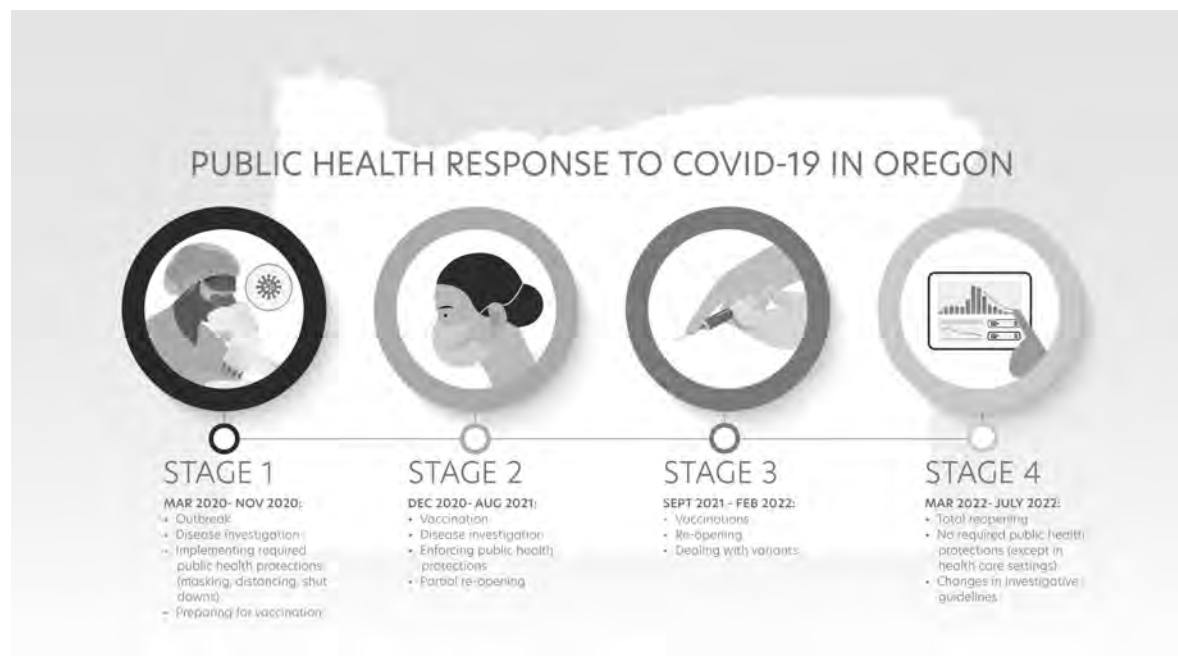
## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

\* 16. Which of the following challenges hindered the effectiveness, scale, or quality of your Tribe's COVID-19 response? (Select all that apply)

- ☐ Did not have enough staff
- ☐ Lack of adequate funding
- ☐ Lack of training in emergency preparedness
- ☐ Lack of assistance from state government
- ☐ Inconsistent guidance from state government
- ☐ Lack of assistance from Indian Health Services
- ☐ Inconsistent guidance from Indian Health Services
- ☐ Not enough community partnerships (including health care and CBO partnerships)
- ☐ Burdensome reporting requirements
- ☐ Not applicable; My Tribe did not encounter any challenges
- ☐ Other (please specify)

\* 17. Reflecting back on your Tribe's response to the COVID-19 pandemic, how well do you believe you were able to:

	Poor	Fair	Good	Excellent
Perform tasks the public health system was expected to accomplish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that were necessary for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform cooperative activities within the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



\* 18. Overall, how would you rate your Tribe's response to the COVID-19 pandemic during each stage?

	Poor	Fair	Good	Excellent
Stage 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

\* 19. Reflecting on Oregon Health Authority's (OHA) response to the COVID-19 pandemic, how well do you believe OHA was able to:

	Poor	Fair	Good	Excellent
Perform tasks the public health system was expected to accomplish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that necessary were for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform cooperative activities within the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 20. Did your tribe work directly or indirectly with Indian Health Services in response to the COVID-19 pandemic?

- ☐ No
- ☐ Yes

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

21. Reflecting on the Indian Health Service's (IHS) response to the COVID-19 pandemic, how well do you believe IHS was able to:

	Poor	Fair	Good	Excellent	Unsure
Perform tasks the public health system was expected to accomplish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that necessary were for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perform cooperative activities within the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

### Funding

\* 22. Aside from COVID-19 funding dispersed by Oregon Health Authority, did your Tribe receive any additional COVID-19 specific funding?

- ☐ No
- ☐ Yes
- ☐ Don't know

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

\* 23. Aside from OHA, what other sources did your Tribe receive COVID-19 specific funding?  
(Select all that apply)

- ☐ Centers for Disease Control
- ☐ Federal Emergency Management Agency/US Government
- ☐ Indian Health Services
- ☐ Other (please specify)

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

\* 24. For each of the following statements about the total COVID-19 funding received by your Tribe, select which response option best suits you.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I cannot answer; this was not included in my role
My Tribe received adequate funding for COVID-19 case investigation and contact tracing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My Tribe received adequate funding for COVID-19 testing (e.g., planning, set-up, communications, running testing sites)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My Tribe received adequate funding for COVID-19 vaccination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 25. Reflecting specifically on the funding your Tribe received from the Oregon Health Authority: OHA equally split COVID-19 funds for Tribes across participating Tribes and NARA. Which of the following statements is true about the amount of funding your Tribe received based off of this funding model?

- ☐ My Tribe had more funding than we could spend to effectively respond to the COVID-19 pandemic
- ☐ My Tribe had just the right amount of funding to effectively respond to the COVID-19 pandemic
- ☐ My Tribe did not have enough funding to effectively respond to the COVID-19 pandemic
- ☐ I cannot answer; this was not included in my role



\* 26. Which of the following, if any, do you think are needed to assist Tribes in managing monetary resources during a significant emergency response? (Select all that apply)

- ☐ Different mechanisms for determining funding formulas
- ☐ Rapid timeline for making funds available
- ☐ Flexibility within funding streams for different program elements
- ☐ Streamlined reporting requirements
- ☐ None
- ☐ Other (please specify)

\* 27. Which of the following, if any, were a barrier to efficient use of COVID-19 funds? (Select all that apply)

- ☐ The length of time it took to receive funds
- ☐ Reporting requirements associated with the funding source
- ☐ Staff capacity to stand up and maintain programs with funding
- ☐ Administrative/contracting process requirements
- ☐ None of these
- ☐ Other (please describe)

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

Partnerships

\* 28. How did your Tribe partner with the following organizations or agencies as part of the COVID-19 response? (Select all that apply)

	Partnered for COVID-19 response planning	Partnered for COVID-19 testing sites	Partnered for PPE distribution	Partnered for vaccine clinics	Partnered for culturally-responsive health equity response	Partnered for community- or population-specific communications	Partnered for enforcement of public health mandates or requirements	Did not partner during pandemic response
Community Based Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - K-12 education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - Higher Ed (college, university, trade school)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health systems/Hospitals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordinated Care Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long term care facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Tribes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local Public Health Authority/County Health Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oregon Health Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indian Health Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Northwest Portland Area Indian Health Board	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jails/correctional facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

\* 29. Thinking about your COVID-19 response partners, did your Tribe have existing partnerships, develop new partnerships, or not partner with the following organizations?

	Existing partnership	New partnership	Some existing and some new partnerships within this sector	Did not partner
Community Based Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - K-12 education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - Higher Ed (college, university, trade school)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health systems/hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinated Care Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long-term care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Tribes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Public Health Authority/County Health Department	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oregon Health Authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Indian Health Services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Northwest Portland Area Indian Health Board	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jails/correctional facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

Data



\* 30. For each stage, did your Tribe have access to local epidemiological data necessary to guide decision making related to your Tribe's COVID-19 response?

	No	Yes	Unsure
Stage 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 31. Did your Tribe have the capacity to manage epidemiological data locally?

- ☐ No
- ☐ Yes
- ☐ Unsure/Don't know

\* 32. During which of the stages, if any, did any entity provide technical assistance to your Tribe to access, understand, or use COVID-19 epidemiological data? (Select all that apply)

- ☐ Stage 1
- ☐ Stage 2
- ☐ Stage 3
- ☐ Stage 4
- ☐ No technical assistance was provided at any time
- ☐ Unsure

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

### Technical assistance

33. Which entities provided technical assistance?

- ☐ Oregon Health Authority
- ☐ Local Public Health Authority/County Health Department
- ☐ Northwest Portland Area Indian Health Board/Northwest Tribal Epi Center
- ☐ Indian Health Services
- ☐ Other (please specify)

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

34. How many employees did your Tribe hire specifically to meet the needs of its COVID-19 response?

- ☐ None
- ☐ 1-5
- ☐ 6-10
- ☐ 11-25
- ☐ 26-50
- ☐ 51-75
- ☐ More than 75

\* 35. What types of employees did your Tribe hire specifically to meet the needs of COVID-19 response? (Select all that apply)

- ☐ Contact tracers
- ☐ Public information professionals
- ☐ Disease Investigator of Disease Intervention Specialist
- ☐ Clinical staff (e.g., nurses, healthcare provider, dentist)
- ☐ Epidemiologists
- ☐ Laboratory workers
- ☐ None
- ☐ Other (please specify)

\* 36. Did you experience any of the following difficulties with public health staff to support COVID-19:

	No	Yes	Don't know
Recruitment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Onboarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retention of staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 37. Did your Tribe have to reassign employees from their regular duties to support the COVID-19 response?

- ☐ No
- ☐ Yes
- ☐ Don't know

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

\* 38. From which role were these employees reassigned? (Select all that apply)

- ☐ Behavioral health (substance use/abuse and mental health)
- ☐ Tobacco, alcohol, or other drug prevention
- ☐ Diabetes screening and prevention work
- ☐ Obesity prevention
- ☐ Suicide prevention
- ☐ Peer-delivered services
- ☐ Housing
- ☐ Emergency services
- ☐ Self-sufficiency
- ☐ Child welfare
- ☐ Other (please specify)

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

### Vaccine

\* 39. Which of the following challenges did your Tribe face in regards to coordination and implementation of your vaccination plan?

- ☐ Financial reimbursement for costs associated with vaccine administration
- ☐ Vaccine storage issues (e.g., accessibility of storage facility, transportation, etc.)
- ☐ Vaccine supply
- ☐ Staffing issues relating to vaccine distribution
- ☐ Community confidence in vaccine or other issues
- ☐ None
- ☐ We did not have a vaccination plan
- ☐ Other (please specify)

\* 40. Did your Tribe coordinate or provide vaccination clinic(s)?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

\* 41. Which types of vaccination distribution methods did you use? (Select all that apply)

- ☐ Mobile Vans
- ☐ Pop-Up Clinics
- ☐ Drive-through clinics
- ☐ School-Based Vaccination Sites
- ☐ Family Vaccination Clinics
- ☐ Other (please specify)

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

### Public health requirements

\* 42. Which of the following public health requirements, if any, did your Tribe adopt?

- ☐ Masking in public spaces/workplaces
- ☐ Prohibiting public gathering (churches, community events, etc.)
- ☐ Prohibiting indoor dining
- ☐ Prohibiting in person attendance in schools
- ☐ Isolation and quarantine rules
- ☐ None; did not adopt any public health requirements
- ☐ I cannot answer; this was not included in my role
- ☐ Other (please describe)

\* 43. Did your Tribe enforce any of following public health requirements adopted by **your Tribe?**

- ☐ Masking in public spaces/workplaces
- ☐ Prohibiting public gathering (churches, community events)
- ☐ Prohibiting indoor dining
- ☐ Prohibiting in person attendance in schools
- ☐ Isolation and quarantine rules
- ☐ None of the above
- ☐ I cannot answer; this was not included in my role
- ☐ Other (please specify)

\* 44. Did your Tribe enforce any of following public health requirements enacted by **Oregon state or local county government?**

- ☐ Masking in public spaces/workplaces
- ☐ Prohibiting public gathering (churches, community events)
- ☐ Prohibiting indoor dining
- ☐ Prohibiting in person attendance in schools
- ☐ Isolation and quarantine rules
- ☐ None of the above
- ☐ I cannot answer; this was not included in my role
- ☐ Other (please specify)



\* 45. Which of the following strategies were most effective for your Tribe in enforcing public health mandates, such as stay-at-home orders and mask mandates?

- ☐ Population-specific messaging
- ☐ Community leaders as a spokespeople/modeling behavior
- ☐ Messaging about responsibility to community
- ☐ Criminal penalties
- ☐ Civil citations
- ☐ I cannot answer; this was not included in my role
- ☐ Other (please specify)

## Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

### COVID-19 communications

**The next several questions will ask you about how your Tribe communicated about public health mandates with the public.**

\* 46. Which of the following mass-reach communication platforms did your Tribe use to communicate COVID-19 information?

- ☐ Tribe's Website
- ☐ Local news stations
- ☐ Social media
- ☐ Radio stations
- ☐ Newspapers
- ☐ We did not share COVID-19 information over mass-media platforms
- ☐ Other (please specify)

\* 47. Reflecting on adherence to the public health protections in **Stage 1 (March - November 2020)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 48. Reflecting on adherence to the public health protections in **Stage 2 (December 2020 - August 2021)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 49. Reflecting on adherence to the public health protections in **Stage 3 (September 2021 - February 2022)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 50. Reflecting on adherence to the public health protections in **Stage 4 (March - July 2022)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes to investigative guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 51. When developing community-specific public health messaging, how often did your Tribe do the following:

	Always	Sometimes	Rarely	Never	We did not develop community-specific public health messaging
Make COVID-19 messaging available in multiple languages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging met ADA standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging was written in plain language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**During the COVID-19 pandemic, many Tribes were forced to suspend or alter foundational public health services to respond to the COVID-19 pandemic. The following questions will ask about how your Tribe changes existing services and programs during the COVID-19 response.**



\* 52. For each of the following services please state if your Tribe reduced or expanded services during **Stage 1 (March - November 2020)** of the pandemic.

	Reduced services	Expanded services	Services remained the same	Tribe doesn't provide these services
Behavioral health (substance use/abuse and mental health)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer-delivered services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-sufficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child welfare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

\* 53. For each of the following services please state if your Tribe reduced or expanded services during **Stage 2 (December 2020 - August 2021)** of the pandemic.

	Reduced services	Expanded services	Services remained the same	Tribe doesn't provide these services	
Behavioral health (substance use/abuse and mental health)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer-delivered services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-sufficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child welfare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

\* 54. For each of the following services please state if your Tribe reduced or expanded services during **Stage 3 (September 2021 - February 2022)** of the pandemic.

	Reduced services	Expanded services	Services remained the same	Tribe doesn't provide these services
Behavioral health (substance use/abuse and mental health)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer-delivered services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-sufficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child welfare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

\* 55. For each of the following services please state if your Tribe reduced or expanded services during **Stage 4 (March - July 2022)** of the pandemic.

	Reduced services	Expanded services	Services remained the same	Tribe doesn't provide these services
Behavioral health (substance use/abuse and mental health)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Peer-delivered services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-sufficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child welfare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

\* 56. Which of the following issues, if any, did your Tribe address via targeted initiatives or programs during the COVID-19 pandemic?

- ☐ Vaccine hesitancy
- ☐ Food security
- ☐ Behavioral or mental health conditions
- ☐ Access to healthcare services
- ☐ Prenatal and postpartum care
- ☐ Substance use (alcohol, tobacco, opioid, cannabis)
- ☐ Programs that service infants and young children
- ☐ Clean water
- ☐ Other (please specify)

☐ None of these



\* 57. Has your Tribe conducted an After-Action Review (AAR) or debriefed your COVID-19 response?

- ☐ No
- ☐ Not yet, but we are planning to conduct an After-Action Review/debrief
- ☐ Yes, we are currently conducting an After-Action Review/debrief
- ☐ Yes, we have already conducted an After-Action Review/debrief

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

58. When was your After-Action Review (AAR) or debrief conducted? (please provide month and year)

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

AAR

\* 59. Do you anticipate making changes or adjustments to your program, functional, or business models based on lessons learned during COVID-19 pandemic?

- ☐ No
- ☐ Yes, planning to make changes
- ☐ Yes, already adopted changes
- ☐ Unsure

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

Considering/planning changes

60. Please elaborate on the changes you have adopted/are considering or planning to adopt.

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

61. Please share any additional thoughts on your experience of Oregon's response to the COVID-19 pandemic as a Tribal leader.

Public Health Response to Covid-19 in Oregon - Tribal Nations Survey 2022

**Thank you for taking the time to complete this survey, we really appreciate your perspectives and feedback. Information you've provided will be included in up to three reports on Oregon's public health response to Covid-19 for the Oregon legislature (November 2022, April 2023, September 2023). If you have any additional thoughts or questions, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co). Thanks again!**

\* 2. What is your role in your Local Public Health Authority? (Please select all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> LPHA Administrator                            | <input type="checkbox"/> Public Information Officer |
| <input type="checkbox"/> Public Health Officer                         | <input type="checkbox"/> Equity Lead or Liaison     |
| <input type="checkbox"/> Communicable Disease Lead                     | <input type="checkbox"/> Epidemiology Lead          |
| <input type="checkbox"/> Emergency Preparedness Manager or Coordinator |   |
| <input type="checkbox"/> Other (please specify)                        |   |

\* 3. How long have you been in your current role?

- ☐ 6 months or longer
- ☐ Less than 6 months

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

Demographics

\* 4. What was your previous role?

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

Stage Involvement



\* 5. Looking at the pandemic stages graphic above, during which stages were you involved in COVID-19 response activities at your LPHA? (Please select all that apply)

- ☐ Stage 1
- ☐ Stage 2
- ☐ Stage 3
- ☐ Stage 4
- ☐ All stages

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Preparedness

**The next several questions will ask about overall preparedness, capacity, and expertise to respond to the COVID-19 pandemic.**

\* 6. Thinking about when you first became involved in the public health system response to COVID-19, how would you rate your individual level of emergency preparedness to respond to the pandemic (e.g., knowledge, training, experience, expertise)?

- ☐ Not at all prepared
- ☐ Minimally prepared
- ☐ Moderately prepared
- ☐ Highly prepared

\* 7. Please elaborate on why you selected your response to the question above.

\* 8. Which of the following best describes the existence of a jurisdictional pandemic response plan at your LPHA?

- ☐ My LPHA had a plan that was developed or updated prior to the start of the COVID-19 pandemic
- ☐ My LPHA had a plan that was outdated that was updated after the start of the pandemic
- ☐ My LPHA did not have a plan at the start of the pandemic, but developed one after the start of the COVID-19 pandemic
- ☐ My LPHA does not have a plan
- ☐ I don't know

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022



\* 9. How would you evaluate your LPHA's overall level of preparedness to respond to the COVID-19 pandemic at each stage?

	Not at all prepared	Minimally prepared	Moderately prepared	Highly prepared	I was not working on COVID-19 response at my organization at this stage.
Stage 1 (March - November 2020)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2 (December 2020 - August 2021)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3 (September 2021 - February 2022)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4 (March - July 2022)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 10. Please elaborate on why you selected your response to the question above.

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Response

**The next several questions will ask about state and local response to the COVID-19 pandemic.**

\* 11. When did your LPHA begin formal COVID-19 response?

- ☐ Date of Oregon's emergency declaration
- ☐ Date of first COVID-19 case in your LPHA
- ☐ Date of federal emergency declaration
- ☐ Other (please specify)



\* 12. For **Stage 1 (March - November 2020)**, state whether your LPHA reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response in my organization at this stage.	I cannot answer; this was not included in my role in the COVID-19 response.
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 13. For **Stage 2 (December 2020 - August 2021)**, state whether your LPHA reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on Covid-19 response in my organization at this stage.	I cannot answer; this was not included in my role in the Covid- 19 response.
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022





\* 14. For **Stage 3 (September 2021 - February 2022)**, state whether your LPHA reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response in my organization at this stage.	I cannot answer; this was not included in my role in the COVID-19 response.
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 15. For **Stage 4 (March - July 2022)**, state whether your LPHA reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change	I was not working on COVID-19 response in my organization at this stage.	I cannot answer; this was not included in my role in the COVID-19 response.
Disease containment activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

Response

\* 16. Which of the following challenges hindered the effectiveness, scale, or quality of your LPHA's COVID-19 response? (Select all that apply)

- ☐ Did not have enough staff
 ☐ Lack of guidance from federal government
- ☐ Lack of adequate funding
 ☐ Inconsistent guidance from federal government
- ☐ Lack of training in emergency preparedness
 ☐ Politicization of public health
- ☐ Lack of guidance from state government
 ☐ Inadequate data, especially sub-population data
- ☐ Inconsistent guidance from state government
 ☐ Not applicable; My LPHA did not encounter any challenges
- ☐ Not enough community partnerships (including health care and CBO partnerships)
- ☐ Other (please specify)

\* 17. Regarding your LPHA's response to the COVID-19 pandemic, how well do you believe your agency was able to:

	Poor	Fair	Good	Excellent
Perform tasks the public health system was expected to accomplish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that were necessary for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate response activities across the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



\* 18. Overall, how would you rate your LPHA's response to the COVID-19 pandemic during each stage?

	Poor	Fair	Good	Excellent	I was not working on COVID-19 response in my organization at this stage.
Stage 1 (March - November 2020)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2 (December 2020 - August 2021)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3 (September 2021 - February 2022)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4 (March - July 2022)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 19. Reflecting on OHA's response to the COVID-19 pandemic, how well do you believe OHA was able to:

	Poor	Fair	Good	Excellent
Perform tasks the public health system was expected to accomplish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make connections with other organizations that were necessary for system operation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide information across local health systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate response activities across the system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to my LPHA	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 20. How would you rate each of the following aspects of Oregon's public health system response to COVID-19?

	Poor	Fair	Good	Excellent
Prioritization of health equity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 response planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guidance provided by OHA to LPHAs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribution of Personal Protective Equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Testing availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccination rollout and availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact tracing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data accessibility and availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff recruitment and hiring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public/private partnerships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quarantine/isolation facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wraparound supports during quarantine (rent, food, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Funding

\* 21. Aside from COVID-19 funding dispersed by OHA or directly from the federal government, did your LPHA receive any additional COVID-19 specific funding?

- ☐ No
- ☐ Yes
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.

List other funding sources (if applicable):

\* 22. For each of the following statements about COVID-19 funding received by your LPHA, select which response option best suits you.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	I cannot answer; this was not included in my role in the COVID-19 response.
My agency received adequate funding for COVID-19 case investigation and contact tracing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency received adequate funding for COVID-19 testing (e.g., planning, set-up, communications, running testing sites)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My agency received adequate funding for COVID-19 vaccination (e.g., planning, set-up, communications, running vaccination sites)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 23. OHA used the existing Public Health Modernization Funding formula for allocation of COVID-19 funds. Which of the following statements is true about the amount of funding your LPHA received based off of this formula?

- ☐ My agency had more funding than we could spend to effectively respond to the COVID-19 pandemic
- ☐ My agency had just the right amount of funding to effectively respond to the COVID-19 pandemic
- ☐ My agency had did not have enough funding to effectively respond to the COVID-19 pandemic
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.

\* 24. Which of the following, if any, do you think are needed to assist LPHAs in managing monetary resources during a significant emergency response? (Select all that apply)

- ☐ Different mechanisms for determining funding formulas
- ☐ Rapid timeline for making funds available
- ☐ Flexibility within funding streams for different program elements
- ☐ Streamlined reporting requirements
- ☐ Other (please specify)

\* 25. Which of the following, if any, were a barrier to efficient use of COVID-19 funds your LPHA received from OHA? (Select all that apply)

- ☐ The length of time it took to receive funds
- ☐ Reporting requirements associated with the funding source
- ☐ Staff capacity to stand up and maintain programs with funding
- ☐ County-level administrative/contracting process requirements
- ☐ None of these
- ☐ Other (please specify)

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

Partnerships

\* 26. How did your LPHA partner with the following organizations or agencies as part of the COVID-19 response? (Select all that apply)

	Partnered for COVID-19 response planning	Partnered for COVID-19 testing sites	Partnered for PPE distribution	Partnered for vaccine clinics	Partnered for culturally-responsive, targeted health equity response	Partnered for community- or population-specific communications	Partnered for enforcement of public health mandates or requirements	Did not partner during pandemic response
Community Based Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - K-12 education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - Higher Ed (college, university, trade school)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health systems/Hospitals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordinated Care Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long term care facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tribes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Local Public Health Authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oregon Health Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify the other organization your LPHA partnered with)



\* 27. Thinking about your COVID-19 response partners, did your LPHA have existing partnerships, develop new partnerships, or not partner with the following organizations?

	Existing partnership	New partnership	Some existing and some new partnerships within this sector	Did not partner
Community Based Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - K-12 education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - Higher Ed (college, university, trade school)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health systems/Hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinated Care Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long term care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tribes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Local Public Health Authorities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oregon Health Authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify the other organization your LPHA partnered with)

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

Data



\* 28. For each stage, did your LPHA have access to local epidemiological data necessary to guide decision making related to your LPHA's COVID-19 response?

	No	Yes	Unsure
Stage 1 (March - November 2020)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2 (December 2020 - August 2021)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3 (September 2021 - February 2022)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4 (March - July 2022)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 29. During which stages did OHA provide technical assistance to your LPHA to access, understand, or use COVID-19 epidemiological data? (Select all that apply)

- ☐ Stage 1 (March - November 2020)
- ☐ Stage 2 (December 2020 - August 2021)
- ☐ Stage 3 (September 2021 - February 2022)
- ☐ Stage 4 (March - July 2022)
- ☐ OHA did not provide any technical assistance
- ☐ Unsure

\* 30. Did your LPHA have the expertise to manage COVID-19 epidemiological data locally?

- ☐ No
- ☐ Yes
- ☐ Unsure/Don't know

\* 31. Did your LPHA have the capacity to manage COVID-19 epidemiological data locally?

- ☐ No
- ☐ Yes
- ☐ Unsure/Don't know

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Public Health Staffing

\* 32. How many employees did your LPHA hire specifically to meet the needs of its COVID-19 response?

- |                             |   |
|-----------------------------|---|
| <input type="radio"/> None  | <input type="radio"/> 26-50   |
| <input type="radio"/> 1-5   | <input type="radio"/> 51-75   |
| <input type="radio"/> 6-10  | <input type="radio"/> More than 75  |
| <input type="radio"/> 11-25 | <input type="radio"/> I cannot answer; this was not included in my role in the COVID-19 response. |

\* 33. What types of employees did your LPHA hire specifically to meet the needs of COVID-19 response? (Select all that apply)

- ☐ Contact tracers
- ☐ Public information professionals
- ☐ Disease Investigator or Disease Intervention Specialist
- ☐ Clinical staff (e.g., nurses, healthcare provider)
- ☐ Epidemiologists
- ☐ Laboratory workers
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 34. Did you experience any recruitment difficulties with public health staff to support COVID-19?

- ☐ No
- ☐ Yes
- ☐ Don't know

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 35. Which job-specific skills were hardest to recruit for? (Select all that apply)

- ☐ Data Analytics and Assessment Skills
- ☐ Policy Development and Program Planning Skills
- ☐ Communication Skills
- ☐ Health Equity Skills
- ☐ Community Partnership Skills
- ☐ Public Health Sciences Skills
- ☐ Management and Finance Skills
- ☐ Leadership and Systems Thinking Skills
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 36. Did you experience either of the following difficulties with public health staff to support COVID-19:

	No	Yes	Don't know
Onboarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retainment of staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 37. Which of the following did your LPHA perform to ensure culturally-competent workforce? (Select all that apply)

- ☐ Ensure hiring managers were trained in hiring culturally-competent candidates
- ☐ Advertise jobs in diverse networking groups and job boards
- ☐ Assess candidates on cultural competency
- ☐ Hire bilingual staff
- ☐ Hire staff with diverse lived experience
- ☐ None of the above
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

\* 38. Did your LPHA have to reassign employees from their regular duties to support the COVID-19 response?

- ☐ No
- ☐ Yes
- ☐ Don't know

#### Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 39. From which programs were these employees reassigned? (Select all that apply)

- ☐ Environmental Health
- ☐ Maternal & Child Health
- ☐ Chronic Disease Prevention
- ☐ HIV & STI Prevention
- ☐ Injury & Violence Prevention
- ☐ Health IT or Informatics
- ☐ Health Equity and Social Justice
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

#### Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 40. Please estimate the percent of permanent staff who left your LPHA between March 2020-July 2022. Do not include temporary or limited duration COVID-19 response staff.

- ☐ Less than 5%
- ☐ 5-24%
- ☐ 25-50%
- ☐ Over 50%
- ☐ No staff left our LPHA between March 2020-July 2022
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 41. Why did staff leave your LPHA? (Select all that apply)

- ☐ Retirement
- ☐ Early retirement
- ☐ Accepted a position at OHA
- ☐ Accepted a position at another LPHA
- ☐ Accepted a position with an unknown employer
- ☐ Was let go for performance reasons
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Vaccine

\* 42. Which of the following challenges did your LPHA face in regards to coordination and implementation of your vaccination plan? (Select all that apply)

- ☐ Financial reimbursement for costs associated with vaccine administration
- ☐ Vaccine storage issues (e.g., accessibility of storage facility, transportation, etc.)
- ☐ Vaccine supply
- ☐ Staffing issues relating to vaccine distribution
- ☐ Community confidence in vaccine or other issues
- ☐ None
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

\* 43. Did your LPHA coordinate or provide vaccination clinics?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 44. Which types of vaccination distribution methods did you use? (Select all that apply)

- ☐ Mobile Vans
- ☐ Pop-Up Clinics
- ☐ Drive-through clinics
- ☐ School-Based Vaccination Sites
- ☐ Family Vaccination Clinics
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### COVID-19 Communications

**The next several questions will ask you about how your LPHA communicated about public health mandates with the public.**

\* 45. Which of the following mass-reach communication platforms did your LPHA use to communicate COVID-19 information? (Select all that apply)

- ☐ LPHA Website
- ☐ Local news stations
- ☐ Social media
- ☐ Radio stations
- ☐ Newspapers
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.
- ☐ Other (please specify)

\* 46. Reflecting on adherence to the public health protections in **Stage 1 (March - November 2020)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage	I was not working on COVID-19 response in my organization at this stage.
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 47. Reflecting on adherence to the public health protections in **Stage 2 (December 2020 - August 2021)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage	I was not working on COVID-19 response in my organization at this stage.
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



\* 48. Reflecting on adherence to the public health protections in **Stage 3 (September 2021 - February 2022)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage	I was not working on COVID-19 response in my organization at this stage.
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 49. Reflecting on adherence to the public health protections in **Stage 4 (March - July 2022)**, how would you evaluate OHA's communication with the community about the following public health requirements?

	Poor	Fair	Good	Excellent	Not applicable to this stage	I was not working on COVID-19 response in my organization at this stage.
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes to investigative guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 50. When developing targeted public health messaging, how often did your LPHA do the following:

	Always	Sometimes	Rarely	Never	Not applicable because we did not create targeted messaging	I cannot answer; this was not included in my role in the COVID-19 response.
Make COVID-19 messaging available in multiple languages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging met ADA standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure COVID-19 messaging was written in plain language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

51. In which of the following languages did your LPHA make COVID-19 messaging available? (Select all that apply)

<input type="checkbox"/> English	<input type="checkbox"/> Korean
<input type="checkbox"/> Spanish	<input type="checkbox"/> Russian
<input type="checkbox"/> Arabic	<input type="checkbox"/> Somali
<input type="checkbox"/> Simplified Chinese	<input type="checkbox"/> Vietnamese
<input type="checkbox"/> Traditional Chinese	<input type="checkbox"/> Assigned Sign Language (ASL)
<input type="checkbox"/> Chuukese	<input type="checkbox"/> Not applicable because we did not create targeted messaging
<input type="checkbox"/> Hmong	<input type="checkbox"/> I cannot answer; this was not included in my role in the COVID-19 response.
<input type="checkbox"/> Other (please specify)	
<input type="text"/>	

\* 52. What populations did your LPHA prioritize for community- or population-specific COVID-19 messaging? (Select all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Older adults   | <input type="checkbox"/> Racial/ethnic communities   |
| <input type="checkbox"/> Nursing home residents   | <input type="checkbox"/> LGBTQ+  |
| <input type="checkbox"/> People with chronic medical conditions                                       | <input type="checkbox"/> Pregnant people   |
| <input type="checkbox"/> Low income individuals/families  | <input type="checkbox"/> Individuals/families experiencing homelessness                              |
| <input type="checkbox"/> Children   | <input type="checkbox"/> None  |
| <input type="checkbox"/> People with disabilities (e.g. physical, mental, emotional, cognitive, etc.) | <input type="checkbox"/> I cannot answer; this was not included in my role in the Covid-19 response. |
| <input type="checkbox"/> People with behavioral health conditions                                     |  |
| <input type="checkbox"/> Other (please specify)   |  |

\* 53. Which racial/ethnic communities did you prioritize for culturally-specific COVID-19 messaging?

- |   |  |
|---|--|
| <input type="checkbox"/> Hispanic populations               | <input type="checkbox"/> Korean populations  |
| <input type="checkbox"/> Arabic populations                 | <input type="checkbox"/> Russian populations   |
| <input type="checkbox"/> African American/Black populations | <input type="checkbox"/> Somali populations  |
| <input type="checkbox"/> Chinese populations                | <input type="checkbox"/> Vietnamese populations  |
| <input type="checkbox"/> Micronesian populations            | <input type="checkbox"/> None  |
| <input type="checkbox"/> Pacific Islander populations       | <input type="checkbox"/> I cannot answer; this was not included in my role in the COVID-19 response. |
| <input type="checkbox"/> Other (please specify)             |  |

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### Public Health Services

**During the COVID-19 pandemic, many LPHAs were forced to suspend or alter foundational public health services to respond to the COVID-19 pandemic. The following questions will ask about how your LPHA changes existing services and programs during the COVID-19 response.**

## PUBLIC HEALTH RESPONSE TO COVID-19 IN OREGON



### STAGE 1

**MAR 2020 - NOV 2020:**

- Outbreak
- Disease investigation
- Implementing required public health protections (masking, distancing, shut downs)
- Preparing for vaccination



### STAGE 2

**DEC 2020 - AUG 2021:**

- Vaccination
- Disease investigation
- Enforcing public health protections
- Partial re-opening



### STAGE 3

**SEPT 2021 - FEB 2022:**

- Vaccinations
- Re-opening
- Dealing with variants



### STAGE 4

**MAR 2022 - JULY 2022:**

- Total reopening
- No required public health protections (except in health care settings)
- Changes in investigative guidelines

\* 54. For each of the following services please state if your LPHA reduced or expanded services during **Stage 1 (March - November 2020)** of the pandemic.

	Reduced services	Expanded services	Service remained the same	My LPHA doesn't provide this service	I was not working on COVID-19 response in my organization at this stage.
Emergency preparedness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiology and surveillance (routine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental health inspections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screening/treatment for HIV/AIDs, other STDs and/or TB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maternal and child health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adolescent or school health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify the other services, if applicable)

\* 55. For each of the following services please state if your LPHA reduced or expanded services during **Stage 2 (December 2020 - August 2021)** of the pandemic.

	Reduced services	Expanded services	Service remained the same	My LPHA doesn't provide this service	I was not working on COVID-19 response in my organization at this stage.
Emergency preparedness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiology and surveillance (routine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental health inspections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screening/treatment for HIV/AIDs, other STDs and/or TB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maternal and child health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adolescent or school health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify the other services, if applicable)

\* 56. For each of the following services please state if your LPHA reduced or expanded services during **Stage 3 (September 2021 - February 2022)** of the pandemic.

	Reduced services	Expanded services	Service remained the same	My LPHA doesn't provide this service	I was not working on COVID-19 response in my organization at this stage.
Emergency preparedness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiology and surveillance (routine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental health inspections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screening/treatment for HIV/AIDs, other STDs and/or TB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maternal and child health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adolescent or school health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify the other services, if applicable)

\* 57. For each of the following services please state if your LPHA reduced or expanded services during **Stage 4 (March - July 2022)** of the pandemic.

	Reduced services	Expanded services	Service remained the same	My LPHA doesn't provide this service	I was not working on COVID-19 response in my organization at this stage.
Emergency preparedness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemiology and surveillance (routine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental health inspections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immunizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Screening/treatment for HIV/AIDs, other STDs and/or TB	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maternal and child health services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tobacco, alcohol, or other drug prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diabetes screening and prevention work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obesity prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suicide prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adolescent or school health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify the other services, if applicable)



\* 58. Which of the following issues, if any, did your LPHA address via targeted initiatives or programs during the COVID-19 pandemic?

- ☐ Vaccine hesitancy
- ☐ Food security
- ☐ Behavioral or mental health conditions
- ☐ Access to healthcare services
- ☐ Prenatal and postpartum care
- ☐ Substance use (alcohol, tobacco, opioid, cannabis)
- ☐ Programs that service infants and young children
- ☐ Racism
- ☐ None of these
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

### After-action Review

\* 59. Has your LPHA conducted an After-Action Review (AAR)?

- ☐ No
- ☐ Not yet, but we are planning to conduct an AAR
- ☐ Yes, we are currently conducting an AAR
- ☐ Yes, we have already conducted an AAR
- ☐ I cannot answer; this was not included in my role in the COVID-19 response

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 60. When was your AAR conducted? (Month, Year)

## Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 61. Do you anticipate making changes or adjustments to your program, functional, or business models based on lessons learned during COVID-19 pandemic?

- ☐ No
- ☐ Yes, planning to make changes
- ☐ Yes, already adopted changes
- ☐ Unsure
- ☐ I cannot answer; this was not included in my role in the COVID-19 response.

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

\* 62. Please elaborate on the changes you have adopted/are considering or planning to adopt.

Public Health Response to COVID-19 in Oregon - LPHA Survey 2022

Survey end

Thank you for taking the time to complete this survey, we really appreciate your perspectives and feedback. Information you've provided will be included in up to three reports on Oregon's public health response to Covid-19 for the Oregon legislature (November 2022, April 2023, September 2023). If you have any additional thoughts or questions, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co). Thanks again!

\* 3. What was/is your position in your EM office/program for the COVID-19 response? (Select all that apply)

- ☐ Leadership
- ☐ Operations
- ☐ Logistics
- ☐ Planning
- ☐ Other (please specify)

\* 4. Were you in a COVID-19 response role for at least 6 months between March 2020 - July 2022?

- ☐ Yes
- ☐ No

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Stages of the Covid-19 pandemic



\* 5. Looking at the pandemic stages graphic above, during which stages was your Emergency Management office/program involved in COVID-19 response activities? (Please select all that apply)

- ☐ Stage 1
- ☐ Stage 2
- ☐ Stage 3
- ☐ Stage 4
- ☐ All stages

\* 6. Which of the following COVID-19 response activities did your EM office/program participate in during all stages of the response? (Select all that apply)

- ☐ EOC activation and coordination with other jurisdictional EOCs
- ☐ Coordination of resource requests with local and regional agencies
- ☐ Coordination of public information and notifications to the community
- ☐ Activation of a Joint Information Center/System
- ☐ Coordination of activities with non-health organizations
- ☐ Volunteer Management and Coordination (CERT, MRC, other)
- ☐ Notification and/or recommendations to the Board of Commissioners
- ☐ Management of donations
- ☐ Shelter management/coordination
- ☐ Finance tracking
- ☐ Logistics support
- ☐ Participation in any MAC-G
- ☐ Other (please specify)

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Preparedness

\* 7. Based on your experience to date, how would you evaluate your **EM office/program's** overall level of emergency preparedness to respond to the COVID-19 pandemic?

- ☐ Not at all prepared
- ☐ Minimally prepared
- ☐ Moderately prepared
- ☐ Highly prepared

\* 8. Please elaborate on why you selected your response to the question above.

\* 9. Thinking about when you first began working on COVID-19, how would you rate your **individual** level of emergency preparedness to respond to the pandemic (e.g., knowledge, training, experience, expertise)?

- ☐ Not at all prepared
- ☐ Minimally prepared
- ☐ Moderately prepared
- ☐ Highly prepared

\* 10. Please elaborate on why you selected your response to the question above.

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Response

**The next several questions will ask about state and local response to the COVID-19 pandemic.**

\* 11. When did your EM office/program begin formal COVID-19 response?

- ☐ Date of Oregon's emergency declaration
- ☐ Date of first COVID-19 case in your city or county
- ☐ Date of federal emergency declaration
- ☐ Other (please specify)

\* 12. Did your EM office/program coordinate with or provide support to state and/or local public health for **vaccine distribution**?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Vaccine distribution methods

\* 13. Which types of vaccination distribution methods were used? (Select all that apply)

- ☐ Mobile Vans
- ☐ Pop-Up Clinics
- ☐ Drive-through clinics
- ☐ School-Based Vaccination Sites
- ☐ Family Vaccination Clinics
- ☐ Other (please specify)

14. What was your biggest challenge in supporting vaccine distribution?

15. What was your biggest success in supporting vaccine distribution?

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### PPE Distribution

\* 16. Did your EM office/program coordinate with or provide support to state and local public health for **PPE distribution**?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### PPE Distribution Details

17. What was your biggest challenge in supporting PPE distribution?

18. What was your biggest success in supporting PPE distribution?

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Isolation and Quarantine

\* 19. Did your EM office/program coordinate with or provide support to state and local public health for **isolation and quarantine**?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Isolation and Quarantine Details

20. What was your biggest success in supporting isolation and quarantine?

21. What was your biggest challenge in supporting isolation and quarantine?

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Response Stages 1 & 2

Stages of the Covid-19 pandemic



\* 22. For **Stage 1 (March - November 2020)**, state whether your EM office/program reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information coordination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcement of Isolation and Quarantine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



\* 23. For **Stage 2 (December 2020 - August 2021)**, state whether your EM office/program reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information coordination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcement of Isolation and Quarantine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Response Stages 3 & 4

#### Stages of the Covid-19 pandemic



\* 24. For **Stage 3 (September 2021 - February 2022)**, state whether your EM office/program reduced or expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information coordination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcement of Isolation and Quarantine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 25. For **Stage 4 (March - July 2022)**, state whether your EM office/program expanded its authority, roles, and/or responsibilities in their COVID-19 response.

	Reduced authority, roles, and/or responsibilities	Expanded authority, roles, and/or responsibilities	Authority, roles, and/or responsibility level did not change
Procurement or provision of PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public information coordination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 testing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine administration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enforcement of Isolation and Quarantine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Public Health Response to COVID-19 in Oregon - Emergency Management Survey

Local EM Response

\* 26. Which of the following challenges hindered the effectiveness, scale, or quality of your EM office/program's COVID-19 response? (Select all that apply)

- ☐ Did not have enough staff
- ☐ Lack of adequate funding
- ☐ Lack of training in emergency preparedness
- ☐ Lack of guidance from state government
- ☐ Inconsistent guidance from state government
- ☐ Not enough community partnerships (including health care and CBO partnerships)
- ☐ Lack of guidance from federal government
- ☐ Inconsistent guidance from federal government
- ☐ Politicization of public health
- ☐ Inadequate data, especially sub-population data
- ☐ Not applicable; My EM office/program did not encounter any challenges
- ☐ Other (please specify)

27. Do you have anything additional to share about challenges your EM office/program experienced in the response to the pandemic?

\* 28. Regarding your EM office/program's response to the COVID-19 pandemic, how well do you believe your **EM office/program** was able to:

	Poor	Fair	Good	Excellent	Unsure
Establish and support PH within the incident command system/structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrate equity officers/managers into the incident command system/structure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate information sharing among response partners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinate public information dissemination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage differences or disputes about the response	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire assistance and information from others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide assistance and information to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 29. Overall, how would you rate your **EM office/program's** response to the COVID-19 pandemic during each stage?

	Poor	Fair	Good	Excellent	Unsure
Stage 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stage 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Do you have anything additional to share about your EM office/programs response to the pandemic?

## State Response

\* 31. How would you rate each of the following aspects of **Oregon's public health system** response to COVID-19?

	Poor	Fair	Good	Excellent	Unsure
Prioritization of health equity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 response planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guidance provided by OHA to LPHAs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distribution of Personal Protective Equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Testing availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccination rollout and availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact tracing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data accessibility and availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff recruitment and hiring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public/private partnerships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quarantine/isolation facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wraparound supports during quarantine (rent, food, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Do you have anything additional to share about Oregon's public health response to the pandemic?

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Funding

\* 33. Did your EM office/program receive any COVID-19 specific funding?

- ☐ No  
☐ Yes  
☐ Unsure

Funding sources and barriers

\* 34. Which sources did you receive COVID-19 specific funding from? (Select all that apply.)

- ☐ Oregon Health Authority
- ☐ Office of Emergency Management
- ☐ Federal government/FEMA
- ☐ Other (please specify)

\* 35. Which of the following, if any, were a barrier to efficient use of the COVID-19 funds?  
(Select all that apply)

- ☐ The length of time it took to receive funds
- ☐ Frequency of receiving funds
- ☐ Reporting requirements associated with the funding source
- ☐ Reimbursement structure or model of funding
- ☐ Spending requirements for funding source (e.g., could only spend money on specific items)
- ☐ Hiring new employees
- ☐ County-level administrative requirements
- ☐ None of these
- ☐ Other (please specify)

\* 36. How did your EM office/program partner with the following organizations or agencies as part of the COVID-19 response?

	Partnered for COVID-19 response planning	Partnered for COVID-19 testing sites	Partnered for PPE distribution	Partnered for vaccine clinics	Partnered for culturally-responsive, targeted health equity response	Partnered for community- or population-specific communications	Partnered for enforcement of public health mandates or requirements	Did not partner during pandemic response
Community Based Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - K-12 education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education - Higher Ed (college, university, trade school)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Health systems/Hospitals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coordinated Care Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long term care facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tribes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oregon Health Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Emergency Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

\* 37. Thinking about your COVID-19 response partners, did your EM office/program have existing partnerships, develop new partnerships, or not partner with the following organizations?

	Existing partnership	New partnership	Some existing and some new partnerships	Did not partner
Community Based Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - K-12 education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education - Higher Ed (college, university, trade school)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Health systems/Hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordinated Care Organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long term care facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tribes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oregon Health Authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
State Emergency Management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### COVID-19 Communications

\* 38. Did your EM office/program coordinate with or provide support to state and/or local public health for public information dissemination?

- ☐ Yes
- ☐ No
- ☐ Don't know

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Communication support



39. What was your biggest challenge in coordinating or supporting public information dissemination?

40. What was your biggest success in coordinating or supporting public information dissemination?

#### Public Health Response to COVID-19 in Oregon - Emergency Management Survey

\* 41. Which of the following mass-reach communication platforms did your EM office/program use to communicate COVID-19 information? (Select all that apply)

- ☐ EM Website
- ☐ Local news stations
- ☐ Social media
- ☐ Radio stations
- ☐ Newspapers
- ☐ My EM office/program did not use any mass-reach communication platforms
- ☐ Other (please specify)

#### Public Health Response to COVID-19 in Oregon - Emergency Management Survey

#### COVID-19 Communications

\* 42. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 1 (March - November 2020)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 43. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 2 (December 2020 - August 2021)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Stay-at-home orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit public gatherings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prohibit indoor dining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (K-12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In-person school closures (higher ed)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 44. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 3 (September 2021 - February 2022)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mask mandates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

\* 45. How would you evaluate OHA's communication with the community about the following public health requirements during **Stage 4 (March - July 2022)**?

	Poor	Fair	Good	Excellent	Not applicable to this stage
Isolation and quarantine guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes to investigative guidelines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaccine availability and priority populations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Public Health Response to COVID-19 in Oregon - Emergency Management Survey

### Wrap Up

Thank you for taking the time to complete this survey, we really appreciate your perspectives and feedback. Information you've provided will be included in up to three reports on Oregon's public health response to COVID-19 for the Oregon legislature (November 2022, April 2023, September 2023). If you have any additional thoughts you would like to share with us or questions, please contact Elizabeth Paschal at Rede Group at [elizabeth.paschal@redegroup.co](mailto:elizabeth.paschal@redegroup.co). Thanks again!

## Appendix G: Detailed Methods

### [Study Design](#)

[Figure 1: Study design schematic](#)

[Table 1: Data collection methods & response rates](#)

### [Qualitative Phase](#)

#### [Individual Interviews](#)

[Interview Methodology](#)

[Interview Sampling and Response Rates](#)

[Table 2: Interview sampling strategies](#)

#### [CBOs](#)

[Table 3: CBO interviewee representation by population served, region, and funding range](#)

#### [LPHAs](#)

[Table 4: LPHA interviewee representation by region and size band](#)

[Table 5: Funding ranges](#)

[OHA Staff and Managers](#)

[OHA Director's Offices](#)

[Health Care Associations](#)

[Non-OHA State Government Agencies](#)

[Tribal Nations](#)

[Tribal Organizations](#)

[Professional Associations:](#)

[Public Health Advisory Board \(PHAB\):](#)

[Superintendents](#)

[Interview Recruitment](#)

[Interview Guide Development](#)

[Interview Data Collection](#)

[Interview Data Transcription & De-identification](#)

## [Interview Analysis](#)

### [Focus Groups](#)

#### [Focus Group Methodology](#)

#### [Focus Group Sampling](#)

##### [CBOs](#)

[Figure 2: In which region of Oregon is your organization located?](#)

[Figure 3: What is your role in your organization?](#)

[Figure 4: How many employees are currently employed at your organization?](#)

[Figure 5: How long have you been in your current position?](#)

##### [City, County, and Tribal Emergency Management](#)

[Figure 6: In which region of Oregon is your organization located?](#)

[Figure 7: Which of the following best describes your organization?](#)

[Figure 8: What is your current role and/or title in the EM office/program?](#)

[Figure 9: How long have you been in your current position?](#)

##### [Tribal Organizations:](#)

##### [School Principals](#)

[Table 6: Focus group sampling strategies](#)

#### [Focus Group Recruitment](#)

#### [Focus Group Guide Development](#)

#### [Focus Group Data Collection](#)

#### [Focus Group Data Transcription & De-identification](#)

#### [Focus Group Data Analysis](#)

### [Process Interviews](#)

### [Document Review + Analysis](#)

#### [Executive Orders from the Governor's office](#)

#### [Funding and Spending](#)

#### [Enforcement](#)

## [Quantitative Phase](#)

### [Survey](#)

#### [Survey Methodology](#)

#### [Survey Sampling](#)

[CBOs](#)

[CCOs](#)

[LPHAs](#)

[Education](#)

[Emergency Management](#)

[Tribes](#)

[Survey Development](#)

[Survey Data Collection](#)

[Survey Data Analysis](#)

[Secondary Data Analysis](#)

[Secondary Data Sources](#)

[Secondary Data Analysis](#)

[Interpretation of Findings](#)

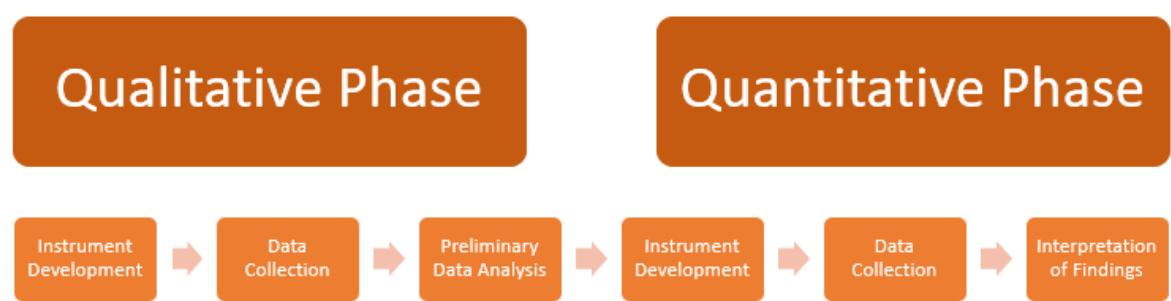
[Counties by Region](#)

[Figure 10: Counties by region](#)

# Study Design

To ensure we were able to successfully answer the research questions set forth by the Oregon State Legislature, we used an exploratory sequential design for this study, a robust mixed-methods study design. A mixed-methods study design was most appropriate for this study, as it allows the integration of qualitative data to provide an enhanced understanding and interpretation of quantitative findings. With this design, the qualitative phase of the study, including data collection and preliminary analysis, precedes quantitative data collection and analysis. Quantitative data instruments are then informed by qualitative study findings, enhancing the validity of the quantitative measures. A schematic of the study design is presented in Figure 1.

Figure 1: Study design schematic



The study team used a combination of both primary and secondary data collection sources to answer the research questions. In the primary data collection phase, a series of key informant interviews, focus groups, process interviews, and online surveys were used. Secondary data sources used included document reviews and secondary data analysis. See Table 1.

Table 1: Data collection methods & response rates

PRIMARY DATA COLLECTION						SECONDARY DATA COLLECTION	DOCUMENT RECORD AND REVIEW
Informants	Process interviews	Qualitative Interviews (response rate)	Number of qualitative interviewees	Surveys (response rate)	Focus Groups (participants)	Data Sources	Records from OHA + others
Professional Associations	n/a	3 (100%)	3	n/a	n/a	<ul style="list-style-type: none"> <li>• Oregon COVID-19 Dashboards</li> <li>• Oregon BRFSS</li> <li>• US Census</li> <li>• NIH COVID-19 Pandemic Vulnerability Index</li> <li>• Oregon Hunger Task Force</li> <li>• Oregon Child Immunization Data Dashboard</li> <li>• Oregon State Cancer Registry</li> <li>• End HIV Dashboard</li> <li>• National Survey on Drug Use and Health</li> <li>• Oregon Violent Death Reporting System</li> </ul>	Over 1,000 documents reviewed from OHA, web research, and other state agencies
CBOs	n/a	23 (96%)	24	63 (36%)	4 (27)		
CCOs	n/a	n/a	n/a	7 (47%)	n/a		
OHA OEI	n/a	1	5	n/a	n/a		
Health Care Associations	n/a	3 (100%)	3	n/a	n/a		
City, County, and Tribal Emergency Man.	n/a	n/a	n/a	22 (17%)	6 (10)		
LPHAs	n/a	16 (100%)	17	39 (33%)	n/a		
OHA Directors	n/a	12 (100%)	12	n/a	n/a		
OHA Staff + Managers	9	20 (100%)	20	n/a	n/a		
PHAB (not gov't)	n/a	3 (50%)	3	n/a	n/a		
State Agencies	2	7 (63%)	9	n/a	n/a		
Tribal Orgs.	n/a	2 (50%)	3	n/a	1 (7)		
Tribal Nations	n/a	7 (78%)	13	1 (11%)	n/a		
<b>Total</b>	<b>11</b>	<b>97 (89%)</b>	<b>112</b>	<b>132 (29%)</b>	<b>11 (44)</b>		



## Qualitative Phase

In the qualitative phase of this study, a variety of data collection methods were used, including individual interviews, group interviews, focus groups, and document review.

Given the short timeframe to collect, analyze, and report information for Report 1, all qualitative interviews could not be conducted and analyzed prior to survey distribution (the ideal sequence to allow qualitative responses to inform survey development). Therefore, the study team opted for conducting interviews in two phases, Phase 1 interviews were conducted and analyzed in July 2022 and informed survey development and specific response options for multiple choice questions. A total of 26 interviews were conducted in Phase 1, with six OHA Staff/Managers, eight LPHAs, 10 CBOs, and two Tribal Nations. Sampling strategies and analysis methods were consistent across Phase 1 and Phase 2 interviews, as described below.

### Individual Interviews

#### Interview Methodology

Rede engaged a diverse set of informant groups for individual interviews, including CBO Directors; LPHA Administrators; OHA Staff and Managers, including most cabinet-level staff; Health Care Associations; State Government Agencies; Tribal Health Directors; Tribal Organizations; Professional Associations, and members of the PHAB. In total, Rede Group, and partners supporting the project, conducted a total of 97 interviews (with 112 interviewees) for Report 1 between July and October 2022, which yielded an overall response rate of 89% for interviews.

#### Interview Sampling and Response Rates

Qualitative data is an excellent source and is both time and resource-intensive to collect. Given the time constraints of this study, it was not possible to interview every person involved in Oregon's Public Health System Response to the COVID-19 pandemic. Therefore, we used both probability and purposeful sampling strategies as well as stratified random sampling, a type of probability sampling strategy in which the

population is divided into smaller subgroups called strata. This was utilized to ensure the representativeness of our evaluation sample to the larger target population and thus, the generalizability of findings. In stratified random sampling, the study participant groups are divided into mutually exclusive, non-overlapping groups of sampling units called strata. Within each stratum, we pulled a random sample by assigning each potential informant a number and used a random number generator to pull individuals.

Table 2: Interview sampling strategies

Random sampling	Stratified random sampling	Purposeful sampling	Census
<ul style="list-style-type: none"> <li>● LPHAs</li> </ul>	<ul style="list-style-type: none"> <li>● CBOs</li> <li>● OHA Staff and Managers</li> </ul>	<ul style="list-style-type: none"> <li>● Tribal Orgs.</li> <li>● Professional Associations</li> <li>● PHAB (non-gov't)</li> <li>● Health Care Associations</li> <li>● OHA Directors</li> <li>● OHA DEI</li> <li>● State Agencies</li> </ul>	<ul style="list-style-type: none"> <li>● Tribal Nations</li> </ul>

CBOs

Rede received a list of 174 community-based organizations from OHA, who all received health equity grant funding to support the COVID-19 response within the communities they served. This list included two American Indian/Alaska Native (AI/AN) serving organizations that Rede removed from the sampling frame, as they would be engaged and analyzed separately. The remaining 172 CBOs were reviewed to determine the primary population served. Rede opted for stratified random sampling and randomly selected two organizations from each of the following population categories:

- African American (AA)/Black;
- Asian/Pacific Islander;

- People with disabilities;
- Faith-based organizations;
- People who are houseless/unhoused;
- LGBTQIA+;
- People with mental health and/or substance use disorders (MH/SUD);
- Older adults;
- Refugees; and
- Youth.

In cases where potential interviewees were unresponsive to multiple recruitment attempts, Rede randomly sampled an alternative participant.

CBO sampling and response rates are detailed in Table 3. Region and funding level were not used as a sampling frame for CBOs, however, to show representation across regions and funding ranges, the number of interviewees from each region and funding range are shown. A total of 23 CBO interviews were conducted with one or more CBO from each priority population, region, and funding range. See Figure 10 for regions and Table 5 for funding ranges.

*Table 3: CBO interviewee representation by population served, region, and funding range*

	Sample Size	Number of Interviews Conducted	Response Rate	Percent of all interviews
Population served				
AA/Black	2	2	100%	9%
Houseless	2	2	100%	9%
LGBTQIA+	2	2	100%	9%
Latinx	2	3	150%	13%
Pacific Islander	2	2	100%	9%
Refugee	2	2	100%	9%
Disabilities	2	2	100%	9%
Asian	2	2	100%	9%

	Sample Size	Number of Interviews Conducted	Response Rate	Percent of all interviews
Faith	2	2	50%	9%
Youth	2	1	50%	4%
Older Adults	2	1	50%	4%
MH/SUD	2	2	100%	9%
Region				
Region 1	n/a	15	n/a	65%
Region 2	n/a	2	n/a	9%
Region 3	n/a	3	n/a	13%
Region 4	n/a	2	n/a	9%
Region 5	n/a	1	n/a	4%
Funding Range (FR)				
FR1	n/a	2	n/a	9%
FR2	n/a	4	n/a	17%
FR3	n/a	4	n/a	17%
FR4	n/a	3	n/a	13%
FR5	n/a	2	n/a	9%
FR6	n/a	2	n/a	9%
FR7	n/a	6	n/a	26%

### LPHAs

Rede pulled a list of LPHA Administrators from OHA's website. After it was confirmed that the list was not entirely accurate, Rede acquired an updated list from OHA and cross-referenced it to fill in the gaps. The resulting list included 32 LPHAs (OHA held the local public health authority for Wallowa County for the duration of the pandemic resulting in no contact information for this study, Curry County transferred their local public health authority to OHA midway through the COVID-19 pandemic resulting in no

contact information for this study, and North Central Public Health holding the public health authority for Gilliam, Sherman, and Wasco counties did not dissolve a unified public health authority until the end of the study timeframe, and therefore we had a single point of contact for North Central Public Health for the study). Rede randomly selected 16 Administrators (50% of LPHAs) for individual interviews. In cases where potential interviewees were unresponsive to multiple recruitment attempts, Rede randomly sampled an alternative participant until targets were met. All 16 LPHAs were interviewed for the study. Region and population size bands were not used as a sampling strategy for LPHAs however, the number of interviewees from each region and size band are detailed in Table 4 to demonstrate the representation of interviewees across the geographic region and population size.

*Table 4: LPHA interviewee representation by region and size band*

	Number of interviews conducted	Percent of all interviews
Region		
Region 1	3	19%
Region 2	2	13%
Region 3	2	13%
Region 4	5	30%
Region 5	4	25%
Size Band		
Xsmall	2	13%
Small	6	37%
Medium	4	25%
Large	4	25%

Size bands for LPHA study participants were adapted from a public health modernization funding formula provided by OHA. To ensure the anonymity of study participants, LPHAs were sorted by population and grouped into modified size bands with five or more

LPHAs in each band. This resulted in four size bands: extra-small (“Xsmall”), small, medium, and large.

Funding ranges were also established to compare data among CBOs and tribal organizations. Each of the seven funding ranges contain at least five CBOs and/or tribal organizations in each group. The funding amounts in each range were determined by analyzing funding documents provided to the study team by OHA. The funding amounts for each organization were totaled across 4 funding streams: health equity grant funding, Coronavirus Relief Funds (CRF), FEMA Wraparound funds, and FEMA vaccination funding through the Vaccine Operations Equity Team (VOTE) within OHA. After adding the total funding amount across funding streams, CBOs and tribal organizations were sorted based on funding amount and grouped into the seven funding ranges detailed in Table 4 below. Funding ranges were used to assess representation across funding amounts for CBO participants in the study.

Note: Funding ranges were based on funding tracking sheets that reflected one point in time. Due to the ongoing nature of the pandemic, it is likely that some CBOs and tribal organizations are no longer in the funding ranges that they were initially assigned to for the purpose of this study. Additionally, the funding streams used to determine these funding ranges do not reflect all of the funding provided to CBOs and tribal organizations, nor do they reflect all the fundees that may have received funding through different funding streams.

Table 5: Funding ranges

Funding range group	\$ amount
FR 1	\$199,999 or less
FR 2	\$200,00 - \$399,999
FR 3	\$400,000- \$599,999
FR 4	\$600,000 - \$799,999

FR 5	\$800,000 - \$999,999
FR 6	\$1,000,000 - \$1,199,999
FR 7	\$1,200,000 or more

### OHA Staff and Managers

OHA provided two lists of staff and managers who worked on the COVID-19 response at OHA: a list of the Incident Management Team (IMT) and the COVID Recovery and Response Unit (CRRU). After reviewing the lists and removing 127 total duplicates, Rede created two separate lists of IMT and CRRU staff categorized into "Epi/Data" positions, managers, and non-managers. Then, Rede conducted purposeful sampling among IMT and CRRU staff and managers.

IMT: Rede selected an initial target of 12 IMT staff and managers, with eight being PHD staff/managers and four being non-PHD staff/managers. Within the eight PHD staff/managers, Rede selected four PHD staff and four PHD managers. To begin sampling, four people from the IMT Epi/Data list were selected. These four people also filled positions as PHD and non-PHD staff/managers. After accounting for the Epi/Data positions, the remaining contacts were randomly selected until Rede reached the targets of eight (four staff and four managers) PHD and four non-PHD staff.

CRRU: The same processes for the IMT sampling were followed for CRRU, with different targets. Rede's goal was to interview eight members of the CRRU list, with four being managers and four being staff. Just as with the IMT sampling process, Rede first selected four contacts from the Epi/Data list, and then selected the remaining four contacts from the staff and manager lists to get a total of eight interviewees.

From each list that was sampled, two back-ups were also pulled at the time of random sampling in case members of the original sample were unresponsive. In cases where

Rede had to engage the back-ups and they were also not responsive, more contacts were randomly sampled until targets were met. A total of 20 OHA staff and managers were interviewed (12 staff and 8 managers), resulting in a response rate of 100%.

### OHA Director's Offices

Using two organization charts from OHA's website, project leads identified a list of 13 individuals they felt would have information relevant to the study questions. This list was reviewed by OHA to confirm position titles and contact information were accurate. Then, Rede requested interviews from all 13 on the list; 9 from the OHA Director's Office and four from the PHD Director's Office. One OHA Director was no longer in their position therefore, outreach was suspended. A total of 12 interviews from the Director's Office were completed. One interviewee from the OHA Director's Office suggested Rede speak to additional team members working in the OHA Office of Equity and Inclusion (OEI). Rede reached out to a group of four OEI staff and successfully completed the group interview.

### Health Care Associations

The following Health Care Associations were listed as possible study participants in the RFP, and in Rede's project proposal:

- Oregon Academy of Family Physicians (OAFP);
- Oregon Assoc. of Hospitals and Health Systems (OAHHS); and
- Oregon Primary Care Association (OPCA).

Rede researched the organizations to find contact information of executive-level leadership at each organization, and all three provided individual interviews.

### Non-OHA State Government Agencies

Numerous state-level agencies were included in the RFP and in Rede's project proposal. For Report 1, Rede conducted interviews with:

- Oregon Occupational Safety & Health (OR-OSHA);
- Oregon Department of Justice (DOJ);
- Oregon Office of Emergency Management (OEM);
- Oregon Department of Human Services (ODHS); and
- Business Oregon.



Purposeful sampling was conducted for each organization to engage executive leadership.

#### Tribal Nations

OHA provided a list of contact information for the nine Tribal Health Directors in Oregon. Rede reached out to all of these contacts for individual interviews and completed interviews with seven Tribal Nations.

#### Tribal Organizations

Rede, in collaboration with one of our partners, Kelly Gonzales, PhD, produced a list of tribal organizations to engage in this study. Two organizations came from the list of CBOs who received COVID-19 health equity funding provided by OHA, two were named in our RFP, and two were suggested by Rede staff or our partner. Executive leadership from all organizations on the list were contacted to participate resulting in two completed interviews.

#### Professional Associations:

Three professional associations were named in the RFP and Rede's proposal:

- Association of Oregon Counties (AOC);
- Coalition of Local Health Officials (CLHO); and
- League of Oregon Cities (LOC).

Executive leadership was purposefully sampled from each organization and all three interviews were completed.

#### Public Health Advisory Board (PHAB):

Rede acquired a list of PHAB members from the OHA website that was then verified with the OHA. Members with any OHA, LPHA, or Tribal Health Director affiliation were removed from the sampling frame as they were already engaged in the study through other study participant groups. That left seven members, and six were randomly selected to participate, with one designated back-up in case a randomly sampled member was unresponsive or declined to participate. This back-up member had already participated in the study via a focus group for CBOs and was ultimately excluded from PHAB sampling. A total of three PHAB members were interviewed for this study.

## Superintendents

Rede had planned to include interviews with superintendents of educational service districts (ESDs) and school districts in Report 1. However, after consulting with the Oregon Department of Education (ODE), it was decided that school district staff would instead be engaged for inclusion in Report 2 due to the summer being very poor timing to engage school districts.

## **Interview Recruitment**

The primary method for recruiting interview participants was via email. Recruitment email scripts were written and distributed by Rede staff. To boost response rates, recruitment email scripts were also provided to the client and to Rede's partners on the project and sent out throughout the data collection time period. If a participant was unresponsive to an initial email, at a minimum, one follow-up email was distributed, and in most cases, multiple follow-up emails and a phone call were made during recruitment. Incentives were offered to CBOs for their participation in the study at \$40/hr for interview and focus group participation.

Before scheduling, Rede requested information from potential interviewees about the length of time in their position, with the goal of interviewees meeting the following criteria:

1. Interviewees that had been in their current position since March 2020 or had been involved in the COVID-19 response within their organization in another position since March 2020.
  - a. If the potential interviewee did not meet the above item 1 criteria, Rede requested an additional interviewee within the organization who had been involved with COVID-19 response at a Director/Administration/leadership level since March 2020.
  - b. If the intended interviewee was unavailable during the data collection timeframe, Rede requested an alternative interviewee at the Director/Administration/leadership level who met criteria 1 above.

2. An interviewee could request an additional interviewee to join (such as the LPHA Director requesting the Public Health Director within their organization to join), but approval was evaluated on a case-by-case basis by Rede.

### **Interview Guide Development**

Rede staff developed interview guides for each informant group and two additional guides to allow for tailored questions for DOJ and OR-OSHA that differed from the other State Agencies (13 guides in total), which were then reviewed by partners based on area of expertise.

### **Interview Data Collection**

Interviews were scheduled for 45-90 minutes and were conducted by Rede staff or a partner via Zoom between July and Oct. 2022.

### **Interview Data Transcription & De-identification**

Interviews were recorded and uploaded to Rev for professional transcription. Once transcribed, interviews were reviewed by the interviewer for accuracy and de-identified to omit any information that could compromise the confidentiality of participants. De-identification journals were used by the analysts to record omitted information and for consistency in de-identification. Once the transcript was de-identified, the file was relabeled to remove participant names and uploaded to Dedoose qualitative analysis software for coding and analysis.

### **Interview Analysis**

Rede staff and contracted partners were divided into analysis teams and assigned to each of the 10 study participant groups for analysis. Coding teams reviewed transcripts for their respective data set and collaborated to develop a coding tree. One of the analysts then entered the coding tree into Dedoose. To establish inter-rater reliability, 1-3 of the same transcripts were coded by two analysts until consistency across coding reached at least 90%. Once inter-rater reliability was established, the remaining transcripts within the data set were divided among the coders and coded by one analyst each. When a data set contained three or fewer transcripts, a single analyst was

assigned to code the data set. After transcripts were coded, analysts reviewed codes and excerpts for key themes and important narratives.

## Focus Groups

### Focus Group Methodology

To broaden participation and expand on findings from the individual interviews, Rede engaged participants in focus groups. Focus groups were conducted with CBOs; City and County Emergency Management; and Tribal Organizations. In total, Rede Group, and partners supporting the project, conducted a total of 11 focus groups with 44 participants for Report 1.

### Focus Group Sampling

#### CBOs

As previously described in interview sampling, CBOs who received COVID-19 health equity funding were sorted into 10 primary populations served for this study. Four populations were identified as 1) priority populations within the pandemic response and 2) having at least six possible contacts after removing interview participants. In addition to this criteria, the study team evaluated the percentage of CBOs within a priority population that would have been engaged either through an interview or focus group in an attempt to achieve 50% or more of the CBOs within each priority population represented in this report. Rede also created a fifth focus group to hear from CBOs serving rural populations. Ultimately, Rede sampled CBOs serving:

- AA/Black individuals/communities;
- Latinx individuals/communities;
- People with disabilities;
- People who are houseless/unhoused; and
- Rural individuals/communities.

After removing CBOs that had already been interviewed for the study, all CBOs were categorized as rural or urban using the geographic designations provided by the Oregon

Office of Rural Health<sup>1</sup> and 12 CBOs were randomly sampled and asked to join the rural focus group. After removing those pulled for a rural focus group, Rede then randomly sampled 12 CBOs (or all remaining CBOs if 12 were not available) from each of the four population groups to participate in the other four focus groups. Ultimately, four focus groups were completed with CBOs serving rural populations, AA/Black individuals/communities, Latinx individuals/communities, and the houseless/unhoused. No CBOs serving people with disabilities agreed to participate in the focus group. A total of 27 CBOs participated in the four CBO focus groups.

At the conclusion of each focus group, a demographic survey was distributed to all participants asking them to provide information about their region, role within their organization, the number of employees at their organization, and the length of time they've spent in their current position. Sixteen of twenty-seven CBOs completed the demographic survey. Results of the survey are summarized below in Figures 2-5:

---

<sup>1</sup> Oregon Office of Rural Health. (2020, October 8). *Spreadsheet of Oregon Zip Codes, Towns, Cities and Service Areas and their ORH Urban/Rural/Frontier Designation*. Excel sheet.  
<https://www.ohsu.edu/oregon-office-of-rural-health/about-rural-and-frontier-data>

Figure 2: In which region of Oregon is your organization located?

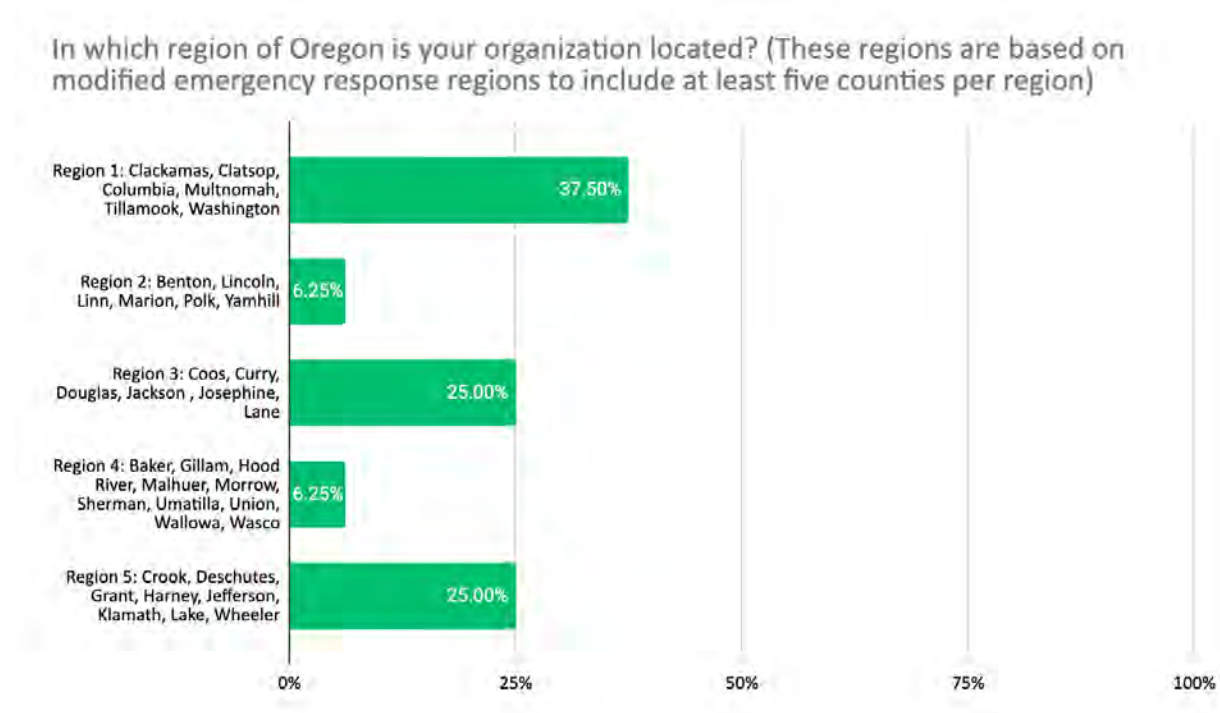
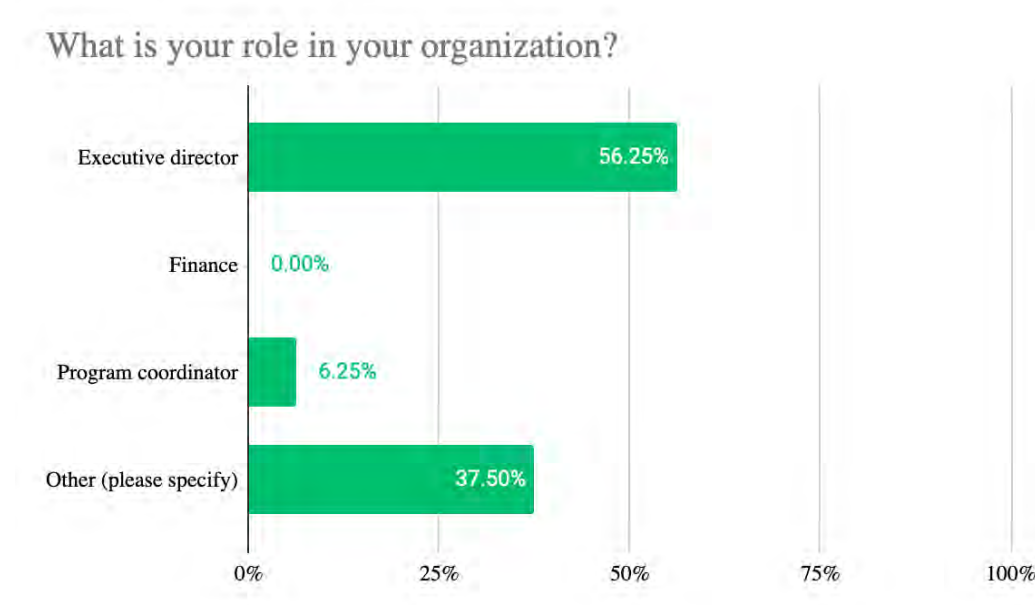


Figure 3: What is your role in your organization?



"Other" responses in Figure 3 included partnerships director, community care director, director of development, president, and case manager.

Figure 4: How many employees are currently employed at your organization?

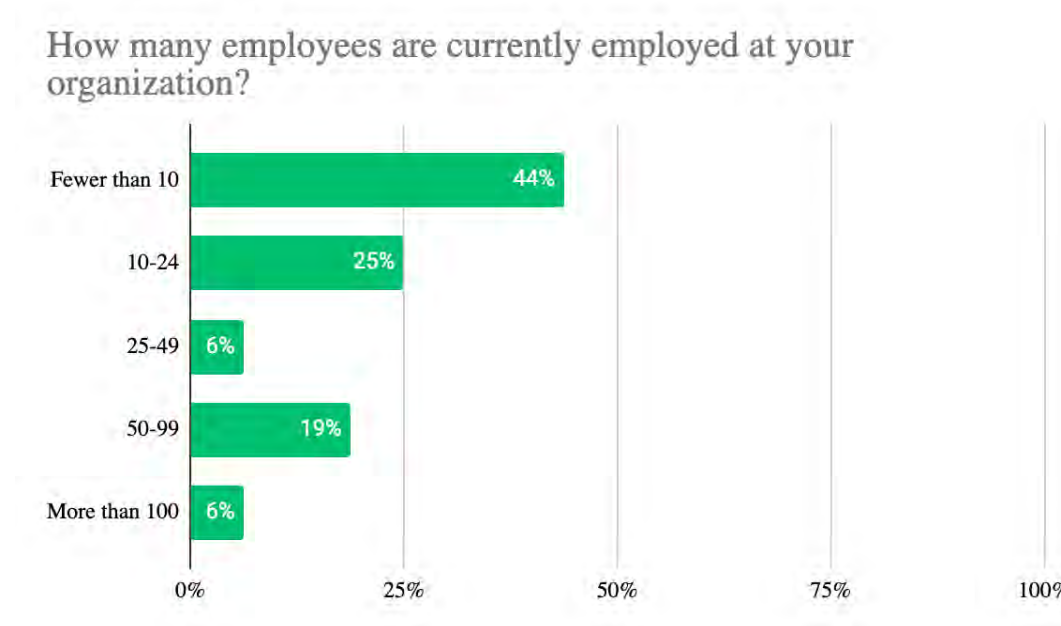
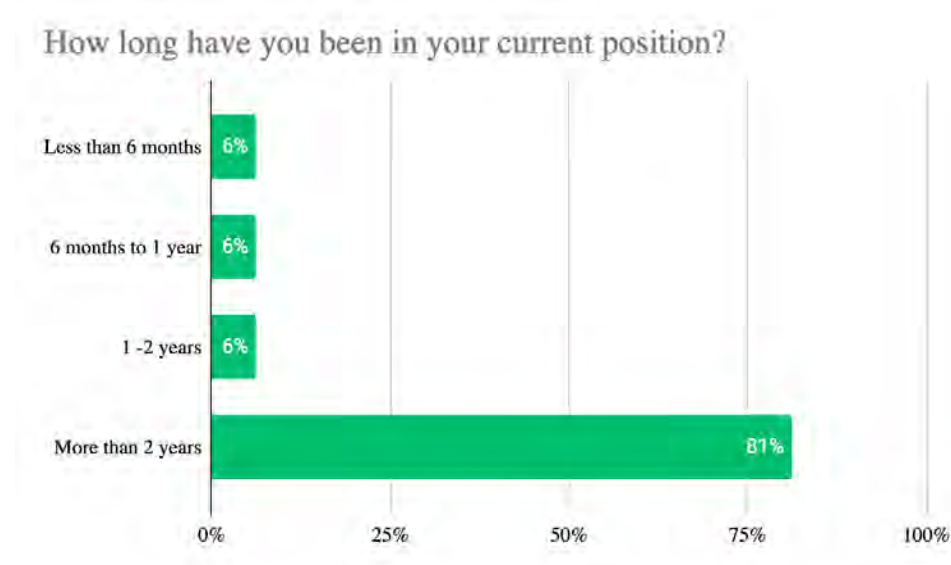


Figure 5: How long have you been in your current position?



## City, County, and Tribal Emergency Management

Rede acquired a list of City, County, and Tribal Emergency Management offices from our partners at CCS. These offices were then split up into five regions (see Figure 10). Up to 12 (or all if fewer than 12 in a region were listed) from each region were randomly selected to participate in focus groups. Rede had planned to conduct five focus groups with City, County and Tribal Emergency Management (1 group for each region), however, some members of this participant group had to respond to an emergency that arose just before the focus group was to be conducted. Rede opted to complete two focus groups for Region 1 to accommodate participants who would not be able to make the initial focus group due to their role in responding to wildfires. Ultimately, six focus groups with City and County Emergency Management were conducted with 10 participants.

At the conclusion of each focus group, a demographic survey was distributed to all participants. Ten Emergency Management staff completed the demographic survey. Results of the survey are summarized below in Figures 6-9:

*Figure 6: In which region of Oregon is your organization located?*

In which region of Oregon is your organization located? (These regions are based on modified emergency response regions to include at least five counties per region)

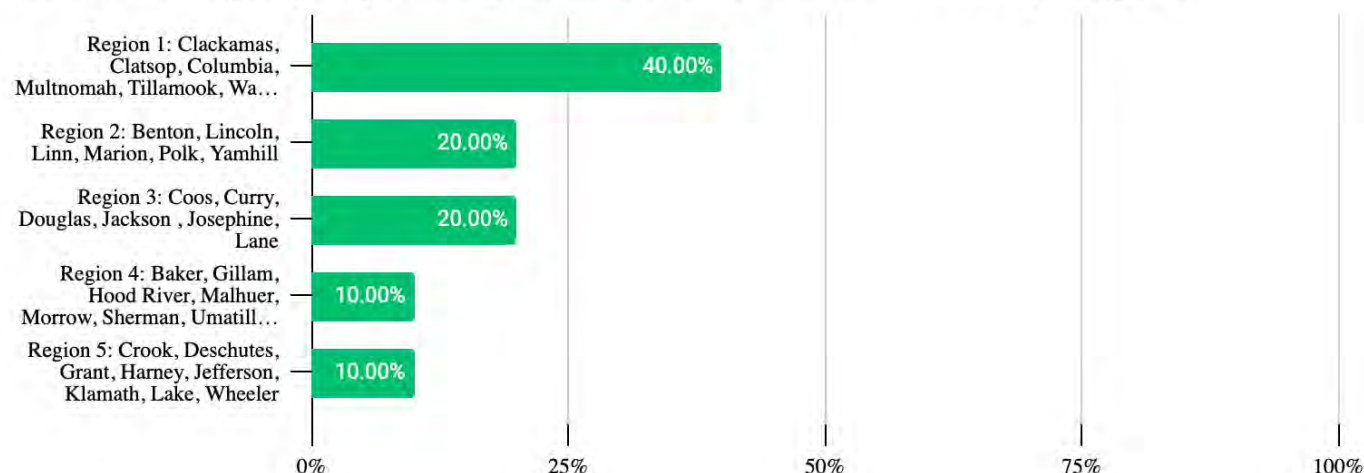
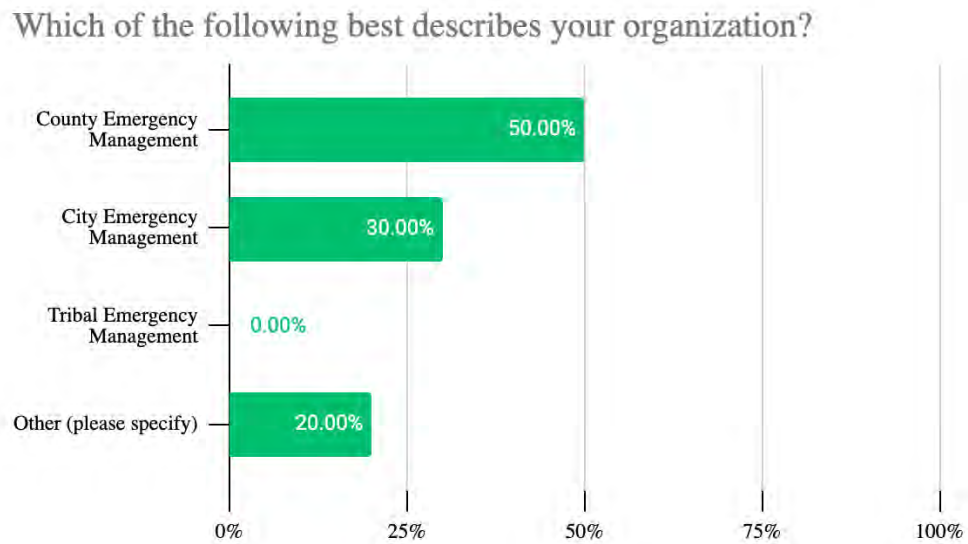




Figure 7: Which of the following best describes your organization?



"Other" responses in Figure 7 included regional government and emergency management liaison.

Figure 8: What is your current role and/or title in the EM office/program?

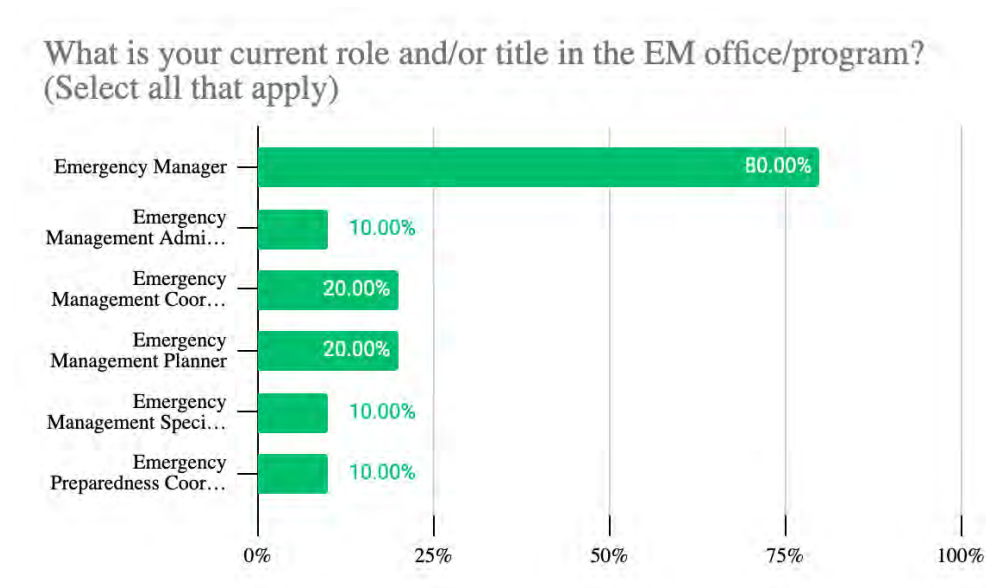
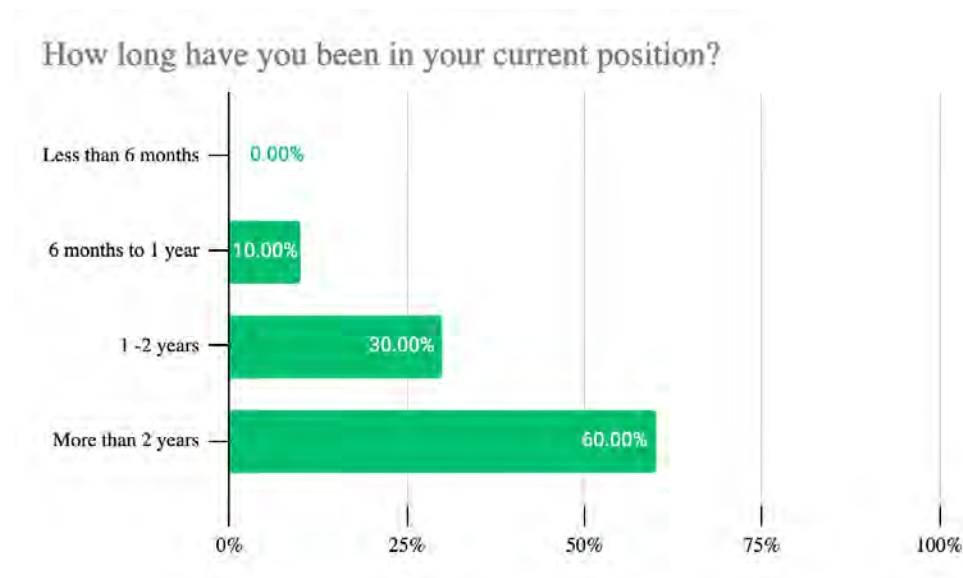


Figure 9: How long have you been in your current position?



### Tribal Organizations:

Rede, in collaboration with one of our partners, Kelly Gonzales, produced a list of Tribal Organizations to engage in this study. Two organizations came from the list of CBOs provided by OHA, two were named in our RFP, and two were suggested by Rede staff or

our partner. Executive leadership from all organizations on the list were contacted to participate in the focus groups. One focus group was conducted with 7 participants.

School Principals

Rede had planned to include focus groups with principals in Report 1. However, due to the timing of data collection over the summer, it was decided that school district staff would instead be engaged in Report 2.

*Table 6: Focus group sampling strategies*

Stratified random sampling	Purposeful sampling
<ul style="list-style-type: none"><li>● CBOs</li><li>● City, County, and Tribal Emergency Management</li></ul>	<ul style="list-style-type: none"><li>● Tribal Orgs.</li></ul>

**Focus Group Recruitment**

The primary method for recruiting focus group participants was via email. Recruitment email scripts were written and distributed by Rede staff. To boost response rates, recruitment email scripts were also provided to OHA and Rede’s partners on the project and sent out throughout the data collection time period.

**Focus Group Guide Development**

Rede staff developed interview guides for each participant group, which were then reviewed by partners based on area of expertise.

**Focus Group Data Collection**

Focus groups were scheduled for 90 minutes and were conducted by Rede staff or a partner via Zoom in September 2022.

## **Focus Group Data Transcription & De-identification**

Focus groups were recorded and uploaded to Rev for professional transcription. Once transcribed, focus groups were reviewed by the interviewer for accuracy and de-identified to omit any information that could compromise the confidentiality of participants. De-identification journals were used by the analysts to record omitted information and for consistency in de-identification. Once the transcript was de-identified, the file was uploaded to Dedoose qualitative analysis software for coding and analysis.

## **Focus Group Data Analysis**

Rede staff and contracted partners were divided into analysis teams and assigned to each of the three study participant groups (CBOs, City and County Emergency Management, and Tribal Organizations) for analysis. Due to similarities in the interview guides, Tribal Organization interviews and the focus group were analyzed together. Coding teams reviewed transcripts for their respective data set and collaborated to develop a coding tree. One of the analysts then entered the coding tree into Dedoose. To establish inter-rater reliability, 1-3 of the same transcripts were coded by two analysts until consistency across coding reached at least 90%. Once inter-rater reliability was established, the remaining transcripts within the data set were divided among the coders and coded by one analyst each. When a data set contained three or fewer transcripts, a single analyst was assigned to code the data set. After transcripts were coded, analysts reviewed codes and excerpts for key themes and important narratives.

## **Process Interviews**

During the period of data collection for this report, individual interviewees were chosen by either random stratified sampling or purposeful sampling. However, it became clear that certain questions related to the data being collected would need to be answered by specific individuals. For this reason, the study team developed a second type of individual interview, the process interview.

Participants for these interviews were selected based on advice from our OHA, PHD Contract Administrator (Danna Drum), and were based on questions from Rede to OHA

about specific aspects of the response. The purpose of this interview category was to aid Rede's understanding of particular structures and processes that were established or utilized by OHA for categories of work within the public health system's response to the COVID-19 pandemic. The interviews were 30-60 minutes long and conducted by senior interviewers at Rede. This subject group was in the sampling frame for staff and managers' interviews, but when participating in a process interview, participants were asked to restrict their responses to objective descriptions of structures and processes.

For analysis, process interviews were recorded and transcribed following the data security and storage standards described for all other qualitative data collection methods. These interviews were not coded, but interviewers would instead include findings from the interview in an intrateam memo or another form of communication to the study team. In total, Rede conducted 11 process interviews (nine with OHA staff and managers and two with State Agencies).

## **Document Review + Analysis**

In total, the study team cataloged 1,184 documents and 5 websites pertinent to the study. 1,100 of these documents were provided to the study team by the client, 24 were provided from other sources (including legislators and OHA staff selected for process interviews), and the remaining 60 were procured by the study team from web searches.

For analysis, documents were cataloged and categorized by the type of document and subsector within the public health system (eg. LPHAs, CBOs, Tribal Nations, etc.). Categorization of documents was an iterative process that helped structure document analysis. The study team identified 19 relevant public health subsectors in these documents, including but not limited to OHA; LPHAs; CBOs; tribal nations and organizations; state agencies such as OEM, OLCC, and OR-OSHA; and the Governor's office. Fourteen general categories of documents were identified, and then documents were further sorted during analysis. Categories of documents that significantly contributed to the writing of this report include:

## **Executive Orders from the Governor's office**

The study team located all executive orders related to the pandemic response in Oregon from the Governor's office website. These executive orders were used, in collaboration with OHA, to establish the stages of the pandemic that the study team used in primary data collection and analysis for this report.

## **Funding and Spending**

Funding and spending documents were identified as budgeting guidance, sample contracts with CBOs, work plans and budget forms from LPHAs and Tribal Nations, and FAQ documents for federal funding streams. These documents were used to total the money received by OHA and spent on the Oregon public health system response, give an overview of funded activities, and supplement findings from primary data collection.

## **Enforcement**

The category of enforcement documents contains many sub-types of documents. The study team received 888 documents in this category, including:

- Warning letters and general guidance documents from OHA to support compliance with executive orders;
- OHA reopening team emails containing constituent complaints about non-compliance of businesses and other organizations in their communities;
- Complaint forms and notices of alleged safety or health hazards from OR-OSHA, and a tracking sheet of all COVID-related violations and inspections that OR-OSHA investigated from May of 2020 - September of 2022; and
- License inquiries and notices of license suspensions from the Oregon Liquor and Cannabis Commission (OLCC) to businesses out of compliance with executive orders.

## Quantitative Phase

### Survey

#### Survey Methodology

Primary data collection for quantitative data was collected via a series of online surveys that were tailored for each informant group. There were a total of five unique surveys distributed to five informant groups (CBOs, CCOs, LPHAs, Local EMs, Tribes) identified by OHA in the RFP.

#### Survey Sampling

##### CBOs

The survey was distributed to 166 CBOs who received Health Equity funding from OHA (after removing undeliverable email addresses). There were a total of 66 responses, with five respondents that did not complete the survey beyond the demographic information and three respondents that submitted partial surveys, for a response rate of 37%. The three partial responses are included in the analysis.

##### CCOs

The survey was sent to the CEO/ED/President of each 16 Oregon CCOs. A total of 7 returned surveys are included in the sample for CCOs, for a response rate of 44%.

##### LPHAs

The survey was distributed to all Oregon LPHAs. It was sent to a variety of positions within each LPHA, including Administrator, Public Health Director, PH Officer, Communicable Disease Lead, Emergency Preparedness Manager or Coordinator, Public information officer, Equity lead or liaison (if applicable), and Epidemiology lead (if applicable), for a total of 118 recipients (after accounting for bounced back emails). A total of 40 returned surveys are included in the sample for LPHAs, with one respondent that did not complete the survey beyond the demographic information and one respondent that submitted an incomplete survey, for a response rate of 33%. Although

surveys were completed by LPHA in each of five regions, there is not enough representation across regions to conduct analysis of LPHA surveys by regions.

### Education

Rede intended to send a survey out to School District and Educational Service District Superintendents. However, due to the timing of data collection over the summer and in coordination with ODE it was decided that Superintendents would instead be engaged for Report 2.

### Emergency Management

The survey was distributed to all city, county, and tribal emergency management offices in Oregon. It was sent to a variety of positions within each agency, including Managers, Operations, Training, Community Planning, and Resilience, for a total of 128 recipients (after accounting for bounced back emails). There were a total of 23 responses, with 2 respondents that did not complete the survey beyond the demographic information and one respondent that completed less than 25% of the survey, for a response rate of 16%. Data from the incomplete survey were included in analysis.

### Tribes

The survey was distributed to the Health Director or equivalent position at each of Oregon's nine federally recognized Tribes. Only one Tribe responded to the survey, so these data will not be included in the report.

### Survey Development

All surveys were developed by the study team. After preliminary qualitative analysis, the study team used these findings to inform development of each specific survey. After a survey matrix was completed, surveys were reviewed by a community partner. Partners' feedback was integrated into the survey before programming. For the CBO, LPHA, and Emergency Management surveys, a pilot survey was sent out to members of the target population group. Based on the pilot survey, additional changes were made to the surveys prior to finalizing the survey.



### **Survey Data Collection**

For the CBO, LPHA, and Emergency Management surveys, a pilot survey was sent out to gather feedback and make changes prior to sending out to the entire list of recipients. Surveys were disseminated through Survey Monkey directly to recipients with a unique link in order for the study team to track responses and provide reminders. The surveys were intended to be open for two weeks for each participant group, however, due to difficulties in getting responses, the surveys were open longer than anticipated as additional recruitment strategies were utilized.

### **Survey Data Analysis**

Survey data was downloaded from Survey Monkey and analyzed within Google Sheets. The primary approach to analysis was descriptive, and when possible, subclass analysis was performed (such as by Region and/or pandemic Stage). Charts and other data visualizations were created to help interpret data to identify significant findings.

### **Secondary Data Analysis**

In order to answer the following question, “What were the differences in COVID-19 health outcomes by race, ethnicity, disability, age, and geography?”, it was necessary to use secondary data sources. We also used secondary data sources to compare health equity outcomes related to the COVID-19 pandemic response, including second-hand health disparities resulting from the increased strain on hospitals, health systems, and resources. Detailed methodology relating to secondary data sources are described below and additional information for specific indicators can be found in Appendix J and Appendix K.

## **Secondary Data Sources**

The study team used an array of different sources of secondary data. All of the COVID-19 health outcome data, including COVID-19 case indicators, COVID-19 testing metrics, COVID-19 mortality indicators, hospitalization indicators, vaccination data, and emergency department visits came from the OHA COVID-19 Dashboard. The study team also used specific reports from OHA when data was unavailable on the COVID-19 dashboard. An example of this is that COVID-19 data on individuals with disabilities comes from a report by OHA that is updated quarterly; another example is incidence of MIS-C.

Data on the indirect effects of COVID-19 come from an array of sources, including OHA vital statistics and online dashboards, as well as a presentation on the indirect effects of COVID-19 from the PHD. Through meetings with staff from OHA and Program Design and Evaluation Services (PDES), we were able to access data from PDES related to the tracking and reporting of measures of the indirect effects of COVID-19 using the Healthier Together Oregon framework.

## **Secondary Data Analysis**

We examined COVID-19 health outcomes using basic descriptive statistics, focusing on epidemiological indicators of community spread, disease severity, and strain on the health care system. In many instances, we examined existing data by stage, across geography, age, race, and ethnicity.

## **Interpretation of Findings**

Findings pertaining to funding and CBOs across primary and secondary data sources were reviewed with partners in one 90-minute meetings and through

email. Partners included leadership from CBOs representing organizations primarily serving BIPOC, rural, and community members with a disability.

OHA convened a review committee of OHA staff, LPHA, Tribal Nation, and CBO representatives. The study team presented key findings and preliminary recommendations to the review committee to answer questions and gather feedback.

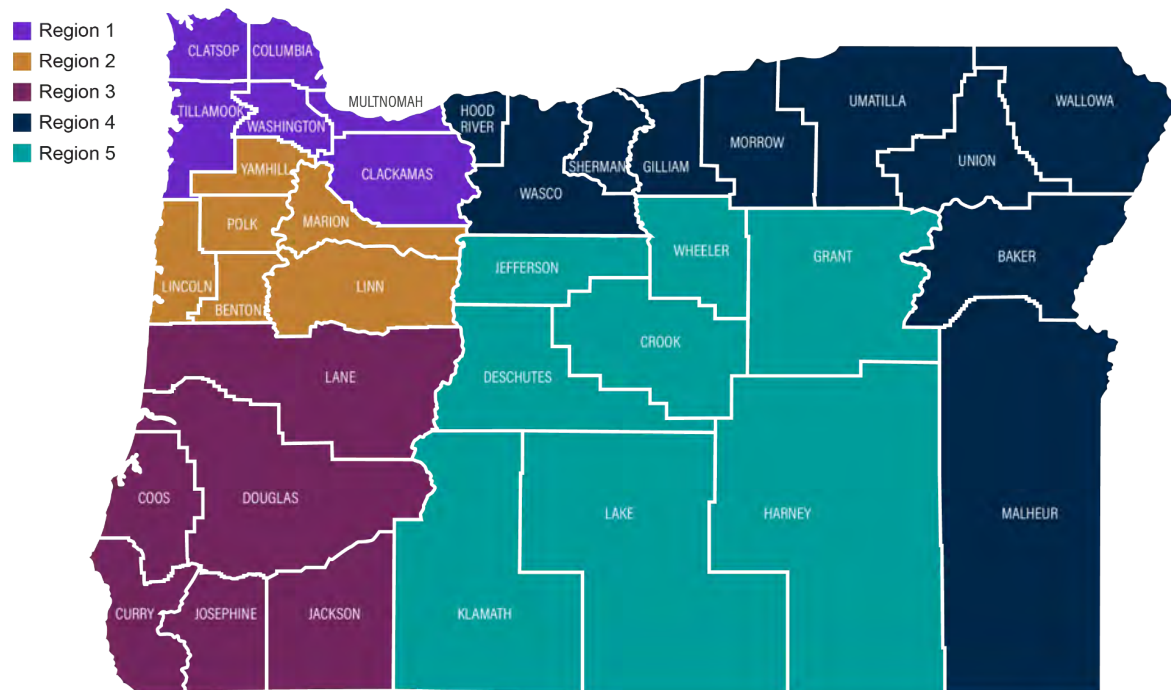
## **Counties by Region**

For this study, counties were divided into five regions. Oregon's Emergency Management regions<sup>2</sup> were modified to include at least five counties in each region to support the confidentiality of study informants. These regions were used to inform regional representation in data collection and as an analytic framework for the survey.

---

<sup>2</sup> <https://www.oregon.gov/oha/PH/PREPAREDNESS/PARTNERS/Pages/Regional-Support.aspx>

Figure 10: Counties by region



## Appendix H: Preliminary Survey Analysis

[OR Public Health Response to COVID-19: CBO Survey Preliminary Analysis](#)

[OR Public Health Response to COVID-19: CCO Survey Preliminary Analysis](#)

[OR Public Health Response to COVID-19: Emergency Management Survey Preliminary Analysis](#)

[OR Public Health Response to COVID-19: LPHA Survey Preliminary Analysis](#)

# OR Public Health Response to COVID-19: CBO Survey Preliminary Analysis

## Introduction

The survey was distributed to 166 CBOs who received Health Equity funding from OHA (after removing undeliverable email addresses). There were a total of 66 responses, with five respondents that did not complete the survey beyond the demographic information and three respondents that submitted partial surveys, for a response rate of 37%. The three partial responses are included in the analysis.

Table 1. Demographics of CBO Survey Respondents (N=61)

Characteristics	n (%)
Region	*Regions equal more than 100% because respondents could select all regions that apply
Region 1	36 (59.0%)
Region 2	10 (16.4%)
Region 3	15 (24.5%)
Region 4	6 (9.8%)
Region 5	5 (8.2%)
Stage Involvement	
Stage 1 only	2 (3.3%)
Stages 1-3	2 (3.3%)
Stage 2 only	1 (1.6%)
Stages 2-4	4 (6.6%)
Stages 3-4	1 (1.6%)
Stage 4 only	3 (4.9%)
All Stages	48 (78.7%)
Role	
Director/President/COO	35 (57.4%)
Finance/Grants	5 (8.2%)
Program coordinator	10 (16.4%)
Other	14 (21.3%)
Number of employees	
Fewer than 10	28 (45.9%)
10-24	11 (18.0%)
25-49	7 (11.5%)
50-99	7 (11.5%)
100-249	4 (6.6%)

More than 250	4 (6.6%)
---------------	----------

CBO Preparedness

CBO Preparedness

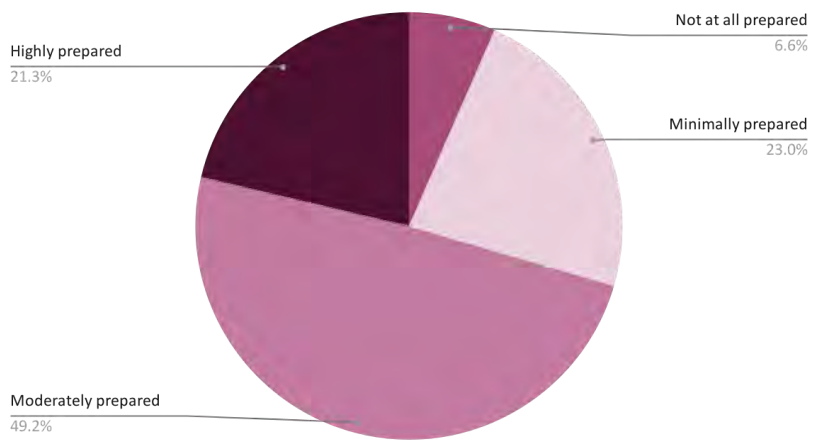
Most respondents (70.5%, n=43) felt that their CBO was either highly or moderately prepared for the COVID-19 pandemic (Figure XX).

Respondents reported the following reasons for the level of preparedness in their CBO:

Minimally or not at all prepared:

- *"Our organization normally is a program provider for youth and families, but not around direct services"*
- *"No resources were available"*
- *"We did not have a plan for adjusting to the emergency situation at the time of the shutdown. We did adjust as it went along and were able to shift workforce to a remote environment, but that took time to adjust and develop."*
- *"Before the COVID-19 pandemic we were a Social justice and advocacy group focused specifically on Queer & Trans Pacific islanders and we heeded the call to help all members of our community."*
- *"We are front line essential services to homeless clients."*
- *"Only in the sense the community has been bounded together with our efforts, which made us kind of ready for the Covid-19 pandemic."*
- *"We didn't have emergency food, our resource wasn't up and running and we weren't prepared for a pandemic."*
- *"It was such an unprecedented event we had never considered"*
- *"Community is historically marginalized in terms of health equity."*
- *"We had the infrastructure in place to reach our community, but we lacked the resources to do so."*
- *"Pandemic fundamentally changed the way we work. Moved from in-person to telephonic assistance. We were also poised to respond to need."*
- *"Most of our churches were not even in the 21st century as far as being with it electronically. We barely had websites, let alone taking contributions electronically. This was a HUGE change, but one that we were forced to make. Overall, it has been very beneficial. God works in ALL ways!"*
- *"It was all so new to everyone."*
- *"Our CBO provides affordable housing and education opportunities. We did not have experience or provide services around public health resources other than referring clients to local public health authorities."*
- *"We did have some PPE on hand, but were unprepared on how to mass distribute. This applies to community education materials very early on in the Fall of 2020."*

Figure 1: CBO preparedness (N=61)





- *"We have a long history of responding to community violence which requires lots of communication and collaboration with multiple stakeholders but nothing like Covid-19"*
- *"As a small organization serving the state we had some organizational capacity (personnel) to do this work, but with OHA funding we were able to increase that capacity. We also distributed covid relief funds to clients who needed it and we had never done that kind of work before."*
- *"Most of our case management documentation is still paper based, so we weren't very prepared to work remotely with clients."*

#### Moderately prepared:

- *"Our CBO is consistently performing better with each vaccine drive but there is always room for improvement."*
- *"Not sure anyone was "highly" prepared for this pandemic"*
- *"We could never be truly prepared, but I think you've all done a great job"*
- *"While we weren't previously involved in public health we were well positioned to quickly pivot in response to community need"*
- *"Navigating resources, guiding families, and working alongside other community based organizations to help families who have children experiencing disability in a responsive manner is our work."*
- *"Our organization is partnered with several communities in order to readily aid and assist community with preparedness."*
- *"WE were familiar with our role, LPHA role and what to expect from our separate lanes"*
- *"Two of the most important factors in ability to respond to the Covid-19 pandemic were established relationships with communities most impacted and community trust. We had both of those going into the pandemic, and were able to respond quickly to connect folks to information and resources."*
- *"We were able to move our peer service online and continue serving the community with peers and resources."*
- *"In the beginning, we weren't sure where to get the most reliable information and how to address the lack of access to information in multiple languages. Then, as we partnered with other CBOs and OHA our level of preparedness and access to reliable and translated information has increased. This led us to be more prepared to address question and distribute resources in different languages in our virtual English classes"*
- *"Within two weeks our agency was able to quickly develop policies and procedures for remote work, establish redundancies to prevent impact on clients, and create new programs to address the pandemic. I would have said highly prepared if those policies and procedures had already been in place."*
- *"Being a small organization allowed us to pivot to meet the needs of our community."*
- *"We anticipated some disruption but not to the extent that it manifested itself."*
- *"We now have experience in one PH response. To say that our organization is highly prepared to respond to COVID-19 pandemic, without the support of local public health would be irresponsible in my opinion. In Curry County OHA is our LPHA. OHA relies on CBOs like ours to provide a level of response to the pandemic our LPHA was unable to successfully navigate."*

- *“Our CBO is medium-sized (approx. 30 staff), and we have less capacity to respond quickly to direct community needs. We are not considered a direct service organization (in terms of rapid response services), but we are prepared to respond with communications, outreach, advocacy. A few of our programs/staff who work with directly impacted communities (elders, youth, non-English speakers, immigrants, small business owners, etc.) can respond and relay updates quickly.”*
- *“This CBO at the time of Covid-19 pandemic leadership was new and short staffed. So, only two people working part-time was difficult to get prepared, but we pivoted to do things on-line and adapted to the changes helped us to survive and continue despite the pandemic.”*
- *“Our EPP did not include pandemics, however staff experience working with youth on safety, well-being, and connection helped us be moderately prepared.”*
- *“We were able to quickly hire staff to fill the necessary positions and we were able to be responsive to OHA's scope of work.”*
- *“We have staff and resources to offer wraparound support and community education. However if incident rates returned to the high levels we previously saw it will still be a challenge to serve all the needs”*
- *“We had to learn as we were going, but the way we all connected was great.”*
- *“while we had not received funding in the past, our organization had experience in public health and emergency response and had both staff and community partners to conduct outreach and response in a proactive manner”*
- *“I would say "highly prepared" except that we are, like nearly everyone, experiencing staffing shortages.”*
- *“We are a health clinic and had just implemented EPIC as our EHR. It enabled us to transition quickly to telehealth and to be more coordinated with the hospital system and the other safety net clinics.”*
- *“I believe with the help of Oregon Health Authority we were ready to help and had resources available to those who needed help and guidance.”*
- *“Our team was ready, willing and able to implement covid protocol at our events and in daily operations. We are an extraordinarily flexible organization with the ability to respond quickly in emergency situations.”*
- *“We had communication recourses in place”*
- *“We had deep expertise related to disability accesibility and needs especially related to developmental disabilities . It was one more place where the invisibility and opression of disability manifested and we are a social justice org with deep community roots”*
- *“We had a good infrastructure in-place to build our COVID response upon.”*
- *“We began from the beginning of the grant educating about Covid an providing sanitary kits”*
- *“Being a trans and queer focused organization, we have had a lot of practice over the years working with people who were actively in crisis. We were skilled in wraparound supports, providing health education, harm reduction, disability justice, and prevention. All of these skill sets were applied to our work during the COVID-19 pandemic”*

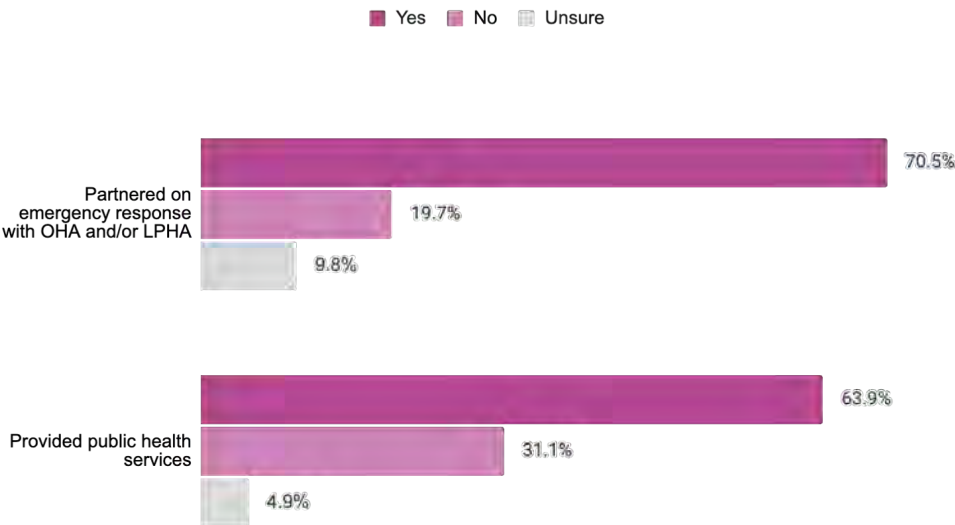
Highly prepared:

- *"With all the tools that have been giving to use we are able to support the community on a better level of understanding"*
- *"We immediately learned what we needed to do to protect our clients and the public and kept up with any updates provided by the CDC and OHA."*
- *"I choose highly prepared because I know we are. This is due to of our length of involvement, communications, training level received and resources that has been provided to us to carry out this work."*
- *"When covid hit our CBO's were ready to support effected families in any ways we could"*
- *"I waiver between moderately and highly prepared, but because the question says 'to date', I feel like we quickly hired staff to work solely with this grant and that they have become quite specialized at their work within our community. They see and adapt to needs as they arise."*
- *"This organization already has an emergency plan, operational support, and services implementation system."*
- *"We are a health clinic - and we were able to mount a testing site within 24 hours of the shut-down"*
- *"Strong clinical leadership ensure we were well prepared even when early information was still murky. Strong trust with our patients meant we were prepared to serve as a trusted resource for them."*
- *"We implemented the strict protocol, locked down our facilities, followed strict regulations from the Office of Child Care and the Office of Head Start. We implemented specific incident and follow up protocol."*
- *"My organization has the right information sources to share with our families, the connection with OHA to get the resources necessary to distribute to our families, and the team to support individuals and families served by our organization."*
- *"The experience we have gained over the past 2.5 years makes us feel confident that we can address and meet future health related emergencies such as the Covid19 pandemic"*
- *"We have stood up a vaccine clinic for over a year and have provided COVID testing for the same time. ALso WRAP services and education services."*
- *"Our current staff is prepared and trained to provide outreach, education, contact tracing, and provide Social/Wrap around services." "Our leadership team is working directly with LPHAs and OHA still in getting Vaccines and Testing to our local communities. We are still able to provide PPE and test kits during our day-to-day work. We are able to serve a diverse population without any hesitation."*

# Previous Emergency Response Experience

Respondents were asked if they had ever partnered with Oregon Health Authority or a Local Public Health Authority/County Health Department to assist in emergency response before COVID-19 or ever provided public health resources or support. Many respondents have either partnered on emergency response or [provided public health resources or support, and almost one fifth of respondents (18%, n=11) had done both in the past.

Figure 2: Previous experience with emergency response and public health activities (N=61)



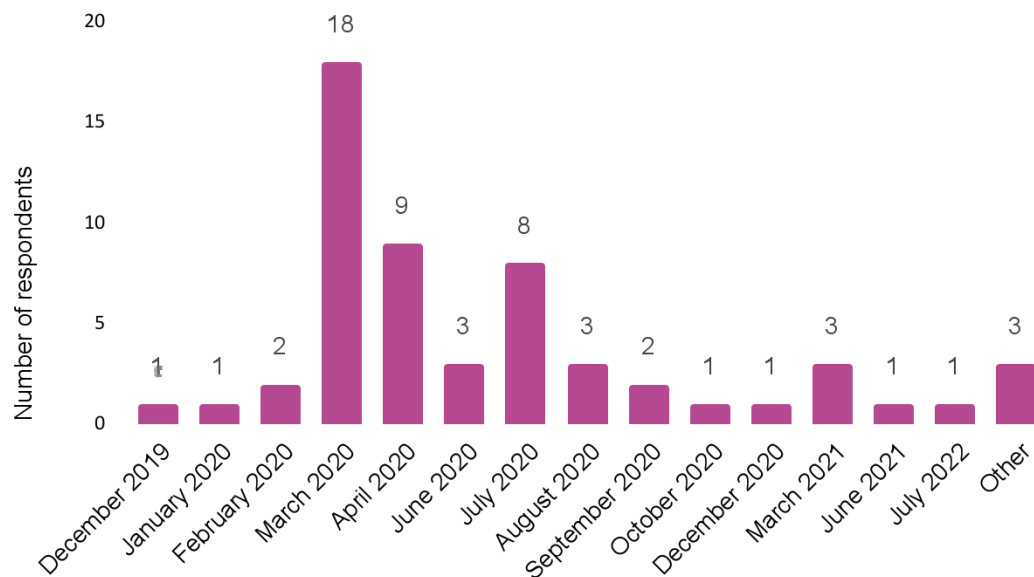
## COVID-19 Response Activities

### Formal start of pandemic response.

The majority of respondents began their CBOs formal COVID-19 response between March and July of 2020 (n=38). The three “other” responses were:

- *“as soon as it hit Portland, Or”*
- *“I began my position in March of 2021 and this organization had already received one waive of funding. I’m not sure of the original date.”*
- *“As soon as info began to be in media and we looked at research etc from other countries.”*

Figure 3: Start of CBO respondents formal COVID-19 response (N=59)



## Types of Response Activities

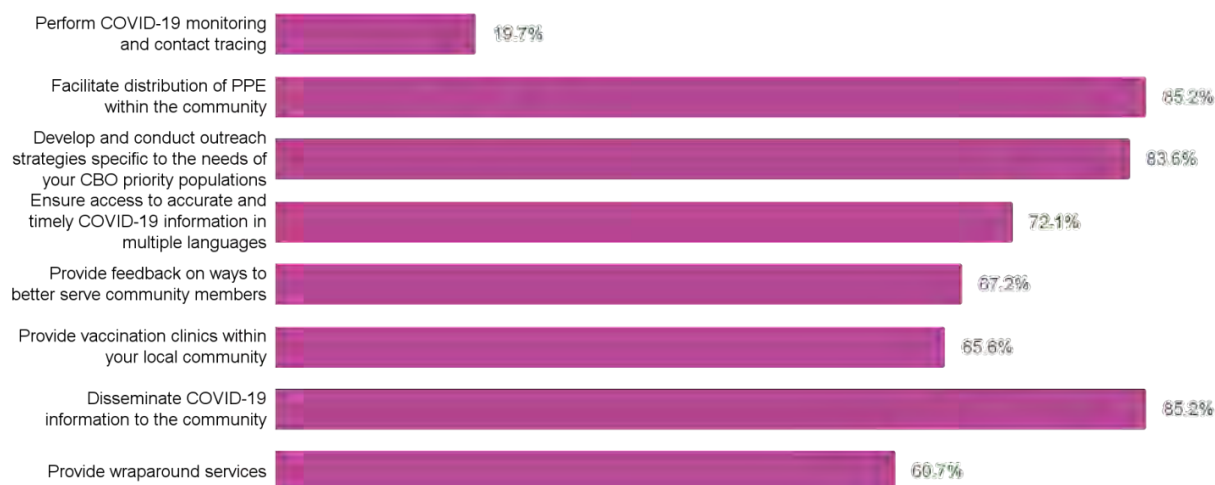
Respondents reported their CBOs were involved in an array of COVID-19 response activities. These activities are summarized in Figure 4.

Additionally, some respondents provided additional activities they engaged in:

- *“we began with testing*
- *“provide food and education kits for youth during lockdown”*
- *“Direct, low barrier cash aid targeted to low income Latino/a/x people in Josephine and Jackson Counties starting in March 2020”*
- *“Raised unrestricted funds to provide financial relief to people without Covid, provided Covid testing events”*
- *“Processed relief funds through the Oregon Worker Relief Funds”*
- *“Mediation between the mask wearers and the non-mask wearers in our congregations”*

- *“Hot Meals were delivered to our members by staff on a daily basis which also allowed to check on the health status of our members and provided an opportunity for us to help educate the public.”*
- *“COVID testing and treatment, mental and behavioral health support related to COVID stress”*
- *“We often were waiting for info in other languages and visual tools we created Covid comics that better met our needs these were widely used and supported by OHA and CBOs”*

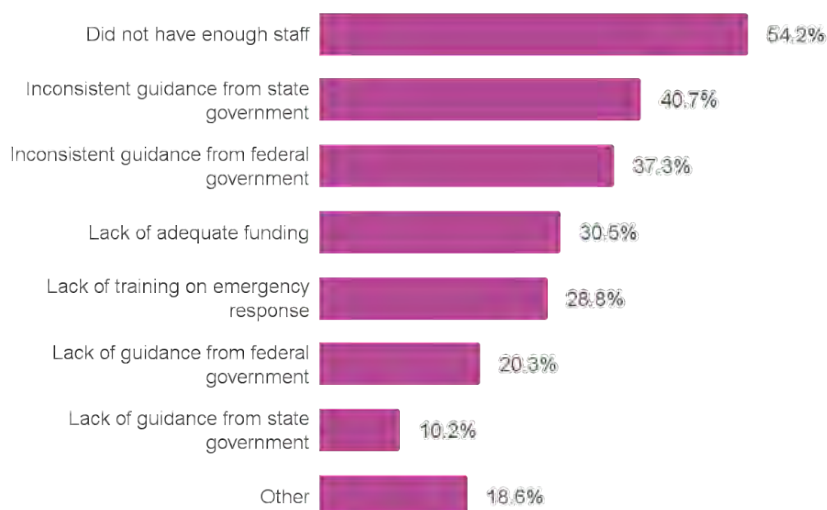
Figure 4: CBO COVID Response Activities (N=61)



## Challenges and Barriers to COVID-19 Response

Almost all respondents (95.0%, n=56) reported there were challenges that hindered the effectiveness, scale, or quality of their CBO's response to the COVID-19 pandemic. A total of 3 respondents (5%) reported they did not experience any challenges that hindered the effectiveness, scale, or quality of their CBO's response.

Figure 6: Challenges hindering the effectiveness, scale, or quality of CBO's response (N=59)



The percent of reported challenges are reported in Figure 6. The top 5 most frequently reported challenges include inadequate staff (54.2%), inconsistent guidance from state government (40.7%), inconsistent guidance from federal government (37.7%), lack of adequate funding (30.5%), and lack of training in emergency response (42.9%). A few respondents reported other challenges, which included the following:

*“conflicting guidance between state & federal mandates”*

*“Lack of guidance and support from county government.”*

*“Inconsistency/delayed response from LPHA”*

*“When information was changing rapidly, urgent updates often came in English only at the local County, state, and Federal levels. We had to translate to other languages, and to plain language, slowing access to information for many during the pandemic. It also placed additional burdens for translation on CBOs.”*

*“Health systems unwilling to change their strategies for vaccination after months of advocacy about the barriers their sites had”*

*“The acceptance of some large scale in person gatherings during the height of the pandemic made many rural Oregonians question the information they were receiving from public health.”*

*“guidelines changing so often and keeping up with the demands of the clients”*

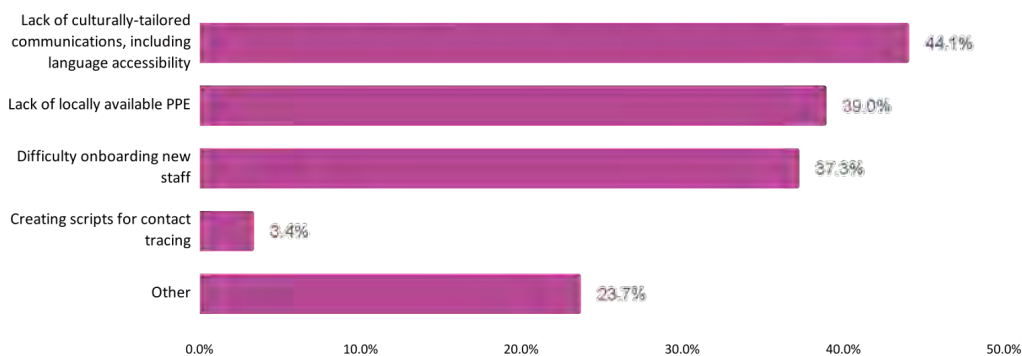
*“The frequency with which rules were changed throughout the pandemic made it difficult.”*

*“Inconsistent guidance across agencies. Contact tracing never occurred for many.”*

*“The two choices regard the beginning stages of the pandemic”*

*“Oppression of PWD and distressing messages from our community about how they were being treated senate bill advocacy helped”*

Figure 7: Barriers, not related to funding, CBOs experienced during their response (N=59)



Respondents were also asked what barriers unrelated to funding they experienced during their CBOs COVID-19 response. The three most frequently reported barriers were a lack of culturally-tailored communications (n=26), lack of locally available PPE (n=23), and difficulty onboarding new staff (n=22). A few respondents provided additional barriers that they experienced:

*“competing demands as a large multiservice organization”*

*“Vaccine providers having incorrect information (not allowing the population we served to access vaccines) created a lot of confusion for families and providers, and additional work for us.”*

*“Confusion over the vaccine rollout prioritization”*

*“vaccine hesitancy”*

*“Changing funding guidelines.”*

*“Difficulty in reaching some vulnerable populations when staff was mostly working remotely.”*

*“Contacting clients to get their info while they were sick”*

*“Mediation between the mask wearers and the non-mask wearers in our congregations.”*

*“staffing shortages”*

*“Managing numerous OHA meetings in addition to direct work with the community.”*

*“Availability of PPE got better in 2021, and availability of testing fluctuated wildly throughout until spring 2022”*

*“Working with LPHAs”*

*“We have languages in our community that do not have "official" approved translators nor is there a program to certify translators for these specific languages.”*

*“blatant disability prejudice early on and lack of understanding of care units family and support staff needing access to vaccines etc”*

## Vaccinations

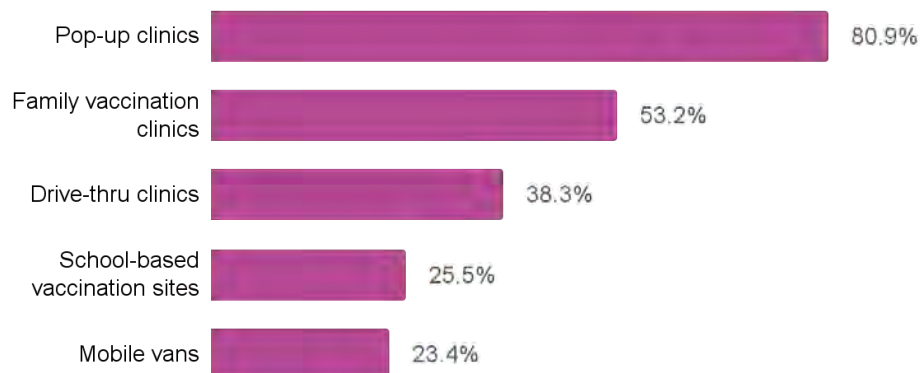
About 77% of respondents (n=43) reported they coordinated or provided vaccination clinics in their community; 18% (N=11) reported their CBO did not coordinate or provide vaccination clinics. A breakdown of the vaccination distribution methods CBOs provided or supported are shown in Figure X. Some CBOs provided additional distribution methods, including the following:

*We hosted vaccination events with the county using our facilities and in concert with others*

- *Faith-based sites (n=3)*
- *Food give-aways (n=1)*
- *Locations serving vulnerable populations (e.g., congregate sites, disability-specific sites) (N=2)*
- *Weekly clinics, including temporary sites CBOs rented as well as permanent clinic sites (n=2)*

*“Culturally and linguistically responsive vaccination events”*

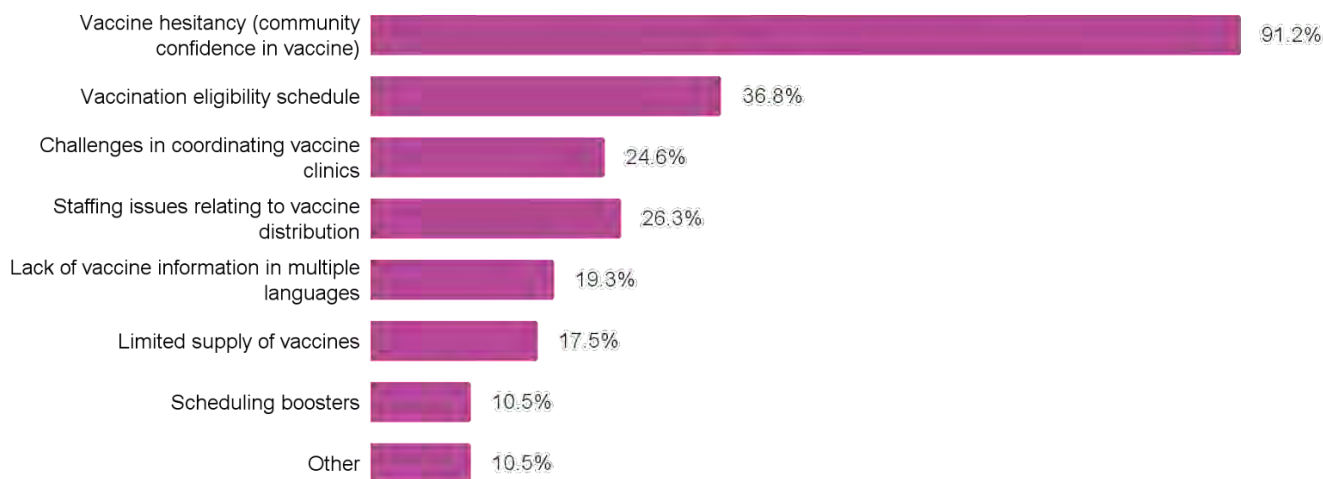
Figure 8: Vaccine distribution methods used by CBOs involved in vaccine clinic coordination and response (N=47)





Survey respondents were also asked to select from a variety of challenges they may have experienced in supporting vaccination efforts. The top five reported barriers were vaccine hesitancy (91.2%, n=52), vaccine eligibility schedule (36.8%, n=21), staffing issues related to vaccine distribution (26.3%, n=15), challenges in coordinating vaccine clinics (24.6%, n=14), and lack of vaccine information in multiple languages (19.3%, n=11).

Figure 9: Barriers CBOs experienced when supporting vaccination efforts (N=57)



Respondents also provided feedback on what strategies helped increase COVID-19 vaccination uptake. The top three responses were community- or population-specific vaccine clinics (84.7%, n=50), culturally tailored vaccine communications to the community (72.9%, n=43), and incentives for receiving vaccines (66.1%, n=39). The other responses provided were:

*“Drag performances doubled our attendance!”*

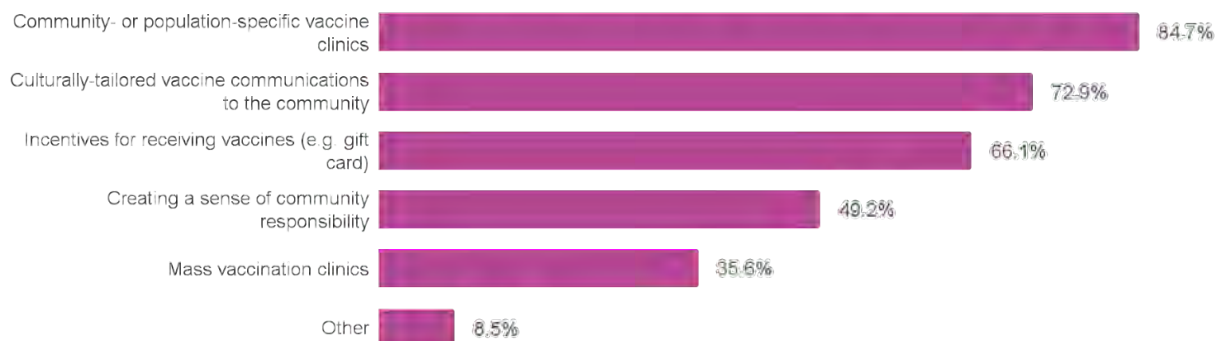
*“Created welcome for PWD [Persons with Disabilities] was vital and got better over time”*

*“Communicating that we are keeping ourselves vaccinated so that those that are vulnerable will be safe.”*

*“Collaborating with a group of CBOs with the same goals”*

*“I don’t like the idea of giving cash incentive which causes so much moral hazard in the community and make same efforts much less effective.”*

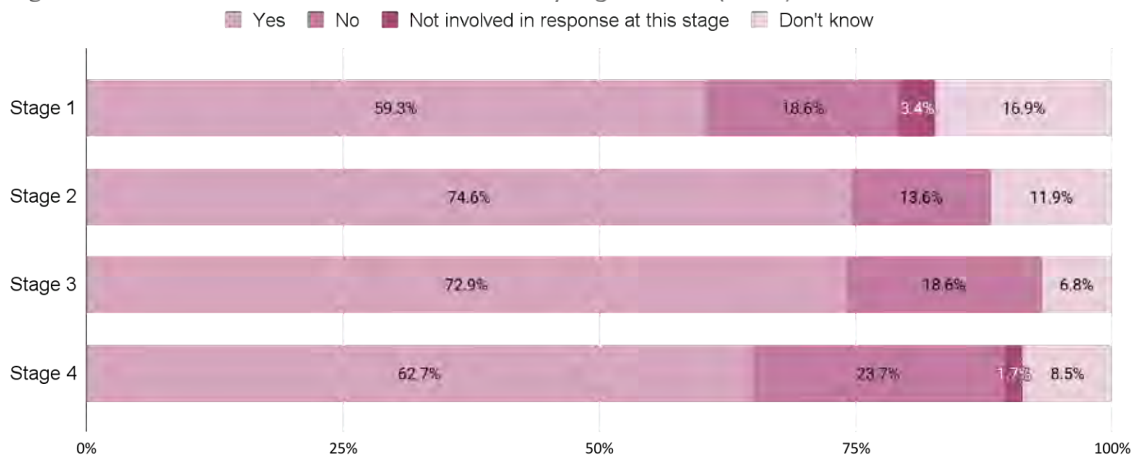
Figure 10: What was helpful in increasing the number of people who received the COVID-19 vaccine (N=55)



## Supports for COVID-19 Response

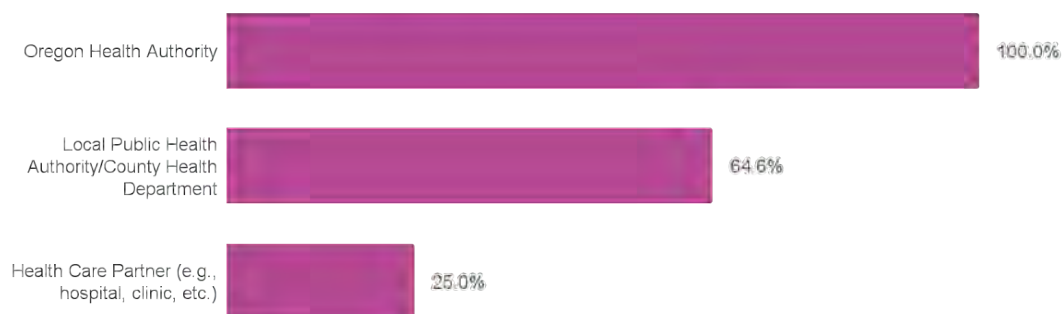
Respondents were asked if they received technical assistance for their COVID-19 response activities during each stage. Forty-eight respondents reported receiving technical assistance at any stage.

Figure 11: Technical assistance received from any organization (N=59)



Of the 48 CBOs who reported receiving technical assistance, 100% reported receiving TA from OHA, 64.6% (n=31) reported receiving TA from LPHAs or the County Health Department, and 25.0% (n=12) reported receiving TA from healthcare partners. Approximately 10.4% (n=5) of respondents reported their CBO received TA from a different source. Other sources of TA included : Oregon Council on Developmental Disabilities, national disability groups and international disability research and best practices, and the Nonprofit Association of Oregon (NAO).

Figure 12: Agencies CBOs received TA from (N=48)



Respondents were asked to reflect on what supports would have supported their CBO when beginning their COVID-19 response. About half of respondents reported a dedicated staff contact at governmental partner organizations would have been helpful (52.5%, n=31), and almost half also reported that communication about and support applying for funding opportunities would have been helpful (49.2%, n=29). "Other" responses included:

*"not closely involved in roll-out at each stage to respond accurately"*

*"A willingness from our LPHA to directly answer questions and support guidelines, vaccinations, etc."*

*"Support for filing reports correctly, actual hand"*

*"Support applying for funding is only helpful if the funding opportunities are accessible, which many were not."*

*"Governor, OHA and LPHAs recognizing the inequitable burden on the Latinx community and designing immediate strategies to ameliorate the issue"*

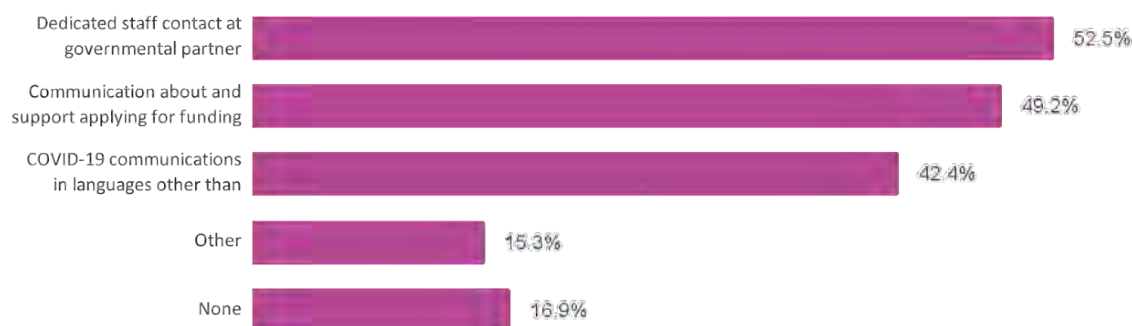
*"Sample policies and procedures around remote work, working with vulnerable populations, etc."*

*"The facts weren't shared! It felt like it was more about politics than getting help out there. There was already medicine to help, so why wasn't it allowed to be used!!! That is what I would call politics!!"*

*"MOre flexible funding - ability to provide support to those impacted by COVID who were not necessarily in isolation"*

*"An understanding of equity as intersectional and much deeper commitment to empowering person centered disability practices. An assumption that every disability group has this is also a mistake. Separating race and disability was not always helpful"*

Figure 13: Supports that would have been helpful for CBOs when beginning COVID-19 response in their communities (N=59)



Additionally, some respondents had praise to share, captured in the "none" category on the chart. Comments included:

*"Considering the lack of historic precedent (for our organization and OHA) I thought the response was amazing. The staff at OHA, through this entire experience, was one of the best teams I have ever worked with."*

*"None oha very helpful"*

*"NA - received tremendous support from our LPHA"*

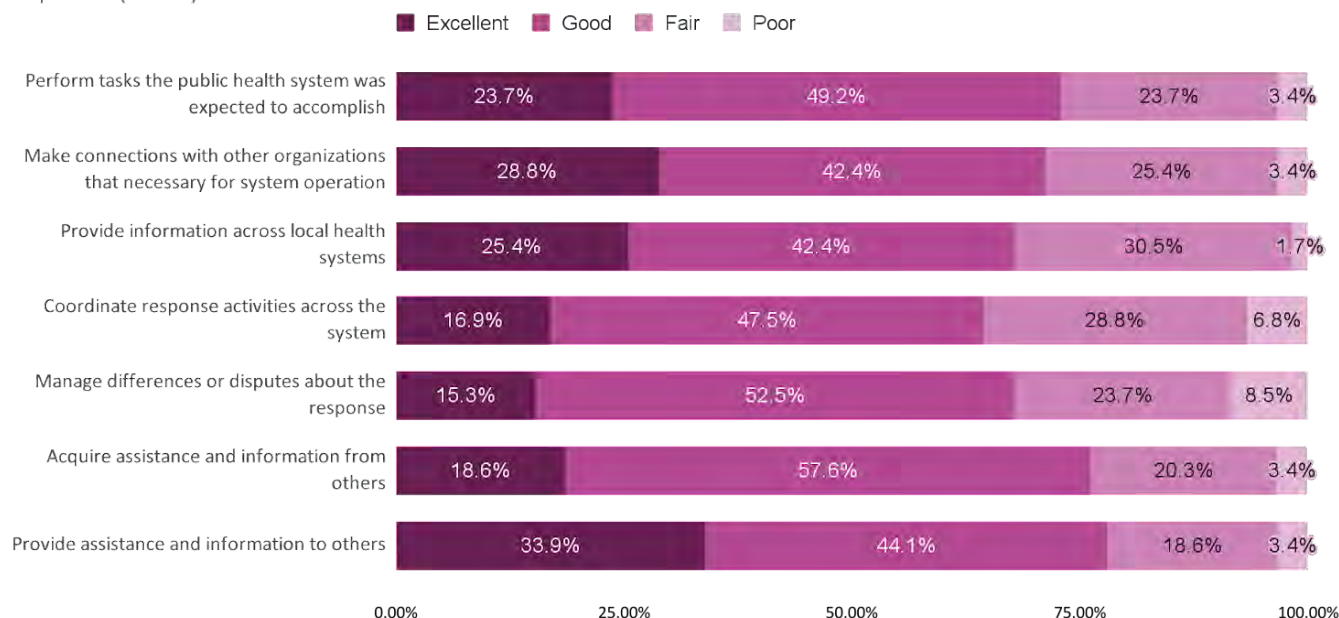
*"Felt we were supported"*

*"none We had all of the previous support available"*

## Public Health System Response

Respondents shared their rating of how well OHA was able to perform public health activities throughout the pandemic.

Figure 14: CBO respondents rating how well OHA was able to engage in the following activities during COVID-19 response (N=59)



## Funding

### COVID-19 Funding Challenges

Almost all (91.8%, n=56) respondents reported challenges with COVID-19 funding (Figure 15); 8.2% of respondents (n=5) reported they did not have any challenges with COVID-19 specific funding. Some respondents reported additional challenges:

Figure 15: COVID-19-specific funding related challenges (N=61)



*“Hiring and onboarding staff during the pandemic was challenging.”*

*“I’d like to caveat that while each of these existed at one point or another, they have all been met with wonderful service at OHA. Questions were answered quickly and our staff adapted readily.”*

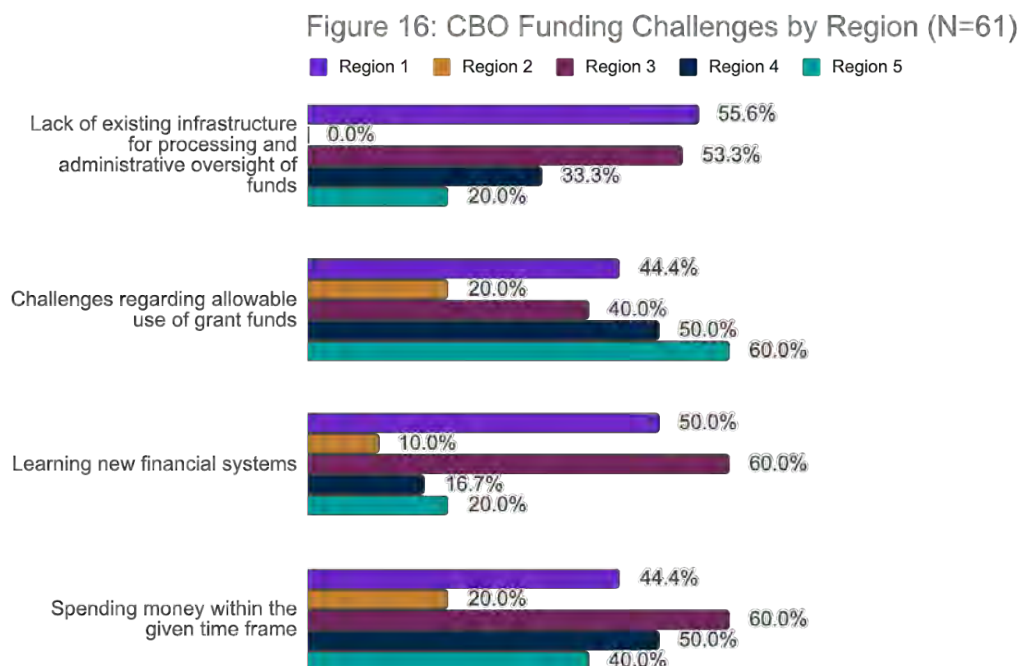
*“My previous employment used grants all the time, so I was very familiar with all the processes. However, no processes were in place so I had to create processes.”*

*“Hiring dedicated staff for undetermined term”*

*“changing administrative expectations and high turnover of staff we interacted with. It was very hard to keep track of it all. Also some of the informational meetings included an hour of introductions around the group, and that did not feel like a great use of time.”*

*“The FEMA auditor type role had people with no understanding of disability needs reviewing purchases and resources created for unique person centered needs there was a lot of learning OHA and FEMA needed to do”*

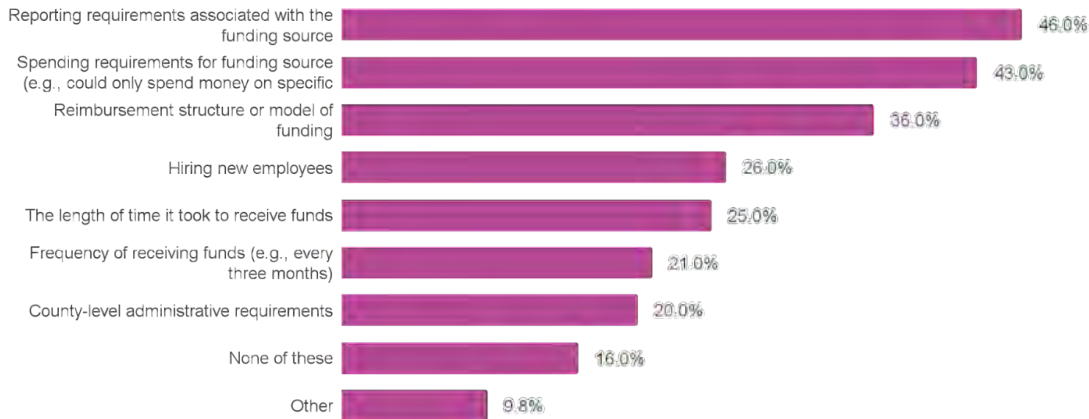
Funding Challenges varied across CBOs in different regions. See Figure 16.



## Barriers to Efficient Use of COVID-19 Funds

Approximately 16% (n=10) of respondents reported they did not encounter any barriers to efficient use of COVID-19 funds. The majority of respondents, however, (84%, n=51) reported experiencing at least one barrier. The most commonly cited barrier to efficient use of COVID-19 Funds was reporting requirements associated with the funding source (46%, n=28), followed by spending requirements for the funding source (43%, n=26) and reimbursement structure or model of funding (36%, n=22) (Figure

Figure 17: Barriers to efficient use of COVID-19 funds (N=61)



17).

Several respondents reported additional barriers to efficient use of funds, including the following:

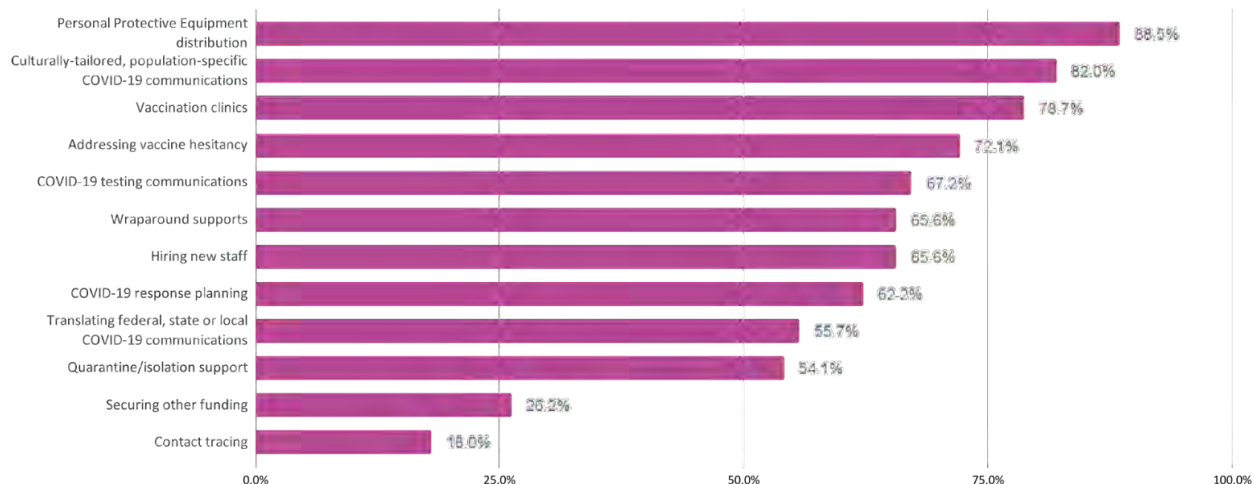
- *“Inconsistent funding timelines, frequent changes in OHA staff and poor communication between these staff members as they transitioned.”*
- *“Hesitancy to hire new employees using this funding, knowing this funding had an end date”*
- *“I believe that it was clear when it comes to how the funds could be used. Changes do occur in some fundings, but I believe it was due to the fact that this is a new situation ever to happen, and we all were figuring out together.”*
- *“The inability for CBO to do fundraising when everything was closed and forced to virtual non-contact interactions with the communities.”*
- *“FEMA was far worse than OHA but the speed meant that retro rules hit efforts and the folks OHA employed kept coming back again and again for more info and changing rules. It was very stressful and contributed to board decision to lay off staff as we could not assure cashflow timelines we needed.”*
- *“Response to changing environment: the learning curve was steep and pace of change was high.”*

## Funding uses

Figure 18 displays the ways that CBO survey respondents utilized their COVID-19 specific funding. The top funding use was for distribution of personal protective equipment (n=54), followed by

culturally-tailored, population-specific COVID-19 communications (n=50).

Figure 18: CBO COVID-19 Funding Uses (N=61)

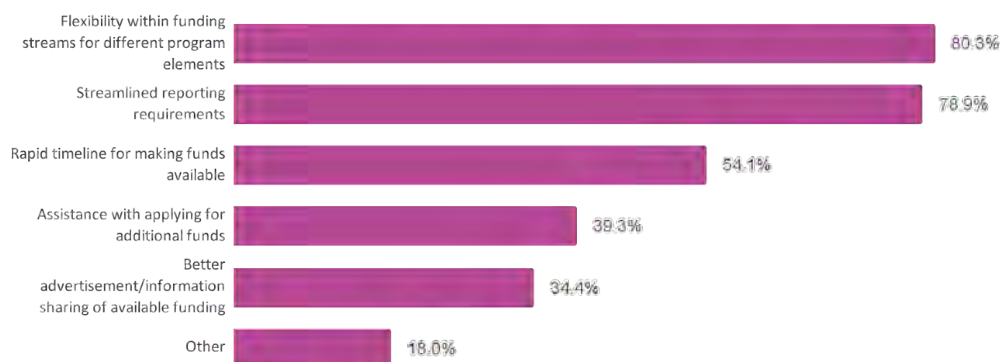


Some respondents provided additional comments related to the use of COVID-19-specific funding in their communities.

- *“Reengagement in the community (this has been especially difficult for families with children experiencing disability).”*
- *“Community engagement was our primary effort and sending literature to our constituents.”*
- *“community education”*
- *“We coordinated with others who provided isolation support and wrap around services.”*
- *“Created visual resources and advocacy for access to resources that did not exist.” “Trained other CBOs collaborated with Brink communication Ran specific trainings for DD population in English and Spanish.”*
- *“Hosing of clients”*

## Ways to Reduce Fiscal Burden on CBOs

Figure 18: Resources needed to support CBOs in future emergency response (N=61)



Comments provided by CBO



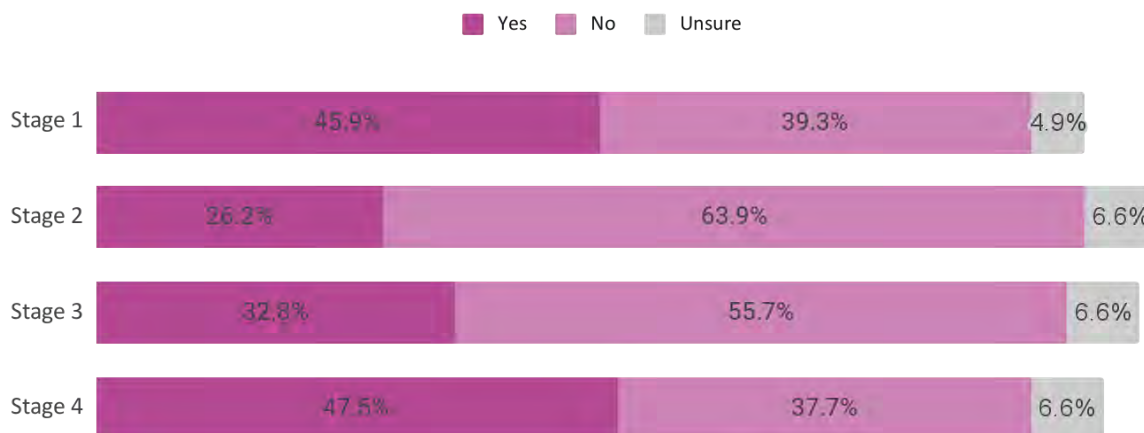
survey respondents related to resources that would support them in future emergency responses:

- *“Clear timelines (although probably impossible to predict) would have allowed for us to hire additional staff to help with education, outreach, and reengagement.”*
- *“I think that instead of just assigning a community Engagement coordinator; CEC it should be someone who could help with individual reporting. Its true we have folks from the fiscal team that do help, but this way could provide more benefit to the CBO.”*
- *“We were eligible for additional funding, but declined to apply due to our experience with reporting and changing requirements for our existing Covid-19 funding through OHA.”*
- *“The frequency of meetings was a challenge when there were so many other pressing needs.”*
- *“having somebody coaching who speaks your language.”*
- *“Every reporting period the report templates changed, so you would have to re-enter the previous information because you had to download the revised template. Also, the template had errors in the formulas.”*
- *“I think OHA did a good job on all of the above, at least from our perspective, but to the extent other CBOs had challenges I can see how each of the above strategies could be effective in lessening the burden.”*
- *“Bigger budgets for admin and facilities costs (operations)”*
- *“Understanding that smaller CBOs do not have layers of admin support and specialization in accounting / reporting. the specific requirements were not always a perfect fit for the work we do, and we were not reimbursed for the time it took staff to complete the reports.”*
- *“A dashboard to track funds etc and less turnover in staff CBO interface with Trust that we know our communities needs and presumption of competence.”*

## Funding Worries

While working on the COVID-19 response, 70.5% (n=43) of CBO respondents reported that during one or more stages, they were worried that funding would run out. A breakdown of funding worries across stages is provided in Figure 19.

Figure 19: Percent of respondents who feared that funding would run out during each stage (N=61)



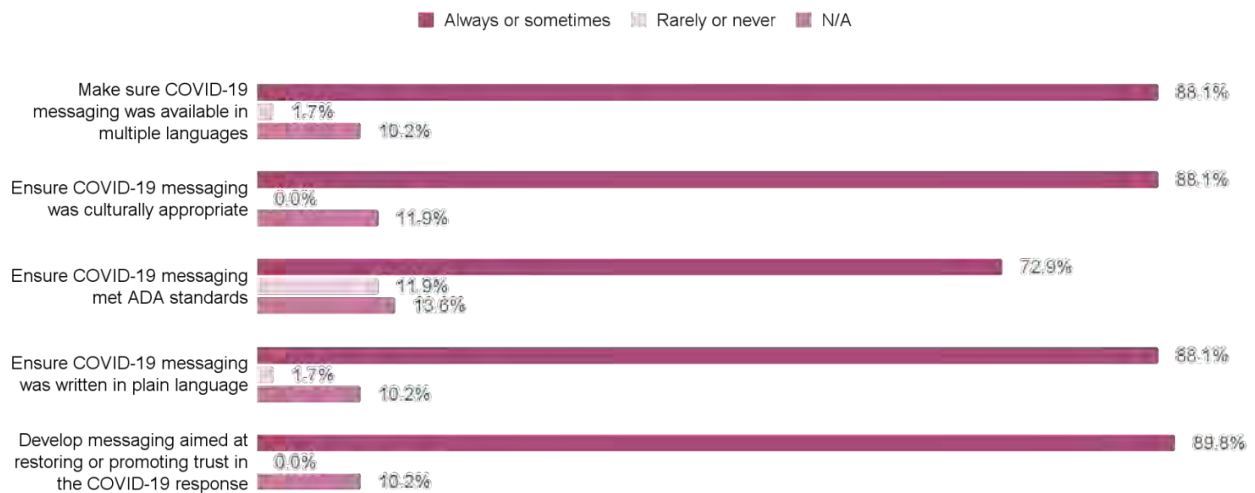


## Communications

### CBO communications

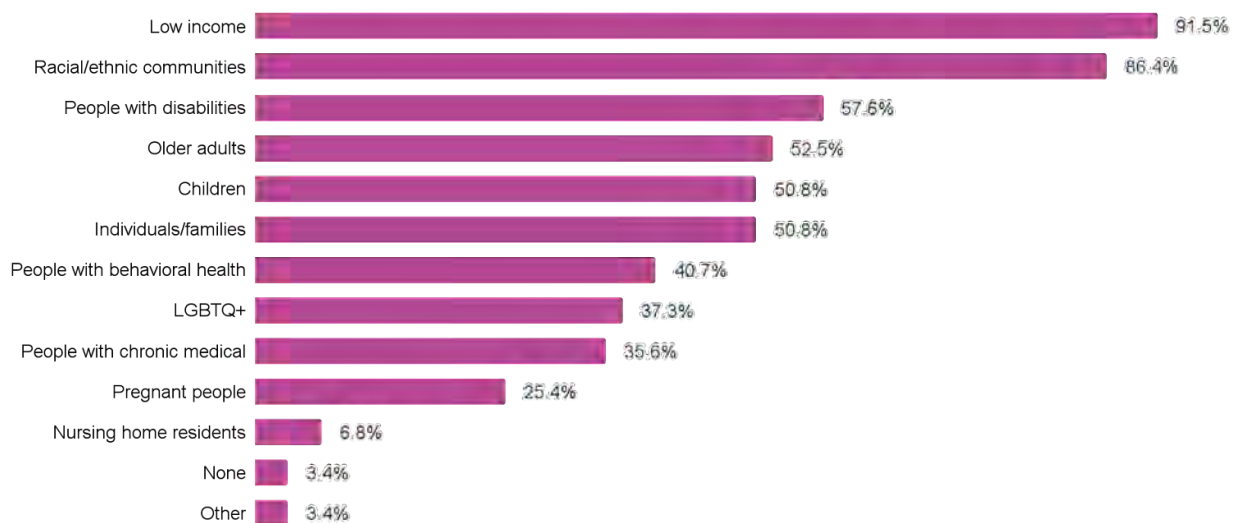
When asked about following messaging best practices, most respondents selected that they always or sometimes follow best practices of making sure COVID-19 messaging was available in multiple languages (88.1%, n=52), was culturally appropriate (88.1%, n=52), met ADA standards (72.9%, n=43), was written in plain language (88.1%, n=52), and was aimed at restoring or promoting trust in the COVID-19 response (89.8%, n=53). The practice that was least commonly followed by CBOs was ensuring that COVID-19 messaging met ADA standards.

Figure 20: When developing targeted public health messaging, CBO respondents did the following: (N=59)



The most frequently mentioned population that CBOs prioritized for community or population specific messaging was the low income population (92%, n=59).

Figure 21: Populations CBOs prioritized for community or population specific messaging (N=59)

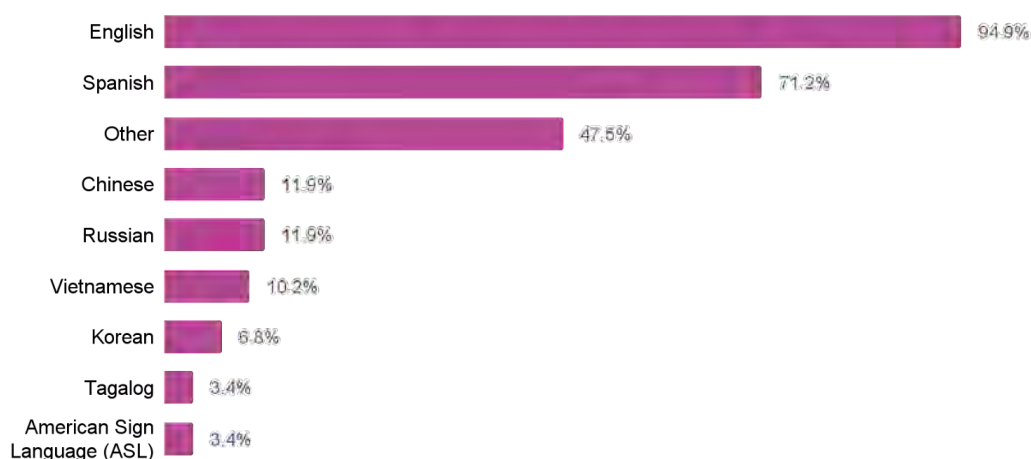


Others included:

- Refugees and immigrants (3)
- “Everyone was always welcome, besides our target population”
- Displaced wildfire survivors
- Entire congregation
- Individuals with criminal background
- Support workers and systems
- Rural-dwelling community members

The most common language that CBOs made COVID-19 messaging available was in English (95%, n=59), followed by Spanish, Korean and American Sign Language.

Figure 22: Languages in which CBOs made COVID-19 messaging available (N=59)



Other languages respondents reported their CBO providing COVID-19 messaging in included:

- Somali
- Arabic
- Bosnian
- Urdu
- Broken African language
- Swahili
- French
- Farsi
- Ukrainian
- Thai
- Mam
- Ewe
- Mina
- Mai Mai
- Bengali
- Somoan

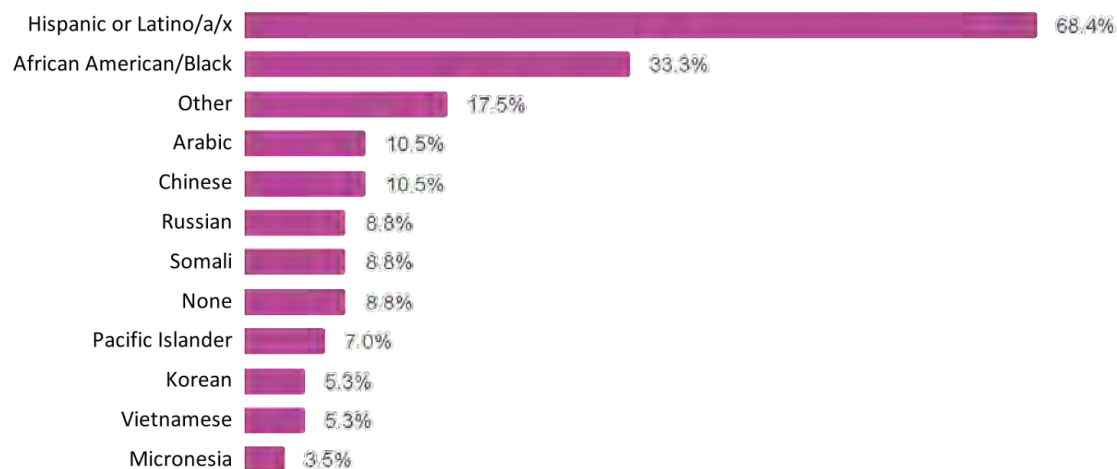
- Tongan
- Hawaiian
- Chuukese
- Marshallese
- Pingelapese
- Palauan
- Chamorro
- Turkish
- Oromo
- Visual
- Burmese
- Rohingya

Hispanic or Latino/a/x communities were the racial/ethnic community most commonly prioritized for culturally-specific COVID-19 messaging (66%, n=59).

Others included:

- White
- African immigrants
- Benagli
- Ukrainian
- PWD [Persons with Disabilities]
- Refugee community
- Burmese community
- 'Rohingya community

Figure 23: Racial/ethnic communities CBOs prioritized for culturally-specific COVID-19 messaging (N=61)



OHA Communications with Public:

CBO survey respondents were asked to rank how well OHA communicated to the public about various public health mandates that were implemented during each stage of the pandemic. Throughout stages, survey respondents rated OHA as good or excellent for most of their communications. During Stage 1, two-thirds or more of respondents felt OHA did good or excellent across all mandates. During Stage 2, respondents were less favorable about how well OHA communicated on vaccine availability and lifting restrictions, but these still had over half of respondents rating OHA as good or excellent. By Stage 4, approximately one-third of respondents rated OHA as poor or fair in their communications.

Figure 24: Rating of OHA Communication with Public, Stage 1 (March - Nov 2020) (N=58)

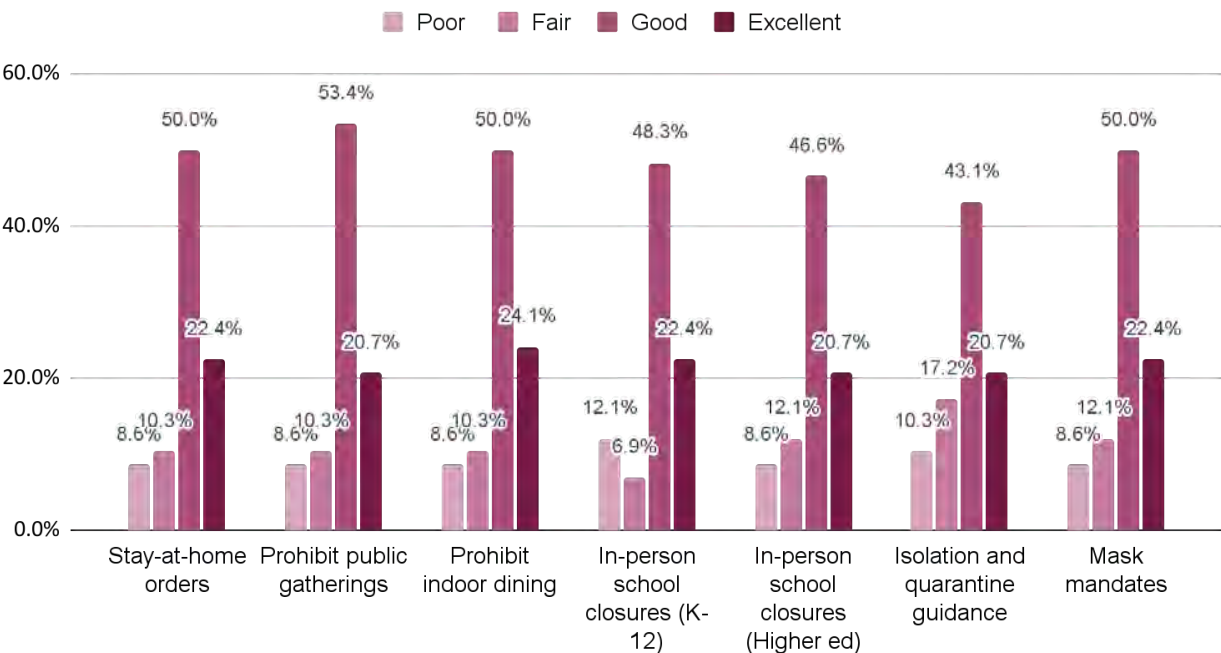


Figure 25: Rating of OHA Communication with Public, Stage 2 (Dec 2020 - Aug 2021) (N=58)

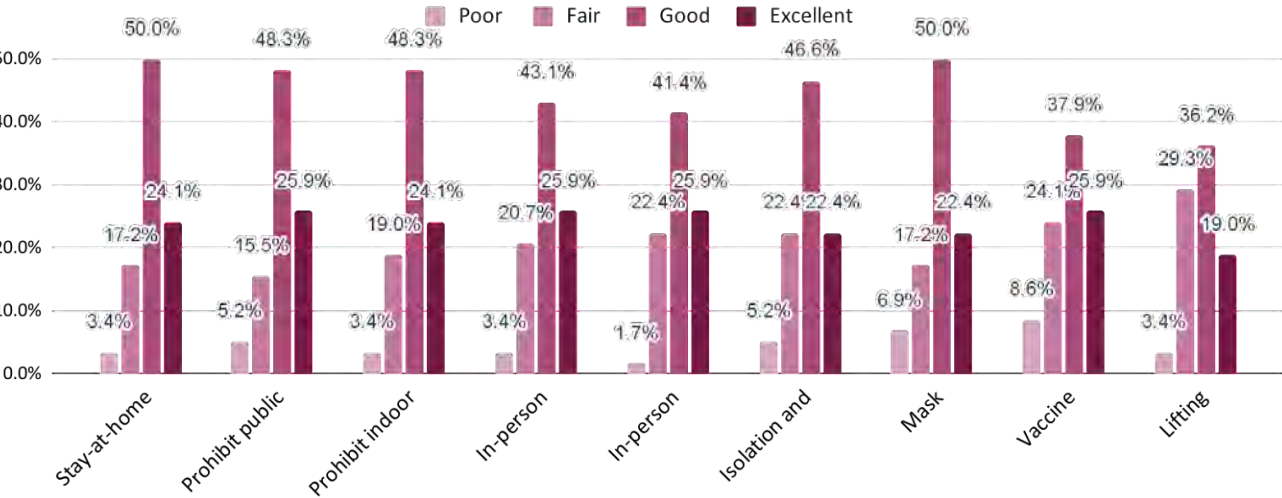


Figure 26: Rating of OHA Communication with Public, Stage 3 (Sept 2021 - Feb 2022) (N=58)

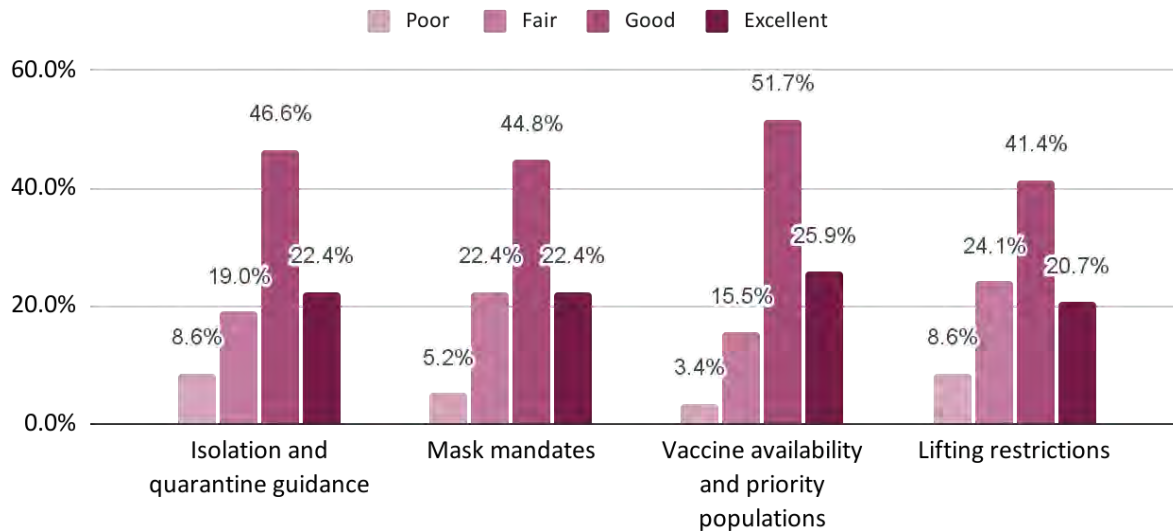
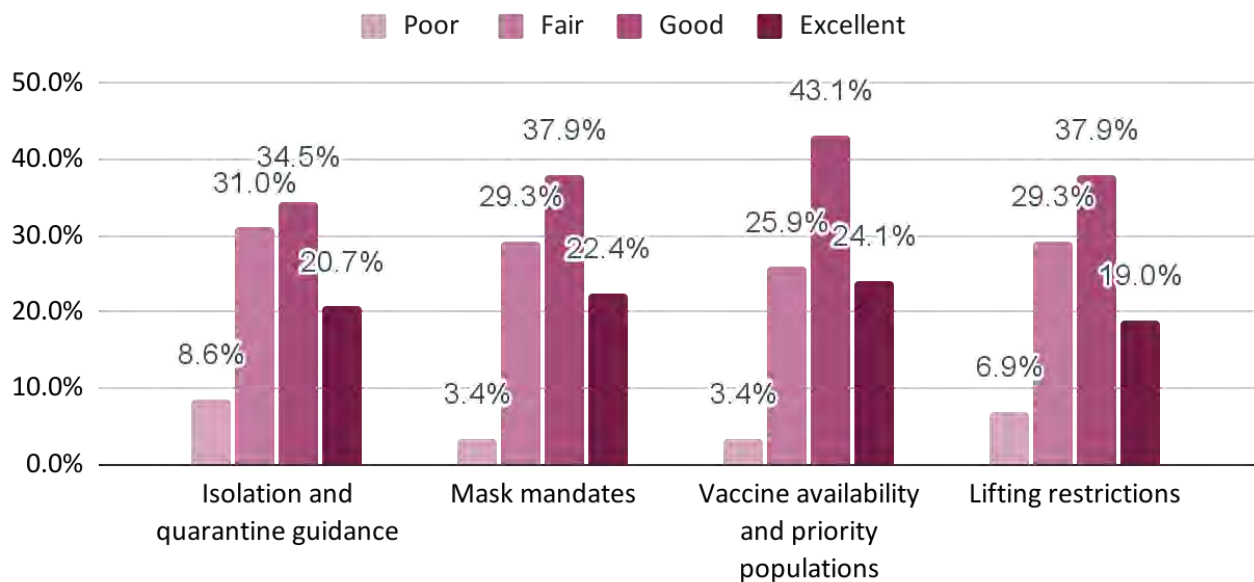


Figure 27: Rating of OHA Communication with Public, Stage 4 (March - July 2022) (N=58)

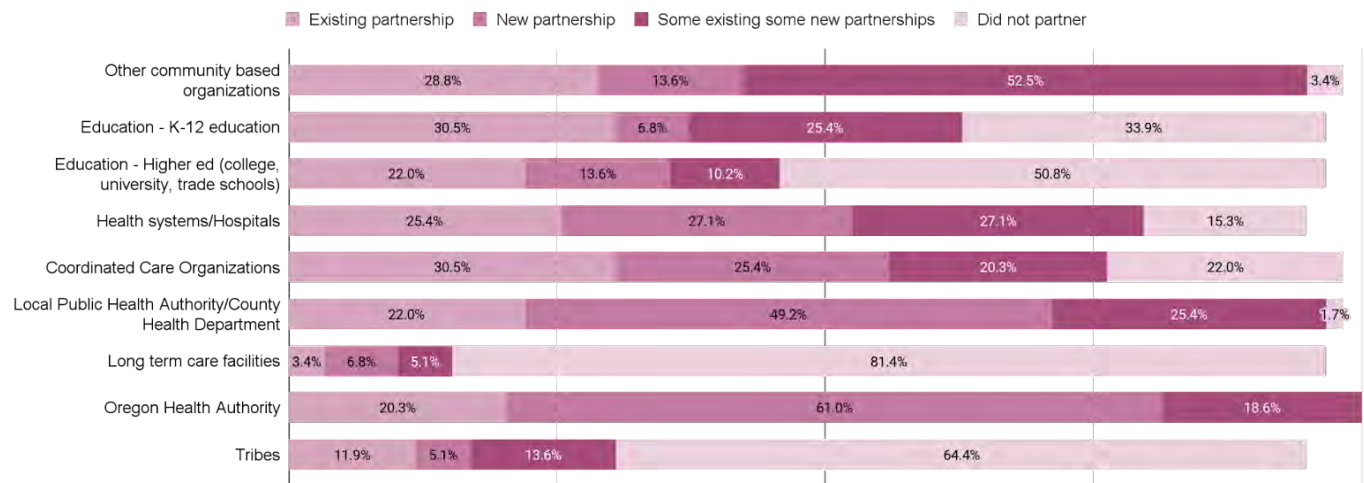


## Partnerships

### Types of Partnerships

Whether or not CBOs tapped into existing partnerships or created new partnerships was pretty different depending on what sector they were reporting on. The two sectors that the most respondents reported building new partnerships with were OHA (61%, n= 36) and LPHA/County Health Departments (49.2%, n=29). Very few respondents reported working with long term care facilities (15.3%, n=9) or Tribes (30.5%, n=18).

Figure 28: Types of CBO partnerships for COVID-19 response (N=59)

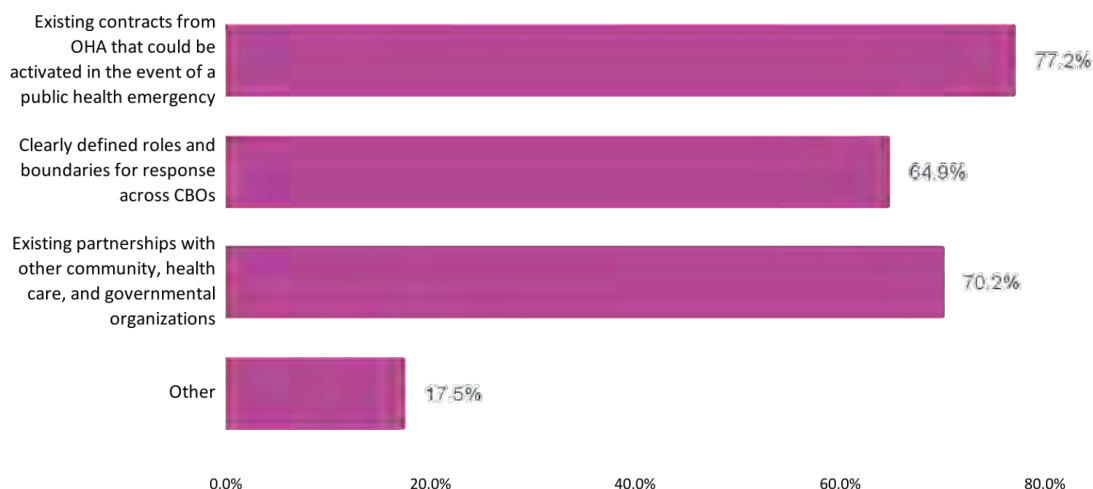


## Lessons Learned

### Supports to Improve CBO Response

Respondents were asked what might have helped their CBO in a more effective response to the COVID-19 pandemic in their community. Over three quarters of respondents reported that existing contracts from OHA would have helped (n=44), nearly three quarters of respondents reported that existing partnerships with other organizations would have helped (n=40), and two-thirds reported that clearly defined roles would have helped (n=37).

Figure 29: What would have helped CBOs in a more effective response to the COVID-19 pandemic in their communities (N=57)



Ten respondents added “other” responses:

- *“Clearer information about finding opportunities”*
- *“Other thing that would help is making grants available from other sources to keep up with helping clients. We provided many supports due to the pandemic and now, we can not due to the changes and reduced in cases, but people are still struggling and reaching to us for those same resources, thought we cannot provide them now. We should not be in the business of turning clients down because funding is no longer available. I believe that there should have been other sources of fundings to continue to help.”*
- *“Ensuring that prohibited activities were treated the same.”*
- *“Having local leadership support a response moving forward would be very helpful. Having a qualified LPHA would be excellent.”*
- *“The wishy-washiness of the government! Because of that, it affected every other aspect of trying to get funds to CBOs.*
- *flexible funding”*
- *“None of the above; I think we had the resources we needed to mount an effective response for our community”*
- *“More willing partners from county health departments.”*
- *“we already had all of the above”*
- *“trust and resourcing front line groups”*

## Lessons Learned by CBOs

Lessons learned by respondents included the following:

- *“Working intimately with my community during the Covid-19 process made me realize how much it takes to get resources to those in need. Any delay during the process can make it difficult to provide for them. It just gave me a new appreciation for everyone involved in the effort.”*

- *“Public health systems need to be strengthened, at the state and federal levels. The “messaging” has been muddled or confusing from the beginning. This nation should be ashamed of the numbers who have died--and are continuing to die daily--and of our failure to address the largely ‘hidden’ effects of long Covid, and the many adverse effects of the pandemic across all of the social determinants of health, presently and in the future. Communities of color and the poor and vulnerable will continue to suffer disproportionately from this and future pandemics--nothing systemic has changed to prevent that. A robust system of public health must work constantly with local communities to counter the malign effects of the mis/disinformation permeating social media and political discourse. Instead, we are allowing Covid-19 (as with so many other diseases and inequities) to become “normalized” and largely ignored, as somehow the “price” that some will have to pay so that “most” people can “get on with their lives.” The “final lesson” is that few clear lessons seem to have been learned, or at least “the public” seems all over the map in what they think and how they behave.”*
- *“The community engagement team (team Dolly) we’re magnificent and great to work with. I wish I knew more about finding for wraparound services as we could have greatly used it.*
- *Local communities should have more authority to how a public health emergency should be handled in their own jurisdiction. Not all communities are the same and policies should not be directed only from the Metropolitan areas like Portland and Salem. Local counties should have the flexibility to set their own guidance based on local rates of infection or death.*
- *Great job overall for OHA.*
- *“I think you all did amazing. You were navigating a completely new situation and you did so with dedication.”*
- *“We have a wonderful lesson learned: Partnership with OHA/PHD, A community of CBOs, and over all the trust that was put in each community to handle large sum of money in response to this Covid-19 pandemic, and the support that is provided to manage such money. Many communities were seen, involved and serve in a way never seen before. Oregon public health have stepped it up and we looking for other governmental organizations to follow. We look forward for a lasting relationship and partnership because it would make it easy to circle back with CBOs in a case of any other outbreak to help community to be reach faster them ever because of this partnership that has being established. We always wanted this type of partnership for our communities and for every community to have representation, and it is happening now, though it has to take this devastating outbreak. Thank you!”*
- *“As an organization not usually engaged in this type of work, OHA made the process very easy. Both on a professional and personal basis I believe OHA did an exceptional job of quickly educating our state on what we were facing, where help was available, and providing CBO's amazing resources. So much of the work OHA did with the CBO program is unknown outside of the CBO's that were involved. Which is a shame, because OHA kicked ass on this and they haven't been recognized for that by many people in the general population. To be able to pay rent, utilities, food, etc. for the families of our historically underserved community while also being financially supported by OHA to provide educational enrichment activities for youth during the lockdown was amazing. We were able to provide far more than just resource guidance and directions to vaccine clinics.”*
- *Overall, Oregon had one of the lowest death rates in the nation because of guidance was believed, followed and well communicated.*



- *"The recruit for CBOs were good, however, the expectation for funds to carry out the response was delayed. Also, the*
- *initial response from the Public Health contact person was almost non-existent, and we needed more direct interaction from OHA. The position was finally eliminated, and OHA finally took over."*
- *"1 - If we as a state, and as a public health network including county public health departments, don't pause to build internal cultural/linguistic/plain language capacity and trust with communities now, the next crisis will not go much better. Trust is the real threat to public health in Oregon and must be addressed by the systems who hold power and control resources (OHA, public health). CBOs can be good partners, but cannot stand in the huge gaps between current public health infrastructure and communities most impacted. Finally, don't invest in CBOs only in a crisis, build CBO capacity (including flexible general fund support to build staff and do responsive community-determined work) consistently so that we can be ready to respond and play our role in an emergency."*
- *"There's no such thing as over communication or over collaboration"*
- *"The importance of maintaining the infrastructure CBOs built so we can activate and respond faster in the future"*
- *"It was great to work with OHA and other community partners- it was a learning experience for all of us!"*
- *"All in all, great job during an uncertain time in history."*
- *"Having to form a partnership with OHA, during the crisis provided a learning curve. Having a pre established relationship would have been beneficial."*
- *"Having access to public health emergency information in other languages for vulnerable communities is something that we think is important and something we learned that would need further investment"*
- *"It was critical for our culturally specific organization to be able to work with OHA and our county public health department. The focus on underserved communities was a significant reason we felt comfortable working with OHA and our local public health department."*
- *Public health response must be based purely on science which means that if an activity is prohibited for one group, it needs to be prohibited for all groups no matter how just the cause. Not doing so caused significant distrust in the public health response from members of rural communities which may have far reaching implications in future public health emergencies."*
- *"The gape between communities and OHA"*
- *"The last couple of years have been unprecedented. We have had some truly wonderful CBO coordinators that have stepped up and asked all the questions to help make sure our work was done well, and we appreciate that. When contact tracing ended, we were kind of left in the lurch with referrals and more could have been done to make sure that local CBOs did not lose their stream of referrals. Local public health kind of dropped away as contact tracing was centralized up north and we needed better systems to get our local community members the help that they needed."*
- *"Collaboration and communication are paramount and require proactive leadership"*
- *"Politics and division are our worst enemy in a response to a public health crisis."*
- *"A lesson learned is that collaborating with other organizations our community get information and resources from people who can trust."*

- *"Have systems/forms in place to address the next pandemic."*
- *"Many consumers were referred for wrap around supports who were not financially impacted (receiving SSI, SSDI, TANF, etc), requested services while their companies offered benefits (sick time, public health leave, etc), or had spousal support without personal income (thereby negating the need for financial assistance). The presentation of resources needed inclusion of restrictions to applicable parties and some sort of impact to income verification."*
- *"thanks for all you did to support CBOS"*
- *"I think overall they did an excellent job of responding to the Covid 19 pandemic and working with the CBO's. There was a lot of time devoted to communicating with us via Zoom calls and in some cases meeting in person, especially at the beginning of the pandemic."*
- *"The initial lack of access to family members and other support people for patients with disabilities who were hospitalized was a serious issue that should have not taken so long and should not have required legislative action to rectify. It is still a problem in that some hospitals are not following the intent of the Senate Bill 1606 mandate as passed by the State Legislature."*
- *"Maintain constant and frequent communication to the public and partners. Do not hold back on information or making the difficult calls."*
- *"The collaboration with CBOs started poorly and increased overtime, particularly when OHA put people from diverse communities in the frontline. CBOs that have never done business with OHA had the chance to build trust and confidence. Oregon's public health response to the Covid-19 pandemic has been an opportunity to build and improve relationships with communities, which can help to respond very quickly and more effectively any other emergency situations."*
- *LPHAs are ill-equipped to handle community-wide crises alone. With trust in government at an all-time low in the U.S., adopting a more decentralized and grass-roots approach to response and recovery is crucial."*
- *"I would like to have seen more hands on training with our organization."*
- *"Proud of Oregon's public health response and partnership with CBO's to connect with underserved community members. CBO's played a critical role in communication, outreach and impact. As we move forward hopeful to continue to partner with CBO's but also seek to find ways to streamline reporting requirements to reduce the burden on smaller CBO's"*
- *"Pre recorded videos to share about new/changes to guidance- consistent messages for all communities."*
- *OHA did a great job adjusting to a volatile situation. The pandemic was addressed and now there's a baseline from which to work for the next pandemic. OHA was very responsive to our organization's needs and reached out to us."*
- *"Equity was so obviously ignored early on . Medical systems have a medical model this was a social and medical issue There were responsive individuals but also presumptions about all POC and PWD and orgs that represent them being the same without thinking about values. Also it was like grafting a very fluid community driven response onto stodgy beurocracy that over time built more and more rules"*
- *"In the beginning of the pandemic OHA seemed to struggle with coordination issues, but having worked with them from the start, I think they are doing a fantastic job."*
- *"Dolly England's team at the OHA was really fantastic. Very responsive, flexible, and supportive. I think OHA communications could do better at making social media posts more accessible"*

*(adding image descriptions) and leveraging multiple social platforms integrating more videos and stories. The OHA YouTube page should really be better organized, it's hard to find information on there."*

- *"Overall It was something new for many of us as CBOs, I think partnering with us was a good decision in order to best serve and reach those populations that otherwise may have and still struggle accessing resources and services."*

# OR Public Health Response to COVID-19: CCO Survey Preliminary Analysis

## Introduction

For this study, a survey was administered to 15 CCO directors between August 24 and September 23, 2022. CCO directors were emailed a survey link directly from Survey Monkey so we could track and monitor who responded. There were a total of 7 responses, for a response rate of 44%.

## Demographics of survey respondents

All survey respondents (N=7) had been in their position for a minimum of 6 months, and had been involved in COVID-19 response for the entire study period (all four stages).

	n (%)
Region	
Region 1	1 (14%)
Region 2	1 (14%)
Region 3	3 (43%)
Region 4	2 (29%)
Region 5	1 (14%)

	n (%)
Role	
President/Chief Executive Officer	3 (43%)
Chief Medical Director	2 (29%)
Other	2 (29%)

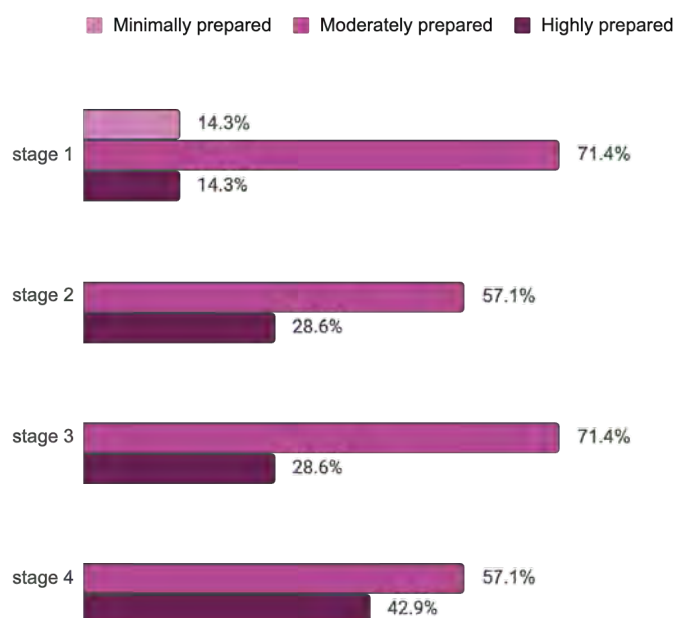
\*Regions equal more than 100% since one CCO covers two regions

## Emergency Management preparedness

Most respondents felt that their CCO was either highly or moderately prepared for the COVID-19 pandemic in every stage (Figure XX). The respondent who felt minimally prepared during stage 1 reported “We had infrastructure to discuss emergency response, and act. We figured out quickly how to partner with public health, and also how to reach out to remembers in need. It took a little time to

develop processes, but we did it quickly.”

Figure 1: CCO's overall level of preparedness to respond to the COVID-19 pandemic at each stage



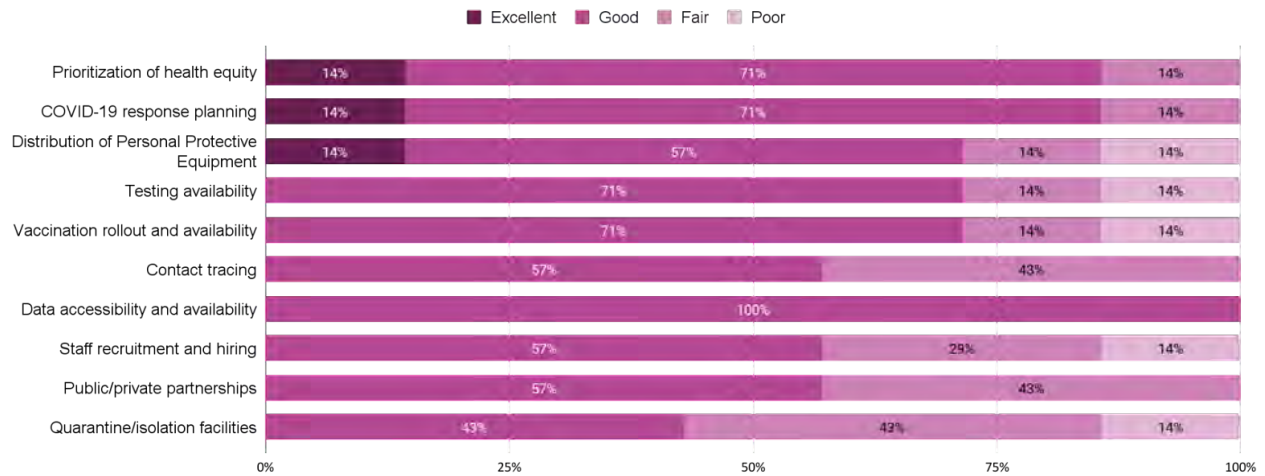
Seventy-one percent of respondents (n=5) reported that prior to the COVID-19 pandemic, their CCO had ever partnered with the Oregon Health Authority or a Local Public Health Authority/County Health Department to assist in emergency response. The remaining respondents (n=2) reported that they did not know.

### COVID-19 Response Activities

#### Public health system response

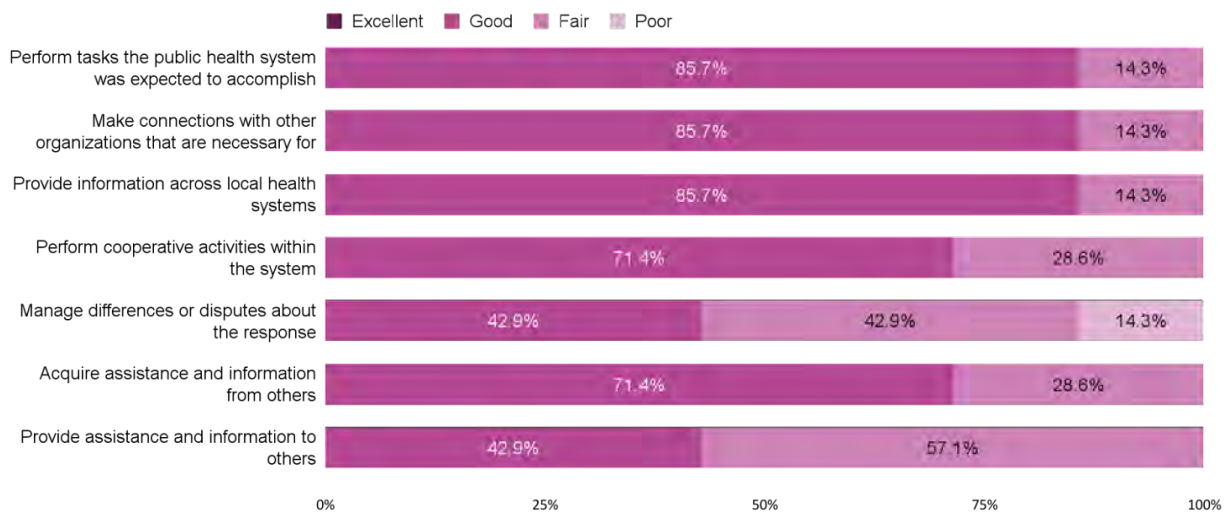
Survey respondents were asked to rate Oregon’s public health response to COVID-19 across a range of activities. Overall, response was rated good or excellent, with the exception of the majority of respondents rating “quarantine and isolation facilities” as fair or poor (57%, n=4). All CCOs who responded to the survey rated “data accessibility and availability” as good. See Figure 2.

Figure 2: Rating of Oregon's public health response to COVID-19 (N=7)



When considering OHAs role in COVID-19 response, a little over half of respondents rated OHA low in “manage differences or disputes about the response” and “Provide assistance and information to others” with slightly over half of respondents rating these as poor or fair (57%, n = 4).

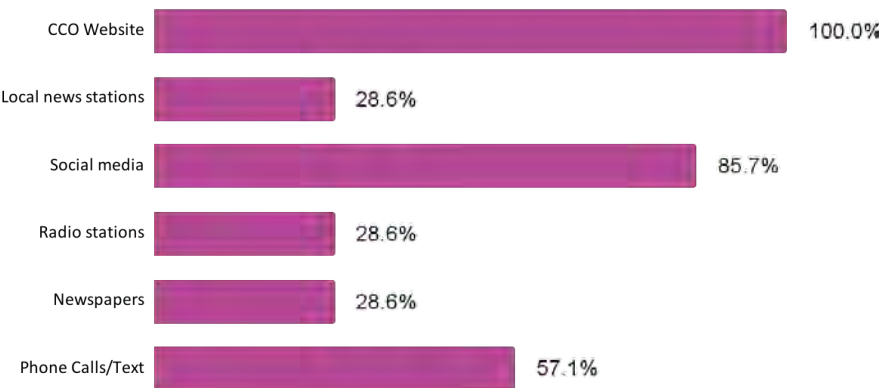
Figure 3: CCO Respondents Rating How Well OHA was Able to Engage in the Following Activities During COVID-19 response (N=7)



# Communications

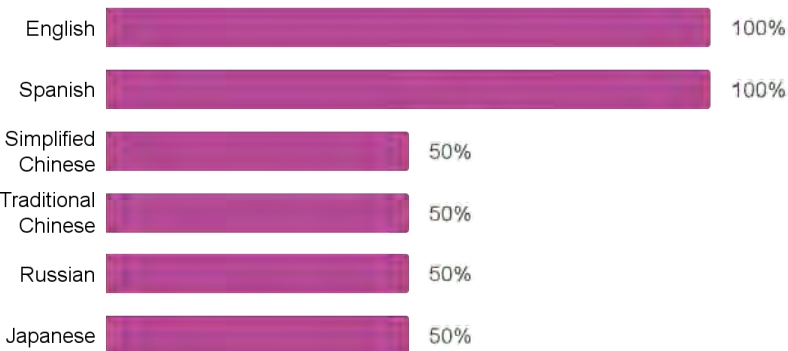
All CCO respondents reported providing public health messaging through mass media communication methods. All respondents provided information on their websites, over three quarters provided information on social media, and over half reported making phone calls/texting all of their members.

Figure 4: Mass communication methods utilized by CCOs (N=7)



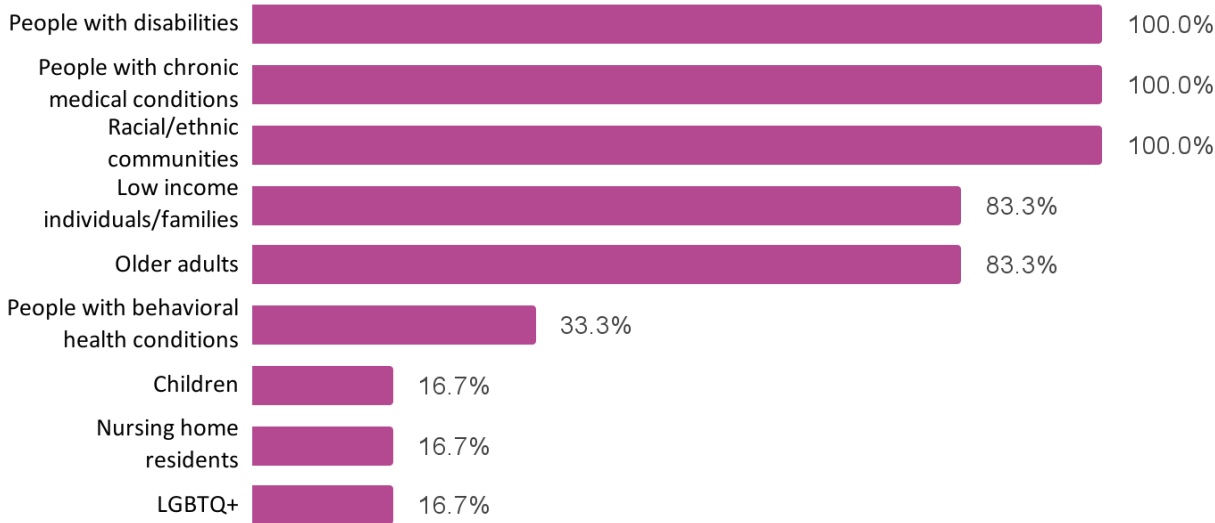
Six of the seven CCO survey respondents reported developing their own public health messages. Of these six CCOs, all provided materials in multiple languages, ensured messaging complied with ADA standards, and utilized plain language. Languages provided included English, Spanish, Simplified and Traditional Chinese, Russian, and Japanese. Additionally, three respondents noted that materials could be requested in any other language or format.

Figure 5: Percent of CCO respondents that provided COVID-19 health messaging (N=6) Provided materials in the following languages:



Respondents also noted that they prioritized community or population-specific COVID-19 messaging. All respondents who reported developing their own public health messages (N=6) reported prioritizing people with disabilities, people with chronic medical conditions, and racial/ethnic communities, and the majority reported prioritizing low income families and older adults. All six respondents who prioritized racial/ethnic communities prioritized Hispanic/Latinx populations, half prioritized African American/Black populations, half prioritized Pacific Islander populations, and one prioritized Russian populations.

Figure 6: Populations prioritized by CCOs for community- or population-specific COVID-19 messaging (N=6)





CCOs were asked to rate OHA on their communication with the public about a variety of public health requirements that were implemented by stage.

Figure 7: Rating of OHA Communication with Public, Stage 1

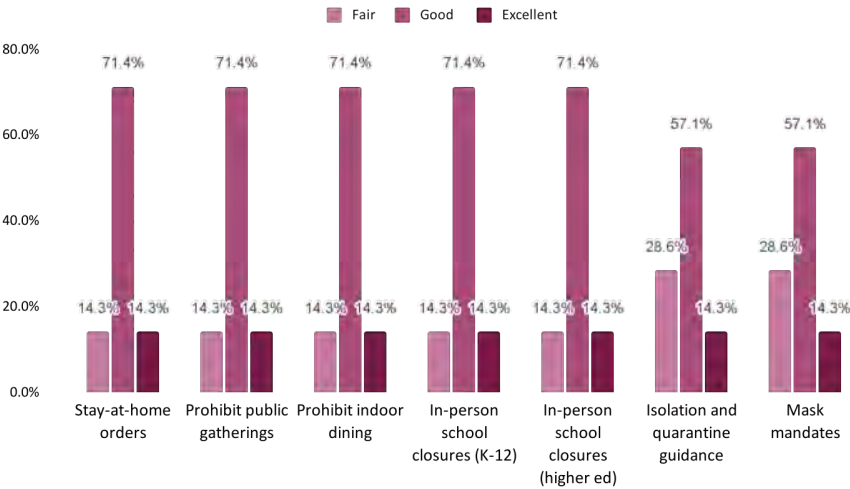


Figure 8: Rating of OHA Communication with Public, Stage 2

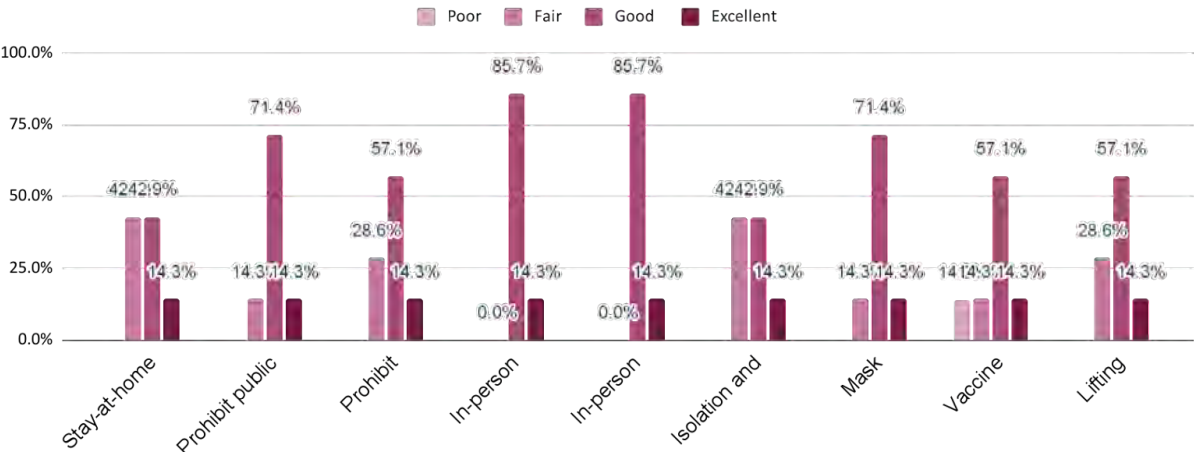


Figure 9: Rating of OHA Communication with Public, Stage 3

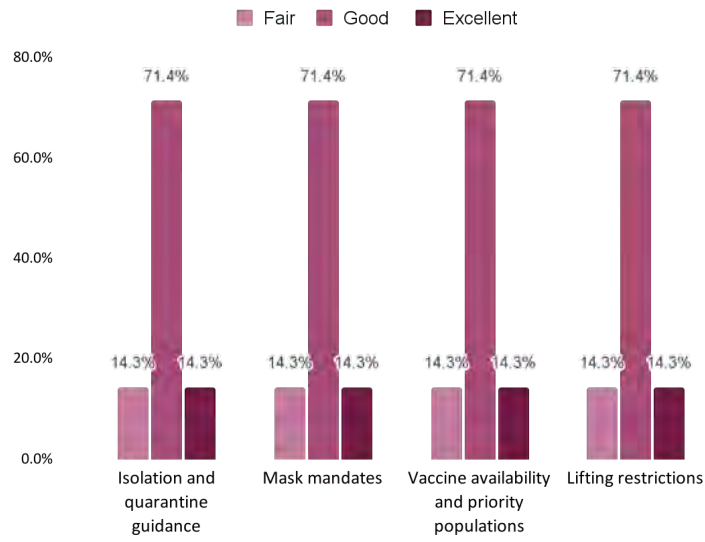
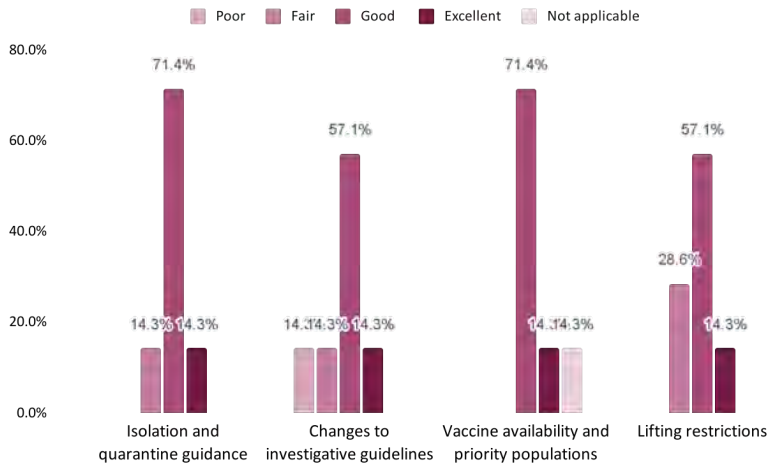


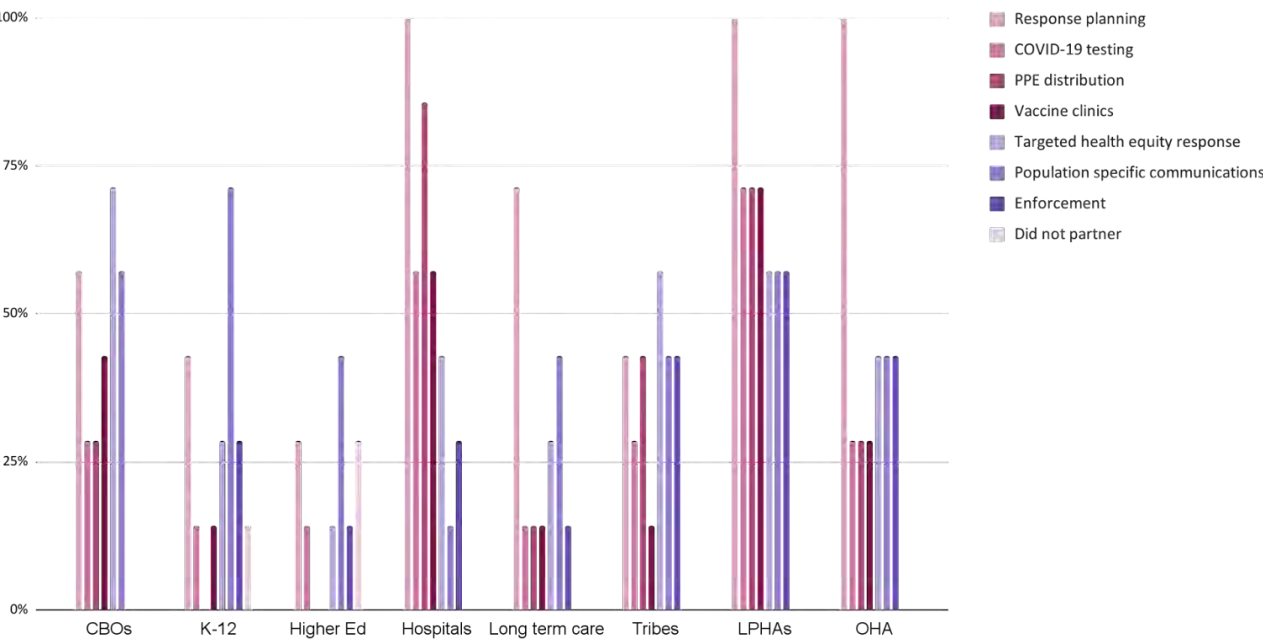
Figure 10: Rating of OHA Communication with Public, Stage 4



# Partnerships

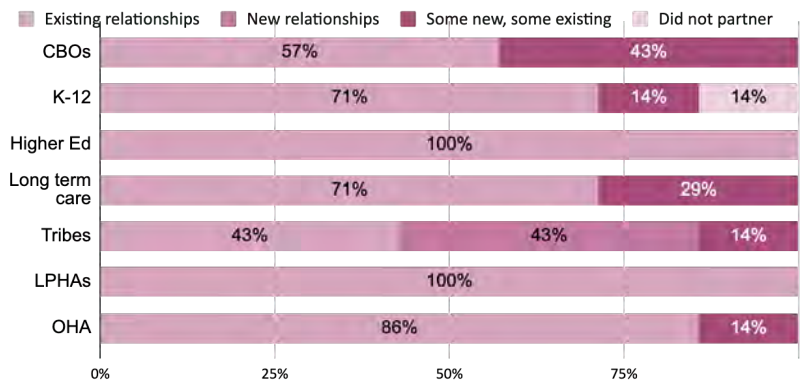
CCOs engaged in many COVID-19 public health response activities with partners. All CCOs who responded to the survey (N=7) partnered with Hospitals, LPHAs, and OHA for pandemic response planning. No respondent partnered with K-12 or higher education on PPE distribution, and no respondent partnered with higher education for vaccine clinics.

Figure 11: Types of activities CCOs partnered on, by organization type



CCOs developed many new relationships with partners during COVID-19 response. All CCO survey respondents reported having existing relationships with LPHAs and Higher education. One respondent reported not partnering with K-12 schools, and three respondents reported new relationships with Tribes.

Figure 12: CCO respondents with new, existing, or some new and some existing relationships with COVID-19 partners (N=7)



# OR Public Health Response to COVID-19: Emergency Management Survey Preliminary Analysis

## Introduction

For this study, a survey was administered to staff at city and county emergency management offices across Oregon between September 14 and September 28. Emergency management staff were emailed a survey link directly from Survey Monkey so we could track and monitor who responded. The survey was sent to a variety of positions within each agency, including Managers, Operations, Training, Community Planning, and Resilience, for a total of 128 recipients. There were a total of 23 survey responses. One respondent did not complete the survey beyond the demographic information and was excluded from analysis. In order to preserve data, we did not exclude any respondent who partially completed the survey beyond the demographic information; therefore, the denominator changes across questions. We analyzed 22 surveys, including two incomplete ones, for a response rate of 16%.

All survey respondents (n=22) had been in their position for a minimum of 6 months.

Characteristics	n (%)
Region	
Region 1	6 (27.3%)
Region 2	5 (22.7%)
Region 3	5 (22.7%)
Region 4	4 (18.2%)
Region 5	2 (9.0%)
Jurisdiction Type	
City	4 (18.2%)
County	14 (63.6%)
Tribe	3 (13.6%)
Other*	2 (9.1%)
Stage Involvement	
Stage 1 only	1 (4.5%)
Stage 1 and 2	2 (9.1%)
Stage 1, 2, and 3	4 (18.2%)
Stage 3 and 4 only	1 (4.5%)
All Stages	14 (63.6%)

\*Other jurisdictional types included *Sheriff's Office* and *Region*

## Emergency Management preparedness

City, County, and Tribal Emergency Management Office

Most respondents (54.6%, n=12) felt that their Emergency Management office/program was either highly or moderately prepared for the COVID-19 pandemic (Figure XX). Of the respondents who felt minimally or not at all prepared, respondents reported that: *“staff was not familiar with existing emergency plans or convening/coordinating an EOC”*

*“we were not in a position to support telework and had to quickly pivot”*

*We can barely focus on the hazards that affect our area regularly, let alone be resourced to plan for a pandemic.”*

*“I would say moderately prepared because there hadn't been any focus on responding to a global public health emergency that would impact supply chains, every single individual, and last as long as it did - that just hadn't been a conceivable concept for us. From an EM side, I would say out Public Health Team/ESF #8 were very prepared and experienced to manage this response - but again, the scope was just overwhelming.”*

One respondent reported *“We never activated an EOC before and were trying to do the work entirely virtually.*

*“Public Health Staff didn't have robust ICS Training - they adapted to a very complex model that others couldn't easily integrate into which provided challenges.”*

Self-preparedness

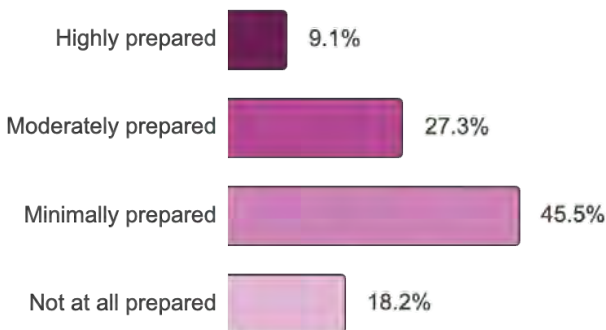
When asked about their individual level of emergency preparedness to respond to the pandemic (e.g., knowledge, training, experience, expertise), most respondents felt that they were not at all prepared or

Figure 1: City, county, and tribal emergency management preparedness for COVID-19 pandemic (N=22)



minimally prepared (63.7%, n=14).

Figure 2: Emergency management survey respondents self-preparedness for COVID-19 pandemic (N=22)



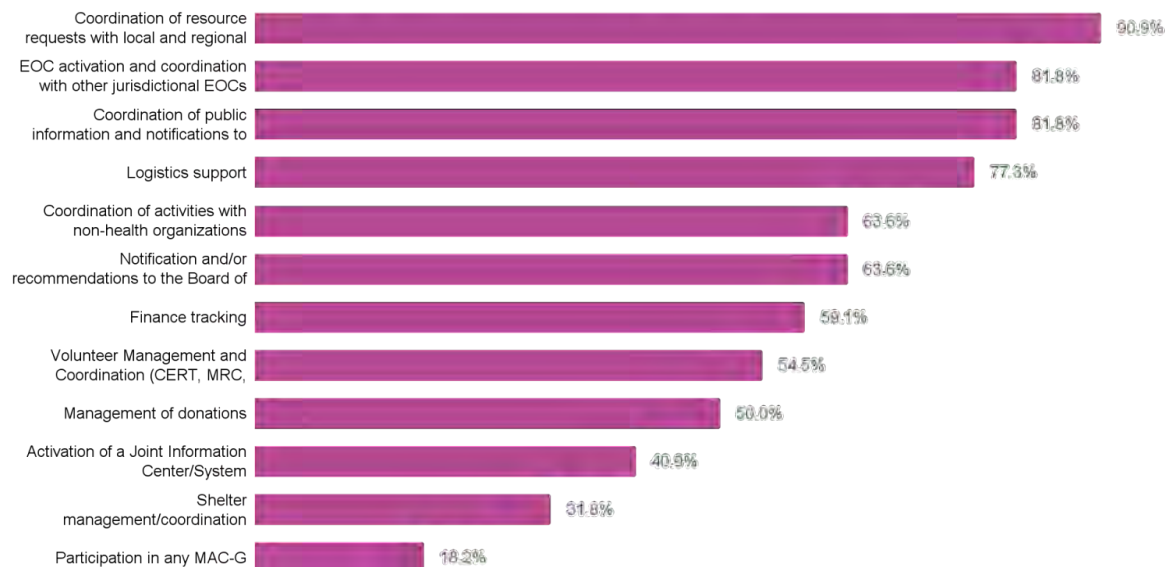
Respondents reported the following as reasons for their rating:

- "I'm highly trained and experienced but nobody was 100% ready for Covid"*
- "I had never formally worked in emergency management"*
- "One of the biggest problems was access to accurate information"*
- "I had taken training courses but never responded to an actual emergency."*
- "While I have never worked through a pandemic, we had plans in place for all hazards (to which there was some crossover) and also had open communications between partners involved."*
- "Some self education and network with nurses and Emergency service employees"*
- "I had expectations that our Health Department had functional plans.... They did not"*
- "Many years of experience, higher education in Emergency and Disaster Management, disaster logistic training and experience in all-hazard response."*
- "No prior knowledge of a pandemic, I believed that Public Health would have taken a more active role in the beginning."*
- "We don't do much pandemic planning; it's Health Dept duties"*
- "I had served on a couple of disasters previously, had attended and facilitated trainings, was confident operating in a remote environment"*
- "It was always the example of the low probability, high consequence event."*
- "I had only been in my position about 5 months before COVID hit."*
- "As an emergency manager I would say I was prepared to establish an Incident Command System Structure that provided [my county] and our peers the structure to be successful - but with the specific topic, I was not prepared at all... this event was at a whole new scale."*
- "No training/experience in pandemics. Unfamiliar w/ supply chain details."*

COVID-19 Response Activities

Types of Response Activities

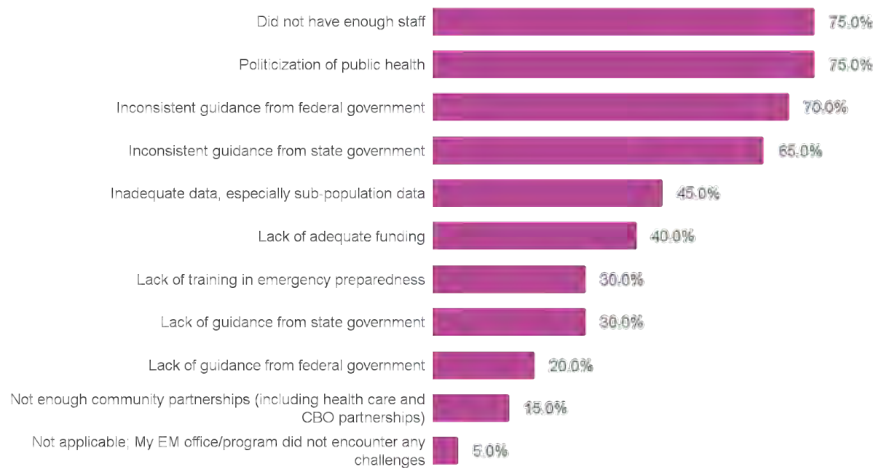
Figure 3: City, county, and tribal emergency management COVID-19 response activities (N=22)



## Challenges to Reponse

Almost all respondents (95.1%, n=20) reported there were challenges that hindered the effectiveness, scale, or quality of their EM Office's response to the COVID-19 pandemic. Frequency of reported challenges are reported in Figure 4. The top 5 most frequently reported challenges were lack of enough staff (71.4%), politicization of public health (71.4%), inconsistent guidance from federal government (66.7%), and inconsistent guidance from state government (62.0%), and inadequate data, especially at the sub-population level (42.9%).

Figure 4: Challenges that hindered effectiveness, scale, or quality of city, county, and tribal emergency management's response (n=20)



A few respondents reported other challenges, which included the following:

*"Mandates. You lose Eastern Oregonians when you mandate anything - the communication for metro cannot be the same for rural."*

*"Lack of understanding from Leadership, particularly around how EOC/EM is supposed to go. No organizational buy-in at the top for how much extra work all of this took from staff in addition to every day work and trying to do it all remotely."*

Some respondents opted to elaborate on their challenges:

*"Public Health and Emergency Management Programs in most areas are different and are not connected as well as they should be. Emergency Managers at the County level are sometimes also their PHEP Coordinators or Search & Rescue Coordinators, or the PHEP is someone entirely different and they don't integrate well or at all together to coordinate response efforts. OEM provided guidance and OHA Provided guidance but they didn't align which made it hard for us the local level to align and move forward to some degree. "*

*"Mandates don't work. Once it's mandated, people dig their heels in. They stop listening. They stop complying. They stop learning."*

Thoughts on Oregon's public health response to COVID-19 pandemic:

*"OHA had a lot of rules and rude things to say to counties w/o any proof or understanding of what was going on in counties with smaller populations. They pointed fingers, placed blame on everyone but themselves, and were nasty to some of the nurses/doctors on the front lines dealing with the blow back from all of their rules. They should have provided every county with a team to do testing and vaccinating to take some of the heavy lift off of public health. This would have provided them with MUCH better expertise and understanding of what was truly going on in each county. Instead, that wasn't provided until just a few months ago when it was no longer needed. And they sent these teams anyway and they also came unprepared! We had to provide them with vaccine and supplies! Outrageous. Even a liaison for each county would have been nice. Someone to buffer Public Health employees killing themselves to do their job from being attacked by folks who were ultimately clueless and rude. Some of our best people QUIT because of OHA."*

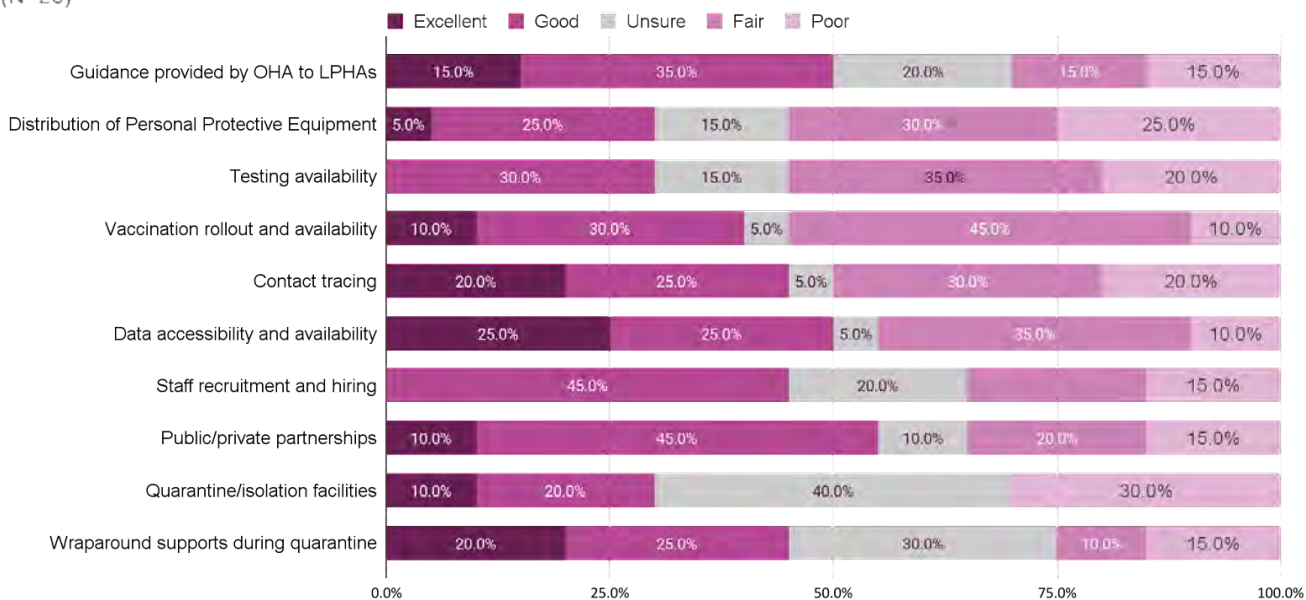


*"State, county and locals need to be better intersected in these events. Inconsistent supplies, information, networks made efforts less effective."*

*"OHA regularly changed not only guidance but resource request processes. This created a lot of additional frustration and work."*

*The state (OHA, OEMD) was not good, many things were not done at a satisfactory level. Whether it was the "Push" model for PPE, lack of staff, poor data, etc. It was not a positive response."*

Figure 5: Emergency management survey respondent's rating of Oregon's public health system response to COVID-19 (N=20)



## Supporting PPE Distribution

Almost all respondents (95%, n=19) reported their EM office provided support to LPHAs for PPE distribution.

## Biggest Challenges in Supporting PPE Distribution of PPE:

*"We did not know when, or how much, or what kind of PPE was coming to our county."*

*"Resource ordering and tracking."*

*"Definitely the supply chain/access to materials was the biggest challenge. Those initial weeks and months of the pandemic we stressful times for everyone, but even more so for work locations that required the appropriate PPE to perform their work -and unfortunately, we weren't able to supply that adequately for some time. The blame should be shared collectively as we did not prepare well enough for this type of supply distribution needs, and we need to collectively identify solutions for future situations that would require similar response efforts (that are not always public health-related). This of course was an unusual event that saw the entire globe competing for supplies - but can the United States, Oregon, and the our jurisdiction adjust our preparations enough to be more resilient locally?"*

*"Sites note pre arranged. Supplies slow in coming. no inventory information known in advance. Had to make phone calls and even private purchases from stores. Same with Vaccination - no prearranged sites, offered several city buildings but county was not ready to distribute any resources outside of county seat city"*

*"Finding volunteers and sites willing to distribute"*

*"The use of the "PUSH" Method was awful! It created a logistical nightmare! Communications at the start of it were awful, and they barley got any better. "Pushing" supplies, not requested, is not OK, it caused us to have our limited warehouse space to be so full, it became a serious fire danger. DONT USE THE PUSH METHOD AGAIN!"*

*"Staffing. Our EM office distributed all of the PPE and we have a very limited staff."*

*"Where do I start? FEMA pushing PPE to jurisdictions. Storage. We had no clear instructions how Health would be giving out the PPE; 20% of the PPE was "held" for a rainy day by Health, then we ended up with way too much PPE and couldn't get rid of it. Most of it expired."*

*"Finding out where to get them from"*

*"The diversity in the PPE we received, inventory and making sure the right type of PPE was distributed back to the people who needed."*

*"Finding PPE. There was a lot of issues with finding recommended N-95's and kn-95's for both local needs as well as first responder."*

*"Acquiring quality PPE. Also the continued changes in OHA requirements was a challenge".*

*"OSFM went direct to Fire Defense Boards, but OEM went straight to EM's and were given different directions for stockpile."*

*"Managing the inventory and distribution by myself. I could have used a part time person to take over PPE Distribution."*

*"Supply: Too much hand sanitizer, and not enough N95 masks"*

*"Lack of PPE."*

*"Getting PPE to the teeny communities who were hours and hours away in our huge county. We have a huge county mileage wise but not people wise."*

## **Biggest Success in Supporting PPE Distribution:**

*"Still able to support those who needed the PPE"*

*"the process for resource requests and delivery was always smooth and timely"*

*"The biggest success was the implementation of our EOC Logistics Section. This section had been minimally staffed for real-world and exercise events in the past - however, this extended activation provided the Logistics Section the opportunity to develop specific processes and plans, build staff experience in their roles (and other roles), and emphasized the importance of this section to response operation."*

*"Volunteers and private purchases allowed city to distribute widely without waiting for county resources. Post event solid relationships build then continue now."*

*"We were able to coordinate numerous events that were very well received."*

*"There is no big success, we barley survived it! We had way to much PPE "PUSHED" on to it based on inaccurate data!! The State, "OHA, and OEMD Must never use the PUSH method again, they need to*

*remain in the standard disaster response logistical ordering process, where items are "Pulled" in the form of requests to the State."*

*"We made the distribution work for us, even with our limited Medical knowledge and staffing levels, I believe we served our community in a very effective way."*

*"Giving the PPE to those agencies that needed it. Long Term Care Facilities, etc. They were very grateful."*

*"The level of participation of people wearing PPE"*

*"We distributed a lot of PPE"*

*"Being able to source through the State enough PPE to be able to give it out to the struggling local businesses"*

*"Coordination with local users...clinics, EMS, fire, LE, etc."*

*We had more than enough to distribute to business early on-they were all thankful and appreciative for the support. ORNG provided staff to unload and stack as well as transport so we didn't have to pick up."*

*"With the State's help, I was able to keep stocked up, for the most part, of what our medical community wanted/needed. "*

*"No one ran out, we were able to share resources and make it all work."*

*"We worked with what we had."*

*"Because we ordered early and COVID hit us later, we were VERY well stocked and ready to go when it did arrive. We had enough PPE to give out where ever it was needed and we did. We drove all over our huge county to get to those teeny communities so they had PPE as well."*

## Supporting isolation and quarantine

Few respondents (28.6%, n=6) reported their EM office provided support to LPHAs for isolation and quarantine. Some of the challenges in supporting isolation and quarantine experienced by EM included logistical challenges, particularly for specific populations (e.g., unhoused), and community mistrust in isolation and quarantine guidance.

## Biggest Challenges in Supporting Isolation and Quarantine:

*"Getting people to trust that they were necessary"*

*"Dept. of corrections releasing exposed inmates in our County without consideration or coordination."*

*"Setup a camp/shelter for the unhoused at Fairgrounds and it was difficult to manage."*

*"N/A My role didn't extend beyond getting the phones."*

*"We have a county full of anti-government people. They did NOT want to do what was requested of them and didn't. In a small community, everyone knows who has covid and we'd see them in the grocery stores or out and about. They didn't believe the state so they didn't believe public health when they told them the rules for isolation and quarantine. Our small hospital could not handle more than one covid patient so they were sent to other hospitals to be cared for. Not allowing individuals visitors was a HUGE challenge and really, really wrong for those who ended up dying alone and without proper goodbyes. Those families will NEVER recover from the damage done by the state and feds rules. Very sick and cruel - especially when those family members had already been exposed! Husbands and wives share the same bed, yet they were not allowed to share a room while sick with covid? Makes absolutely NO sense. Such absolute cruelty and violates every doctor's code of conduct to do no harm."*

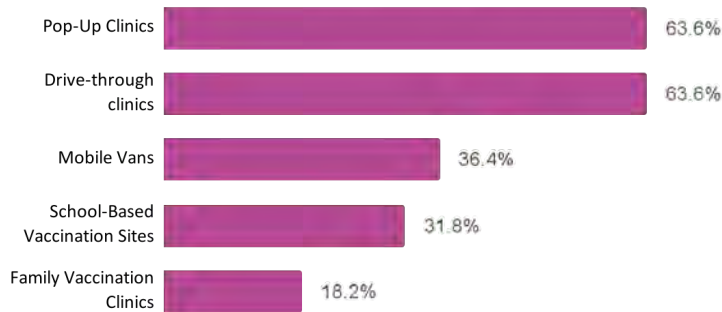
Biggest Success in Supporting Isolation and Quarantine:

- “The level of voluntary quarantine”
- “Our local health agency took the lead on I&Q. Good coordination with local health.”
- “We are able to secure an ACF and use a building that was mothballed and resources on hand to make it work”
- “My office coordinated with Verizon to provide mobile phones for Contact Tracers.”
- “We were able to somewhat handle our population without having to open medical shelters.”

Supporting vaccine distribution

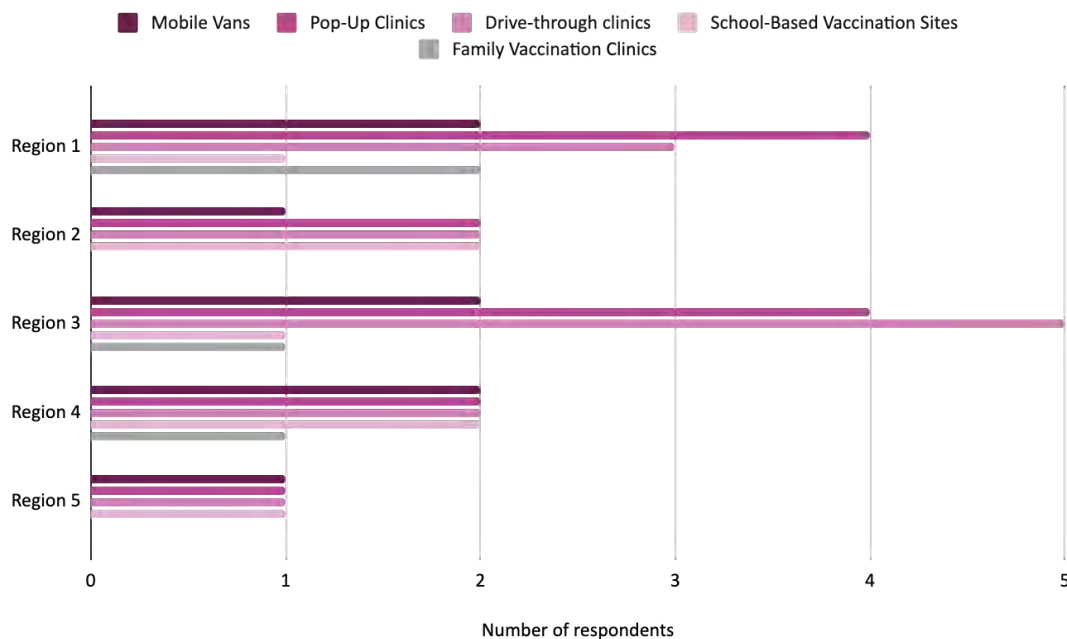
Almost all respondents (90.1%, n=20) reported their EM office provided support to LPHAs for vaccine distribution. Figure X reports on types of vaccine distribution methods supported by EMs.

Figure 6: Vaccine distribution methods supported by City, County, and Tribal Emergency Management (N=22)



We also looked at vaccine distribution methods by region to see if there was any variability across the state, see Figure 7. Region 3 supported more drive-through clinics (n=5) than other regions.

Figure 7: Vaccine distribution methods supported by city, county, and tribal emergency management, by region (N=22)



## Biggest Challenges in Supporting Vaccine Distribution:

*"logistics"*

*"volunteers"*

*"Rural area"*

*"the documentation needed between all parties, unclear expectations and communication for logistics coordination in the early planning stages, not knowing how many people to plan to serve (made it hard to designate space to support existing services and allow for vaccinations, and to justify support for additional clinics with workplace management)"*

*"Scheduling appointments, ensuring cancelations and rescheduling was covered"*

*"Communication and coordination with our Public Health nurse and with our community partner who provided vaccinators"*

*"Public Health not willing to operate within a county wide "Unified Command" structure within the County EOC. Instead they made the decision to go at it alone and did not include many county departments as I would expect."*

*"Getting people to trust that the vaccine was safe"*

*"Weather and getting the information out to certain population groups."*

*"This was run through the Public Health division of the Tribe and excluded the EM Office. But they still used logistics and operational personnel from the EOC"*

*"Coordination of all the needed workers, and ensuring we had enough supplies on hand to support them."*

*"Poor equipment and / or facilities. We purchased tents but they were not adequate. Some best practices would be welcome."*

*“Coordination and resource support.”*

*“Getting participation from the community. We were prepared to vaccinate thousands of people (once we started getting the vaccine), but we didn't get the participation from those that wanted shots, despite all of our Public Service Announcements and public education attempts.”*

### Biggest Success in Supporting Vaccine Distribution:

*“overcoming the logistics problems”*

*“We were able to provide staffing assistance for the clinics and two large venues for mass vaccination sites.”*

*“We were able to vaccinate first responders and frontline workers successfully.”*

*“We lead the number and percent of vaccines administered in the state for months!”*

*“Not giving up, even when we had low turn out.”*

*“The number of people that got the vaccine”*

*“Many people were vaccinated”*

*“The smoothness of how they all operated once they were stood up. I was really encouraged to see also the community being so responsive and orderly within the vaccination sites. “*

*“Good County support and funding”*

*“All of the partners that stepped up to help. Interagency partnerships were what made it successful.”*

*“Our drive thru and walk in clinics all worked well with very few flaws. When a problem came up, our team worked to fix the problem. “By the time we gave our last POD, it was working seamlessly. “*

*“Dedicated public health director.”*

*“We had clinics at the fairgrounds and because our population is small, we were able to vax and move ahead on the state's timeline quickly. Even though the state tried to shame us for not doing enough, we did. We even vaccinated people out of county and state because we had so much vaccine and it was easy to get into our clinics - we got NO recognition from the state for anyone we vaxed who was from another county/state. That was ridiculous. They got it HERE, they should count as a vax for HERE.”*

### Funding

Over half (54.5%; n=12) of respondents reported their EM office received COVID-19 specific funding.

Funding sources among EM Offices

receiving funding are shown in Figure

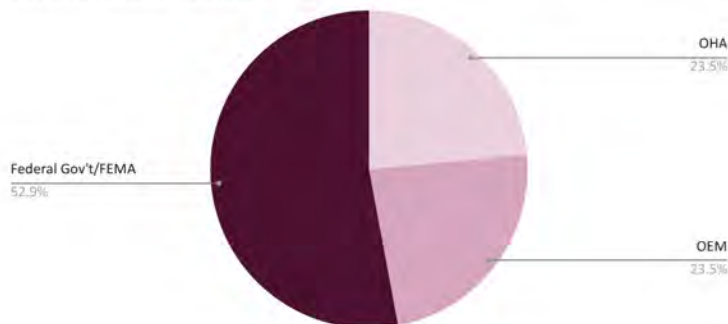
Many respondents reported barriers to

efficient use of COVID-19 funding,

which included the following:

- Length of time it took to receive funds (33.3%; n=4)
- Model of funding (e.g., reimbursement structure) (33.3%; n=4)
- Reporting requirements (16.7%; n=2)
- Spending requirements of funding source (8.3%; n=1)

Figure 8: City, County, and Tribal emergency management COVID-19-specific funding sources (N=12)



8.

- County-level administrative requirements (8.3%; n=1)
- Other barrier not listed (41.7%; n=5)

Some respondents elaborated on these barriers to efficient use of funds:

*“submitting documentation was cumbersome took two employees weeks. Relies on centralized purchasing & inventory model which many locals do not use.”*

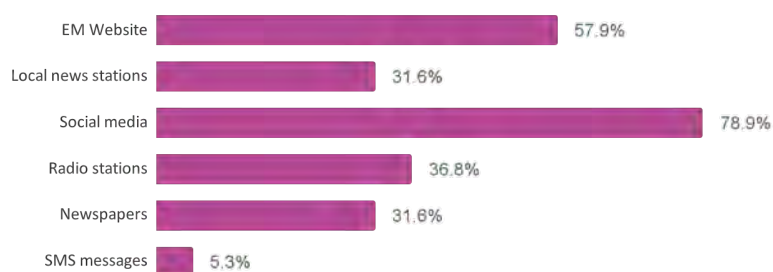
*“The funds went to the public health program and then only kind of trickled over to EM. The two were confusingly intersected in some places and separate in others.”*

## Communications

### Supporting public information dissemination

Of respondents, 83.3% (n=15/18) reported their EM assisted state or local public health for public information dissemination. One respondent (5.3%) reported their EM did not utilize any mass-reach platforms for public information dissemination. Of the remaining respondents, mass-reach dissemination platforms used are reported in Figure X.

Figure 9: Public Information Dissemination Platforms (N=18)



### Biggest Challenges in Supporting Public Information Dissemination:

*“Lots of conflicting information from the outside”*

*“the constantly changing or vague guidelines for risk levels and reopening guidance”*

*“Reminding county to provide spanish translation, and to include ability, age, and color inclusive materials. Also needed ability access information for clinics so those with disabilities knew what to expect”*

*“Accurate and timely information from OHA”*

*“The information available kept changing and was quickly politicized”*

*“The often times mismatching information. We would hear something from one entity that went against what was being shown on say the federal level. It confused us in the EOC as well as the community at large.”*

*“Call center capability was staffed locally rather than 211. Governor made announcements to the public before we could prepare and act upon them. Made us look dumb at the local level.”*

*“Getting the most up to date information out to our local population.”*

"The information changed constantly. It was hard to make sure we were all up to date and that we'd reached everyone who needed to know."

### Biggest Success in Supporting Public Information Dissemination:

Worked with PH in supporting public info.

"Bringing awareness to public on where to get information and what local government role was vs county or state."

"Regularly produced original content to support Benton County specific messaging such as target videos and culturally appropriate messaging."

"Making sure we were able to reach every demographic in our area, and ensuring there were resources available for all individuals."

"Call center, JIC, and UC/IC with partner agencies in the community."

"Participation in our drive-thru and walk-in vaccine and testing clinics."

"Frequent communication and meetings between leadership."

"We all worked together every day to do the best we could with what we had. Everyone understood the information was confusing, challenging, and changing and we knew we weren't responsible for any of that. lots of grace was given."

### OHA communications with the public



Figure 10: Rating of OHA Communication with Public, Stage 1

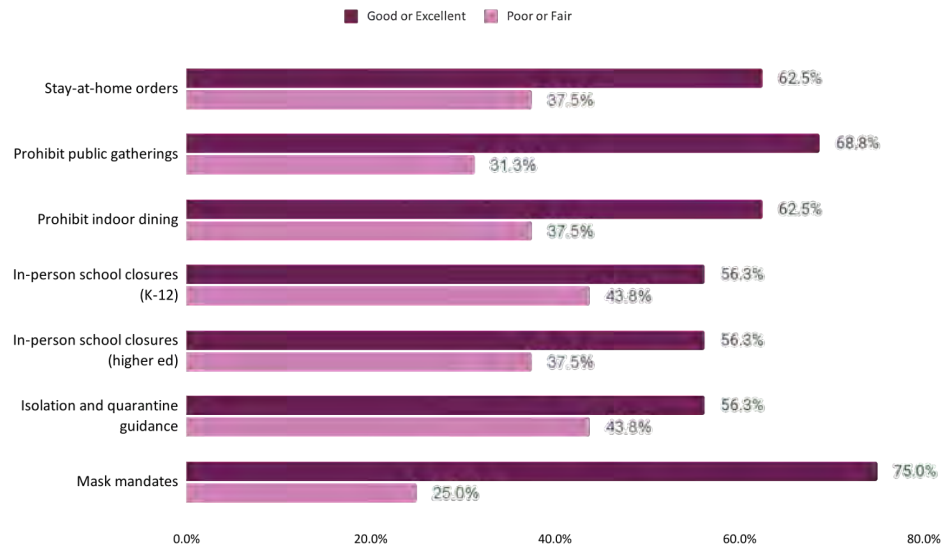


Figure 11: Rating of OHA Communication with Public, Stage 2

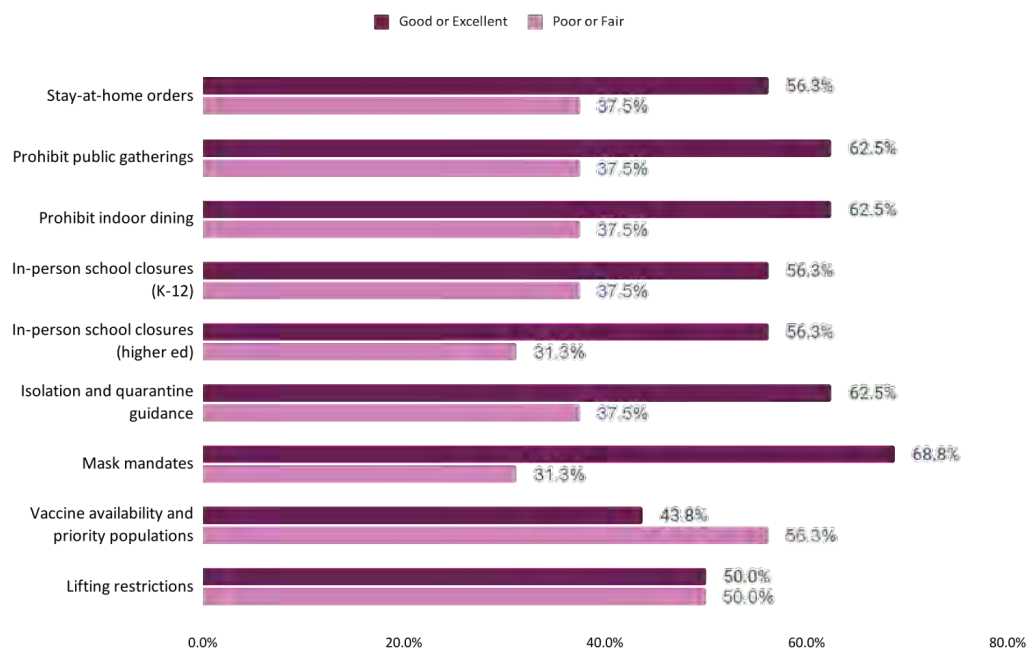


Figure 12: Rating of OHA Communication with Public, Stage 3

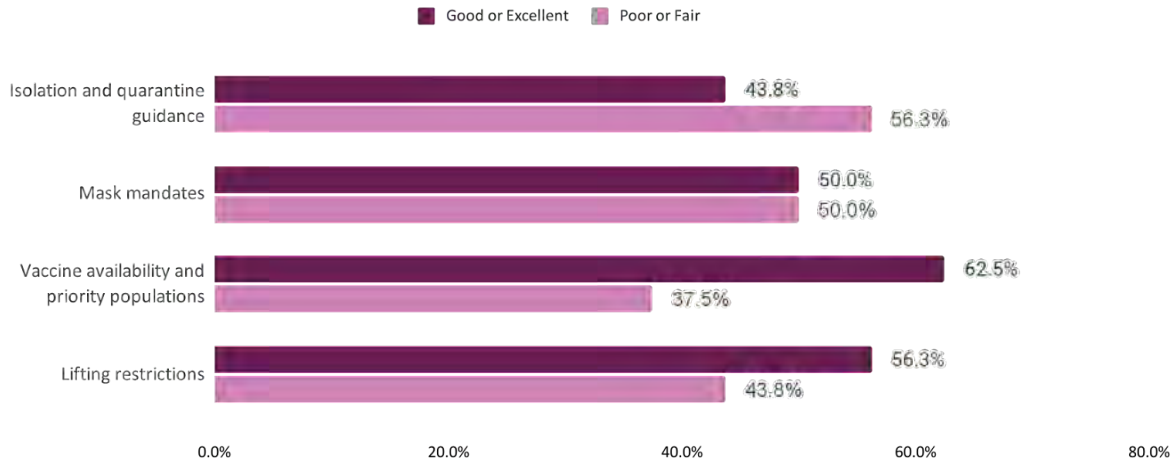
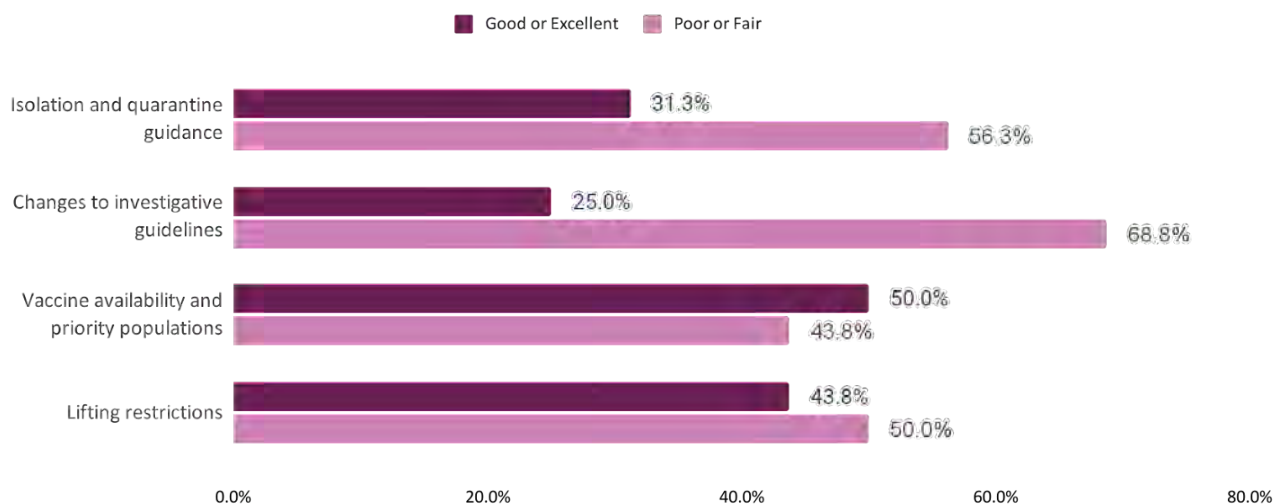


Figure 13: Rating of OHA Communication with Public, Stage 4

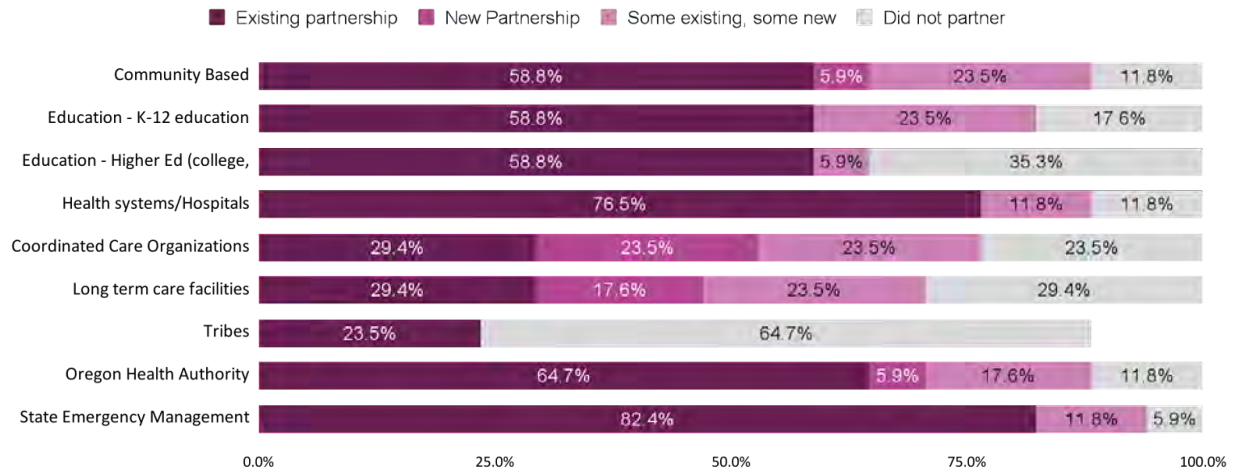


## Partnerships

### Types of Partnerships

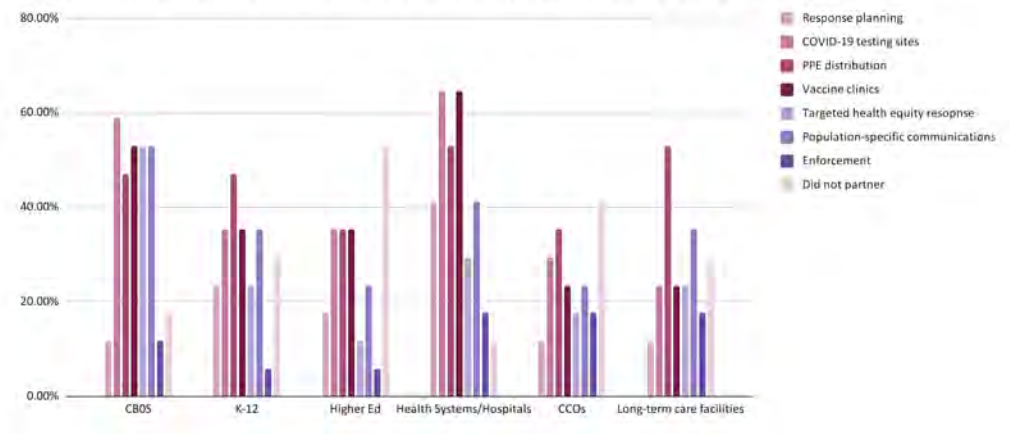
Most respondents reported using existing partnerships for COVID-19 response. There were, however, new partnerships that were made, with CBOs, Education sectors (both K-12 and Higher Education), hospitals, CCOs, Long-term Care Facilities, OHA, and State Emergency Management (See Figure X). The majority of EMs (64.7%, n=11) reported they did not partner with Tribal Organizations for COVID-19 response. Although most respondents reported partnering with long-term care facilities, about 29.4% (n=5) reported not partnering with any long-term care facilities.

Figure 14: Types of Emergency Management partnerships for COVID-19 response (N=17)



## Local and Community Partnerships

Figure 15: How EMs partnered with local and community organizations for COVID-19 response



# OR Public Health Response to COVID-19: LPHA Survey Preliminary Analysis

## Introduction

For this study, a survey was administered to 118 LPHA staff between August 18 and September 23, 2022. It was sent to a variety of positions within each LPHA, including Administrator, Public Health Director, PH Officer, Communicable Disease Lead, Emergency Preparedness Manager or Coordinator, Public information officer, Equity lead or liaison (if applicable), and Epidemiology lead (if applicable). Forty surveys were submitted, with one respondent being removed due to only completing the demographics section. Including one incomplete survey, a total of 39 surveys are included in the sample representing 18 LPHAs, for a response rate of 33%.

## Demographics of survey respondents

Eighty-two percent (n=32) of respondents had been in their role for over six months. Of the seven respondents who had been in their role less than six months, previous positions included: Communicable Disease Investigator, Office Manager, LPHA Director, Nursing Supervisor, Public Health Program Manager, and County public health director.

Across roles, 18 LPHAs are represented in the data. Fourteen respondents selected Public Health Administrator for their role, representing 13 LPHAs.

Characteristics	n (%)
Region	
Region 1	11(28%)
Region 2	12 (31%)
Region 3	4 (10%)
Region 4	9 (23%)
Region 5	3 (8%)
Stage Involvement	
Stage 1 Only	0
Stages 2, 3 & 4	3 (8%)
Stage 3	1 (3%)
Stages 3 & 4	1 (3%)
Stage 4	2 (5%)
All 4 Stages	32 (82%)
Current Role (Respondents could select all that apply)	

LPHA Administrator	14 (36%)
Emergency Preparedness Manager or Coordinator	10 (26%)
Communicable Disease Lead	9 (23%)
Epidemiology Lead	6 (15%)
Public Information Officer	4 (10%)
Equity Lead or Liaison	4 (10%)
Public Health Officer	3 (26%)
Other	7 (18%)

## Emergency Management preparedness

### LPHA preparedness

LPHA emergency preparedness increased as stages progressed. At Stage 1, only 41% (n=16) of respondents felt their LPHA was moderately or highly prepared, but by Stage 4 this had increased to 90% (n=35).

### Self-preparedness

When asked about their individual level of emergency preparedness to respond to the pandemic (e.g., knowledge, training, experience, expertise), about half of respondents felt that they were not at all prepared or minimally prepared (53.8%, n=21). Respondents reported the following as reasons for their self-assessment:

#### Highly prepared:

*"I've been trained as a PIO in ICS structure for about 10 years."*

*"PH Prep Coord since 2010"*

*"We had plans built for mass vaccinations and outbreaks, which should have been used daily. But we also had a bunch of Health Department Leadership turnover, and the interim leadership, did not understand how to put emergency plans to use, and were prone to panic and exaggerations."*

#### Moderately prepared:

*"Worked as PHEP for 3 years, giving me more insight into PH"*

*"I had completed the required ICS trainings, and had several years of experience with communicable disease and outbreak response. I had not yet been involved in preparedness exercises, live or tabletop, and was not aware of details of public health emergency planning."*

*"had training, and plans, but no real life experience with a pandemic response"*

*"Have the relevant trainings in ICS but was not in practice during H1N1, which would have been practical preparation"*

*"I also supervised Emergency Preparedness our county did drills etc"*

*"I knew it was busy and tried to stay up to date on relevant information prior to working in public health."*

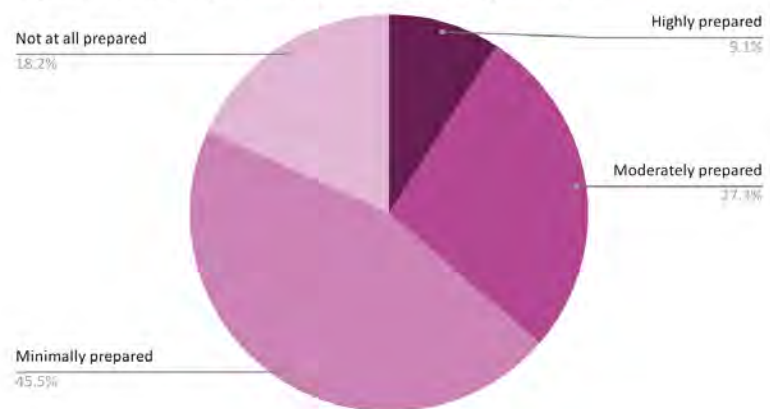
*"I have training in epidemiology, environmental health, and had participated in various "pandemic" exercises over the years."*

*"High institutional knowledge but a lack of resources in place to be highly prepared."*

*"because I came onboard with Public Health in the middle of the response"*

*"I have communicable disease experience and training for pandemic response, but was not completely prepared for COVID-19"*

Figure 1: Self-preparedness for COVID-19 pandemic



*"I have knowledge, training, experience, and expertise related to communicable disease epidemiology and emergency preparedness. I was able to train all our Covid-19 case investigators and contact tracers to support the early disease interventions during 2020.*

*EOC was stood up, JIC stood up and partners involved, workforce was surged after first major outbreak"*

*"several staff worked on H1N1. we had strong emergency management and communicable disease staff in place"*

*"I came in with experience/expertise of responding to COVID-19 from a different country/continent, but not prepared to respond to COVID-19 in this particular environment/health structure."*

*"i've been a HO for several years, we have a good response structure, but it had never been really practiced to a point to feel really ready for this"*

#### Minimally prepared:

*"First time doing the job"*

*"I had completed the required ICS trainings and done exercises for points of dispensing, but no further."*

*"Responding to emergencies - I am moderately prepared. It was the nature of the emergency that was the challenge. Responding to severe outbreak of measles across the state and nation would have likely generated a different answer."*

*"I had only been hired into the alcohol/drug prevention position 4 months before COVID started."*

*"Although I have an MPH, its emphasis is in health equity so the epidemiology/communicable disease aspects of COVID were largely new to me"*

*"New to all of us."*

*"I had basic I.S. training, I have an MPH in epidemiology and outbreak response experience but obviously no pandemic response experience"*

*"I was previously a reporter so I was comfortable with putting out press releases, but the verbiage and ways of public health were new to me, and of course COVID was an unmanageable beast in terms of information. I still remember a principal telling me that by the time they had a PSA translated into Spanish and ready to disseminate, the information had already been updated."*

*"Minimally based on staffing ability to respond. Modertely: We have conducted desktop simulations which helped in being to respond quickly in creating response guidelines, job aids, outreach to partners for collatoration, etc"*

*"I was new to my job when the epidemic started."*

*"I had only taken 3 FEMA courses (100, 200, 700). I had only partially been involved in two previous responses (Cyanotoxins and the Solar Eclipse)"*

*"I was involved at the very beginning - none of us had ever done anything like this before. I had completed FEMA trainings but nothing else."*

*"Program focus was on preparedness for bioterrorism event and rapid distribution of pill based medical countermeasures. Second area of focus was around Cascadia."*

*"As COVID is a totally mew thing everyone is minimally prepared for the pandemic."*

*"I was new to the job and our department didn't emphasize much emergency preparedness aside from ICS courses."*

*"Our public health department did not have an emergency plan to follow and no leadership to assign roles"*

Not at all prepared:

*"Started supervising EP program one month before pandemic started"*

*"Was anyone prepared for this?"*

*"I started the role 03/2020 right before the shut down. I hadn't finished training yet when shut down occurred."*

*"We didn't have enough PPE, hand sanitizer, etc and definitely not enough manpower to do the work required"*

*"I had been out of the PH arena for almost 20 years and re-entered as a temporary Public Health Worker doing Covid-19 CI. I eventually became a Community Health Coordinator and now the PHEP Coordinator."*

*"I was 6 months into working in Public Health, I had completed the minimal/mandatory ICS online trainings but had not participated in any table top exercises or situational analysis. The PHEP coordinator was actually working in EM, not in PH."*

### Pandemic response plan

Respondents were asked about the status of their LPHAs jurisdictional pandemic response plan. The majority of respondents (64%, n = 25) reported that their LPHA had an existing plan, with over half of those (36%, n=14) reporting it was updated after the beginning of the pandemic. Five percent of respondents (n=2) reported that their LPHA does not have a plan.

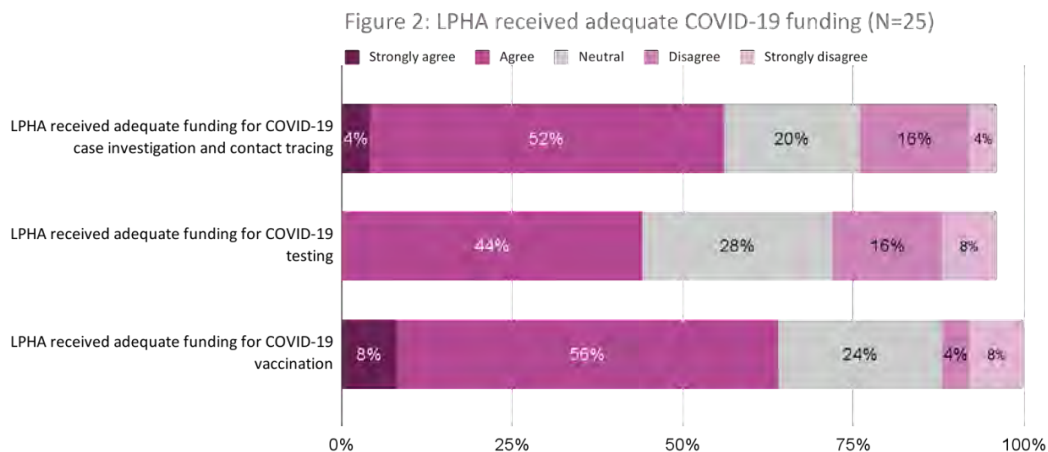
My LPHA had a plan that was developed or updated prior to the start of the COVID-19 pandemic	28%
My LPHA had a plan that was outdated that was updated after the start of the pandemic	36%
My LPHA did not have a plan at the start of the pandemic, but developed one after the start of the COVID-19 pandemic	10%
My LPHA does not have a plan	5%
I don't know	21%

### Funding

Many respondents were unable to answer questions about funding, since it was not a part of their role in COVID-19 response. Five respondents reported affirmatively that their LPHA received COVID-19 funding from entities other than OHA, ten reported that they did not, and 24 did not know. Other sources of funding included ARPA, Foundation, CCO, Modernization dollars, General fund, and volunteer labor.

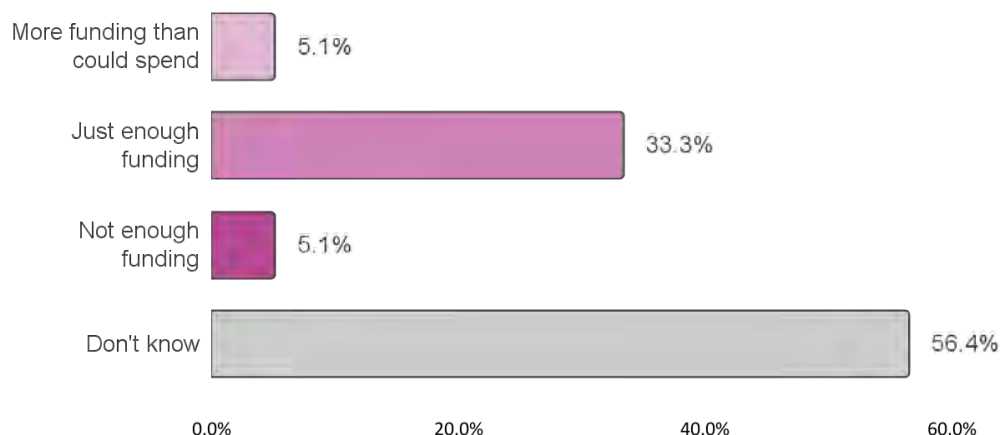
Approximately half of respondents agreed or strongly agreed that their LPHA received adequate funding for case investigation and contact tracing (n=14), testing (n=11), and vaccination (n=16). About a quarter of respondents were neutral, and less than a quarter disagreed or strongly disagreed.





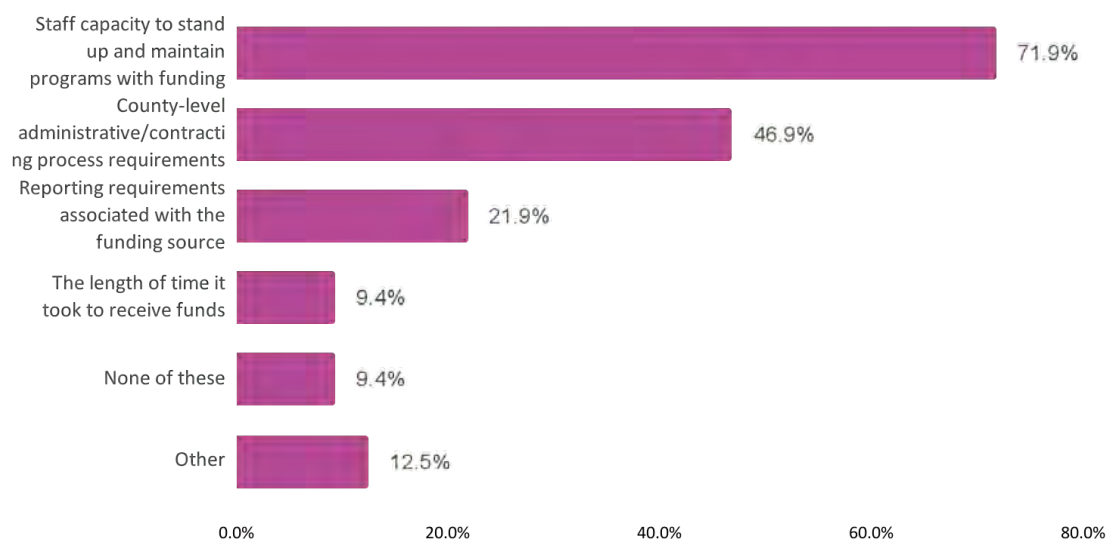
When asked if the existing Public Health Modernization Funding formula for allocation of COVID-19 funds provided enough funding to LPHAs, the majority of respondents indicated that they did not know (n=22). Of those that did provide an answer to this question, thirteen respondents reported that it was just enough funding, two respondents reported it was more funding than their LPHA could spend effectively, and two respondents reported it was not enough funding to respond to COVID-19 effectively.

Figure 3: LPHA's Received Adequate Funding with Public Health Modernization Funding Formula (N=25)



Respondents reported that their LPHA experienced barriers to the efficient use of COVID-19 funds. Nearly three quarters of respondents (n=23) identified staff capacity to stand up and maintain programs and nearly half (n=15) identified county level administrative processes as challenges. “Other” responses included *staff turnover*, *short term limits on funding*, *limitations and changes in allowance of spending*, and *lack of flexibility of certain funding streams*.

Figure 4: Barriers to efficient use of COVID-19 funds from OHA (N=32)



Survey respondents were also asked if anything was needed to assist LPHAs in managing monetary resources during a significant emergency response. The most common thing identified was flexibility within funding streams (n=29), and the second most common thing identified was a rapid timeline for making funds available (n=19).

“Other “ responses included:

*“Funds that were specifically provided for public health activities (aside from the reallocation of funds from various program elements)”*

*“We received plenty of funding, but far too late. We couldn't hire when we needed to.”*

*“Open additional FEMA projects; statewide staffing solutions”*

*“more budget training for newer LPHAS in expanded roles”*

*“Short term deadlines on funding limits our ability. Until we were provided with a funding mechanism that lasted longer than 3-6 months, we were unable to hire permanent staff.”*

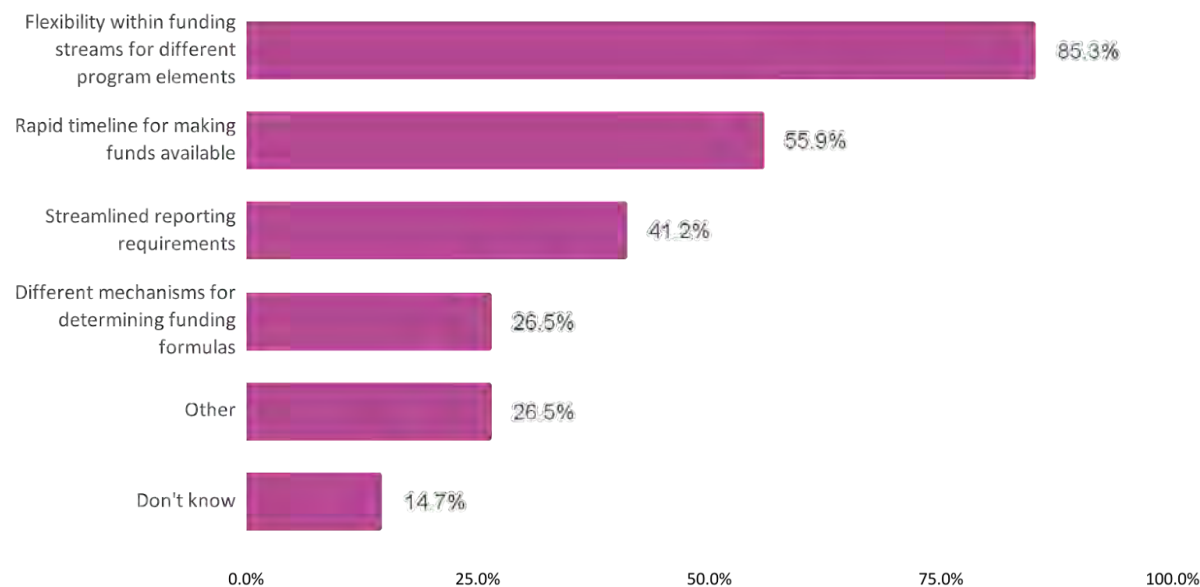
*“Need to relax reporting requirements during high level of work”*

*“Streamlined budgeting tools - so many different budget formats depending on the program element - this can get annoying. There is a streamlined reporting system, let's move to a standardized budget format/tool across PEs”*

*“there was NOT an adequate infrastructure prior to the pandemic that could have supported something so long-term and of this magnitude. We did not have a system that could rapidly hire, train, retain staff at the local level. We also had to deal with the effects of the pandemic on ourselves (we didn't have remote work set ups before this, we had to move very quickly as a local government entity to figure out how to keep functioning) We have been working with the bare minimums for decades. The local HDs cannot quadruple our workforce in 30 days. Plus then we had a local issue with hiring that only allowed us to keep people for 520 or 1040 hours. We were waiting for the State or the Feds to deploy the PH Workforce but that never came so we had to keep using our same local system for over 2 years, constantly hiring dozens of people, training, re-training. We were*

*impacted by departures to our already very small workforce (losing 2 supervisors and 2 nurses to retirement, for example, had to recruit for key permanent position while responding to the pandemic)... Testing was something we did really well, the local university and hospital stepped up and had free tests available very fast.”*  
*“infrastructure to disperse and spend funds in a meaningful way”*

Figure 5: Supports needed for LPHAs to manage monetary resources during public health emergency (N=39)

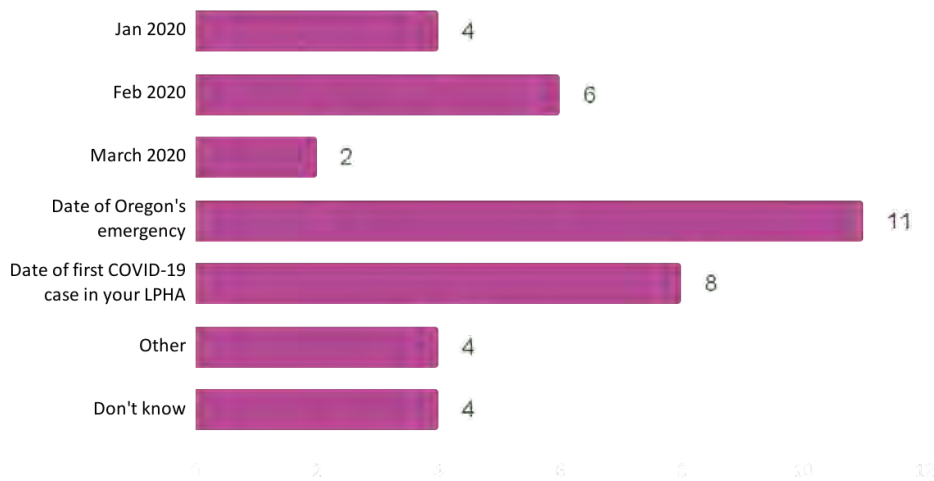


COVID-19 Response Activities

Formal Pandemic Response:

Respondents were asked when their LPHA began their formal COVID-19 response. Most respondents said it was in January or February, prior to Oregon declaring a state of emergency. The two “other” responses were “Before first case,” and “When it started to seem like it was going to be “a thing.””

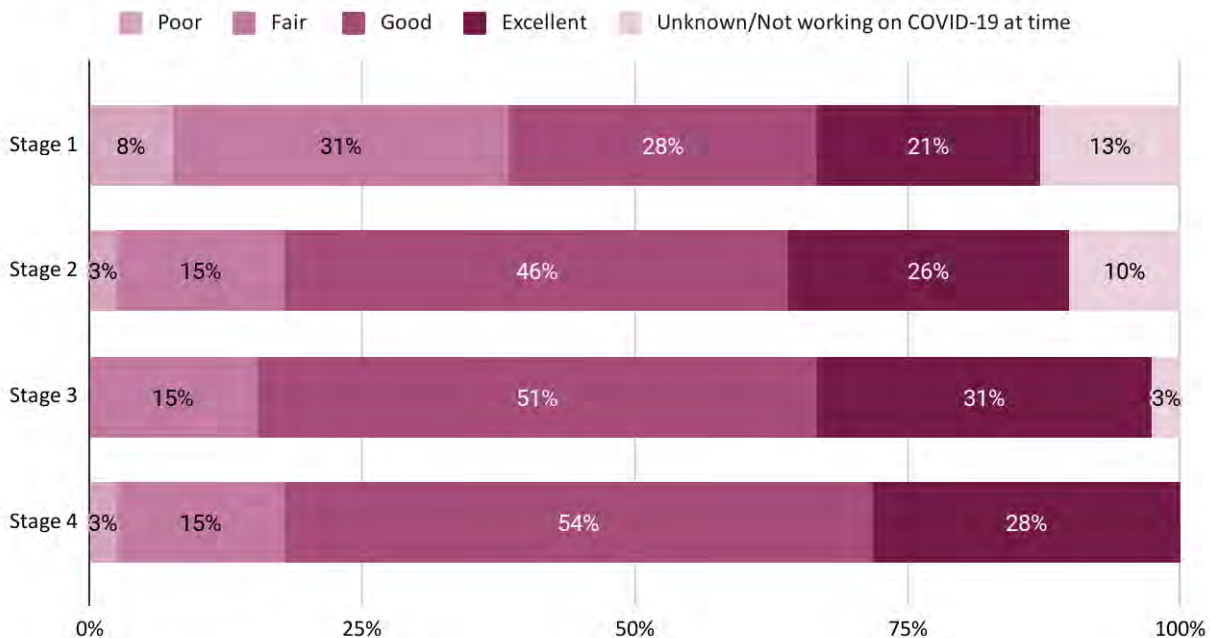
Figure 6: When LPHA began formal COVID-19 response (N=39)



### Overall Response:

Respondents rated their LPHA how well they responded to the pandemic overall, by stage. Approximately 50% of respondents reported that they did good or excellent during Stage 1, and over two-thirds of respondents reported that they did good or excellent in Stages 2-4.

Figure 7: Rating of LPHA's Response to COVID-19 Per Stage (N=39)

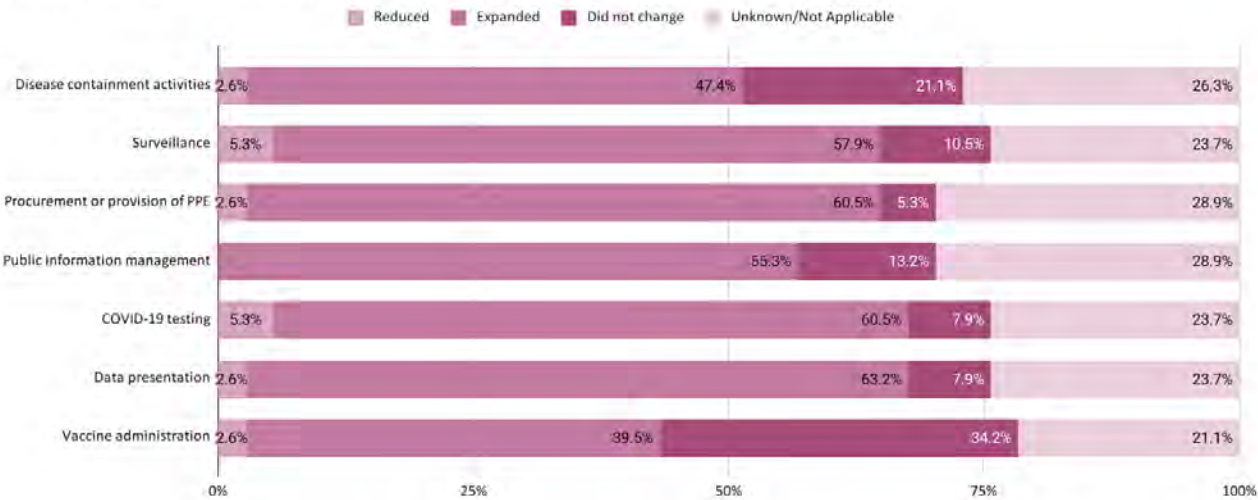


### Changes in LPHA Authority or Structure:

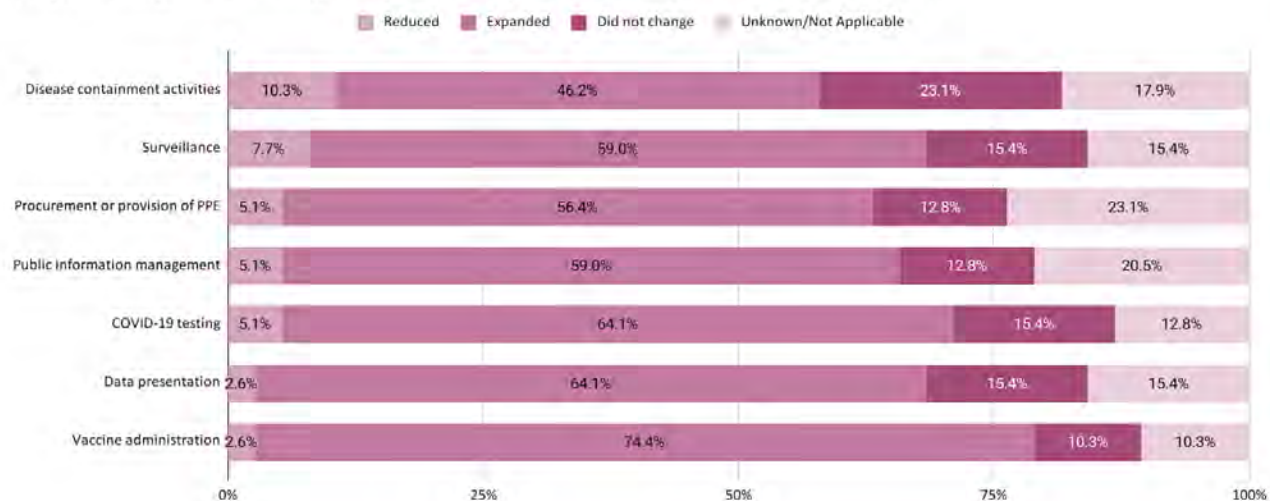
Respondents were asked to share changes in their LPHAs authority, roles, or responsibilities in COVID-19 response by Stage. The Unknown/Not Applicable response option includes respondents that

selected either “I was not working on COVID-19 response in my organization at this stage” or “I cannot answer; this was not included in my role in the COVID-19 response.” During the first two Stages of the pandemic (March 2020- August 2021) respondents reported that their LPHA’s disease response activities expanded or did not change, but by Stage 4 (March -July 2022) many activities were reduced.

Stage 1: Changes in authority, roles, and/or responsibilities in COVID-19 response (N=38)



### Stage 2: Changes in authority, roles, and/or responsibilities in COVID-19 response (N=38)



### Stage 3: Changes in authority, roles, and/or responsibilities in COVID-19 response (N=38)

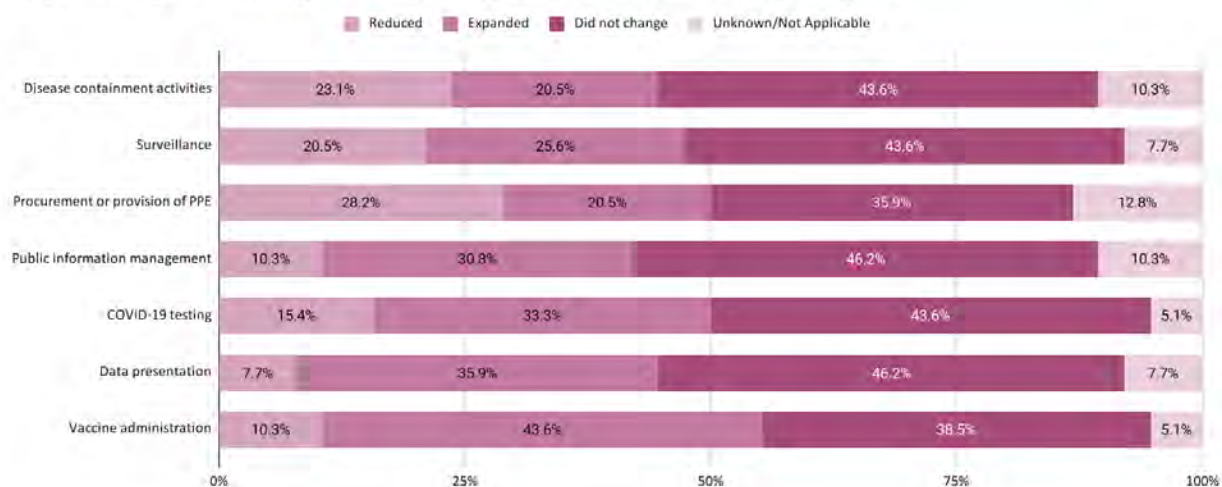
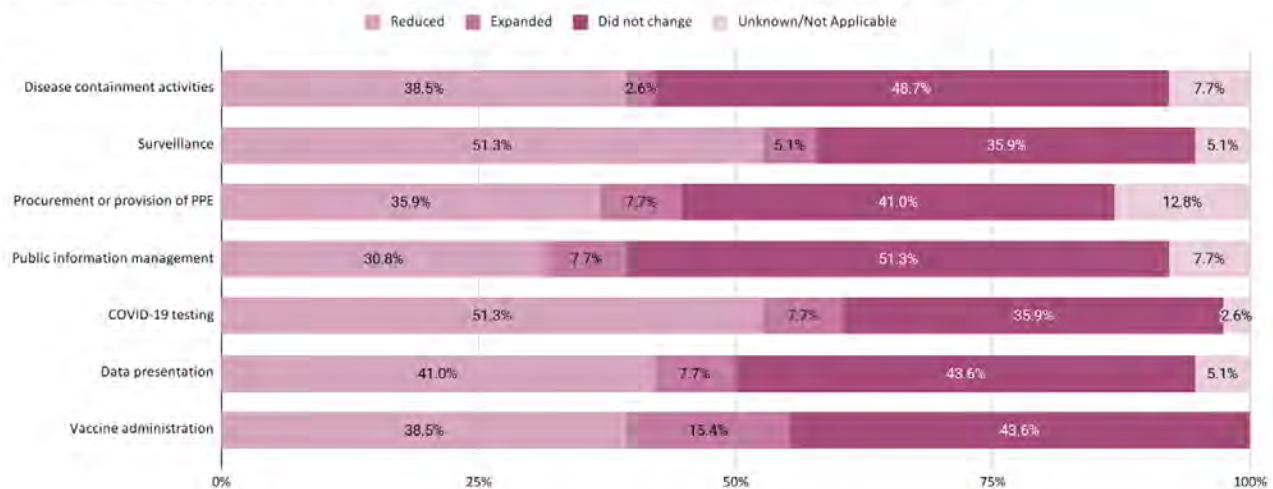




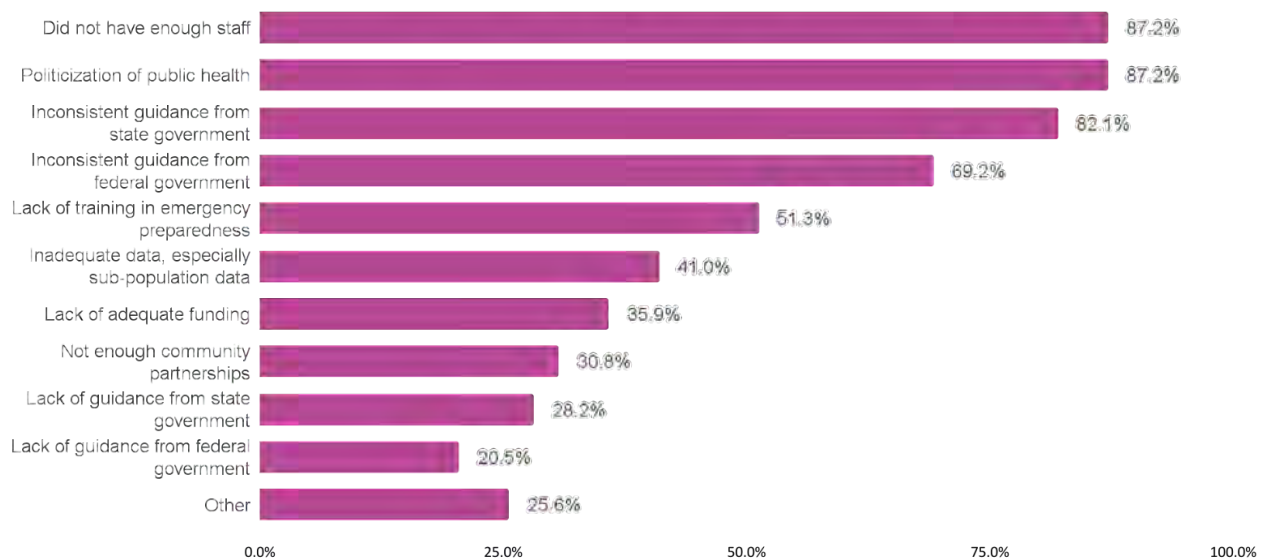
Figure 11: Stage 4: Changes in authority, roles, and/or responsibilities in COVID-19 response (N=38)



## Challenges:

Respondents identified many challenges in the effectiveness, scale, or quality of their LPHAs COVID-19 response. Over three quarters of respondents reported not having enough staff (n=34), the politicization of public health (n=34), and inconsistent guidance from the state government (n=32) as challenges. Over half of respondents reported inconsistent guidance from the state government (n=27) and lack of training in emergency preparedness (n=20) as challenges.

Figure 12: Challenges that hindered the effectiveness, scale, or quality of LPHA's COVID-19 response (N=39)

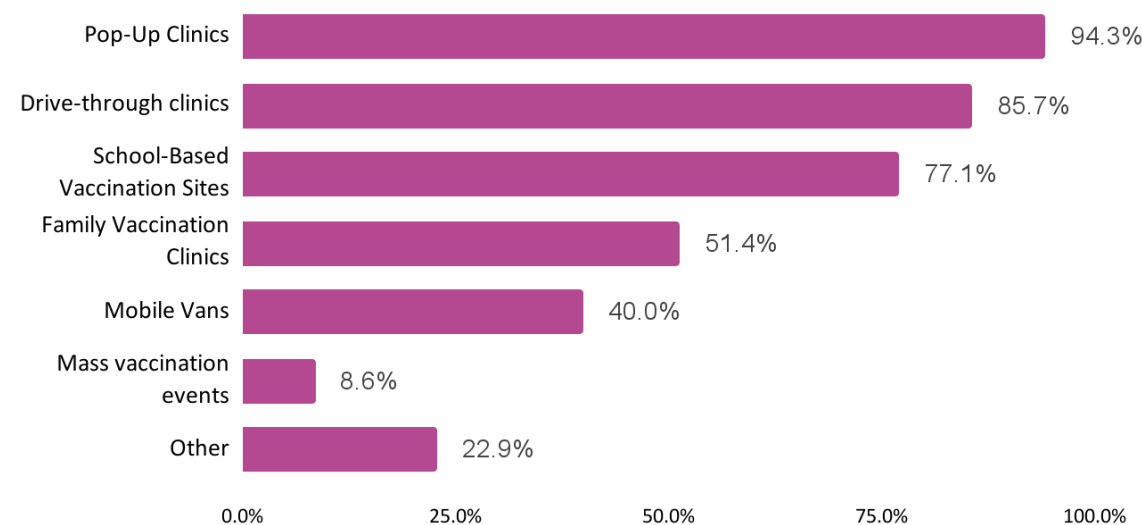


## Vaccinations:

Nearly all respondents (97%,n=34) reported that their LPHA coordinated or provided vaccination clinics. The most common types of vaccine distribution methods were pop-up clinics (n=33), drive through clinics(n=30), and school-based vaccination sites (n=2). Methods included in "other" are door-to-door,

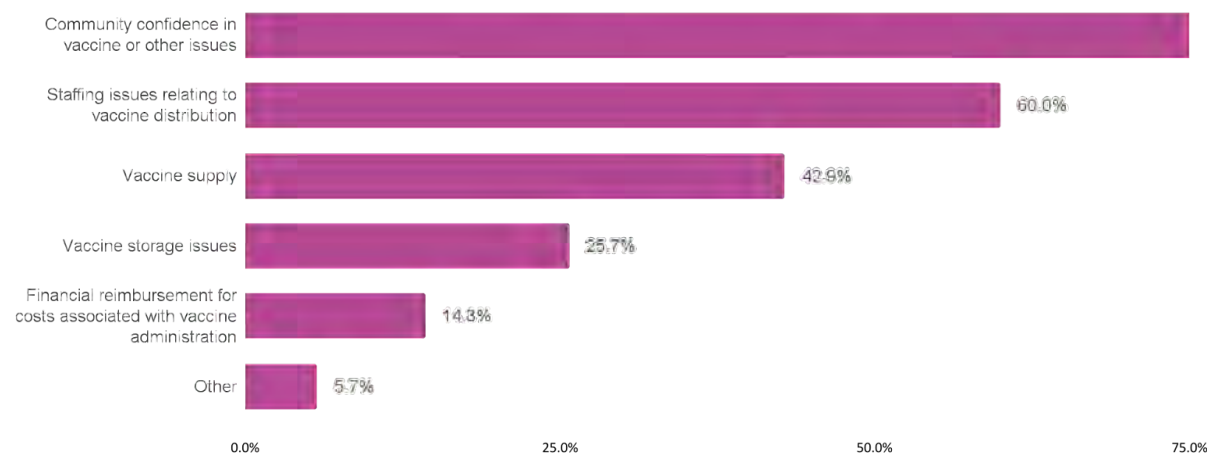
EMS fire, clinics in workplaces, community events, home health visits, drop-in, pcp clinics, and pharmacies.

Figure 13: Types of vaccine distribution methods (N=35)



The two most commonly reported challenges in coordination and implementation of LPHA vaccination plans were community confidence in vaccine or other issues (n=27) and staffing issues related to vaccine distribution (n=21).

Figure 14: Challenges in coordination and implementation of LPHA vaccination plans (N=35)

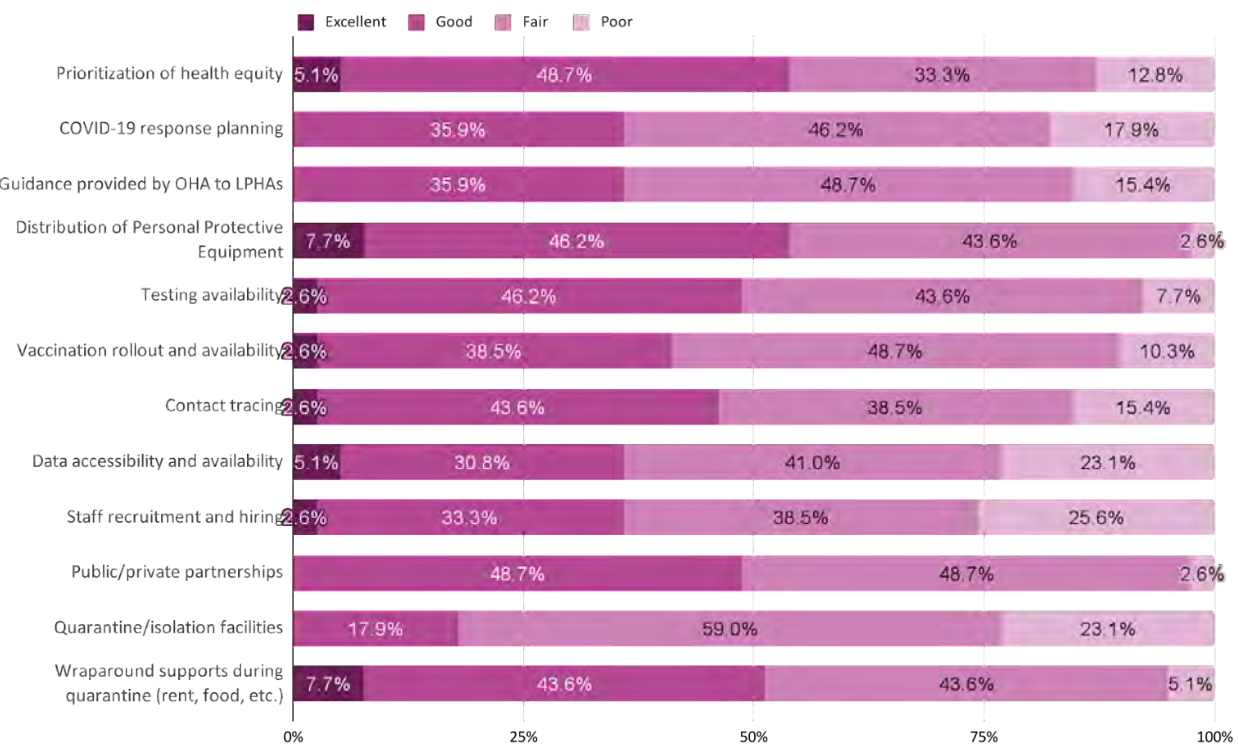


Public health system response



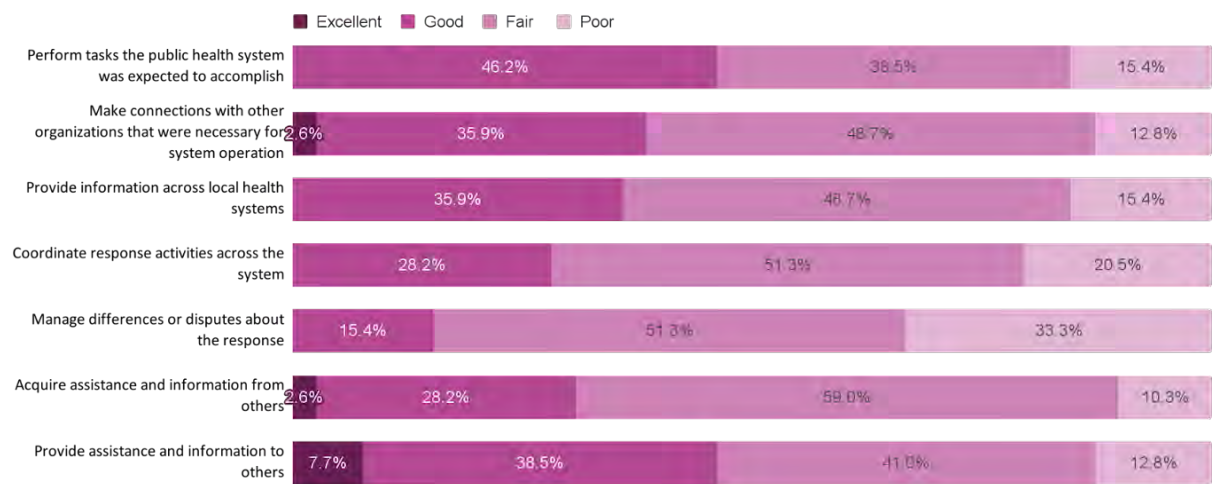
Survey respondents were asked to rate Oregon’s public health response to COVID-19 across a range of activities.

Figure 15: LPHA Survey Respondents Rating of Oregon's Public Health System Response to COVID-19 (N=39)



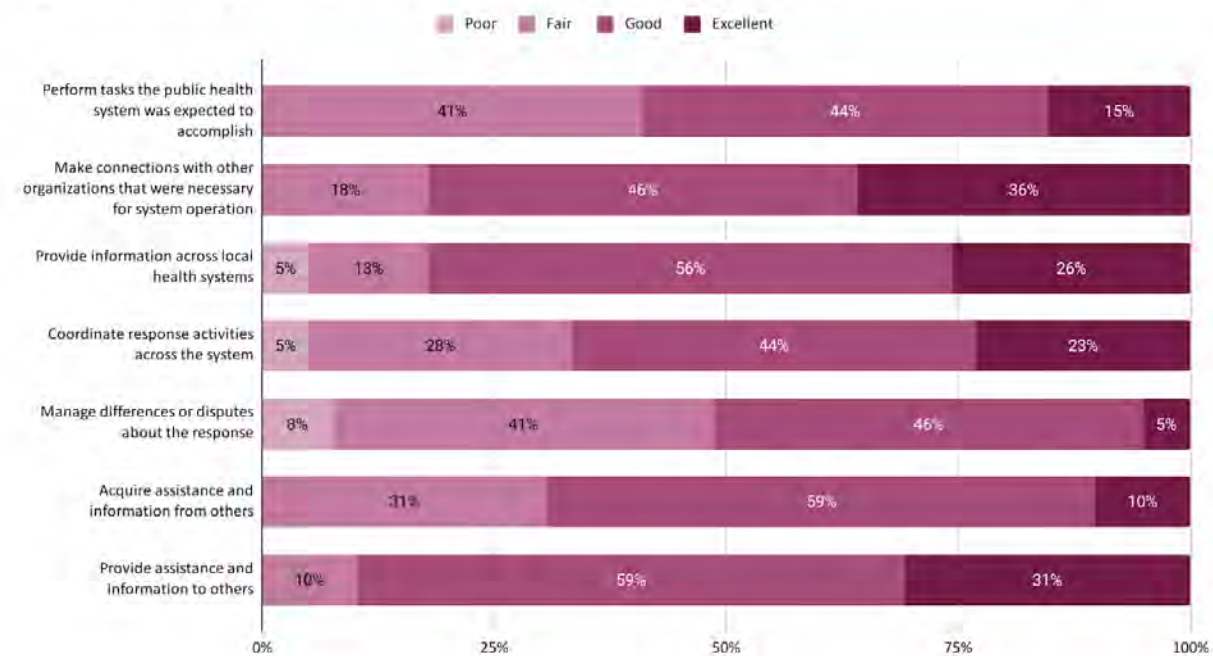
When considering OHAs role in COVID-19 response, respondents rated OHAs ability to perform a variety of public health activities.

Figure 16: LPHA respondents rating how well OHA was able to engage in the following activities during COVID-19 response (N=39)



Respondents also rated their own LPHAs ability to conduct a variety of public health response activities.

Figure 17: Rating of LPHA's ability to conduct public health activities (N=39)



## Communications

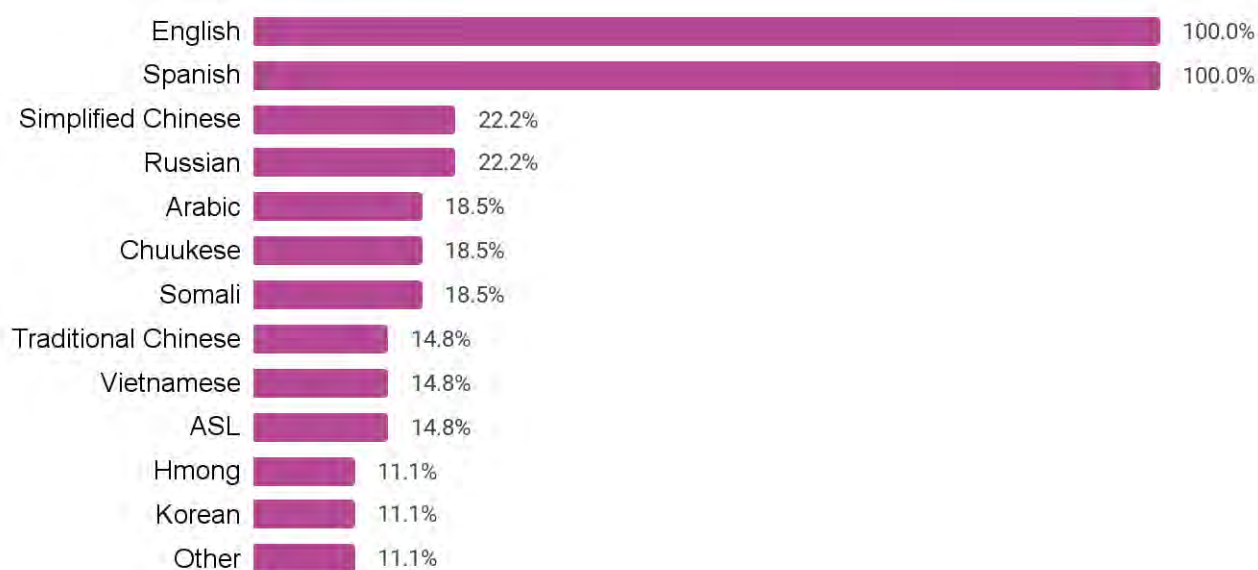
Figure 18: Types of mass media outlets utilized by LPHA survey respondents (N=34)



All LPHAs reported providing public health messaging through mass media communication methods. Nearly all respondents provided information on their websites and on social media, and over half reported utilizing local news stations, radio stations, and newspapers. “Other” mass media outlets included flyers, internet ads, billboards, and a PSA.

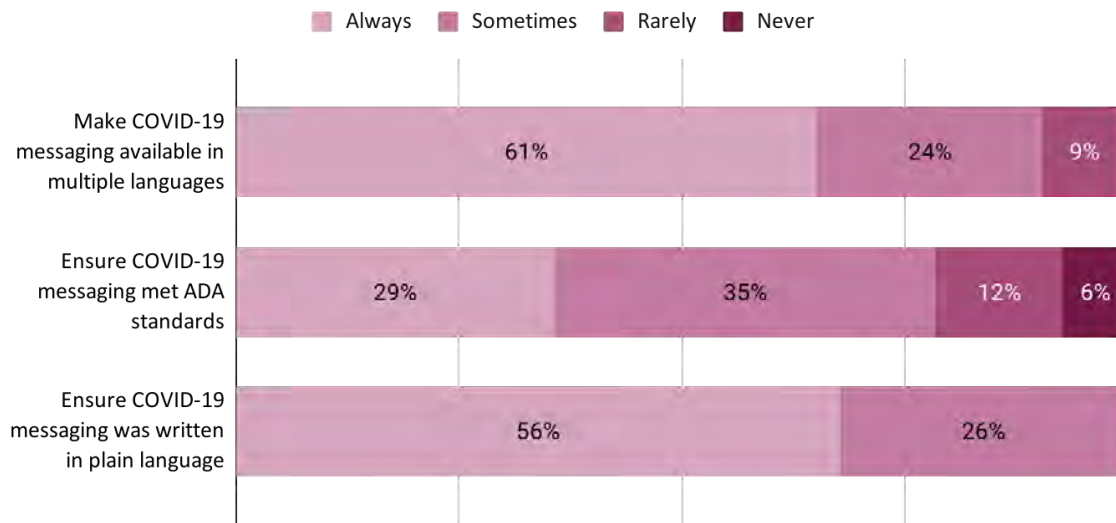
Twenty-seven LPHA survey respondents reported developing their own public health messages. Of these 27 respondents, all provided materials in multiple languages (see Figure 19 for which languages). “Other” languages mentioned were Marshallese (n=2) and Indigenous languages from Guatemala (n=1).

Figure 19: Percent of respondents who provided targeted messaging in the following languages (N=27)



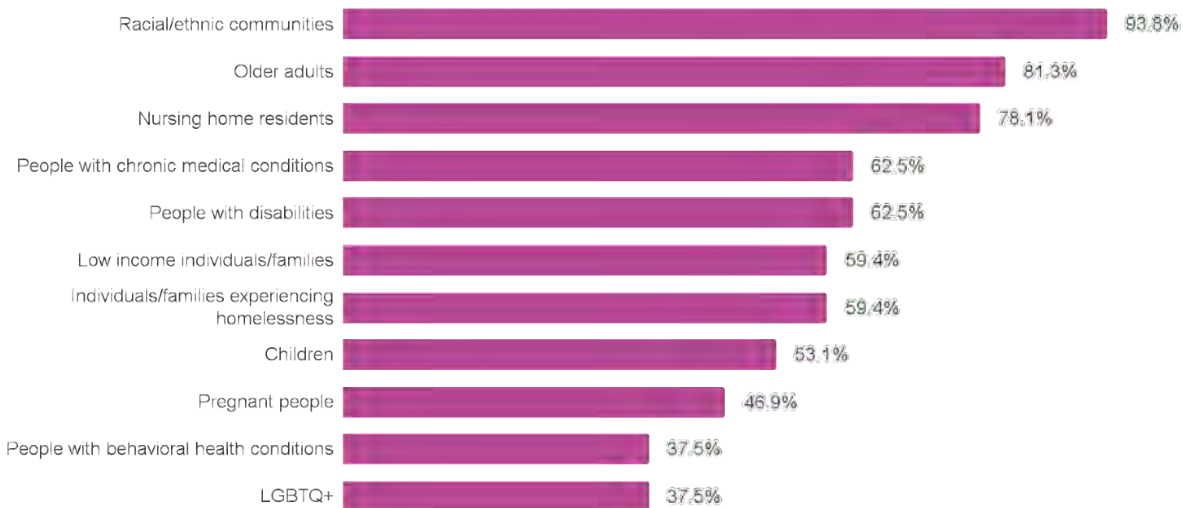
Respondents were also asked to reflect on how their LPHA incorporated accessibility standards into their public health messaging. Of respondents that answered this question (n=28) all reported that COVID-19 messaging was always or sometimes written in plain language, nearly all respondents reported that messaging was always or sometimes available in multiple languages, and 65% (n=22) reported that messaging always or sometimes met ADA standards. Two respondents reported that they never ensure messaging met ADA standards.

Figure 20: When developing targeted public health messaging, respondents did the following (N=27):



Some respondents also noted that they prioritized community or population-specific COVID-19 messaging. Nearly all respondents reported prioritizing Racial/ethnic communities. Most respondents also reported prioritizing older adults and nursing home residents.

Figure 21: Populations prioritized by LPHA respondents for community-specific COVID-19 messaging (N=32)



LPHAs were asked to rate OHA on their communication with the public about a variety of public health requirements that were implemented by stage.

Figure 22: Rating of OHA Communication with Public, Stage 1 (March - Nov 2020) (N=34)

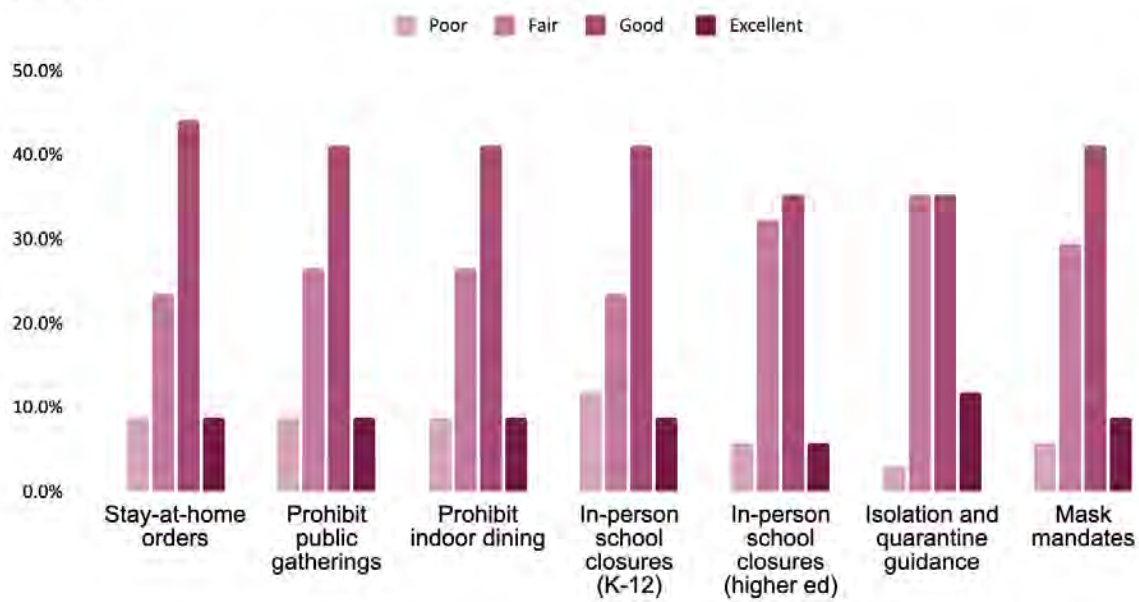


Figure 23: Rating of OHA Communication with Public, Stage 2 (Dec 2020 - Aug 2021)

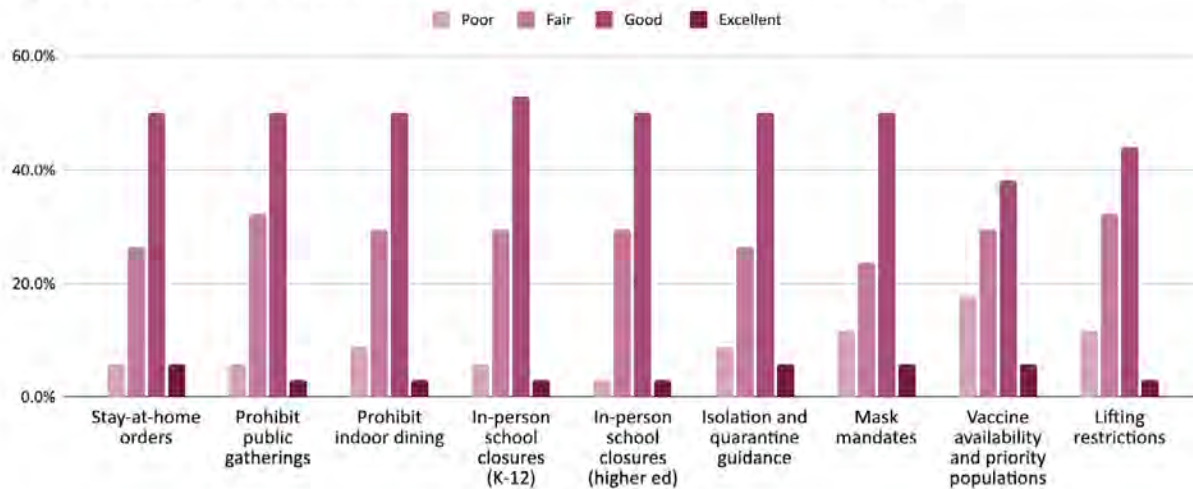


Figure 24: Rating of OHA Communication with Public, Stage 3 (Sept 2021 - Feb 2022)

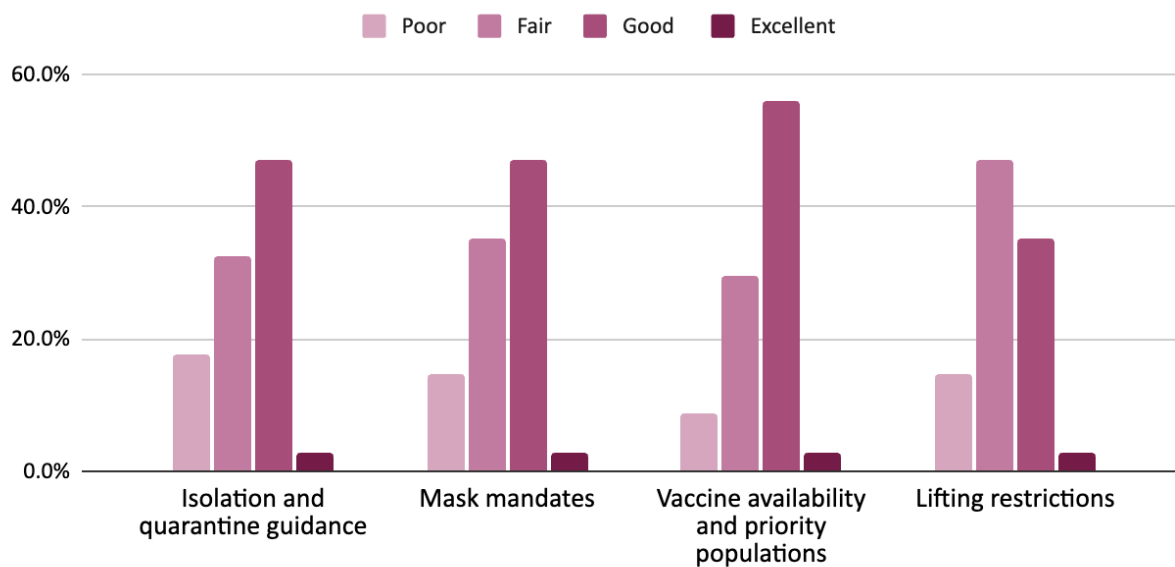
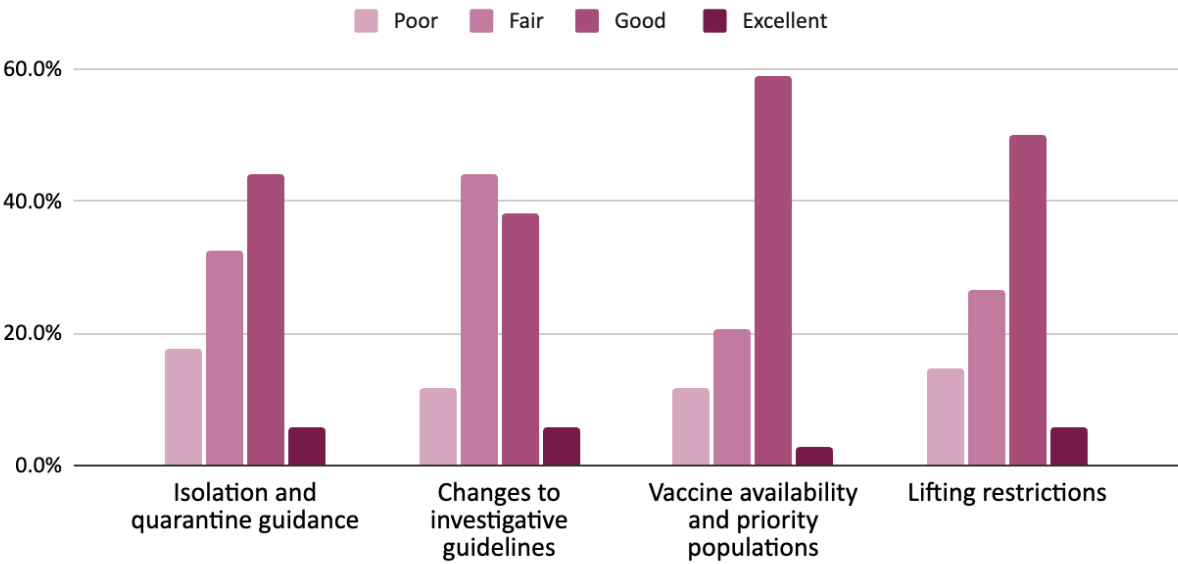


Figure 25: Rating of OHA Communication with Public, Stage 4 (March - July 2022)



Partnerships



Respondents engaged in many COVID-19 public health response activities with partners.

Figure 26: Types of activities LPHAs partnered on with community organizations and education (N=38)

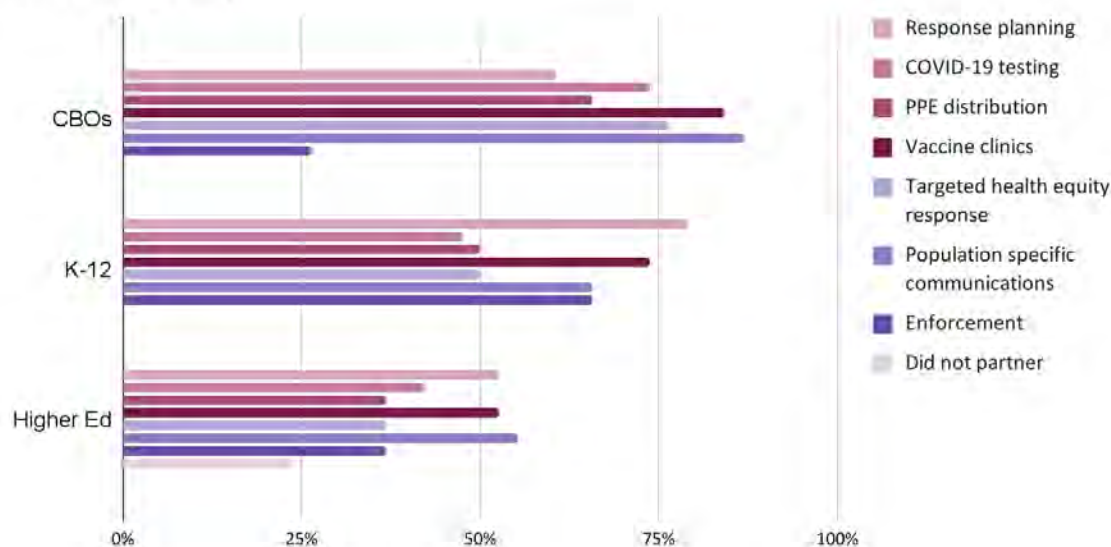
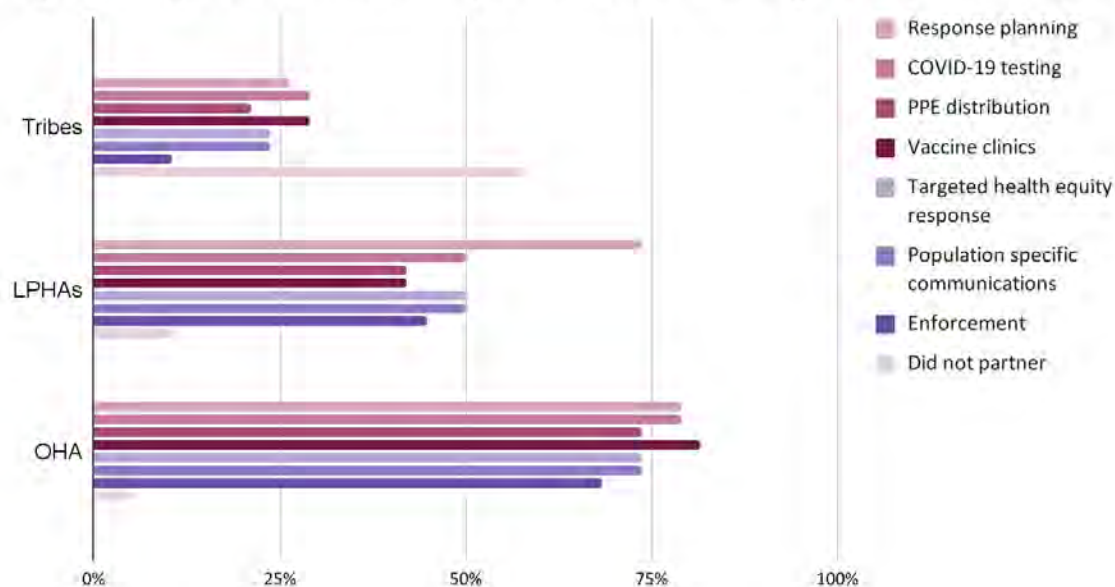


Figure 27: Types of activities LPHAs partnered on with other government entities (N=38)

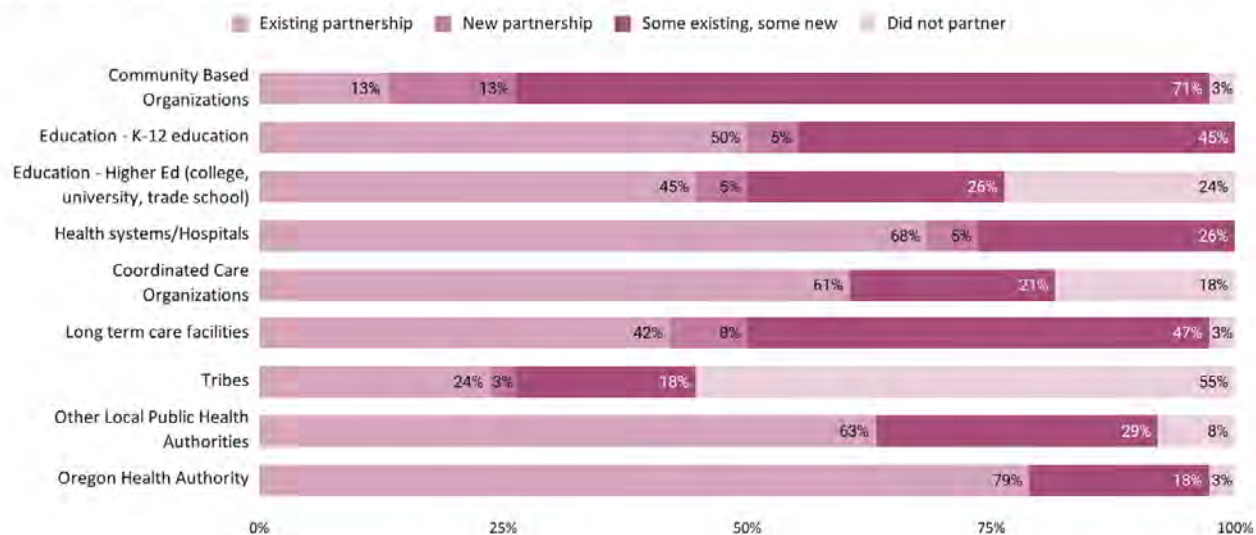


LPHA survey respondents developed some new relationships with partners during COVID-19 response. Over half of respondents did not partner with Tribes, but many added a note that they do not



have a Tribe in their jurisdiction.

Figure 28: Types of LPHA partnerships for COVID-19 Response (N=38)



# Public Health Services

LPHA survey respondents were asked to report on changes in the provision of a variety of public health services during COVID-19 by stage. Answers do not equal 100% because respondents who stated that they did not work on COVID-19 response during the stage were removed. There were potential issues with the response option of “LPHA doesn’t provide” because it was assumed that it would be consistently selected for services across stages but it was not, but since it is not consistent, one explanation is that this was selected if that service wasn’t provided during that stage. Respondents reported reduction in many services during Stage 1 of the pandemic, with the exception of emergency preparedness and epidemiology and surveillance. The two program areas that the most respondents indicated were reduced were environmental health services (n=19) and tobacco, alcohol and other drug prevention (n=19).

Figure 29: Changes in services provided by LPHAs, Stage 1 (N=33)

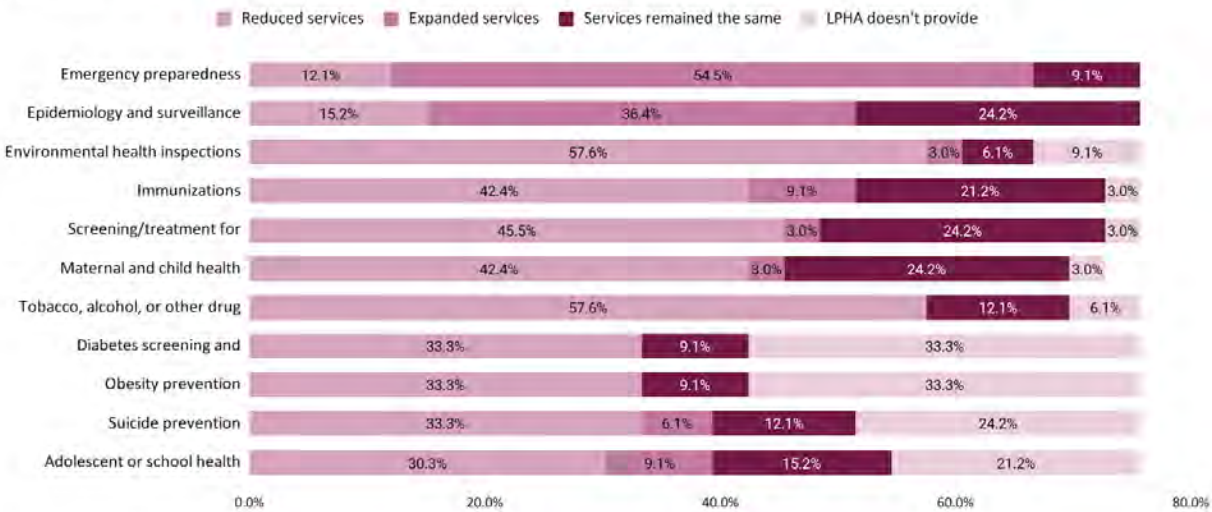


Figure 30: Changes in services provided by LPHAs, Stage 2 (N=33)

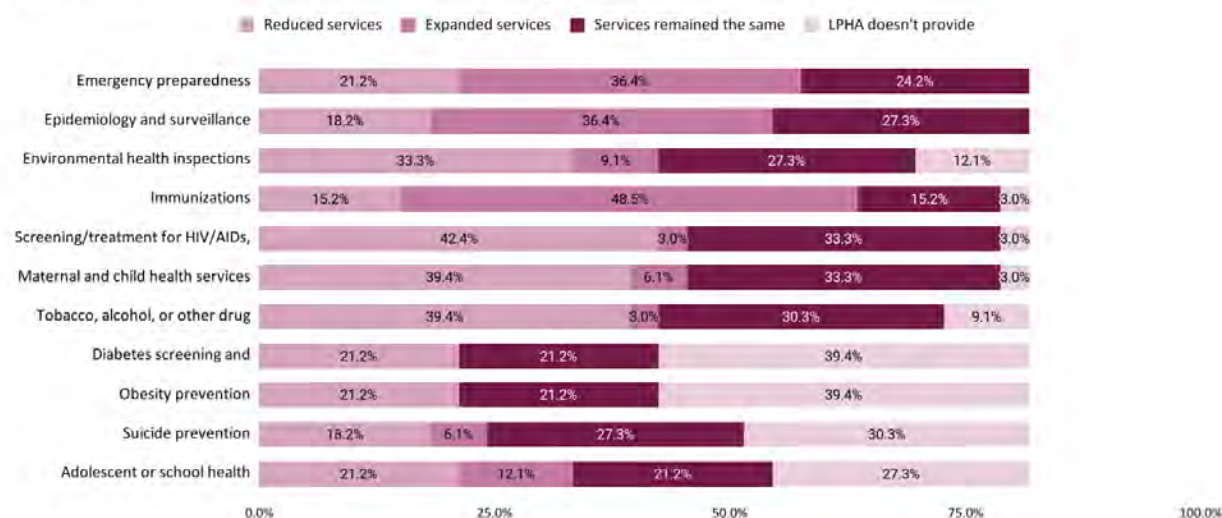


Figure 31: Changes in services provided by LPHAs, Stage 3 (N=33)

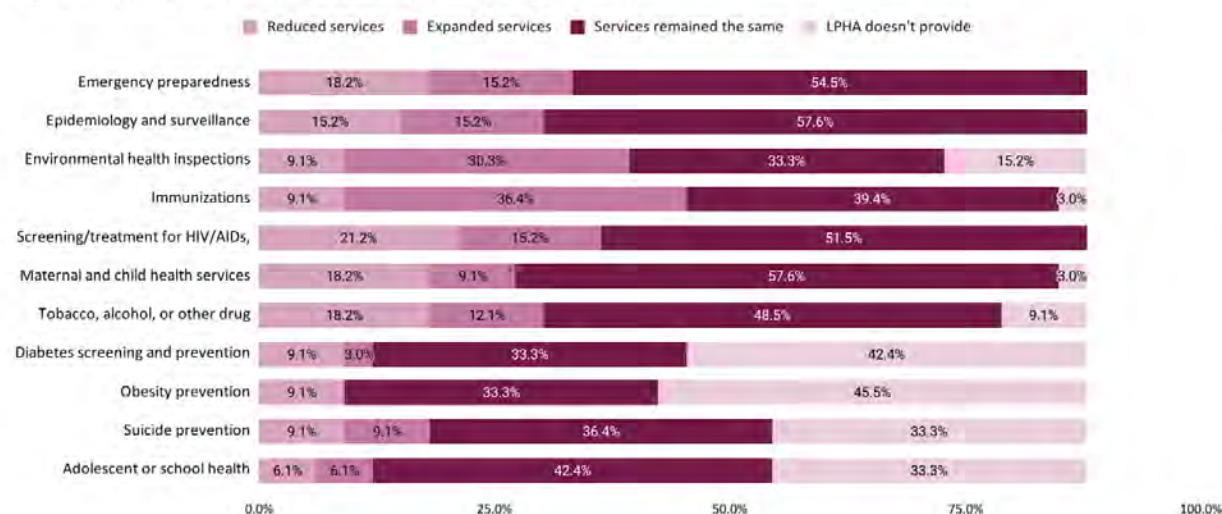
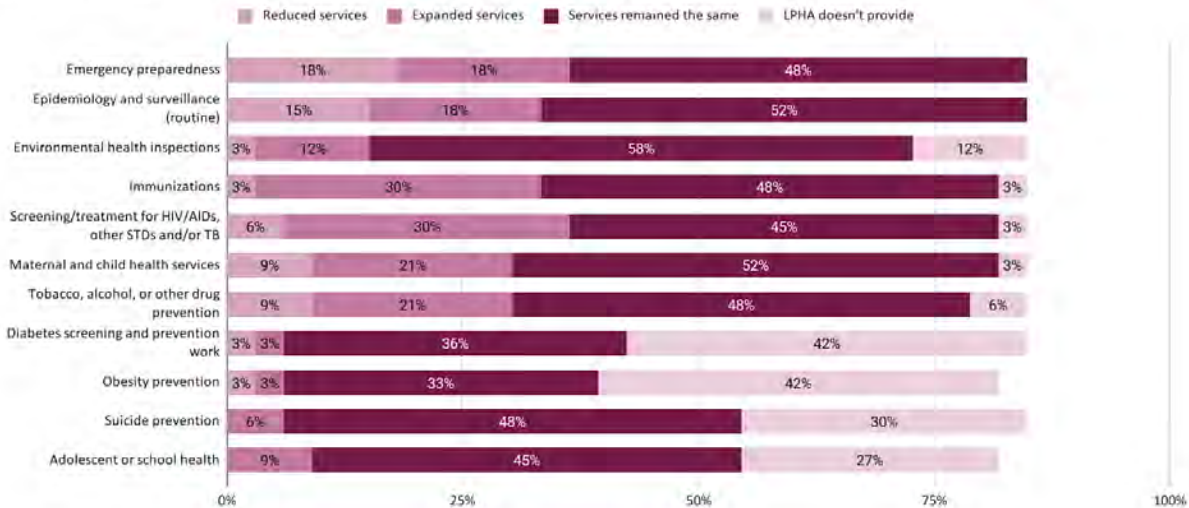
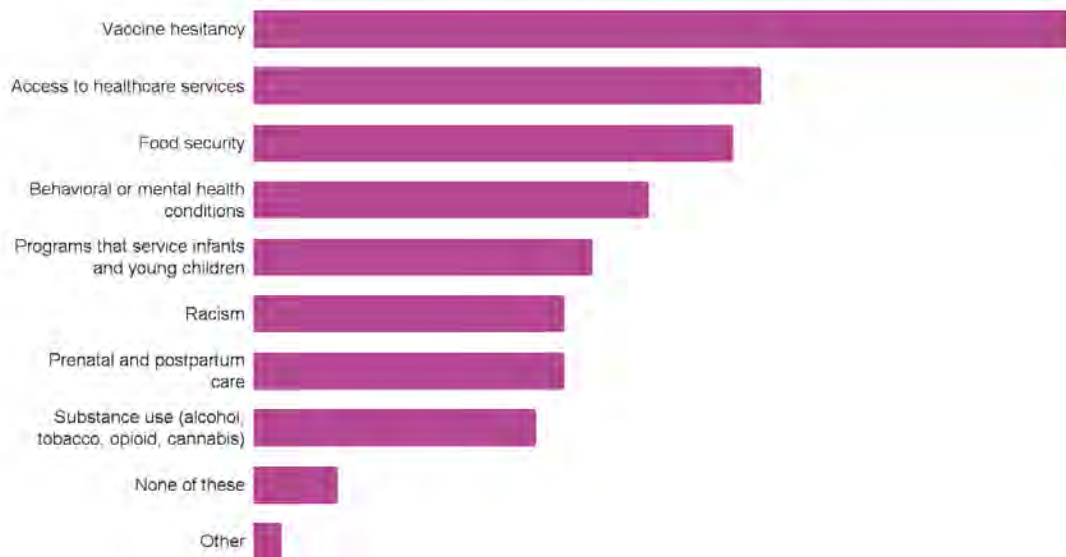


Figure 32: Changes in services provided by LPHAs, Stage 4 (N=33)



Respondents were also asked to identify any additional services that they provided during the pandemic. Figure 33 displays responses. A majority of respondents reported that they addressed vaccine hesitancy (n=29). About half of respondents reported that they worked on access to health care services (n=18), and food security (n=17). The “other” initiative or program mentioned was “*Reduced stigma for COVID, it doesn't infect based on race/ethnicity*” (n=1).

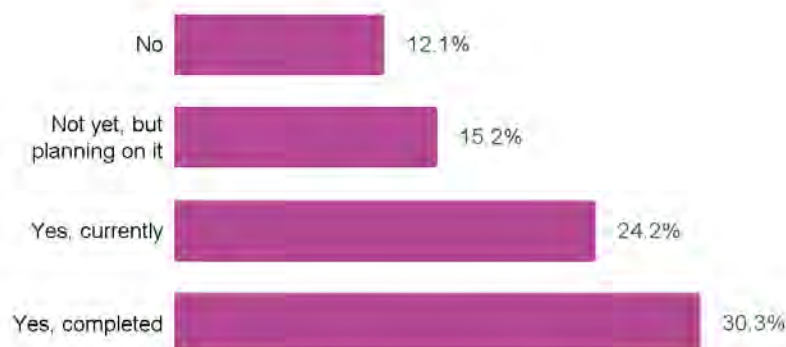
Figure 33: Issues addressed by LPHAs via targeted initiatives or programs during the COVID-19 pandemic (N=33)



## After Action Review

Ten respondents said that their LPHA had completed an After Action Review (AAR) and another eight respondents were currently conducting an AAR at the time of the survey.

Figure 34: Has your LPHA conducted an After-Action Review (AAR)?  
(N=33)



Of the 23 respondents who said they had either completed an AAR, were currently conducting an AAR, or were planning on conducting an AAR, seventeen said that they were going to make changes or adjustments to their program, functional, or business models based on lessons learned during COVID-19 pandemic. The following changes that were adopted or going to be adopted were mentioned:

*"update policies, add some IT staff for producing info online"*

*"We would never reduce our programs and redirect staff with such high expectations for so long again."*

*"hMPXV planning changes developed and process."*

*"We've added multiple positions to our team to expand CD/communications capacities"*

*"Not going to work the staff to utter exhaustion. Take care of employee mental and physical health needs."*

*Prioritize staff needs."*

*"Addressing by PHEP Coordinator. Also adapting alternative ways for client visits"*

*"Currently working on an AAR and routinely discuss what lessons have been learned from COVID and integrated into our current and ongoing work."*

*"We are streamlining our Covid outbreak response. We do not want to focus all our staffing on the Covid response. We have staff supporting non-Covid diseases and staff supporting Covid outbreaks."*

*"Increased staffing. Created a unit specific to outreach and maintaining relationships with partners we've made over the pandemic"*

*"Leveraging the PH foundational capabilities in program development and implementation such as epidemiology, communications, outreach and engagement of CBOs and community members, data collection and sharing, community partnerships, equity"*

*"Developing a comprehensive immunization program. Expanding mobile services (HIV/STI testing, vaccinations), organizational structural changes"*

*"Training plan updated and implementing now. LCPH is 30% bigger, new org structure, need to re-train all staff to ICS Prep standards. Continuing activations for Monkeypox. Hiring and staff retention prioritized by leadership"*

*"Each phase of the pandemic was dynamic and we implemented changes to streamline and better serve the public."*

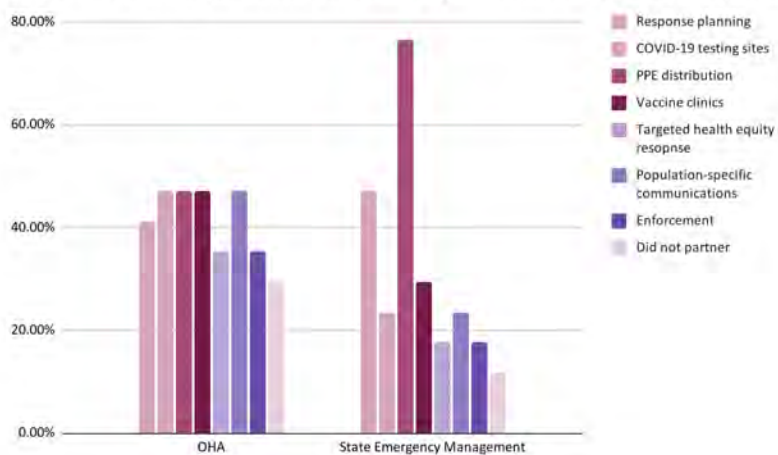
*“Emergency preparedness”*

*“Increased Emergency Preparedness Training and protocol.*

*“Response id being worked into our programs more earnestly”*

## State Partnerships

Figure 16: How EM partnered with state organizations for COVID-19 response



# Appendix I: Detailed Limitations

## Study Limitations

### Overarching Limitation

#### Time Constraint

### Primary Data Collection

#### Incentives

#### Self-report

#### Retrospective Recall

#### Public Health Workforce Turnover

### Secondary Data Collection

#### Document Review

#### COVID-19 Health Outcome Data

#### Indirect Effects of COVID-19 Data



## Study Limitations

Study findings should be interpreted in the context of limitations. These limitations include time constraints, participant incentive structure, reliance on self-reported data, the retrospective nature of this study, and the large amount of public health workforce turnover. Importantly, these limitations were beyond the study team's control. Study design elements, including methodological approach and sampling and recruitment strategies were used to counteract these limitations to the extent possible. These limitations are described in detail below.

### Overarching Limitation

#### Time Constraint

The time constraint was the largest limitation of this report. It is important to note that the contract for this study was not executed until June 15, 2022. This gave approximately 4.5 months to collect and analyze all of the data necessary to answer the research questions for Report 1. The accelerated timeline of this study impacted both primary and secondary data collection methods.

#### Primary Data Collection

The rapid study timeline for Report 1 prohibited the study team to be exhaustive of all key informants involved in Oregon's Public Health System Response to the COVID-19 pandemic. As the study team could not interview and analyze all 32 LPHA Directors prior to the development of the quantitative instrument (online survey), stratified sampling was utilized to represent all LPHAs.

Although Report 1 was designed to initially include education as a key informant group, this informant group will be discussed and analyzed in Report 2 due to recommendations from the ODE.



## **Incentives**

Despite the fact that the RFP stated a not to exceed the amount of \$70,000 allocated for participant incentives, OHA would not allow specific study informant groups, including LPHAs, Tribal Nations, OHA Staff and Managers, Health Care Agencies, State Agencies, OHA Directors, Professional Associations, and City, County, and Tribal Emergency Management to be compensated for their time spent participating in data collection activities (e.g., focus groups and interviews). Additionally, the overall incentive amounts were relatively low for the time associated with participating in this study. Assuredly, response rates, particularly for LPHAs, CBOs, and Tribal Nations, were impacted by the lack of incentivization for survey completion.

OHA provided incentives for this study to community-based organization representatives through reimbursement of \$40/hour for the interview and focus group participation. Travel costs for CBO representatives, LPHAs, and Tribes/NARA representatives were available at current General Services Administration rates and in accordance with all OHA travel reimbursement policies however, no travel was required for participants in this study. In some instances, participants were frustrated that compensation would not be provided.

## **Self-report**

Reliance on self-report is a limitation of this study. Although qualitative findings provide information-rich data, there is a chance that social desirability bias is present. In an effort to reduce the impact of social desirability bias on participants' responses, the study team reassured all participants of the confidential nature of this study.

## **Retrospective Recall**

Although unavoidable, the retrospective nature of this study is a key limitation of this study.

## **Public Health Workforce Turnover**

Public health workforce turnover is another substantial limitation of this study. Many informants with historical knowledge of Oregon's public health response to the COVID-19 pandemic exited at some point during the response. In turn, this impacted the study team's ability to recruit key informants with extensive knowledge of their organization's public health response. Public health workforce turnover was most prominent among LPHAs and OHA staff and managers. This was not a significant limitation for the following key informant groups: OHA Director's Office and Tribal Health Directors.

## **Secondary Data Collection**

### **Document Review**

Although OHA and other key informant groups were willing to provide documents for review, this was not without challenges. The first limitation of the document review is that many documents were not well-organized (e.g., missing date, etc.) and therefore, were time-intensive to catalog. During the process, some documents provided rich information and others provided little or no useful data.

### **COVID-19 Health Outcome Data**

Most COVID-19 health outcomes included in Report 1 were retrieved from OHA's COVID-19 Dashboards. In many instances, however, the data displayed on the dashboard was unavailable to download for further manipulation or analysis, hindering the study team's ability to examine certain outcomes.

### **Indirect Effects of COVID-19 Data**

The study team was able to find secondary data points for many health indicators of interest. There are, however, many health indicators that the study team wanted to examine for Report 1 for which data for years beyond 2020 could not be found. Thus, challenges with data availability was the largest limitation in examining the indirect effects of COVID-19 in Oregon. As most data for

surveillance systems for 2021 or 2022 had not been finalized as of the Report 1 due date, we were unable to include these outcomes for Report 1. The study team does, however, expect to include an analysis of additional secondary health effects of COVID-19 as a part of Report 2 and/or Report 3.

For indirect effects of COVID-19 that are included in Report 1, the study team was limited by what data was available and available online. Therefore, there were limitations on how the data could be reported based on how the data was presented in the original source. The timeline for Report 1 did not allow time to formally request restricted-use datasets, which is a limitation of this analysis.

# Appendix J: COVID-19 Outcomes

Notes about these charts	9
<b>Oregon, Statewide</b>	<b>12</b>
Level of Community Spread	12
Testing Metrics	12
Oregon COVID-19 Testing Over Time	12
Stage 1 COVID-19 Testing	12
Stage 2 COVID-19 Testing	13
Stage 3 COVID-19 Testing	13
Stage 4 COVID-19 Testing	14
Disease Severity	15
5-11 Years	15
12-17 Years	16
18-19 Years	17
20-29 Years	18
30-39 Years	19
40-49 Years	20
50-59 Years	21
60-64 Years	22
65-69 Years	23
70-79 Years	24
80+	24
Emergency Department Visits	25
Hospitalizations	27
Hospitalizations Over Time By Age	31
COVID-19 Deaths	35
Statewide Deaths by Underlying Health Conditions	35
Stage 1 COVID-19 Deaths by Underlying Health Condition Status	35
Stage 3 COVID-19 Deaths by Underlying Health Condition Status	37
Statewide Deaths by Age	39
Statewide Deaths by Congregate Setting	40
Statewide Deaths by Race/Ethnicity	41
Stage 1 COVID-19 Deaths by Race	41
Stage 2 COVID-19 Deaths by Race	42
Stage 3 COVID-19 Deaths by Race	43
Stage 4 COVID-19 Deaths by Race	44
<b>Region 1</b>	<b>44</b>
Regional Data	45

Region 1 Level of Community Spread	45
Region 1 Weekly COVID-19 Cases Over Time	45
Region 1 Vaccination Status	46
Region 1 COVID-19 Vaccination Series Completion	46
Region 1 Number of People Needed to Reach 80% Vaccinated	47
Clackamas	47
Level of Community Spread	48
Case Rate and Percent Positivity	48
Cases Over Time	49
Pediatric COVID-19 Cases and Case Rate Over Time	50
Vaccinations	51
COVID-19 Vaccination Status by Age	51
COVID-19 Vaccination Status by Race	51
Clatsop	51
Level of Community Spread	52
Case Rate and Percent Positivity	52
Cases Over Time	53
Pediatric COVID-19 Cases and Case Rate Over Time	54
Vaccination Status	54
COVID-19 Vaccination Status by Age	54
COVID-19 Vaccination Status by Race	55
Columbia	55
Level of Community Spread	56
Case Rates and Case Positivity	56
Cases Over Time	56
Pediatric COVID-19 Cases and Case Rate Over Time	58
Vaccination Status	58
COVID-19 Vaccination Status by Age	58
COVID-19 Vaccination Status by Race	59
Multnomah	59
Level of Community Spread	60
Case Rate and Percent Positivity	60
Cases Over Time	60
Pediatric COVID-19 Cases and Case Rate Over Time	61
Vaccination Status	62
COVID-19 Vaccination Status by Age	62
COVID-19 Vaccination Status by Race	63
Tillamook	63
Level of Community Spread	64
Case Rate and Percent Positivity	64
Cases Over Time	64

Pediatric COVID-19 Cases and Case Rate Over Time	65
Vaccination Status	66
COVID-19 Vaccination Status by Age	66
COVID-19 Vaccination Status by Race	67
Washington	67
Level of Community Spread	68
Case Rate and Percent Positivity	68
Cases Over Time	69
Pediatric COVID-19 Cases and Case Rate Over Time	70
Vaccination Status	70
COVID-19 Vaccination Status by Age	70
COVID-19 Vaccination Status by Race	71
<b>Region 2</b>	<b>71</b>
Regional Data	72
Region 2 Level of Community Spread	72
Region 2 Vaccination Status	72
Benton	73
Level of Community Spread	74
Case Rate and Percent Positivity	74
Cases Over Time	74
Pediatric COVID-19 Cases and Case Rate Over Time	75
Vaccination Status	76
COVID-19 Vaccination Status by Age	76
COVID-19 Vaccination Status by Race	77
Lincoln	77
Level of Community Spread	78
Case Rate and Percent Positivity	78
Cases Over Time	78
Pediatric COVID-19 Cases and Case Rate Over Time	79
Vaccination Status	80
COVID-19 Vaccination Status by Age	80
COVID-19 Vaccination Status by Race	81
Linn	81
Level of Community Spread	82
Case Rate and Percent Positivity	82
Cases Over Time	82
Pediatric COVID-19 Cases and Case Rate Over Time	83
Vaccination Status	84
COVID-19 Vaccination Status by Age	84
COVID-19 Vaccination Status by Race	84

Level of Community Spread	85
Case Rate and Percent Positivity	85
Cases Over Time	86
Pediatric COVID-19 Cases and Case Rate Over Time	87
Vaccination Status	88
COVID-19 Vaccination Status by Age	88
COVID-19 Vaccination Status by Race	89
Polk	89
Level of Community Spread	90
Case Rate and Percent Positivity	90
Case Over Time	90
Pediatric COVID-19 Cases and Case Rate Over Time	91
Vaccination Status	92
COVID-19 Vaccination Status by Age	92
COVID-19 Vaccination Status by Race	93
Yamhill	93
Level of Community Spread	94
Case Rate and Percent Positivity	94
Cases Over Time	94
Pediatric COVID-19 Cases and Case Rate Over Time	95
Vaccination Status	96
COVID-19 Vaccination Status by Age	96
COVID-19 Vaccination Status by Race	97
<b>Region 3</b>	<b>97</b>
Regional Data	98
Region 3 Level of Community Spread	98
Region 3 Vaccination Status	98
Coos	99
Level of Community Spread	100
Case Rate and Percent Positivity	100
Cases Over Time	100
Pediatric COVID-19 Cases and Case Rate Over Time	101
Vaccination Status	102
COVID-19 Vaccination Status by Age	102
COVID-19 Vaccination Status by Race	103
Curry	103
Level of Community Spread	104
Case Rate and Percent Positivity	104
Cases Over Time	104
Pediatric COVID-19 Cases and Case Rate Over Time	105

Vaccination Status	105
COVID-19 Vaccination Status by Age	106
COVID-19 Vaccination Status by Race	107
Douglas	107
Level of Community Spread	108
Case Rate and Percent Positivity	108
Cases Over Time	108
Pediatric COVID-19 Cases and Case Rate Over Time	109
Vaccination Status	109
COVID-19 Vaccination Status by Age	110
COVID-19 Vaccination Status by Race	110
Jackson	110
Level of Community Spread	110
Case Rate and Percent Positivity	111
Cases Over Time	111
Pediatric COVID-19 Cases and Case Rate Over Time	113
Vaccination Status	113
COVID-19 Vaccination Status by Age	114
COVID-19 Vaccination Status by Race	114
Josephine	115
Level of Community Spread	115
Case Rate and Percent Positivity	116
Cases Over Time	116
Pediatric COVID-19 Cases and Case Rate Over Time	117
Vaccination Status	117
COVID-19 Vaccination Status by Age	118
COVID-19 Vaccination Status by Race	118
Lane	119
Level of Community Spread	119
Case Rate and Percent Positivity	120
Cases Over Time	120
Pediatric COVID-19 Cases and Case Rate Over Time	121
Vaccination Status	121
COVID-19 Vaccination Status by Age	122
COVID-19 Vaccination Status by Race	122
<b>Region 4</b>	<b>123</b>
Regional Data	123
Region 4 Level of Community Spread	124
Region 4 Vaccination Status	124
Baker	125



Level of Community Spread	125
Case Rate and Percent Positivity	126
Cases Over Time	126
Pediatric COVID-19 Cases and Case Rate Over Time	127
Vaccination Status	127
COVID-19 Vaccination Status by Age	128
COVID-19 Vaccination Status by Race	128
Gilliam	129
Level of Community Spread	129
Case Rate and Percent Positivity	130
Cases Over Time	130
Pediatric COVID-19 Cases and Case Rate Over Time	131
Vaccination Status	131
COVID-19 Vaccination Status by Age	132
COVID-19 Vaccination Status by Race	132
Hood River	133
Level of Community Spread	133
Case Rate and Percent Positivity	134
Cases Over Time	134
Pediatric COVID-19 Cases and Case Rate Over Time	135
Vaccination Status	135
COVID-19 Vaccination Status by Age	136
COVID-19 Vaccination Status by Race	136
Malhuer	137
Level of Community Spread	137
Case Rate and Percent Positivity	138
Cases Over Time	138
Pediatric COVID-19 Cases and Case Rate Over Time	139
Vaccination Status	139
COVID-19 Vaccination Status by Age	140
COVID-19 Vaccination Status by Race	140
Morrow	141
Level of Community Spread	141
Case Rate and Percent Positivity	142
Cases Over Time	142
Pediatric COVID-19 Cases and Case Rate Over Time	144
Vaccination Status	144
COVID-19 Vaccination Status by Age	145
COVID-19 Vaccination Status by Race	145
Sherman	147
Level of Community Spread	147

Case Rate and Percent Positivity	147
Cases Over Time	147
Pediatric COVID-19 Cases and Case Rate Over Time	148
Vaccination Status	148
COVID-19 Vaccination Status by Age	149
COVID-19 Vaccination Status by Race	149
Umatilla	150
Level of Community Spread	150
Case Rate and Percent Positivity	150
Cases Over Time	150
Pediatric COVID-19 Cases and Case Rate Over Time	152
Vaccination Status	152
COVID-19 Vaccination Status by Age	153
COVID-19 Vaccination Status by Race	153
Union	154
Level of Community Spread	154
Case Rates and Case Positivity	155
Cases Over Time	155
Pediatric COVID-19 Cases and Case Rate Over Time	157
Vaccination Status	157
COVID-19 Vaccination Status by Age	158
COVID-19 Vaccination Status by Race	158
Wallowa	159
Level of Community Spread	159
Case Rate and Percent Positivity	160
Cases Over Time	160
Pediatric COVID-19 Cases and Case Rate Over Time	161
Vaccination Status	161
COVID-19 Vaccination Status by Age	162
COVID-19 Vaccination Status by Race	162
Wasco	163
Level of Community Spread	163
Case Rate and Percent Positivity	164
Cases Over Time	164
Pediatric COVID-19 Cases and Case Rate Over Time	165
Vaccination Status	165
COVID-19 Vaccination Status by Age	166
COVID-19 Vaccination Status by Race	166
<b>Region 5</b>	<b>167</b>
Regional Data	167

Region 5 Level of Community Spread	168
Region 5 Vaccination Status	168
Crook	169
Level of Community Spread	169
Case Rates and Case Positivity	170
Cases Over Time	170
Pediatric COVID-19 Cases and Case Rate Over Time	171
Vaccination Status	171
COVID-19 Vaccination Status by Age	172
COVID-19 Vaccination Status by Race	173
Deschutes	173
Level of Community Spread	173
Case Rate and Percent Positivity	174
Cases Over Time	174
Pediatric COVID-19 Cases and Case Rate Over Time	176
Vaccination Status	176
COVID-19 Vaccination Status by Age	177
COVID-19 Vaccination Status by Race	177
Grant	178
Level of Community Spread	178
Case Rate and Percent Positivity	179
Cases Over Time	179
Pediatric COVID-19 Cases and Case Rate Over Time	180
Vaccination Status	180
COVID-19 Vaccination Status by Age	181
COVID-19 Vaccination Status by Race	182
Harney	182
Level of Community Spread	182
Case Rate and Percent Positivity	183
Cases Over Time	183
Pediatric COVID-19 Cases and Case Rate Over Time	184
Vaccination Status	184
COVID-19 Vaccination Status by Age	185
COVID-19 Vaccination Status by Race	185
Jefferson	186
Level of Community Spread	186
Case Rate and Percent Positivity	187
Cases Over Time	187
Pediatric COVID-19 Cases and Case Rate Over Time	188
Vaccination Status	188
COVID-19 Vaccination Status by Age	189

COVID-19 Vaccination Status by Race	189
Klamath	190
Level of Community Spread	190
Case Rate and Percent Positivity	191
Cases Over Time	191
Pediatric COVID-19 Cases and Case Rate Over Time	192
Vaccination Status	193
COVID-19 Vaccination Status by Age	194
COVID-19 Vaccination Status by Race	194
Lake	195
Level of Community Spread	195
Case Rate and Percent Positivity	195
Cases Over Time	196
Pediatric COVID-19 Cases and Case Rate Over Time	196
Vaccination Status	197
COVID-19 Vaccination Status by Age	198
COVID-19 Vaccination Status by Race	198
Wheeler	199
Level of Community Spread	200
Case Rate and Percent Positivity	200
Cases Over Time	200
Pediatric COVID-19 Cases and Case Rate Over Time	200
Vaccination Status	201
COVID-19 Vaccination Status by Age	202
COVID-19 Vaccination Status by Race	202

## Notes about these charts

- Data in the appendix are organized with state-wide data first, and then by region with county level data is organized by region.
- Regions in these charts are modified regions based on the Oregon emergency response regions.
  - Region 1 includes Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington.
  - Region 2 includes Benton, Lincoln, Linn, Marion, Polk, and Yamhill.
  - Region 3 includes Coos, Curry, Douglas, Jackson, Josephine, and Lane.
  - Region 4 includes Baker, Gillam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, and Wasco.
  - Region 5 includes Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, and Wheeler.
- Charts have varying sizes of “Y” axis to fit the data per the population being represented on the chart (for example county, region, age band, etc.) so use caution when viewing charts side by side.
- Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.
- Vaccination data for some populations by county are suppressed due to low numbers.
- Some data is organized by stage of the pandemic.
  - **Stage 1** - *March 2020 - November 2020*: outbreak, disease investigation, implementing public health protections (masking, distancing, shutdowns), preparing for vaccination
  - **Stage 2** - *December 2020 - August 2021*: vaccination, disease investigation, enforcing public health protections, and partial reopening
  - **Stage 3** - *September 2021 - February 2022*: vaccinations, reopening and dealing with variants
  - **Stage 4** - *March 2022 - Present July 2022*: total reopening, no public health protections (except in health care settings), and changes in investigative guidelines

Data sources utilized for figures in this appendix:

- **COVID-19 Case Rates**: County COVID-19 Community Transmission Weekly Monitoring Periods; Oregon COVID-19 Public Health Indicators dashboard. Accessed online at: <https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19PublicHealthIndicators-SummaryTable/DiseaseSpread-SummaryTable>
- **COVID-19 Case Numbers**: COVID-19 cases by county and date reported to public health; Oregon COVID-19 Testing and Outcomes by County - Summary Table. Case counts include both presumptive and confirmed cases. Presumptive cases are people without a positive diagnostic test who have COVID-19-like symptoms and had close contact with a laboratory confirmed case. Accessed online at: <https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19PublicHealthIndicators-SummaryTable/DiseaseSpread-SummaryTable>

[-19TestingandOutcomesbyCounty-SummaryTable/CasesandTestingbyCountySummaryTable](#)

- **Death Rate** - Data from Opera, Oregon's COVID-19 disease surveillance system, as represented in COVID-19-related deaths; Oregon COVID-19 Testing and Outcomes by County - Summary Table. In Oregon a death is reported as a COVID-19-related death if: The death is of a confirmed or probable COVID-19 case within 60 days of the earliest available date among exposure to a confirmed case, onset of symptoms, or date of specimen collection for the first positive test; or the death results from any cause in a hospitalized person during admission or in the 60 days following discharge AND a COVID-19-positive laboratory diagnostic test at any time since 14 days prior to hospitalization; or the death is of someone with a COVID-19-specific ICD-10 code listed as a primary or contributing cause of death on a death certificate, regardless of the dates of diagnosis or death. Accessed online at:  
<https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19TestingandOutcomesbyCounty-SummaryTable/Deaths-SummaryTable>
- **Emergency Department Visits** - Data are from Oregon ESSENCE, which allows for public health to monitor what is happening in emergency departments across the state. Oregon ESSENCE receives daily reports of ED visits from all 60 non-federal hospitals in Oregon. Accessed online at:  
<https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19TestingandOutcomesbyCounty-SummaryTable/ED-SummaryTable>
- **Hospitalization Rate** County-level Epi Curve Summary Table: Cases by onset date and hospitalization status; Oregon COVID-19 Case and Testing Counts Statewide - Summary Table. Accessed online at:  
[https://visual-data.dhsoha.state.or.us/t/OHA/views/OregonVaccineMetricsSummaryTable/OregonCOVID-19VaccineProgressSummaryTable?%3Adisplay\\_count=n&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz\\_share\\_link&%3AshowAppBanner=false&%3AshowVizHome=n](https://visual-data.dhsoha.state.or.us/t/OHA/views/OregonVaccineMetricsSummaryTable/OregonCOVID-19VaccineProgressSummaryTable?%3Adisplay_count=n&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz_share_link&%3AshowAppBanner=false&%3AshowVizHome=n)
- **Pediatric Case Information and Disease Severity** - Data are from the Oregon COVID-19 Pediatric Report. Accessed online at:  
<https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19PediatricReport/County>
- **Positivity Rates** - Positivity rates may be inflated at the very beginning of the study period (March 2020) due to the only people testing at the beginning of the pandemic likely having COVID-19. As testing became more widely available, the positivity rate is a more reliable indicator. Data from HL7 and CSV electronic laboratory reports or the Oregon COVID-19 Reporting Portal on the Oregon COVID-19 Testing and Outcomes by County - Summary Table. Accessed online at:  
<https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19TestingandOutcomesbyCounty-SummaryTable/Tests-SummaryTable>
- **Vaccination data** comes from ALERT IIS and PSU Population Research Center on the Oregon COVID-19 Vaccination Rates Summary Tables. Accessed online at:  
[https://visual-data.dhsoha.state.or.us/t/OHA/views/OregonVaccineMetricsSummaryTable/OregonCOVID-19VaccineProgressSummaryTable?%3Adisplay\\_count=n&%3Aembed=y](https://visual-data.dhsoha.state.or.us/t/OHA/views/OregonVaccineMetricsSummaryTable/OregonCOVID-19VaccineProgressSummaryTable?%3Adisplay_count=n&%3Aembed=y)

[&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz\\_share\\_link&%3AshowAppBanner=false&%3AshowVizHome=n](#)

- Percent with one vaccination dose
- Number of people who need a booster - In charts that reference the number of people who need a booster now, this refers to the number of people who are eligible for booster shots but have not received them yet. The booster is either monovalent for ages 5 to 11 or bivalent for ages 12+.
- Number of people who need vaccination to reach 80% in population
- Number of people with Vaccination Series Complete

## Oregon, Statewide

### Level of Community Spread

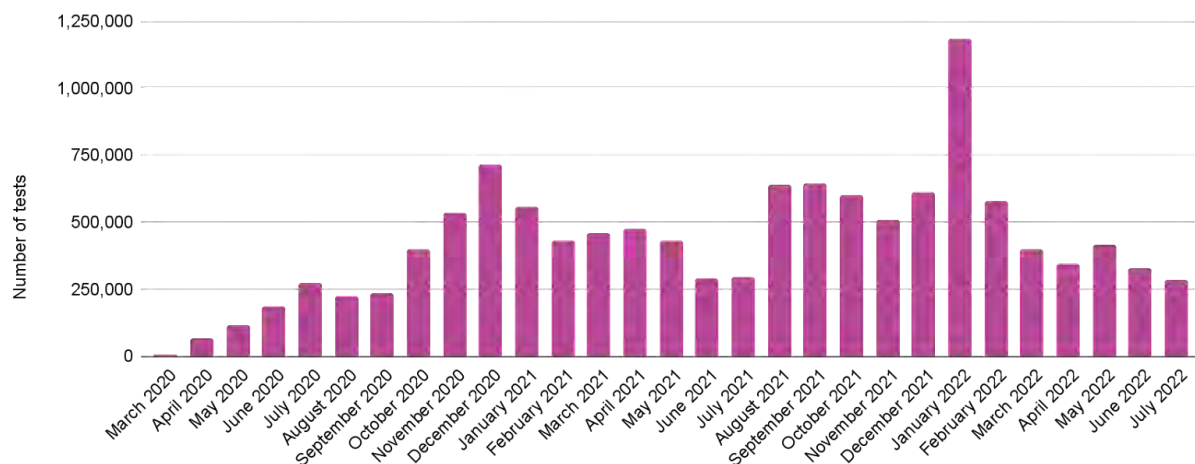
Statewide outcomes for community spread, including case rate, case count, and percent positivity over time are presented in the body of Report 1.

### Testing Metrics

#### Oregon COVID-19 Testing Over Time

Figure 1 presents the monthly number of tests administered between March 2020 and July 2022.

Figure 1: Total tests administered by month

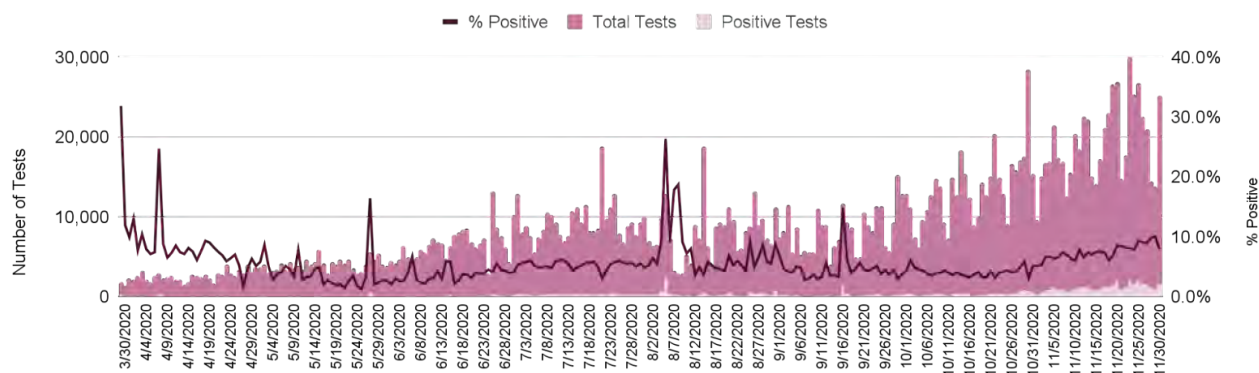


#### Stage 1 COVID-19 Testing

Figure 2 is a combination chart presenting the total number of negative and positive COVID-19 tests, overlaid with the percent of tests that were positive in Stage 1. In Stage 1, a total of 2,035,249 COVID-19 tests were administered. The highest numbers of tests in this stage were reported on November 23rd, 2020 with 27,723 tests. In this stage, the number of positive tests peaked on August 05, 2020 at 26.40%.



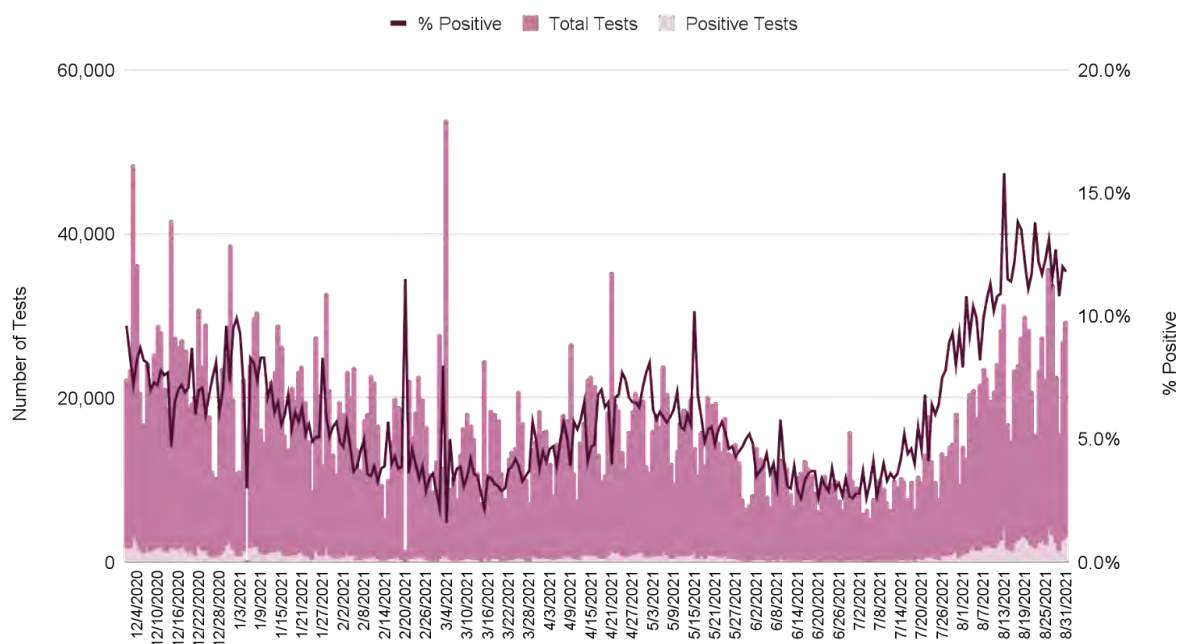
Figure 2: Stage 1 COVID-19 testing



### Stage 2 COVID-19 Testing

Figure 3 is a combination chart presenting the total number of negative and positive COVID-19 tests, overlaid with the percent of tests that were positive in Stage 2. In Stage 2, a total of 4,305,984 COVID-19 tests were administered. On March 4, 2021, there were 52,906 tests, which was the highest number of tests administered in this stage

Figure 3: Stage 2 COVID-19 testing

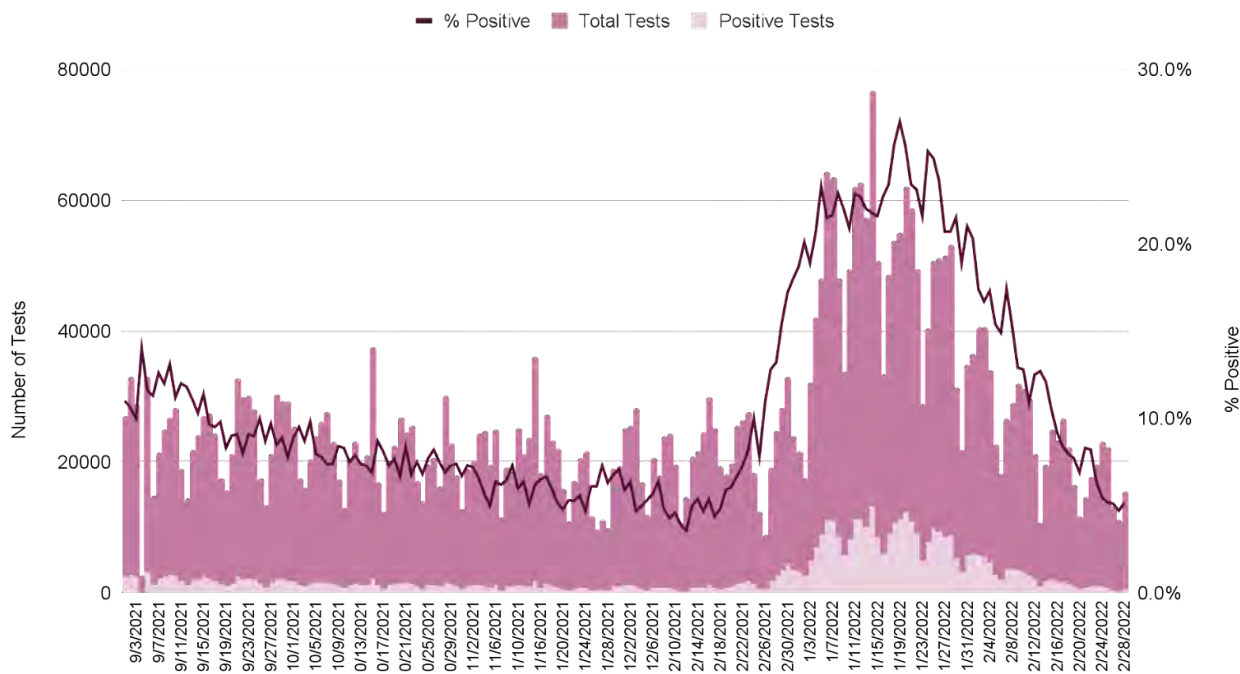


### Stage 3 COVID-19 Testing

Figure 4 is a combination chart presenting the total number of negative and positive COVID-19 tests, overlaid with the percent of tests that were positive in Stage 3. In Stage 3, a total of

4,129,239 COVID-19 tests were administered. On January 14, 2022, 62,799 tests were administered, which was the largest volume of tests administered in a single day during this stage.

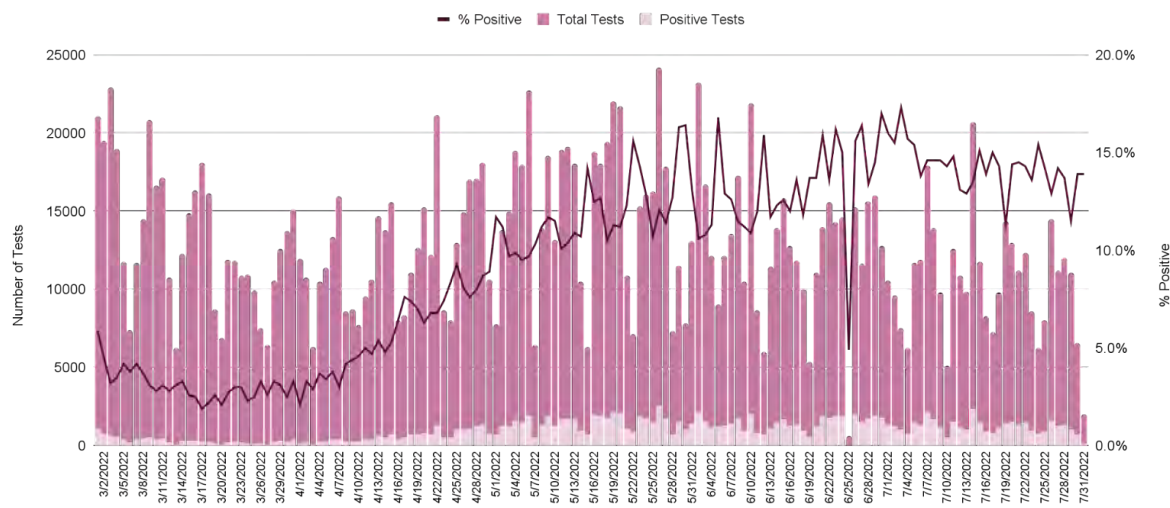
Figure 4: Stage 3 COVID-19 testing



## Stage 4 COVID-19 Testing

Figure 5 is a combination chart presenting the total number of negative and positive COVID-19 tests, overlaid with the percent of tests that were positive in Stage 4. In Stage 4, 1,772,921

Figure 5: Stage 4 COVID-19 Testing



COVID-19 tests were reported. There were 21,943 tests reported on May 26, 2022, which was the largest number of tests reported in a single day during this stage.

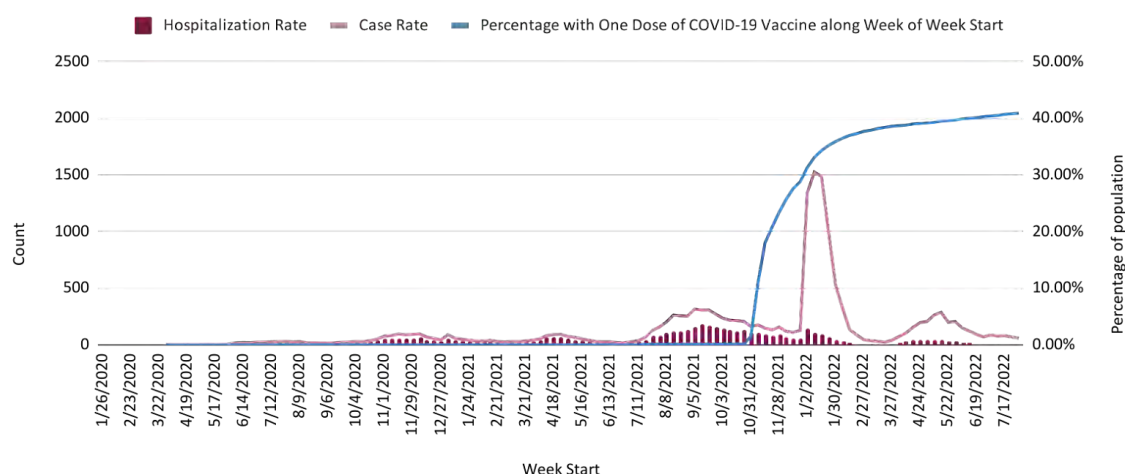
## Disease Severity

### 5-11 Years

Figure 6 is a combination chart displaying hospitalization rate, case rate, and percentage of 5-11 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 5-11 year olds are displayed in columns; COVID-19 case rate and percentage of 5-11 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 5-11 year olds was seen the week of March 8, 2020. Between March 2020 and July 2022, there were approximately 55,151 COVID-19 cases among 5-11 year olds in Oregon. Of these 55,151 COVID-19 cases, 33.3% (n=18,341) were hospitalized and 3 died. The COVID-19 case fatality among 5-11 year olds was less than 0.01%.

Figure 6: COVID-19 disease severity among 5-11 year olds over time

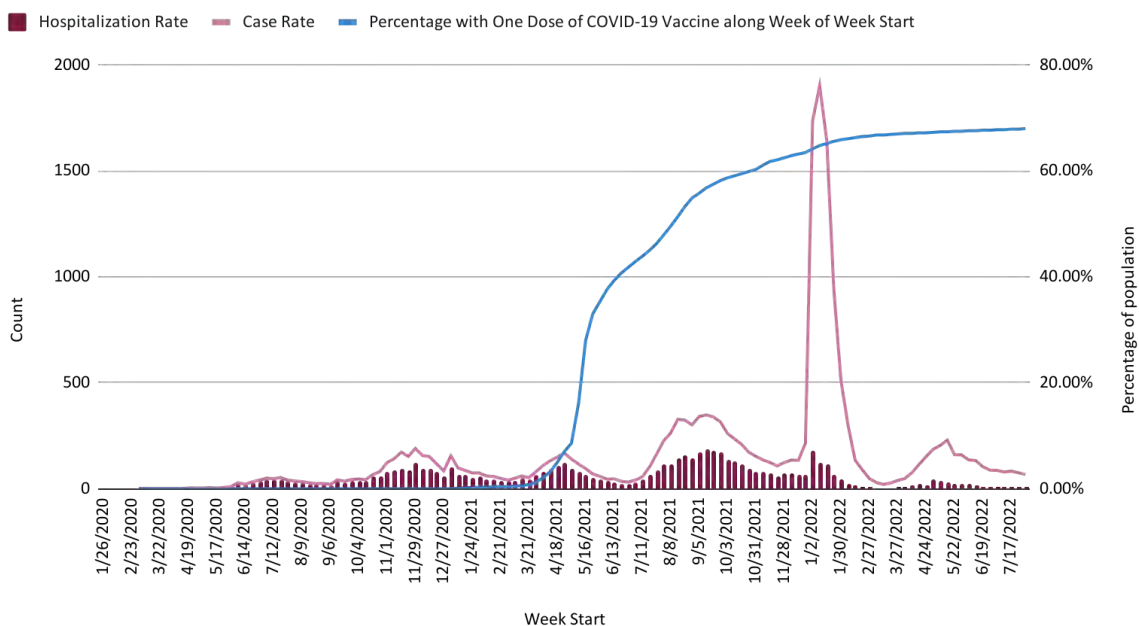


## 12-17 Years

Figure 7 is a combination chart displaying hospitalization rate, case rate, and percentage of 12-17 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 12-17 year olds are displayed in columns; COVID-19 case rate and percentage of 12-17 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 12-17 year olds was seen the week of March 1, 2020.

Figure 7: COVID-19 disease severity among 12-17 year olds over time



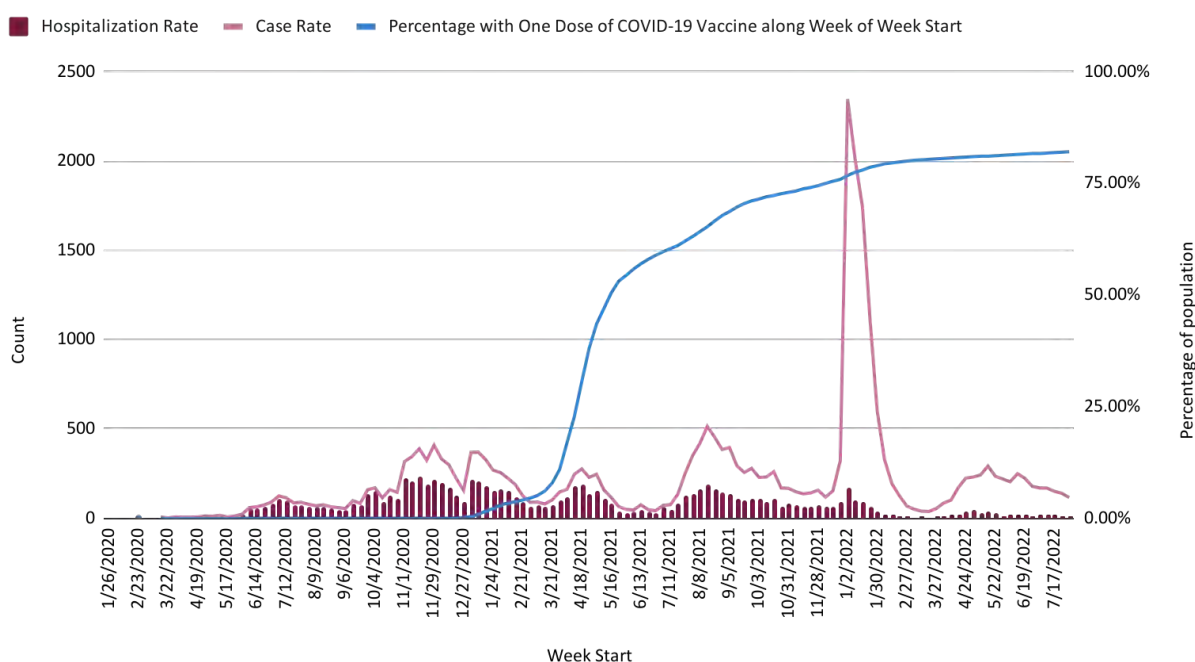
Between March 2020 and July 2022, there were approximately 56,742 COVID-19 cases among 12-17 year olds in Oregon. Of these 56,742 COVID-19 cases, 47.4% (n=26,885) were hospitalized and 2 died. The COVID-19 case fatality among 12-17 year olds was 0.0%.

## 18-19 Years

Figure 8 is a combination chart displaying hospitalization rate, case rate, and percentage of 18-19 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 18-19 year olds are displayed in columns; COVID-19 case rate and percentage of 18-19 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 18-19 year olds was seen the week of February 23, 2020. Between February 2020 and July 2022, there were approximately 27,044 COVID-19 cases among 18-19 year olds in Oregon. Of these 27,044 COVID-19 cases, 35.7% (n=9,661) were hospitalized and 2 have died. The COVID-19 case fatality among 18-19 year olds was less than 0.01%.

Figure 8: COVID-19 disease severity among 18-19 year olds over time

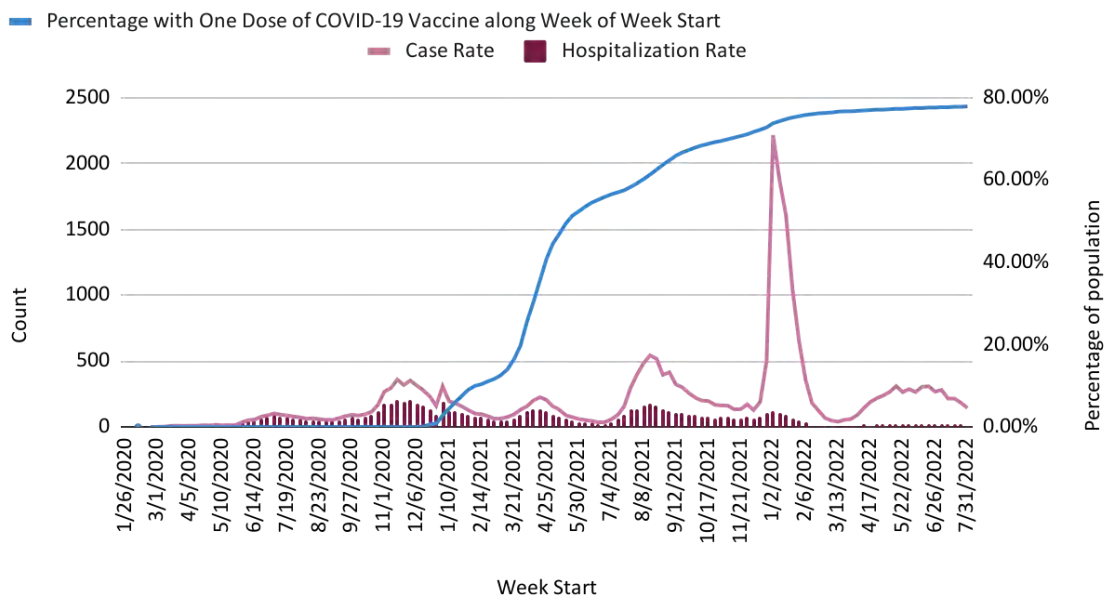


## 20-29 Years

Figure 9 is a combination chart displaying hospitalization rate, case rate, and percentage of 20-29 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 20-29 year olds are displayed in columns; COVID-19 case rate and percentage of 20-29 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 20-29 year olds was seen the week of February 9, 2020. Between February 2020 and July 2022, there were approximately 151,404 COVID-19 cases among 20-29 year olds in Oregon. Of these 151,404 COVID-19 cases, 32.1% (n=48,529) were hospitalized and 44 died. The COVID-19 case fatality among 20-29 year olds was less than 0.03%.

Figure 9: COVID-19 disease severity among 20-29 year olds over time

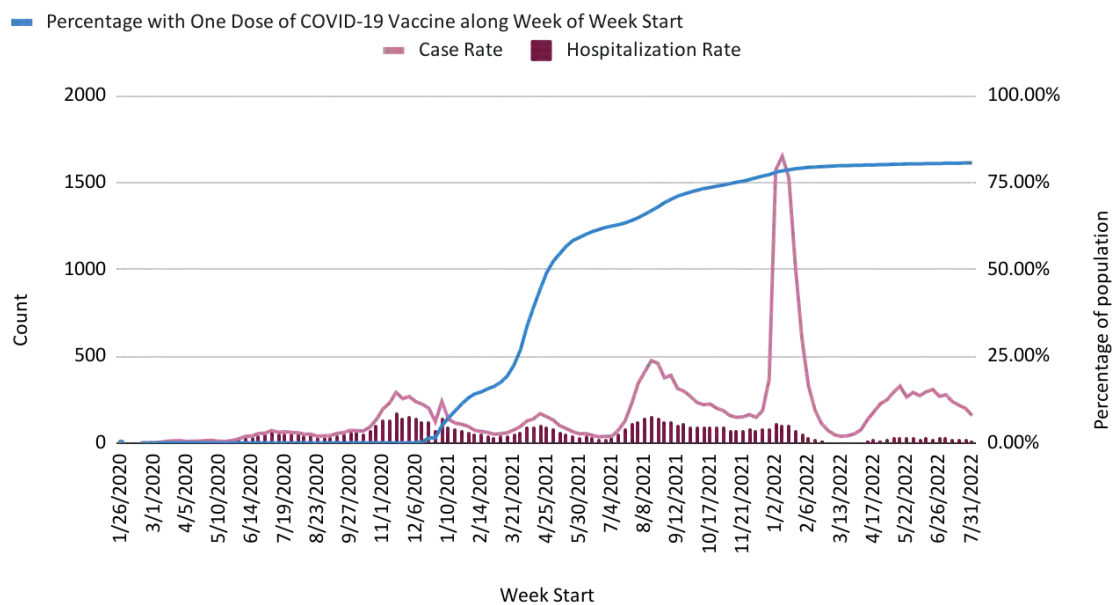


### 30-39 Years

Figure 10 is a combination chart displaying hospitalization rate, case rate, and percentage of 30-39 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 30-39 year olds are displayed in columns; COVID-19 case rate and percentage of 30-39 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 30-39 year olds was seen the week of January 26, 2020. Between January 2020 and July 2022, there were approximately 144,473 COVID-19 cases among 30-39 year olds in Oregon. Of these 151,404 COVID-19 cases, 32.1% (n=46,370) were hospitalized and 130 died. The COVID-19 case fatality among 30-39 year olds was 0.09%.

Figure 10: COVID-19 disease severity among 30-39 year olds over time

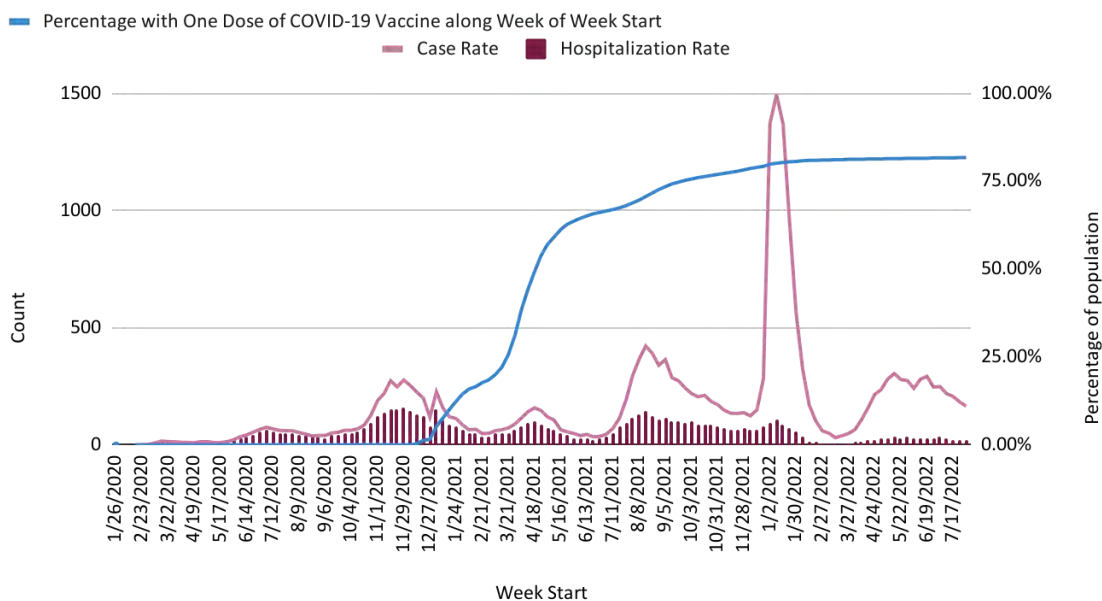


## 40-49 Years

Figure 11 is a combination chart displaying hospitalization rate, case rate, and percentage of 40-49 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 40-49 year olds are displayed in columns; COVID-19 case rate and percentage of 40-49 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 40-49 year olds was seen the week of January 26, 2020. Between January 2020 and July 2022, there were approximately 120,173 COVID-19 cases among 40-49 year olds in Oregon. Of these 120,173 COVID-19 cases, 33.1% (n=39,800) were hospitalized and 326 died. The COVID-19 case fatality among 40-49 year olds was 0.27%.

### COVID-19 disease severity among 40-49 year olds over time



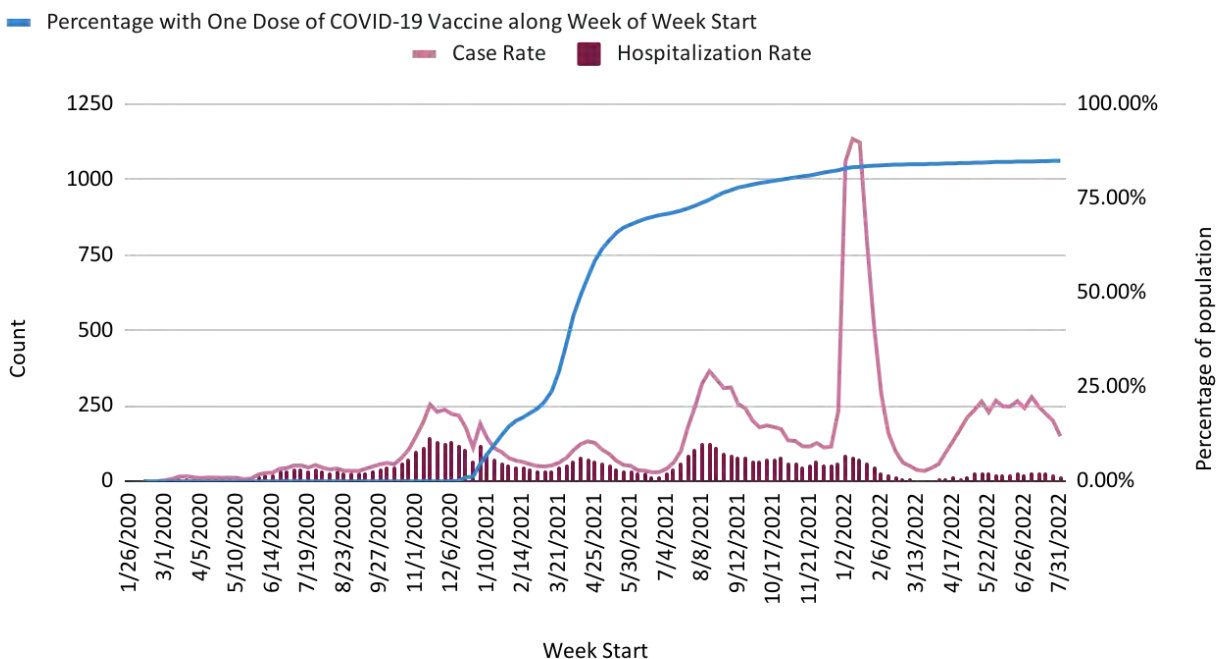


## 50-59 Years

Figure 12 is a combination chart displaying hospitalization rate, case rate, and percentage of 50-59 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 50-59 year olds are displayed in columns; COVID-19 case rate and percentage of 50-59 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 50-59 year olds was seen the week of February 9, 2020. Between February 2020 and July 2022, there were approximately 98,678 COVID-19 cases among 50-59 year olds in Oregon. Of these 98,678 COVID-19 cases, 32.6% (n=32,176) were hospitalized and 747 died. The COVID-19 case fatality among 50-59 year olds was less than 0.76%.

Figure 12: COVID-19 Disease Severity among 50-59 year olds over time

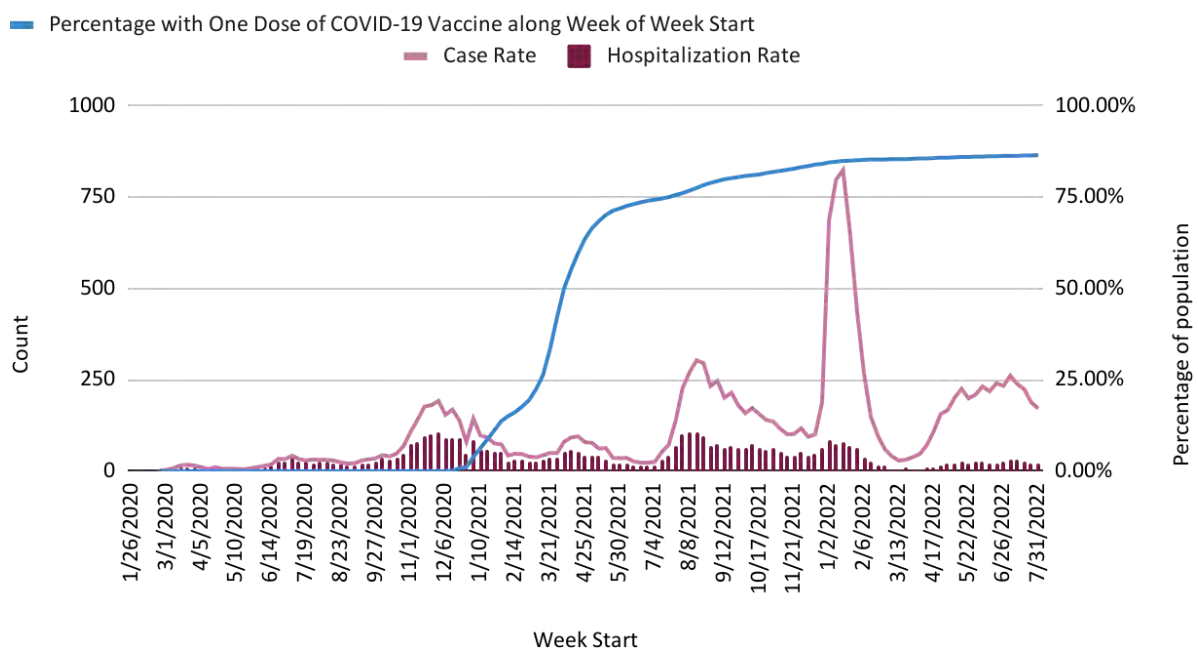


## 60-64 Years

Figure 13 is a combination chart displaying hospitalization rate, case rate, and percentage of 60-64 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 60-64 year olds are displayed in columns; COVID-19 case rate and percentage of 60-64 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 60-64 year olds was seen the week of February 23, 2020. Between February 2020 and July 2022, there were approximately 41,068 COVID-19 cases among 60-64 year olds in Oregon. Of these 41,068 COVID-19 cases, 32.1% (n=13,183) were hospitalized and 660 died. The COVID-19 case fatality among 60-64 year olds was 1.61%.

Figure 13: COVID-19 Disease Severity among 60-64 year olds over time

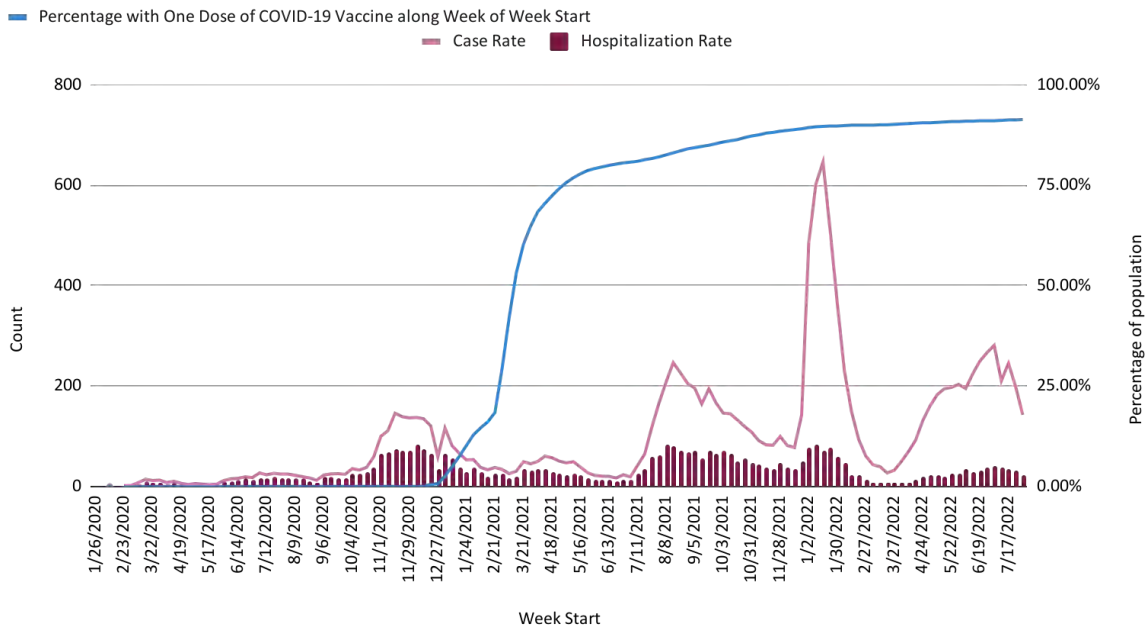


## 65-69 Years

Figure 14 is a combination chart displaying hospitalization rate, case rate, and percentage of 65-69 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 65-69 year olds are displayed in columns; COVID-19 case rate and percentage of 65-69 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 65-69 year olds was seen the week of February 9, 2020. Between February 2020 and July 2022, there were approximately 33,246 COVID-19 cases among 65-69 year olds in Oregon. Of these 33,246 COVID-19 cases, 32.3% (n=10,730) were hospitalized and 813 died. The COVID-19 case fatality among 65-69 year olds was less than 2.45%.

Figure 14: COVID-19 disease severity among 65-69 year olds over time

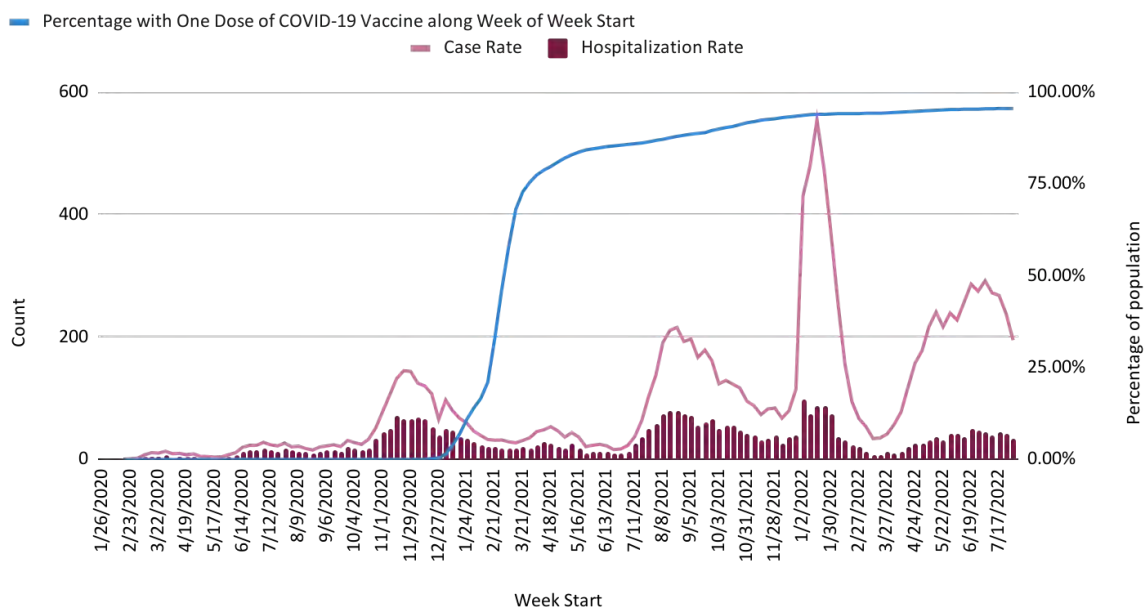


## 70-79 Years

Figure 15 is a combination chart displaying hospitalization rate, case rate, and percentage of 70-79 year olds with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 70-79 year olds are displayed in columns; COVID-19 case rate and percentage of 70-79 year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 70-79 year olds was seen the week of February 16, 2020. Between February 2020 and July 2022, there were approximately 46,931 COVID-19 cases among 70-79 year olds in Oregon. Of these 46,931 COVID-19 cases, 31.0% (n=14,561) were hospitalized and 2,046 died. The COVID-19 case fatality among 70-79 year olds was 4.36%.

Figure 15: COVID-19 disease severity among 70-79 year olds over time

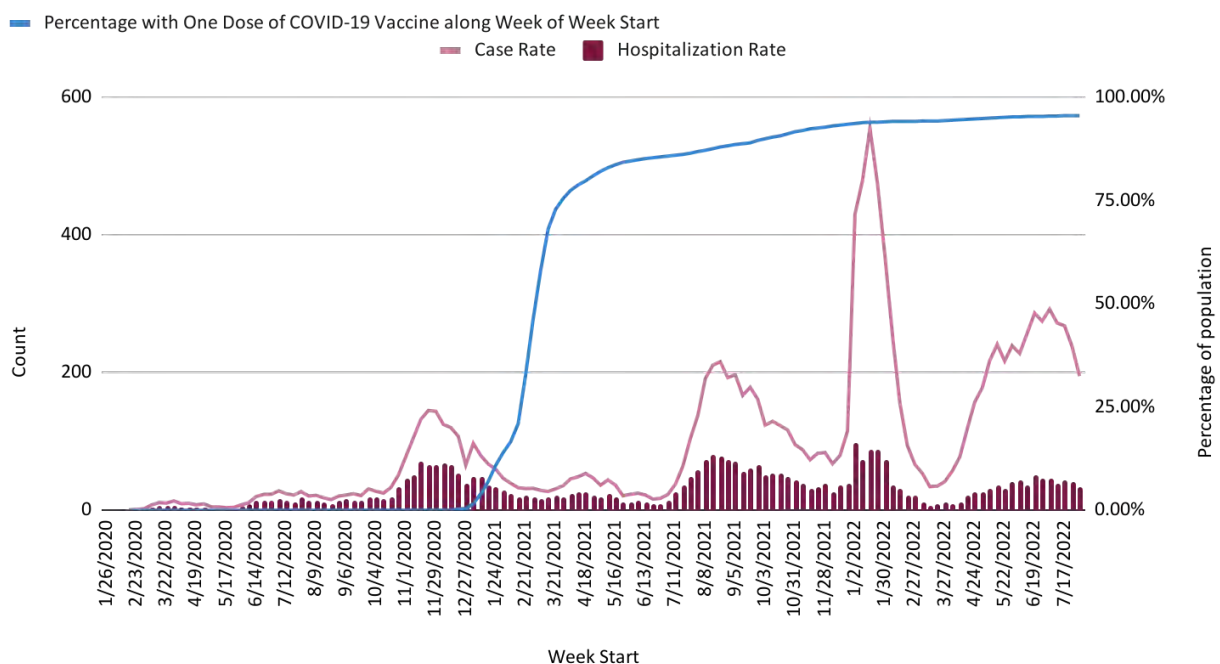


80+

Figure 16 is a combination chart displaying hospitalization rate, case rate, and percentage of 80+ years old with at least one dose of COVID-19 vaccine per week. Hospitalization rates among 80+ year olds are displayed in columns; COVID-19 case rate and percentage of 80+ year olds with one dose of COVID-19 week are displayed in lines.

The first case of COVID-19 among 80+ year olds was seen the week of March 1, 2020. Between March 2020 and July 2022, there were approximately 28,382 COVID-19 cases among 80+ year olds in Oregon. Of these 28,382 COVID-19 cases, 32.1% (n=9,113) were hospitalized and 3,502 died. The COVID-19 case fatality among 80+ year olds was less than 12.3%.

Figure 16: COVID-19 disease severity among 80+ year olds over time



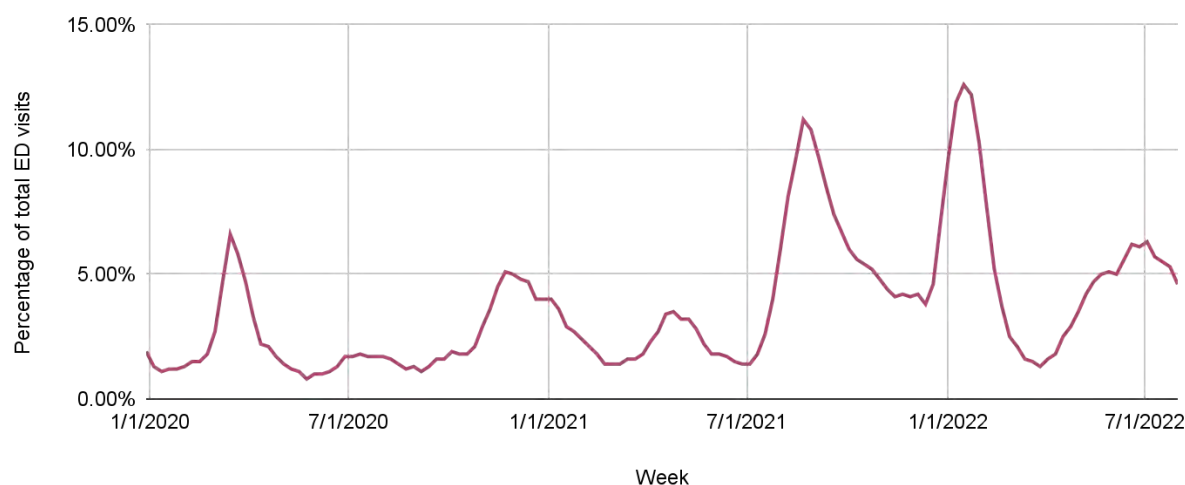
## Emergency Department Visits

### Percent of Statewide Emergency Department Visits for COVID-like Illness Over Time

Figure 17 is a line chart showing the percent of emergency department visits for COVID-like illness over time. The increases in emergency department visits coincide with increases in COVID-19 cases and case rates throughout Oregon during the same weeks. This figure demonstrated the large burden of COVID-19 on hospitals and more specifically, emergency departments throughout the state. In Stage 1, the percent of emergency department visits for COVID-like illness peaked the week of March 15, 2020, with emergency department visits for COVID-like illness representing 6.6% (n=1,710) of all emergency department visits in Oregon. In Stage 2, the percent of emergency department visits for COVID-like illness peaked the week

of August 22, 2021 at 11.2% (n=3, 278), corresponding with the peak in COVID-19 cases during the Delta variant. During the Omicron variant in Stage 3, emergency department visits for COVID-like illness peaked the week of January 16, 2022 at 12.6% (n=3,926). In Stage 4, emergency department visits for COVID-like illness peaked the week of July 3, 2020, representing 6.3% (n=2,132) of all emergency department visits in the state.

Figure 17: Percent of statewide emergency department visits for COVID-like illness over time

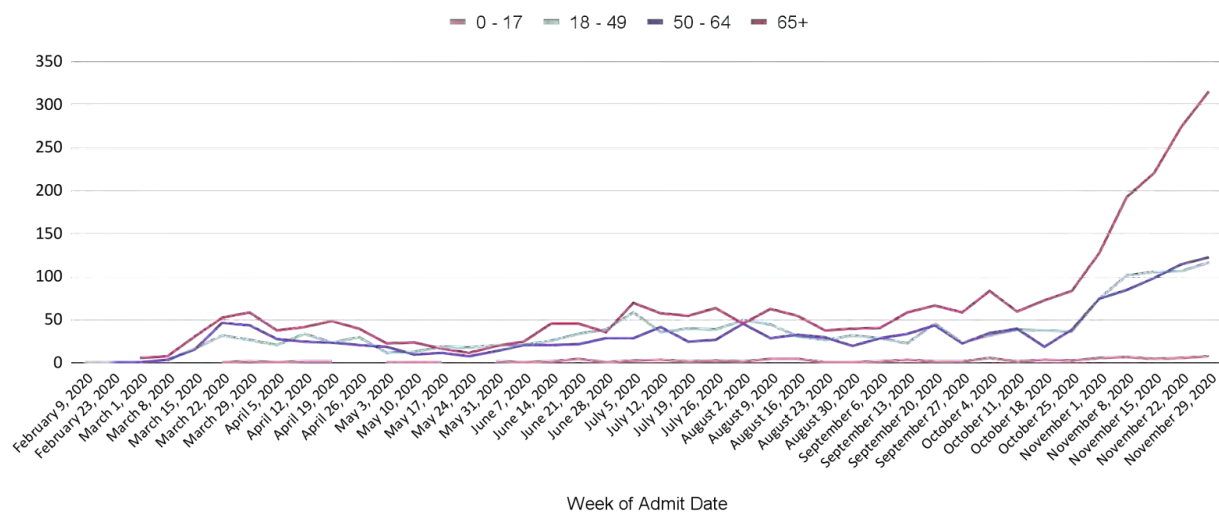


## Hospitalizations

### Hospitalizations by Age Category by Stage

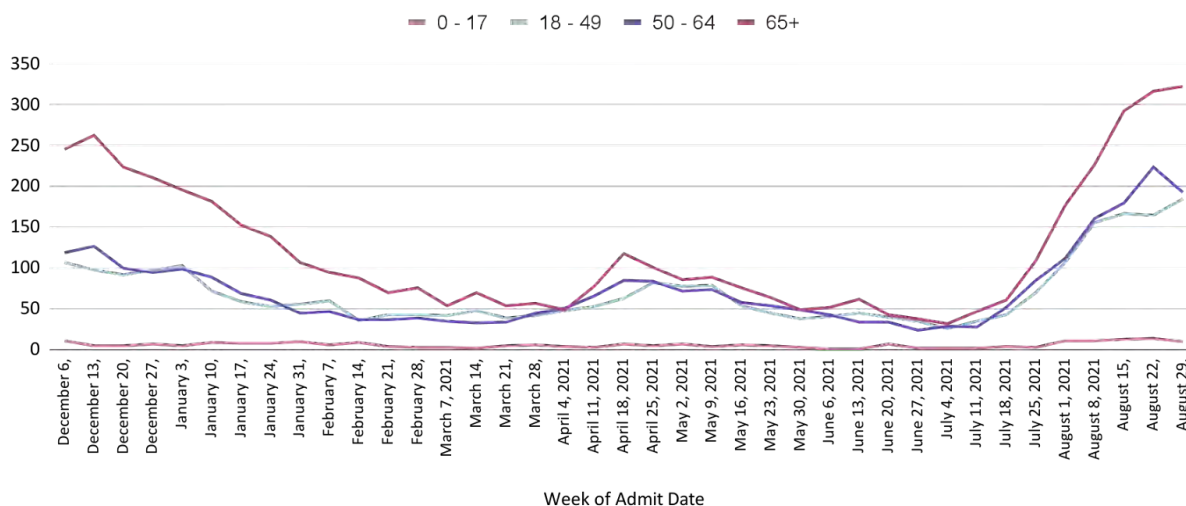
In Stage 1, individuals 65 years of age and older had the highest number of hospitalizations, with a total of 2,724 hospitalizations during this stage. Individuals 18-49 years of age had the next highest number of hospitalizations with a total of 1,527 during Stage 1. Children 17 years of age and younger had the fewest number of hospitalizations, with a total of 105 hospitalizations during this stage.

Figure 18: Stage 1 Hospitalizations by age category



In Stage 2, individuals 65 years of age and older had the highest number of hospitalizations, with a total of 4,776 hospitalizations during this stage. Individuals 50-64 years of age had the next highest number of hospitalizations with a total of 2,903 during Stage 2. Children 17 years of age and younger had the fewest number of hospitalizations, with a total of 231 hospitalizations during this stage.

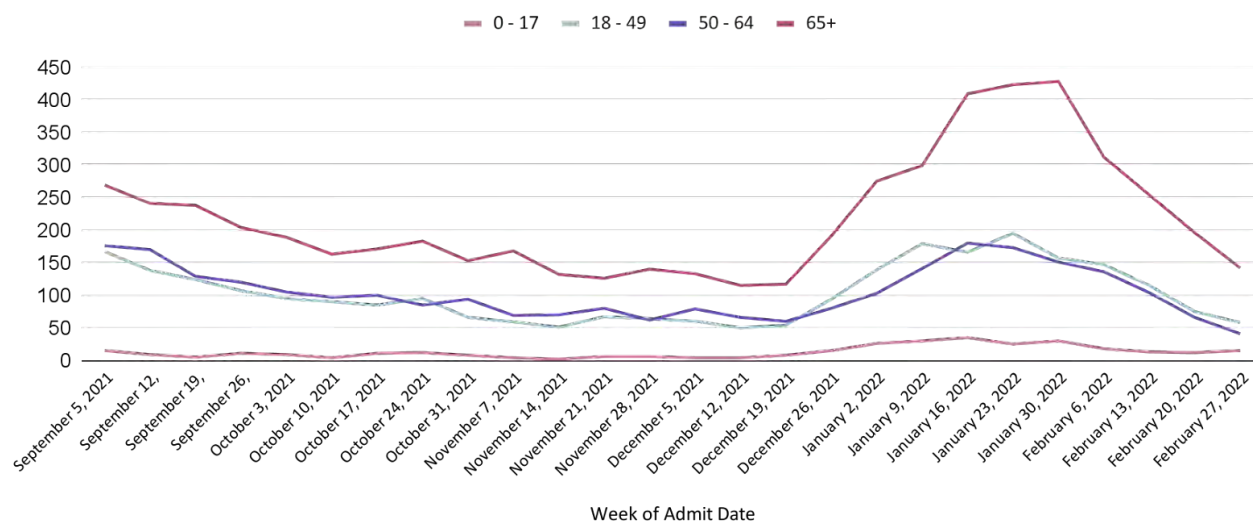
Figure 19: Stage 2 Hospitalizations by age category





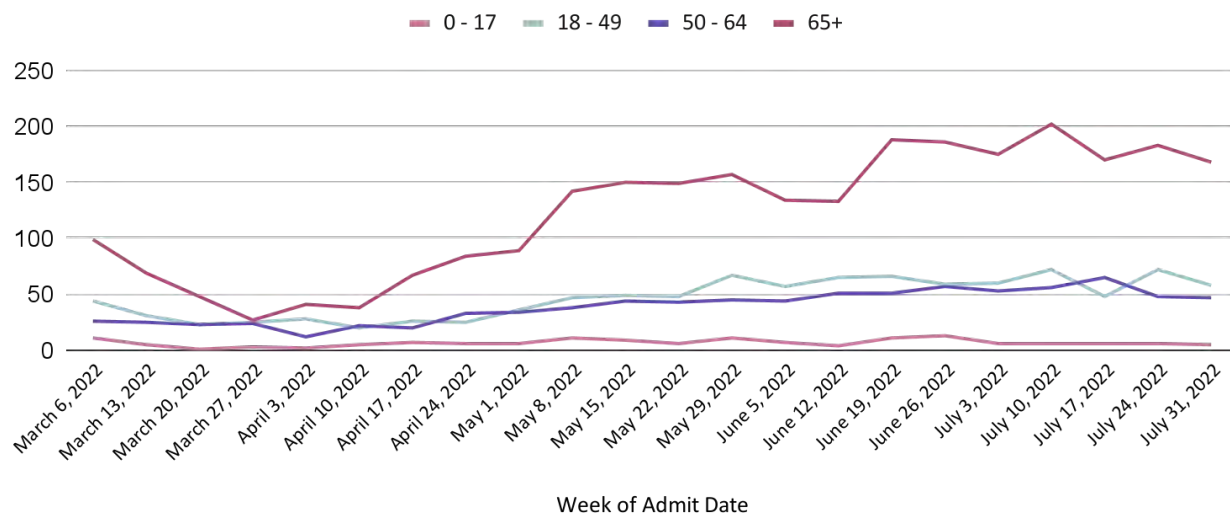
In Stage 3, individuals 65 years of age and older had the highest number of hospitalizations, with a total of 5,671 hospitalizations during this stage. Individuals 50-64 years of age had the next highest number of hospitalizations with a total of 2,737 during Stage 3. Children 17 years of age and younger had the fewest number of hospitalizations, with a total of 337 hospitalizations during this stage.

Figure 20: Stage 3 Hospitalizations by age category



In Stage 4, individuals 65 years of age and older had the highest number of hospitalizations, with a total of 2,930 hospitalizations during this stage. Individuals 18-49 years of age had the next highest number of hospitalizations with a total of 1,119 during Stage 4. Children 17 years of age and younger had the fewest number of hospitalizations, with a total of 157 hospitalizations during this stage.

Figure 21: Stage 4 Hospitalizations by age category



## Hospitalizations Over Time By Age

Figure 22 is an area chart displaying the number of weekly hospitalizations among 0-17 year olds over time. As of the week of July 31, 2022, there have been 820 COVID-19 hospitalizations among 0-17 year olds. Most hospitalizations in this age group occurred during Stage 3 (n=337). In stage 3, the number of hospitalizations peaked the week of January 16, 2022 with 35 hospitalizations.

Figure 22: Number of 0-17 year olds hospitalizations over time

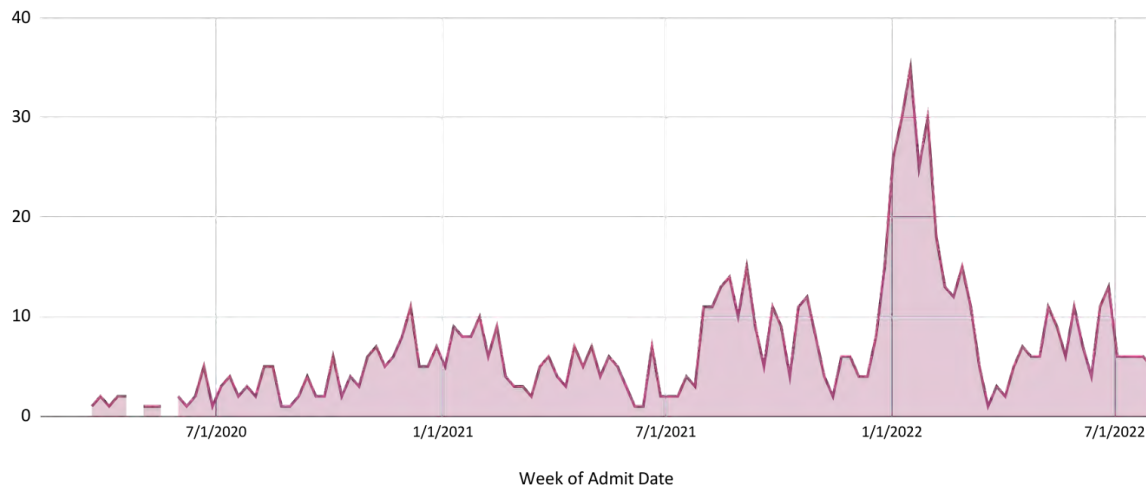


Figure 23 is an area chart displaying the number of weekly hospitalizations among 18-49 year olds over time. As of the week of July 31, 2022, there have been 7,909 COVID-19 hospitalizations among 18-49 year olds. Most hospitalizations in this age group occurred during Stage 2 (n=2,697). In stage 3, the number of hospitalizations peaked the week of January 23, 2022 with 195 hospitalizations.

Figure 23: Number of 18-49 year olds hospitalizations over time

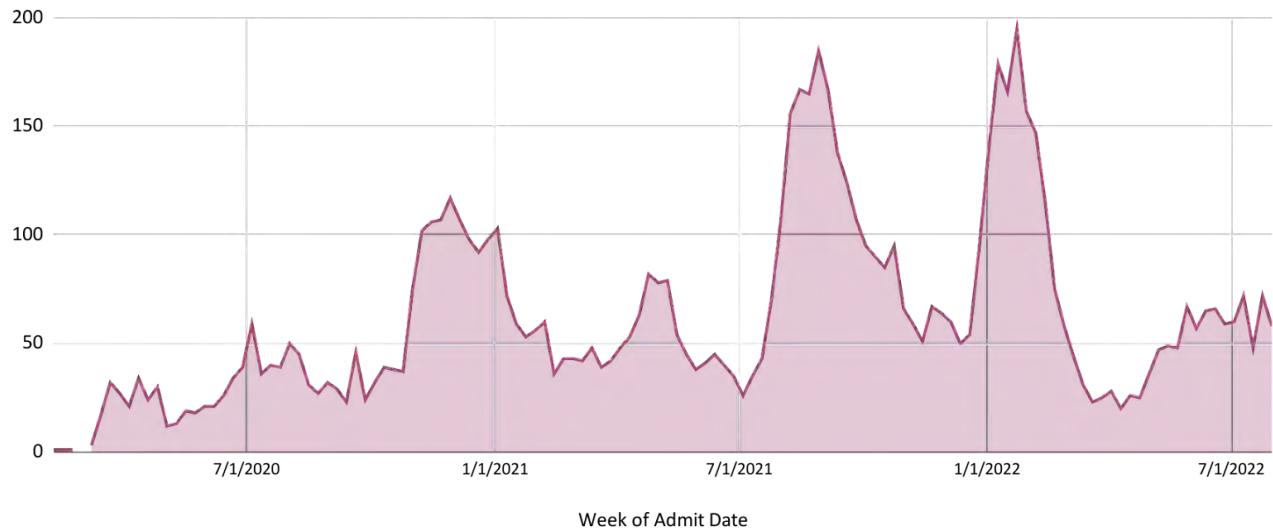


Figure 24 is an area chart displaying the number of weekly hospitalizations among 50-64 year olds over time. As of the week of July 31, 2022, there have been 7,909 COVID-19 hospitalizations among 50-64 year olds. Most hospitalizations in this age group occurred during Stage 2 (n=2,903). In stage 2, the number of hospitalizations peaked the week of August 22, 2021 with 224 hospitalizations.

Figure 24: Number of 50-64 year olds hospitalizations over time

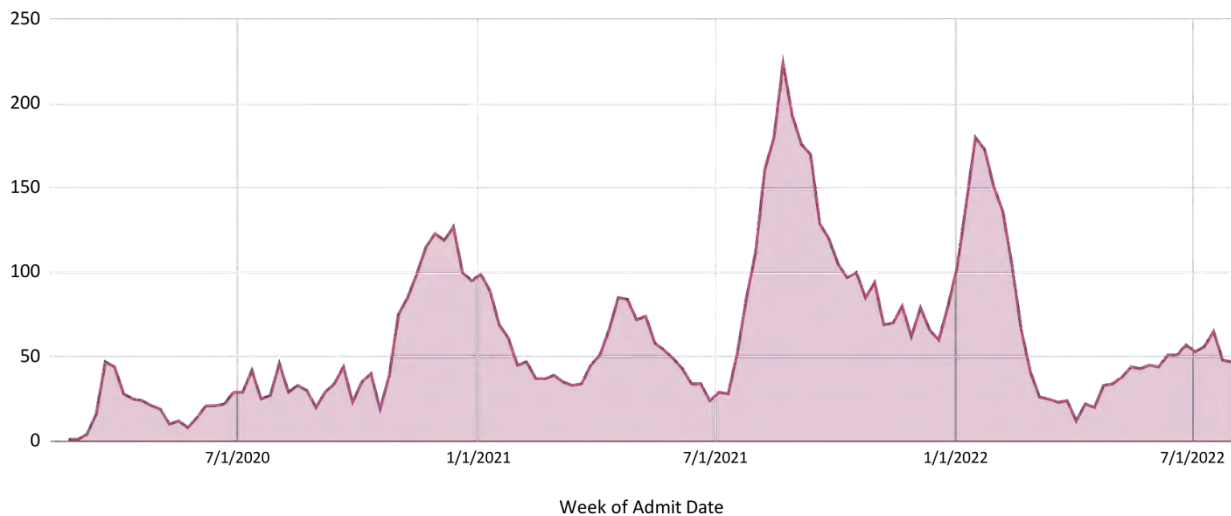
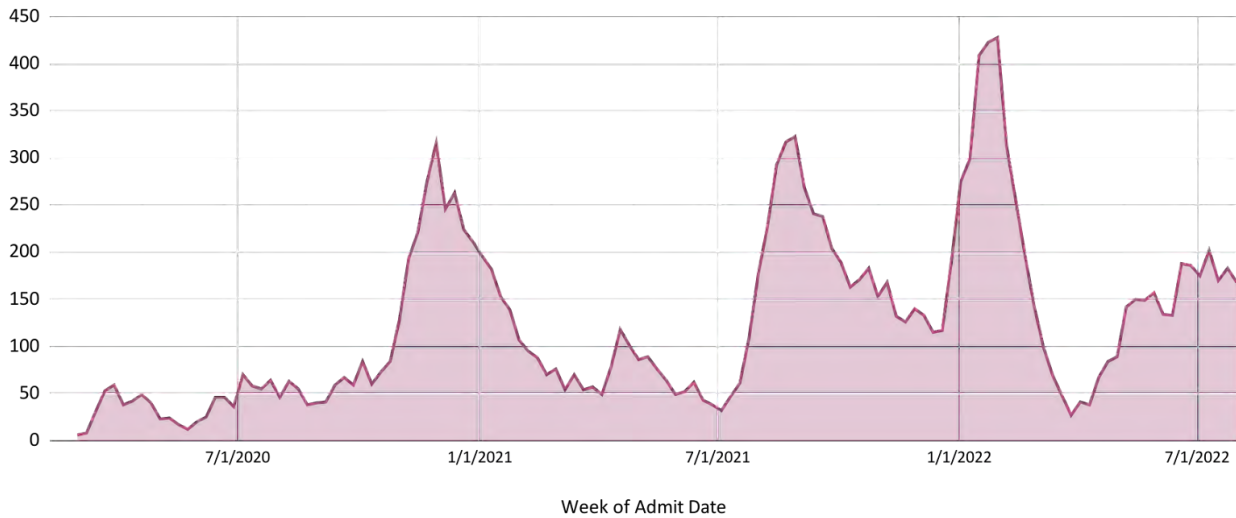


Figure 25 is an area chart displaying the number of hospitalizations among 65+ year olds over time. As of the week of July 31, 2022, there have been 15,870 COVID-19 hospitalizations among 50-64 year olds. Most hospitalizations in this age group occurred during Stage 2 (n=5,671). In stage 3, the number of hospitalizations peaked the week of January 30, 2022 with 224 hospitalizations.

Figure 25: Number of 65+ year olds hospitalizations over time



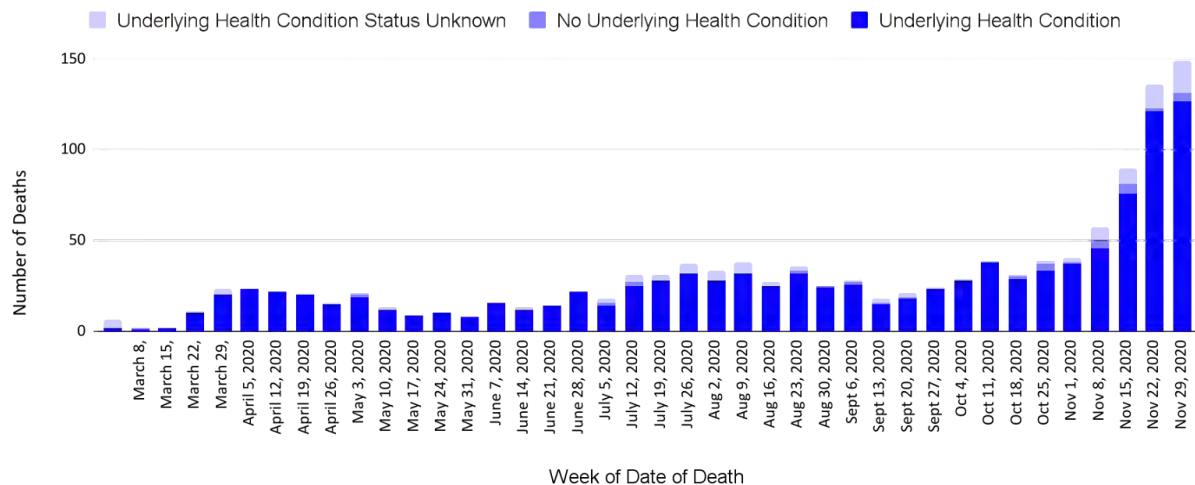
# COVID-19 Deaths

## Statewide Deaths by Underlying Health Conditions

### Stage 1 COVID-19 Deaths by Underlying Health Condition Status

In stage 1, approximately 89.1% (n=1,094) of COVID-19 deaths occurred among individuals who had an underlying health condition, 8.3% (n=102) individuals occurred among individuals whose underlying health condition status was unknown, and 2.61% (n=32) occurred among individuals who did not have an underlying health condition.

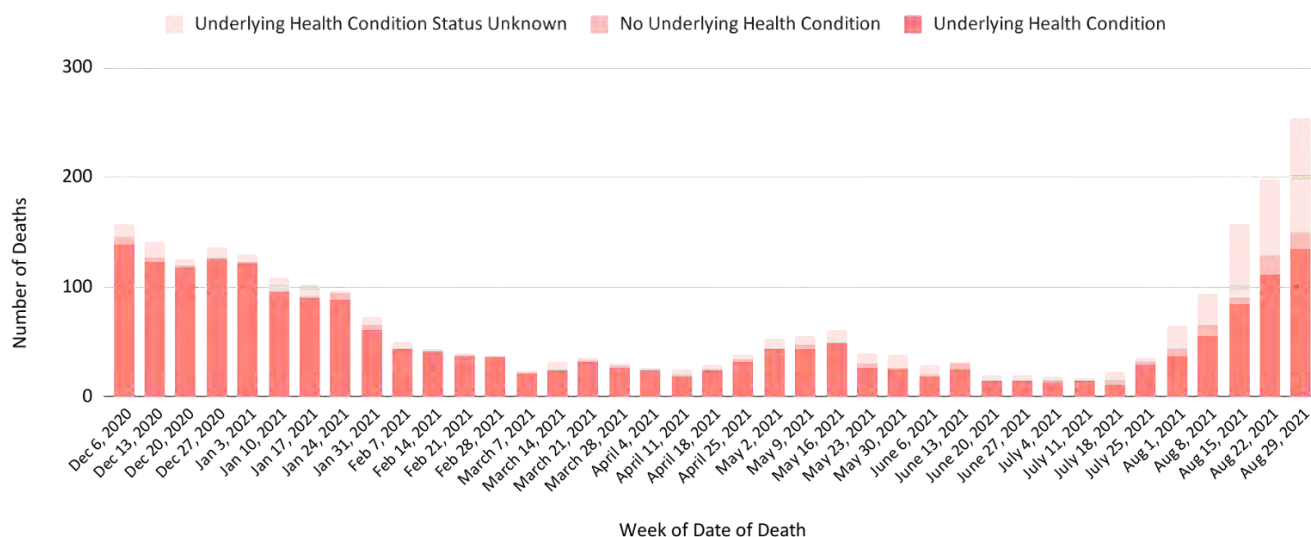
Figure 26: Stage 1 Deaths by underlying health condition status over time



## Stage 2 COVID-19 Deaths by Underlying Health Condition Status

In stage 2, approximately 76.9% (n=2,067) of COVID-19 deaths occurred among individuals who had an underlying health condition, 18.85% (n=507) occurred among individuals whose underlying health condition status was unknown, and 4.3% (n=115) occurred among individuals who did not have an underlying health condition. Towards the end of Stage 2, during the Delta wave (August 2021), a larger percent of weekly deaths were from those without an underlying health condition.

Figure 27: Stage 2 Deaths by underlying health condition status over time

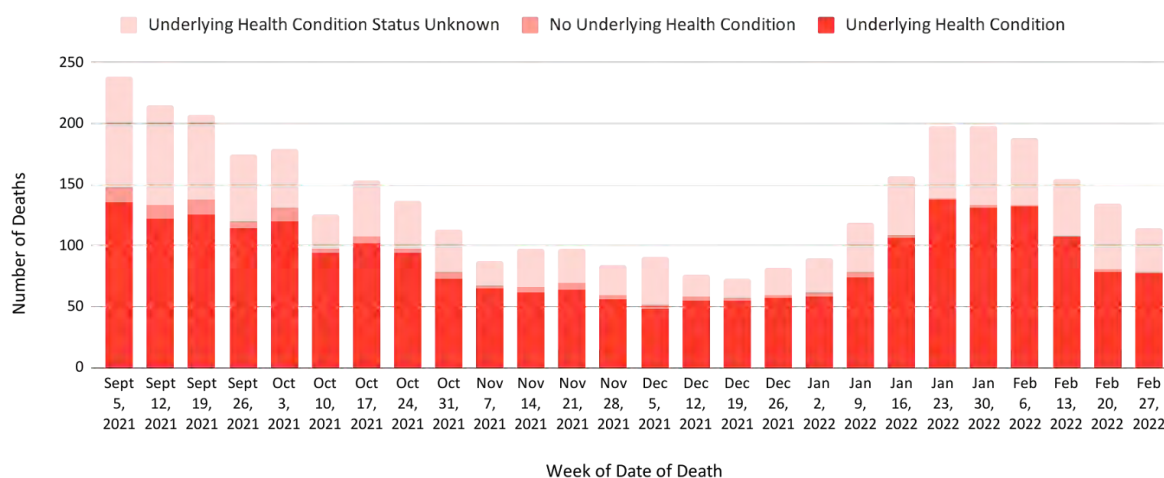




## Stage 3 COVID-19 Deaths by Underlying Health Condition Status

In stage 3, approximately 65.4% (n=2,344) of COVID-19 deaths occurred among individuals who had an underlying health condition, 31.3% (n=1,122) occurred among individuals whose underlying health condition status was unknown, and 3.3% (n=118) occurred among individuals who did not have an underlying health condition. The number of individuals whose underlying health condition was unknown who died in this Stage almost doubled in comparison with Stage 2.

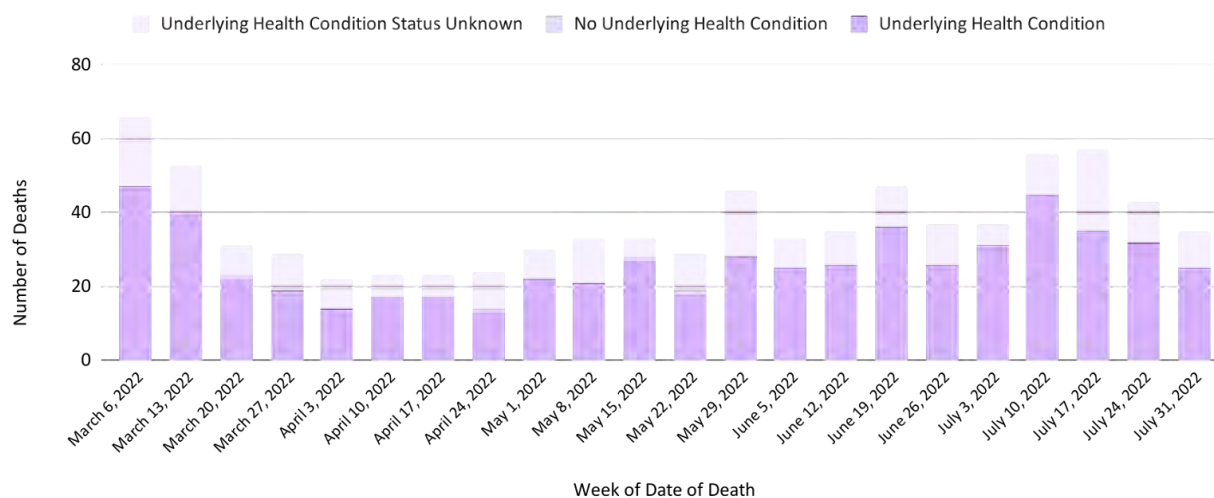
Figure 28: Stage 3 Deaths by underlying health condition status over time



## Stage 4 COVID-19 Deaths by Underlying Health Condition Status

In stage 4, approximately 71.3% (n=586) of COVID-19 deaths occurred among individuals who had an underlying health condition, 28.3% (n=232) occurred among individuals whose underlying health condition status was unknown, and 0.5% (n=4) occurred among individuals who did not have an underlying health condition.

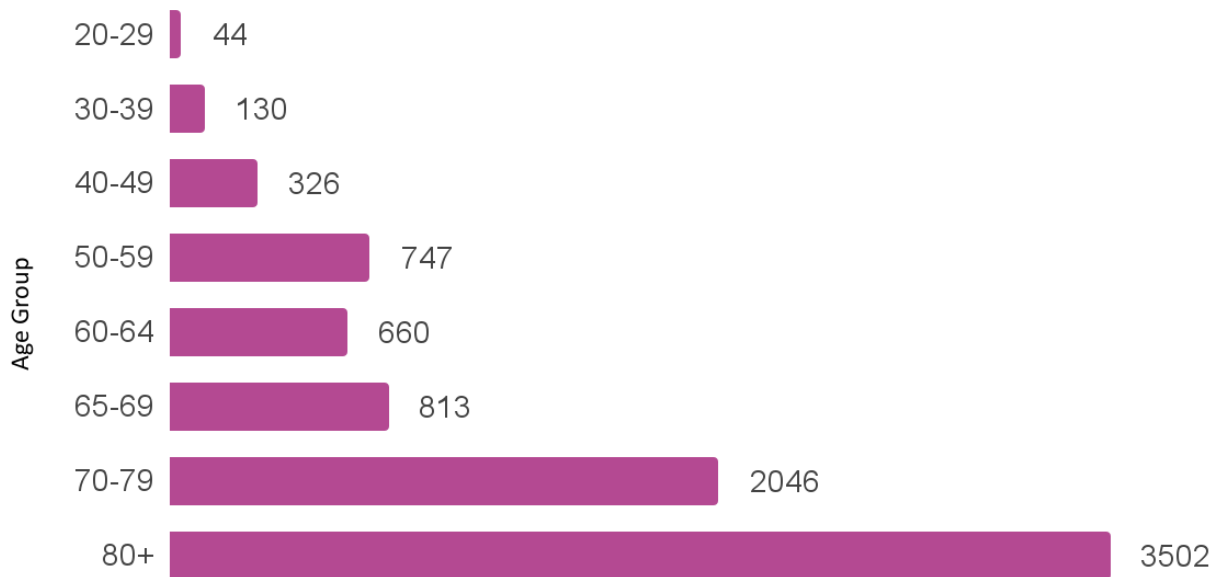
Figure 29: Stage 4 Deaths by underlying health condition status over time



## Statewide Deaths by Age

As of July 2022, there have been 13 COVID-19 deaths among children less than 18 years of age. Since the start of the COVID-19 pandemic until the week of July 31, 2022, the largest number of COVID-19 deaths has occurred among older adults. Those 80 years of age and older represent the largest number of cumulative deaths (n=3,502). As age increases, so does the cumulative number of COVID-19 deaths.

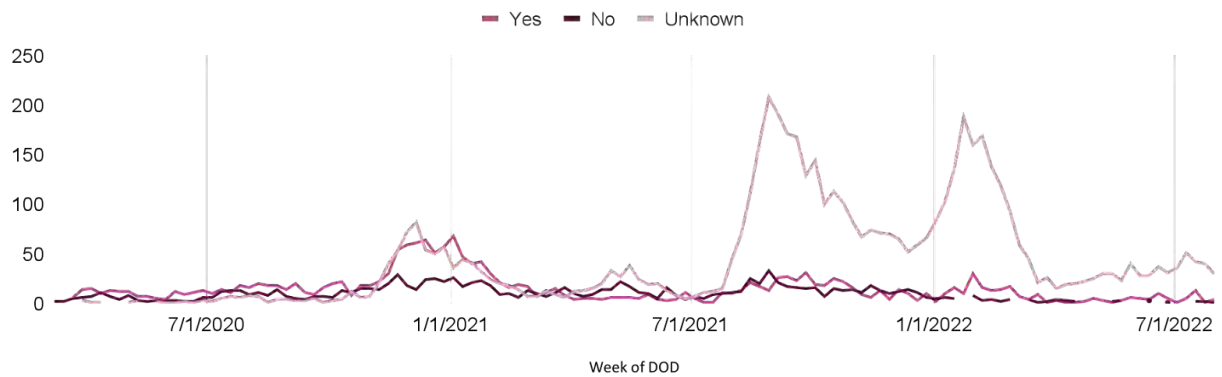
Figure 30: COVID-19 deaths among adults by age group



## Statewide Deaths by Congregate Setting

Figure 31 is a stacked column chart displaying the weekly number of COVID-19 deaths by congregate setting. In stage 1 and 2, a larger number of weekly deaths occurred in a congregate setting. In stage 1, 48.6% (n=597) of COVID-19 deaths occurred among individuals living in a congregate setting. As of the week of July 31, 2022, there were 1,833 COVID-19 deaths that occurred in a congregate setting, comprising 22% of COVID-19 deaths. Since the start of the pandemic, the majority of deaths (63.8%, n=5,310), however, have occurred among individuals whose congregate setting status was unknown.

Figure 31: COVID-19 Deaths by congregate setting

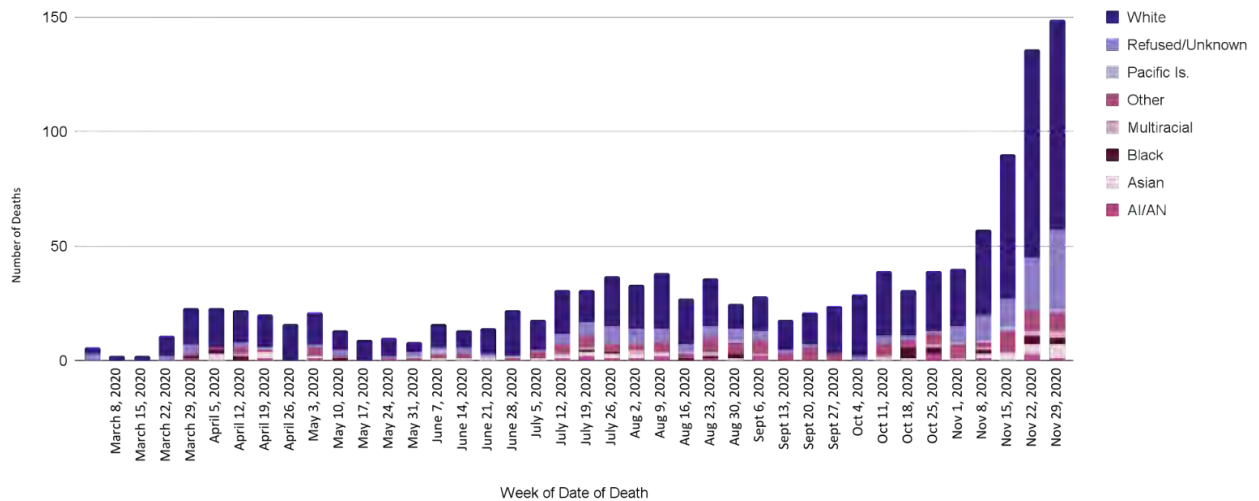


## Statewide Deaths by Race/Ethnicity

### Stage 1 COVID-19 Deaths by Race

Figure 32 is a stacked column chart displaying the weekly number of COVID-19 deaths by race that occurred in Stage 1. In Stage 1, White individuals had the highest number of total deaths (n=819). As this stage progressed, a larger number of deaths were seen among individuals who do not identify as white.

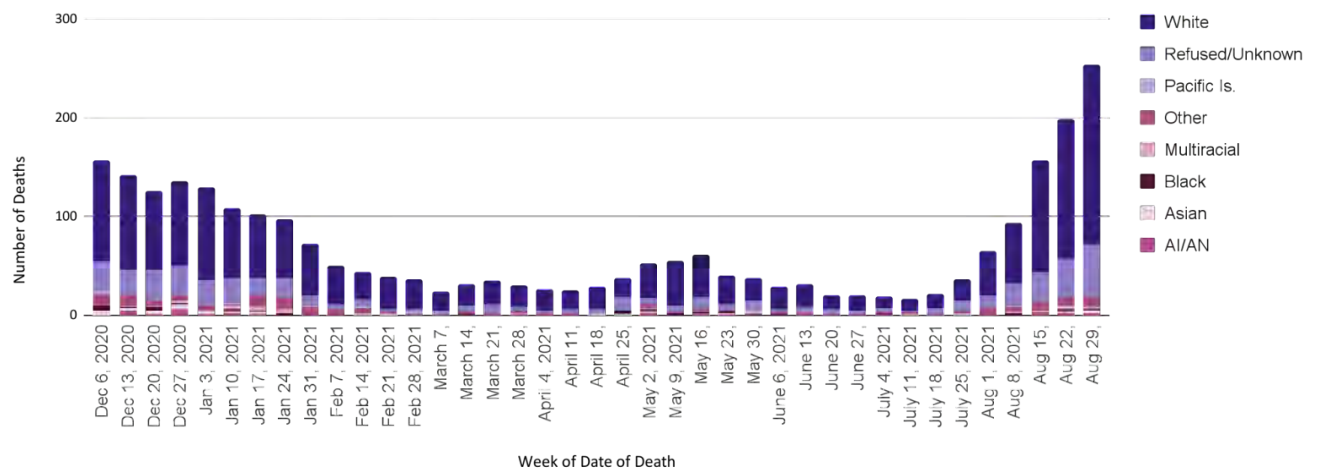
Figure 32: Stage 1 COVID-19 deaths by race



## Stage 2 COVID-19 Deaths by Race

Figure 33 is a stacked column chart displaying the weekly number of COVID-19 deaths by race that occurred in Stage 2. In Stage 2, White individuals had the highest number of total deaths (n=1,834). As this stage progressed, a larger number of deaths were seen among individuals who do not identify as white.

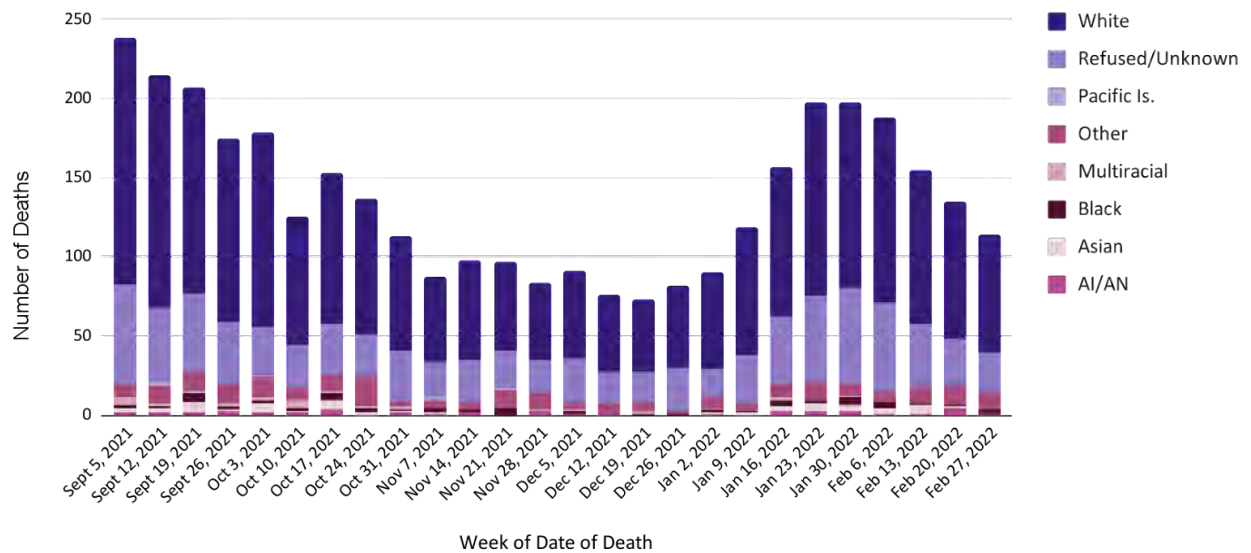
Figure 33: Stage 2 COVID-19 deaths by race



## Stage 3 COVID-19 Deaths by Race

Figure 34 is a stacked column chart displaying the weekly number of COVID-19 deaths by race that occurred in Stage 3. Stage 3 had the most deaths of the four Stages at 3,584 deaths. In Stage 3, White individuals had the highest number of total deaths (n=2,275). In Stage 3 there was a high number of deaths among people whose race was not identified (n=890).

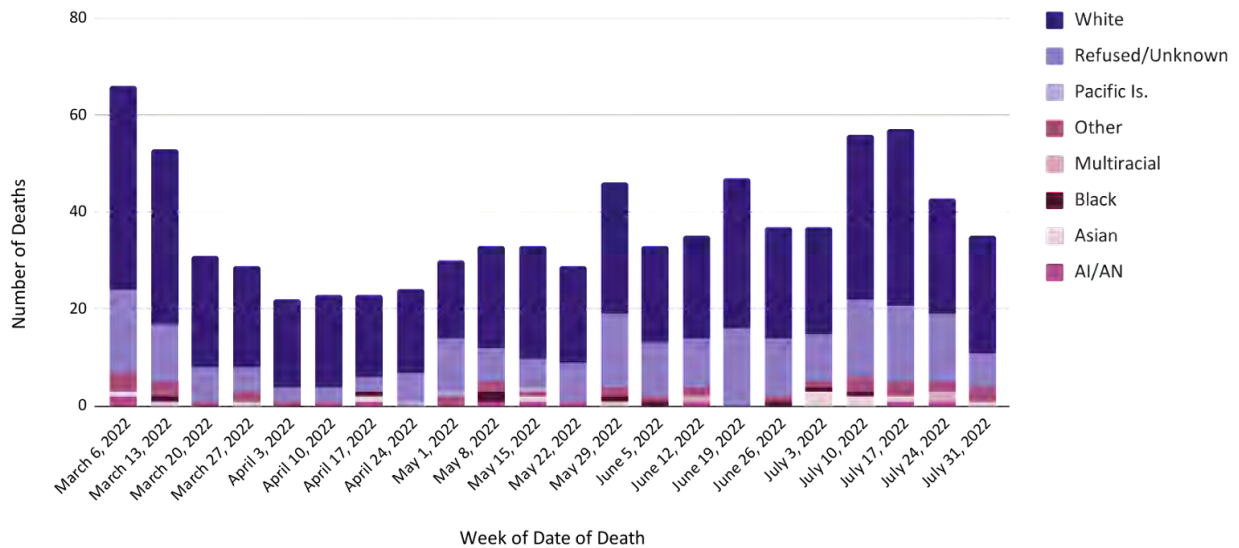
Figure 34: Stage 3 COVID-19 deaths by race



## Stage 4 COVID-19 Deaths by Race

Figure 35 is a stacked column chart displaying the weekly number of COVID-19 deaths by race that occurred in Stage 4. In Stage 4, White individuals had the highest number of total deaths (n=535). In Stage 4 there was a high number of deaths among people whose race was not identified (n=215).

Figure 35: Stage 4 COVID-19 deaths by race





## Region 1

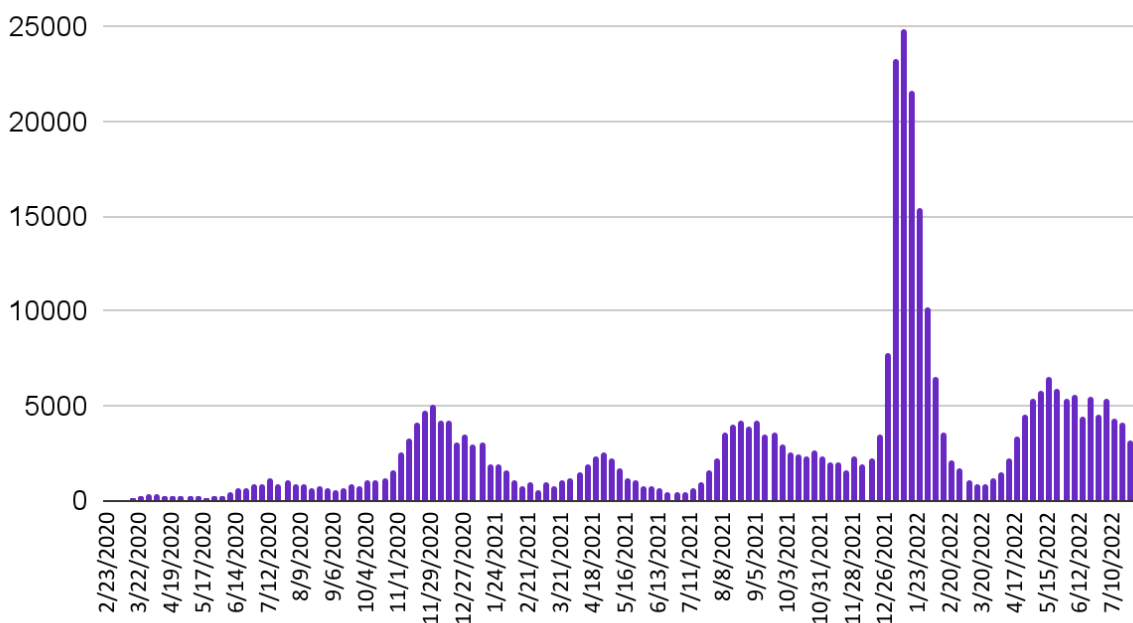
### Regional Data

#### Region 1 Level of Community Spread

#### Region 1 Weekly COVID-19 Cases Over Time

Figure 36 is a column chart that presents weekly COVID-19 cases for region 1. As of the week of July 31st, 2022, Region 1 has seen a total of 354,897 COVID-19 cases. Similar to statewide COVID-19 cases, Region 1 saw 6 distinct waves. Region 1 experienced the highest number of COVID-19 cases during the fifth (Omicron) wave. During the week of January 9, 2022, Region 1 had a total of 24,871 COVID-19 cases.

Figure 36: Region 1 Weekly COVID-19 cases over time

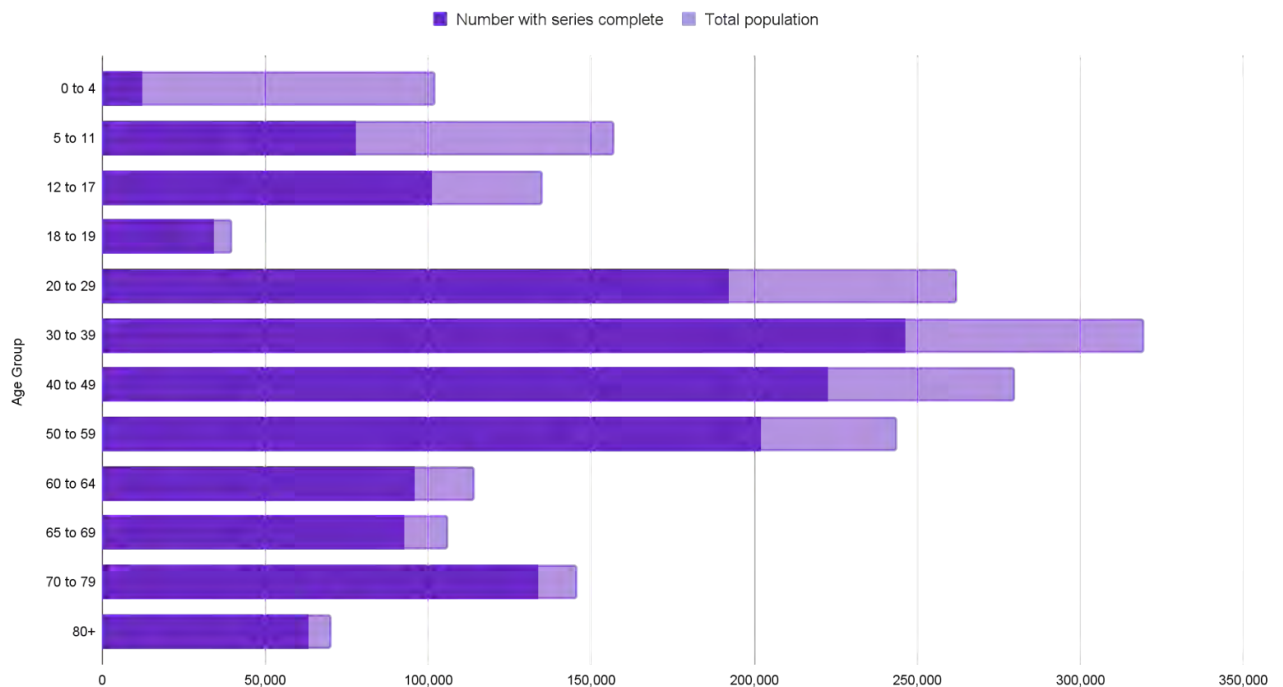


## Region 1 Vaccination Status

### Region 1 COVID-19 Vaccination Series Completion

Figure 37 is a stacked column chart that displays the number of individuals who have their COVID-19 vaccination series completed by age group in Region 1. As of September 30, 2022, Older adults aged 65 and older have the most number of individuals with a COVID-19 vaccination series complete. A large percentage of 18-19 year olds have completed a COVID-19 series. Likely, college COVID-19 mandates have contributed to this high rate.

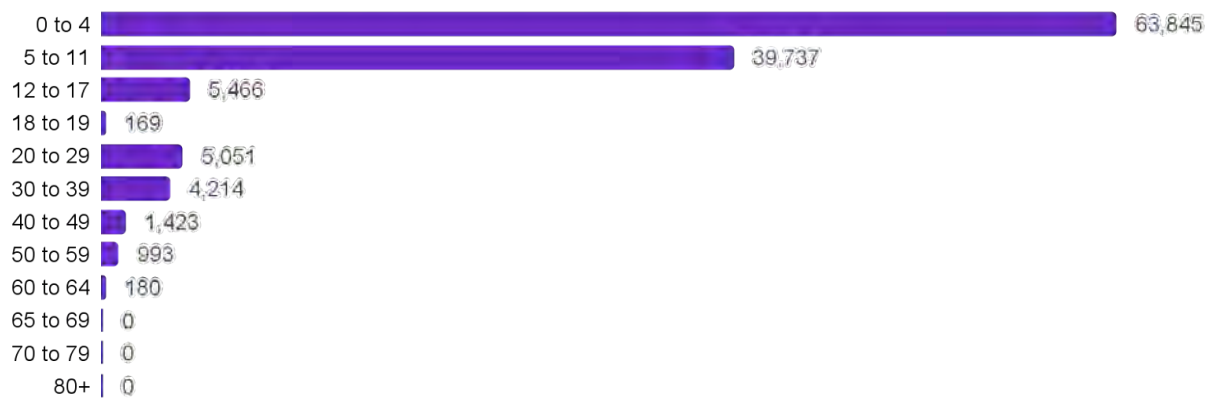
Figure 37: Region 1 number of COVID-19 vaccination series complete by age



### Region 1 Number of People Needed to Reach 80% Vaccinated

Figure 38 is a bar chart displaying the total number of people needed to reach 80% vaccinated by each age category in Region 1. For adults aged 65 and older, over 80% of the population is vaccinated and thus, there are 0 people remaining. The age groups with the largest number of people needed to reach 80% vaccinated are children aged 0-4 years of age (n=63,845), followed by children ages 5-11 years of age (n=39,737) and children ages 12-17 years of age (n=5,466).

Figure 38: Region 1 number of people needed to reach 80% vaccinated, by age



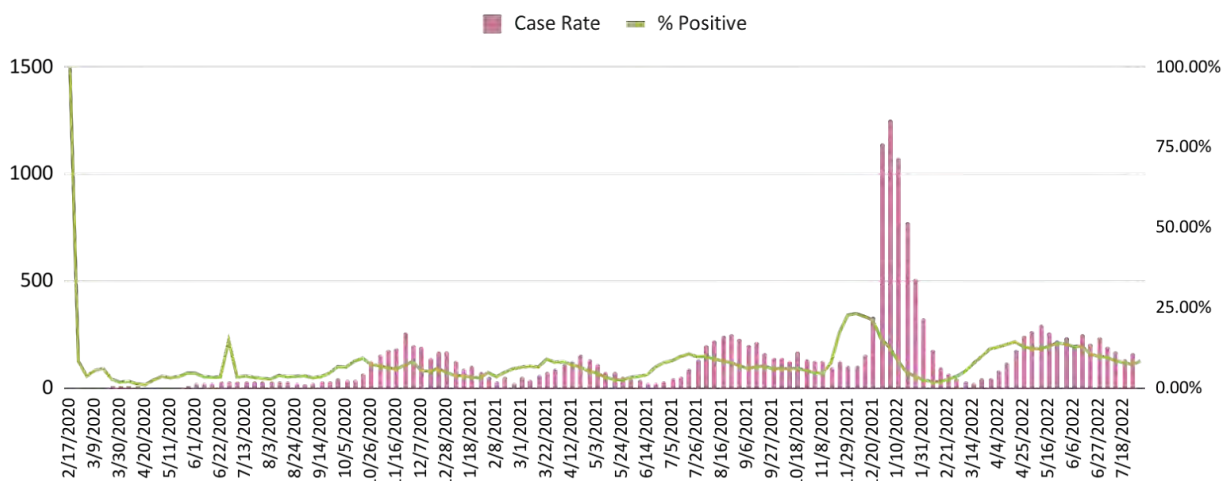
## Clackamas

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 39 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Clackamas County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-August 2020 and peaked the week of July 06, 2020 with a case rate of 34 per 100,000. The second wave that occurred between September and December 2020 was larger and peaked the week of November 23, 2020 with a case rate of 261 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (155 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (251 per 100,000) was seen, which occurred during the peak of this wave the week of August 23, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 3, 2022 with a case rate of 1,258 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

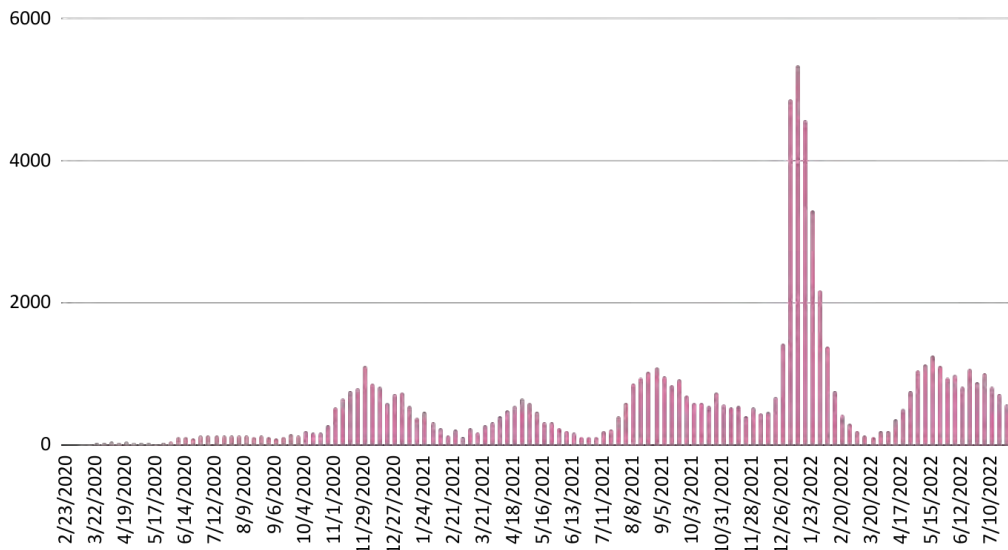
Figure 39: Clackamas COVID-19 case rates



## Cases Over Time

Figure 40 presents Clackamas County COVID-19 case counts over time. Clackamas county's COVID-19 case counts mirror the explanation provided in Figure 39. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 1112 cases. During Stage 2, COVID-19 cases peaked the week of August 29, 2021 with 1,094 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 5,351 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 1263 cases.

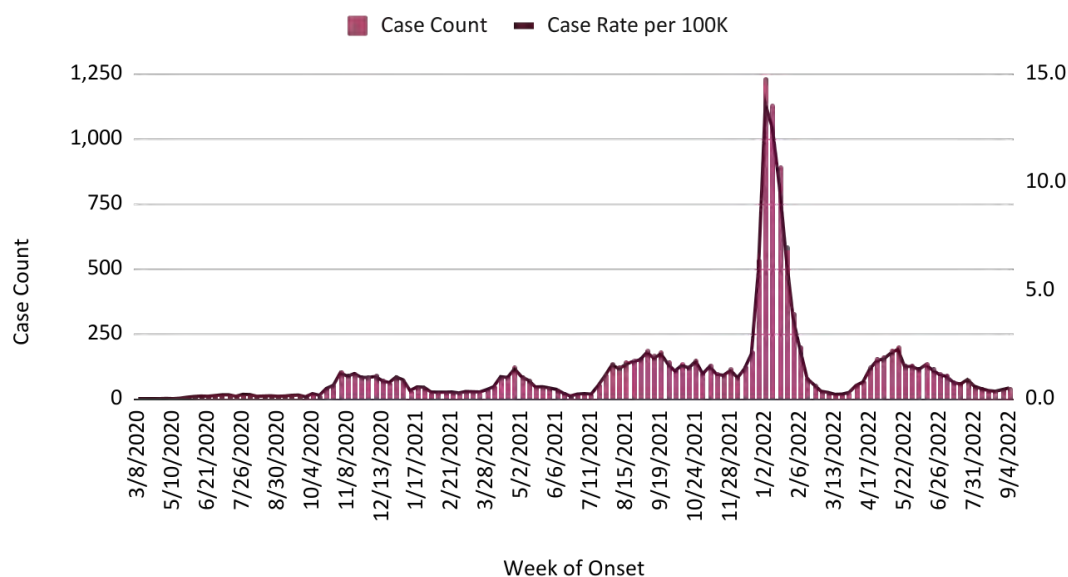
Figure 40: Clackamas Weekly COVID-19 cases over time



## Pediatric COVID-19 Cases and Case Rate Over Time

Figure 41 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Clackamas County. As of the week of July 31, 2022, there were 12,918 pediatric COVID-19 cases in Clackamas County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 2, 2022 with a case rate of 1,238 per 100,000. There is a clear rise in the pediatric COVID-19 cases around August 2021, which remained relatively stable until the Omicron wave in Stage 3. There was another surge in pediatric COVID-19 cases during Stage 4 during April 2022.

Figure 41: Clackamas pediatric COVID-19 cases and case rate over time



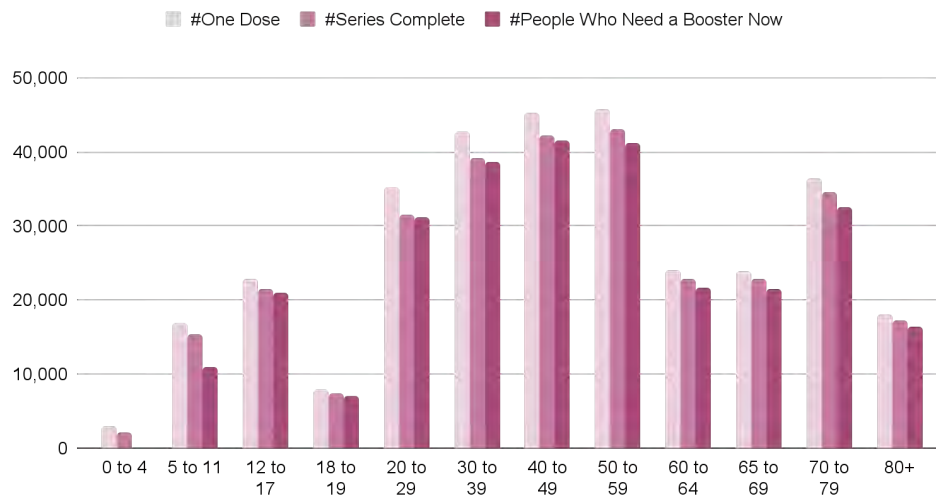
## Vaccinations

As of August 24, 2022, Clackamas County had 75.1% of the county with one dose and 69.8% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 42 is a clustered column chart presenting Clackamas County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

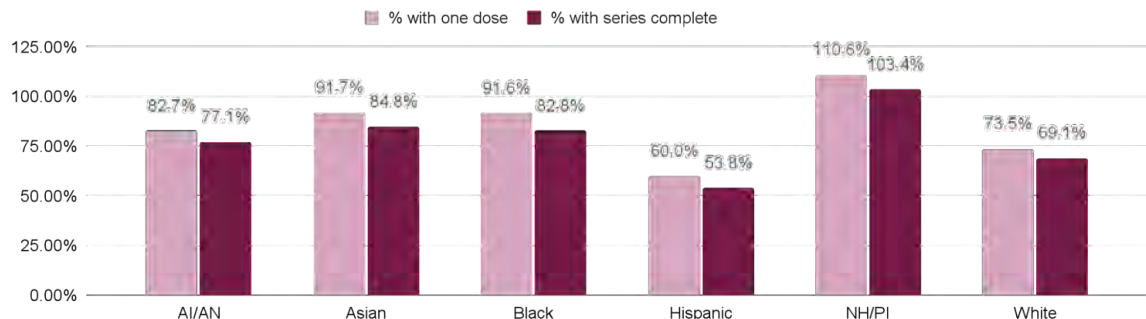
Figure 42: Clackamas Vaccination status by age



### COVID-19 Vaccination Status by Race

Figure 43 is a clustered column chart presenting Clackamas County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Clackamas County, individuals who identify as Hispanic have the lowest vaccination coverage, with 60.0% of individuals having at least one dose and 53.8% of individuals with a series complete.

Figure 43: Clackamas County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black,

NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

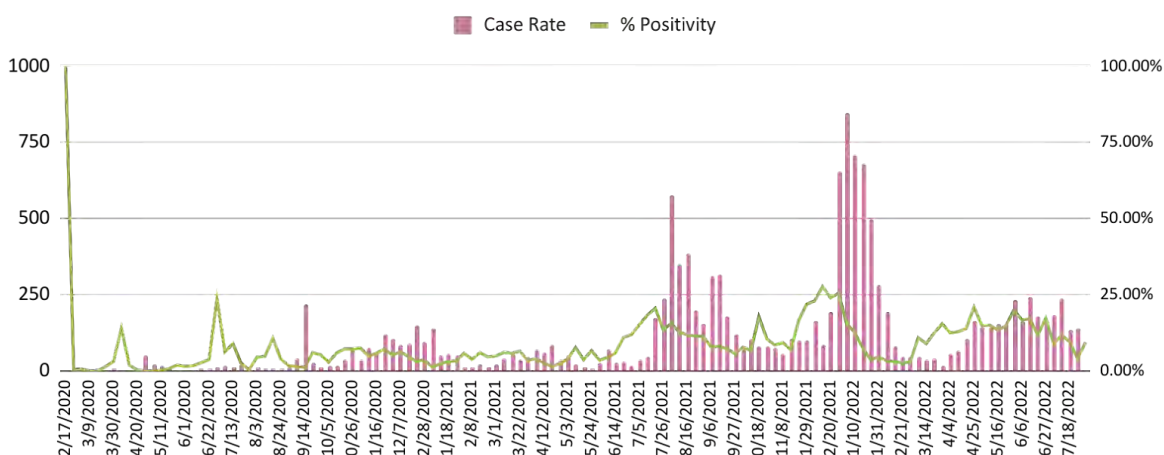
## Clatsop

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 44 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Clatsop County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a shorter surge that occurred September 2020 and peaked the week of September 14, 2020 with a case rate of 220 per 100,000. The second wave occurred between October 2020 and January 2021 and peaked the week of December 21, 2020 with a case rate of 147 per 100,000. In Stage 2, a small third wave occurred between March and April 2021, with the highest case rate (87 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (574 per 100,000) was seen, which occurred during the peak of this wave the week of August 2, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Clatsop County between December 2021 and February 2022. This fifth wave peaked the week of January 3, 2022 with a case rate of 847 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 44: Clatsop COVID-19 case rates

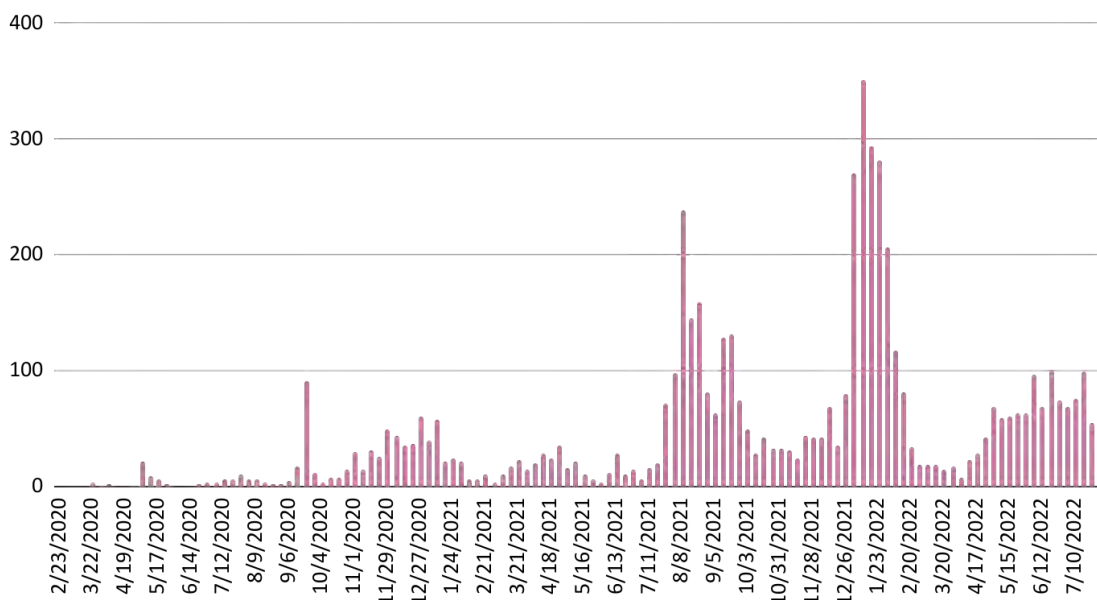




## Cases Over Time

Figure 45 presents Clatsop County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of September 20, 2020 with 91 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 238 cases. In Stage 3, COVID-19 cases peaked the week of January 2, 2022 with 351 cases. And during Stage 4, COVID-19 cases peaked the week of June 19, 2022 with 101 cases.

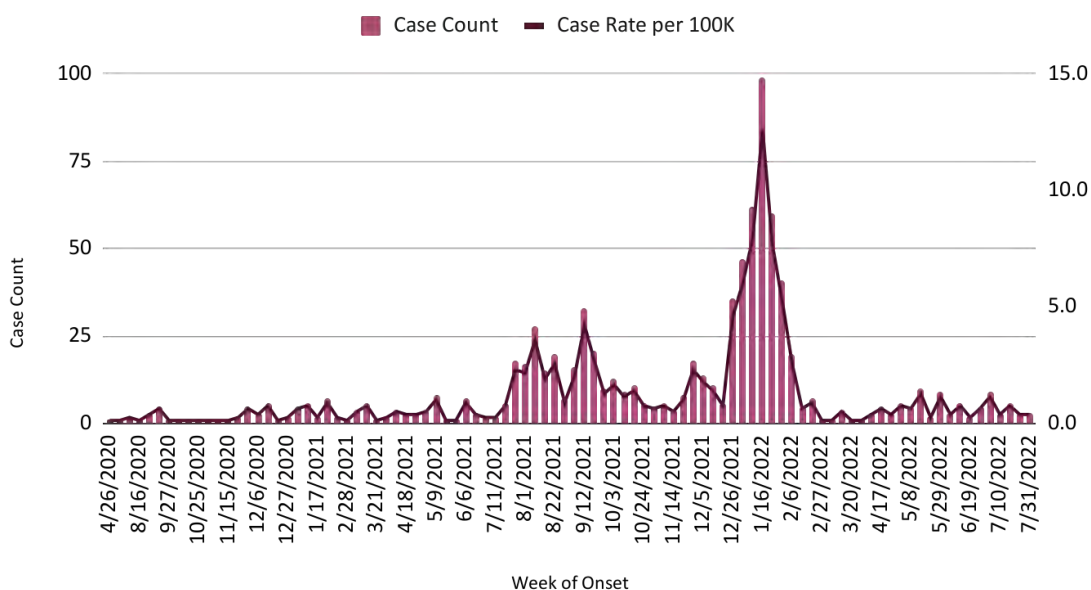
Figure 45: Clatsop Weekly COVID-19 cases over time



## Pediatric COVID-19 Cases and Case Rate Over Time

Figure 46 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Clatsop County. As of the week of July 31, 2022, there were 883 pediatric COVID-19 cases in Clatsop. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 1,226.1 per 100,000. Similar to other counties, there is a clear rise in the pediatric COVID-19 cases around August 2021, which remained relatively stable until the Omicron wave in Stage 3.

Figure 46: Clatsop pediatric COVID-19 cases and case rate over time



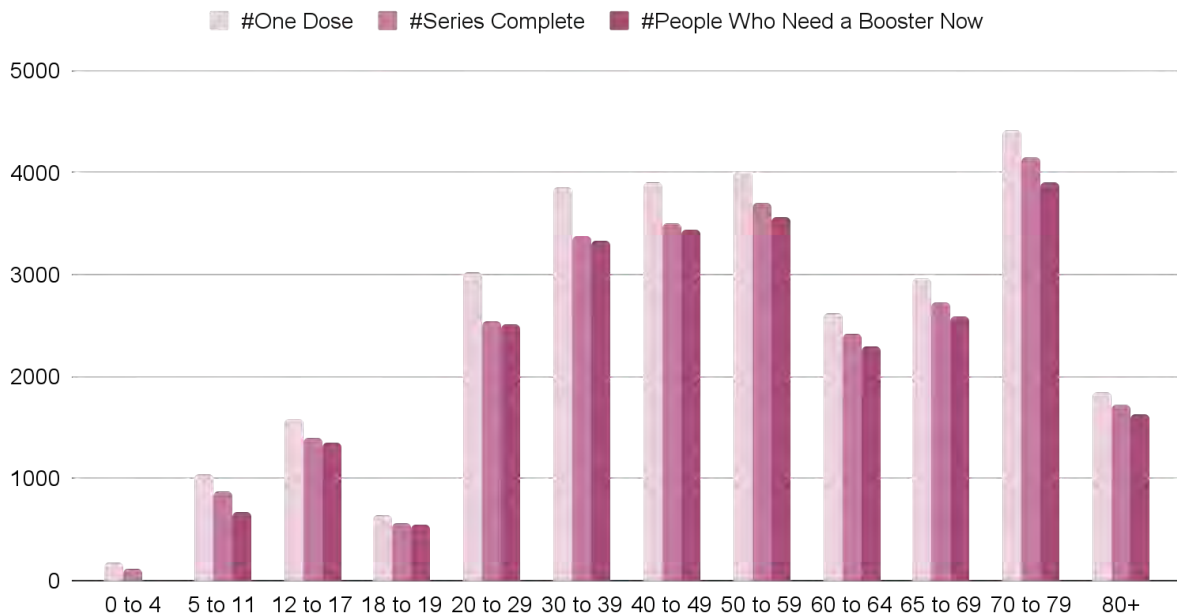
## Vaccination Status

As of August 24, 2022, Clatsop County had 71.9% of the county with one dose and 64.8% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 47 is a clustered column chart presenting Clatsop County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

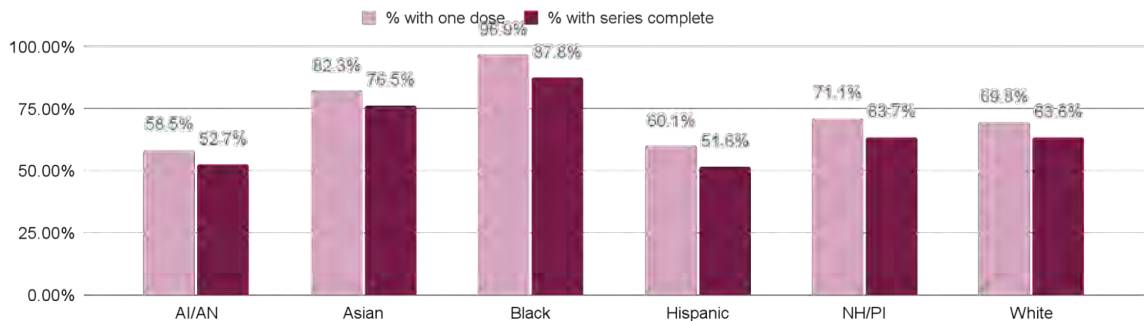
Figure 47: Clatsop Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 48 is a clustered column chart presenting Clatsop County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Clatsop County, individuals who identify as American Indian/Alaska Native have the lowest vaccination coverage, with 58.5% of individuals having at least one dose and 52.7% of individuals with a series complete.

Figure 48: Clatsop County % of population with one dose and % series complete by race



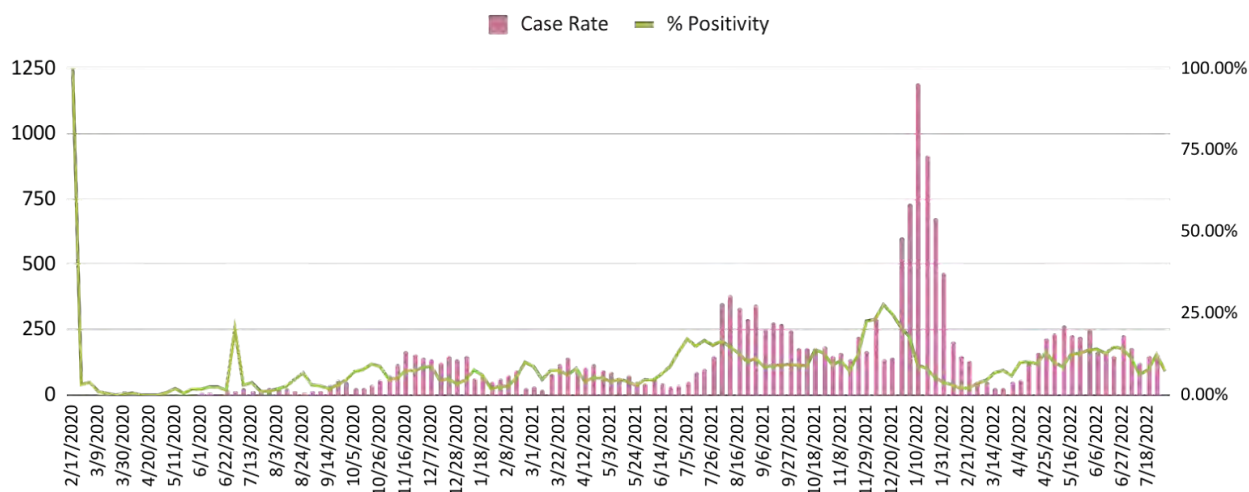
## Columbia

### Level of Community Spread

#### Case Rates and Case Positivity

Figure 49 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Columbia County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred in September and October 2020 and peaked the week of September 21, 2020 with a case rate of 58 per 100,000. The second wave occurred between October 2020 and February 2021 and peaked the week of November 16, 2020 with a case rate of 166 per 100,000. In Stage 2, a third wave occurred between March and April 2021, with the highest case rate (141 per 100,000) occurring the week of March 29, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (381 per 100,000) was seen, which occurred during the peak of this wave the week of August 9, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Columbia County between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,196 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

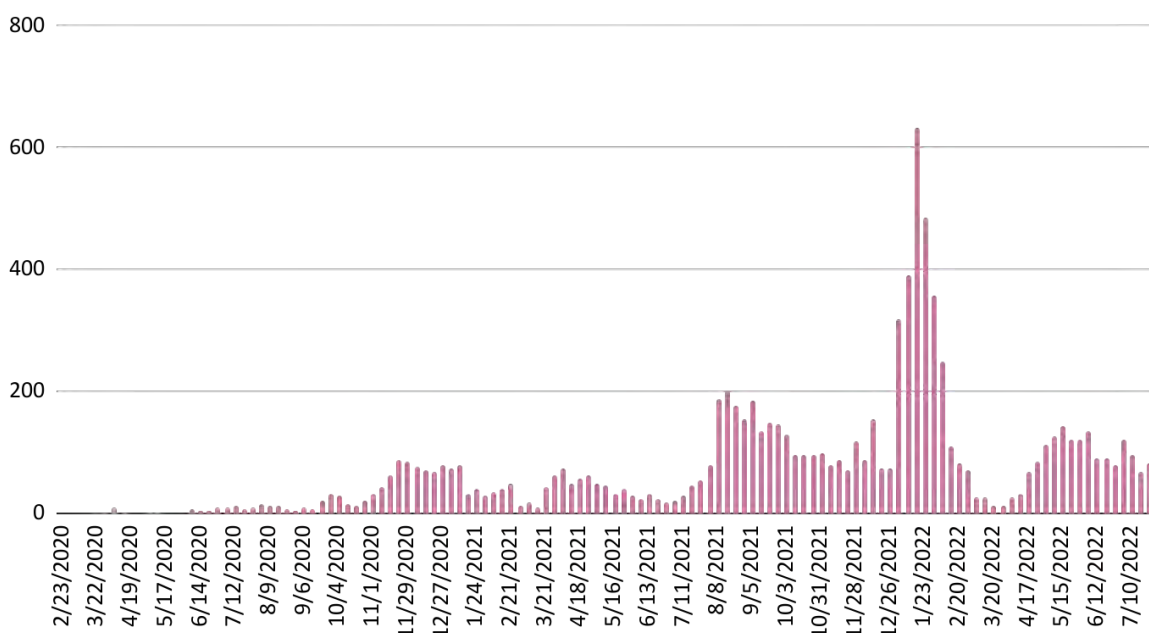
Figure 49: Columbia COVID-19 case rates



#### Cases Over Time

Figure 50 presents Columbia County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 22, 2020 with 88 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 202 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 634 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 143 cases.

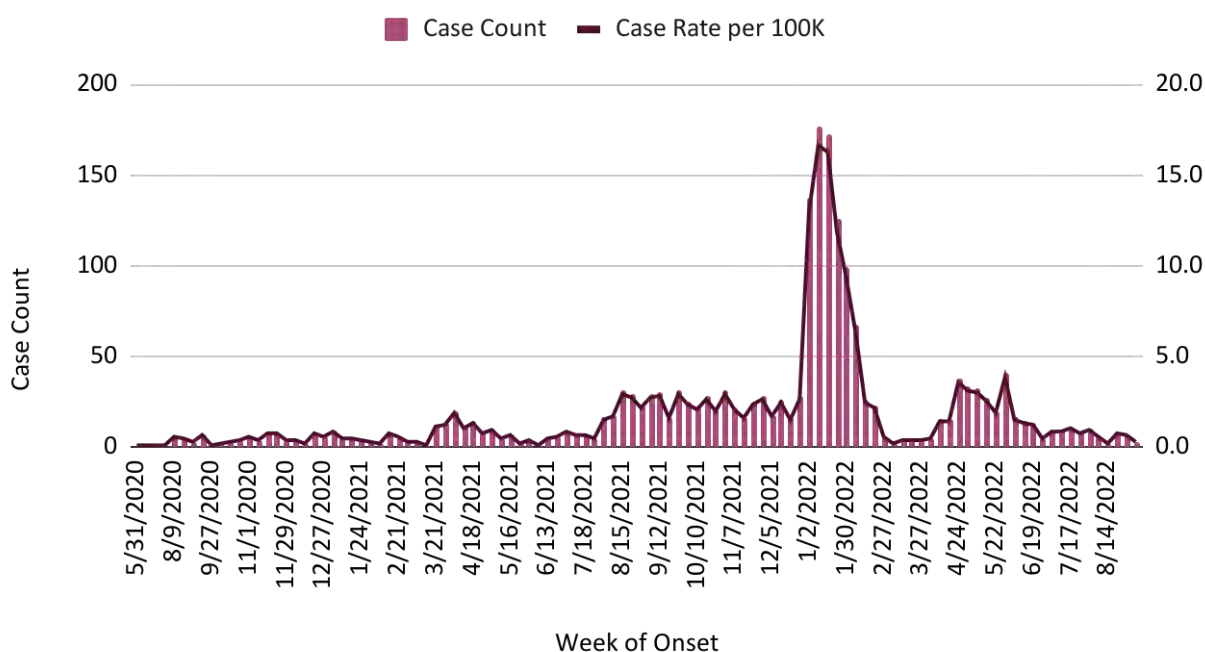
Figure 50: Columbia Weekly COVID-19 cases over time



### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 51 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Columbia County. As of the week of July 31, 2022, there were 1,981 pediatric COVID-19 cases in Columbia. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 1,665.4 per 100,000. Similar to other counties, there is a clear rise in the pediatric COVID-19 cases around August 2021, which remained relatively stable until the Omicron wave in Stage 3. There was another surge in pediatric COVID-19 cases during Stage 4 during March 2022.

Figure 51: Columbia pediatric COVID-19 cases and case rate over time



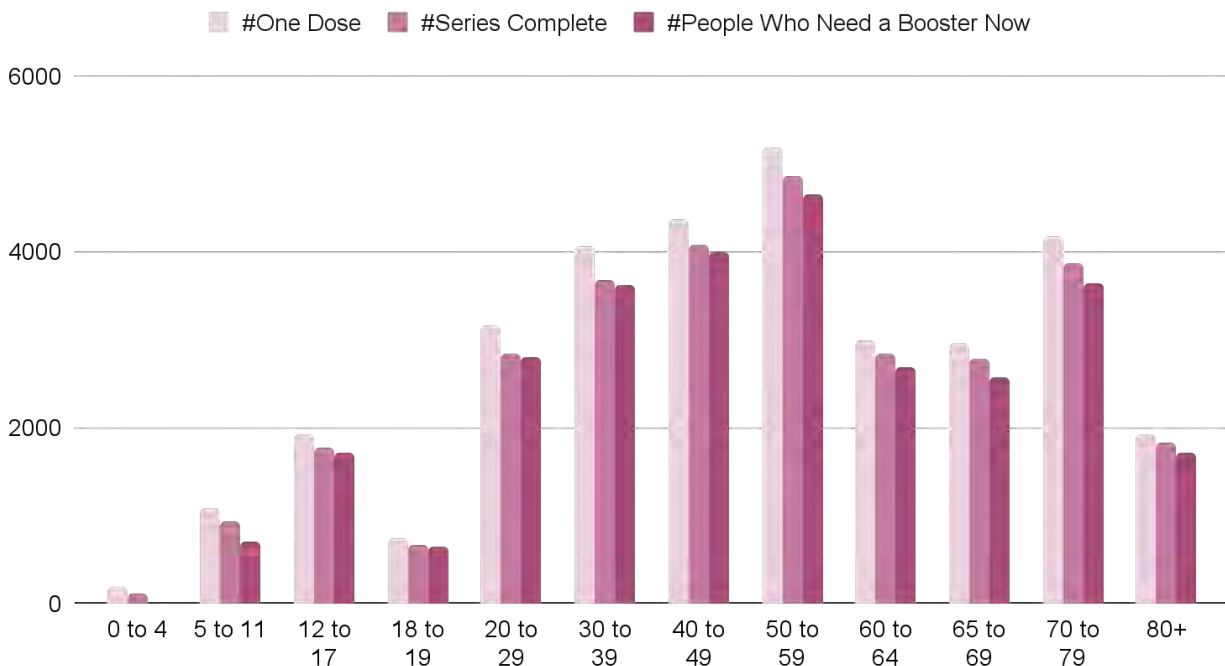
### Vaccination Status

As of August 24, 2022, Clatsop County had 61.2% of the county with one dose and 56.5% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 52 is a clustered column chart presenting Columbia County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

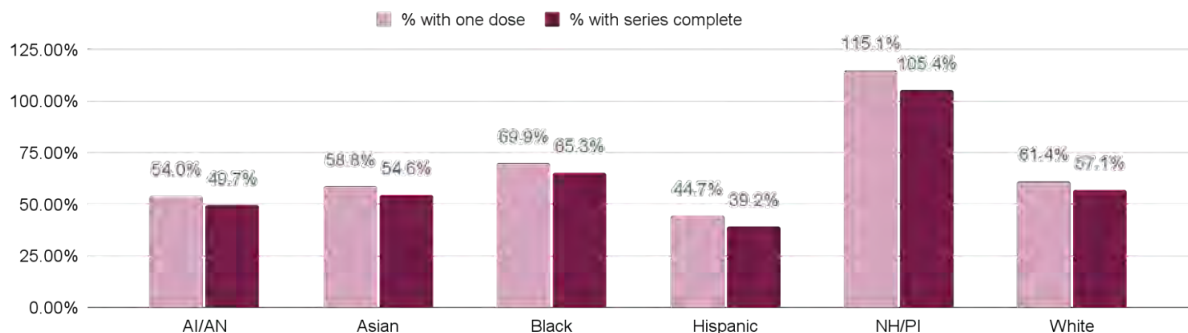
Figure 52: Columbia Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 53 is a clustered column chart presenting Columbia County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Columbia County, individuals who identify as Hispanic have the lowest vaccination coverage, with 44.7% of individuals having at least one dose and 39.2% of individuals with a series complete.

Figure 53: Columbia County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

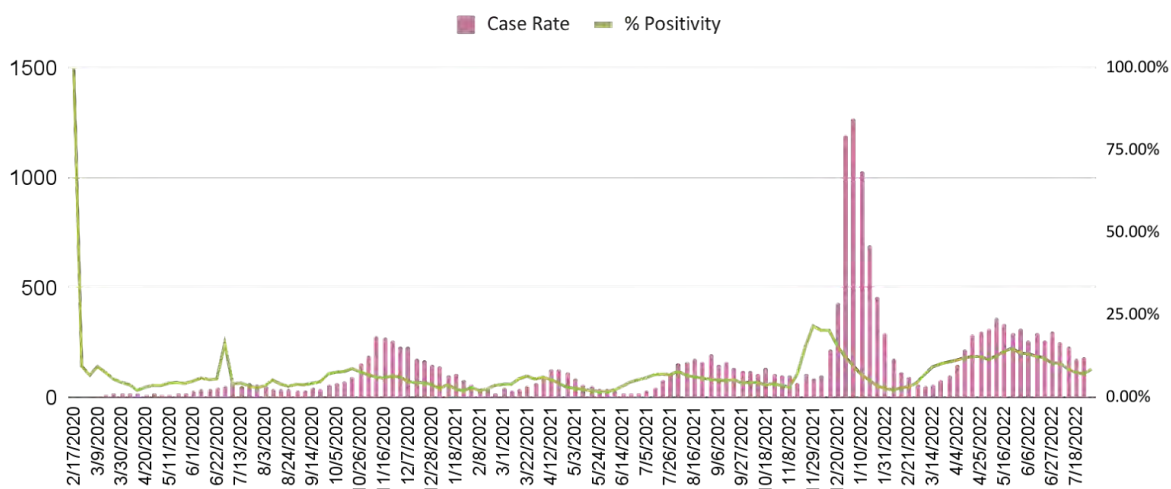
## Multnomah

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 54 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Multnomah County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between June and August 2020 and peaked the week of July 6, 2020 with a case rate of 72 per 100,000. The second wave occurred between October 2020 and February 2021 and peaked the week of November 9, 2020 with a case rate of 277 per 100,000. In Stage 2, a third wave occurred between March and April 2021, with the highest case rate (128 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 193 per 100,000 the week of August 30, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Multnomah County between December 2021 and February 2022. This fifth wave peaked the week of January 3, 2022 with a case rate of 1,271 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 54: Multnomah COVID-19 case rates

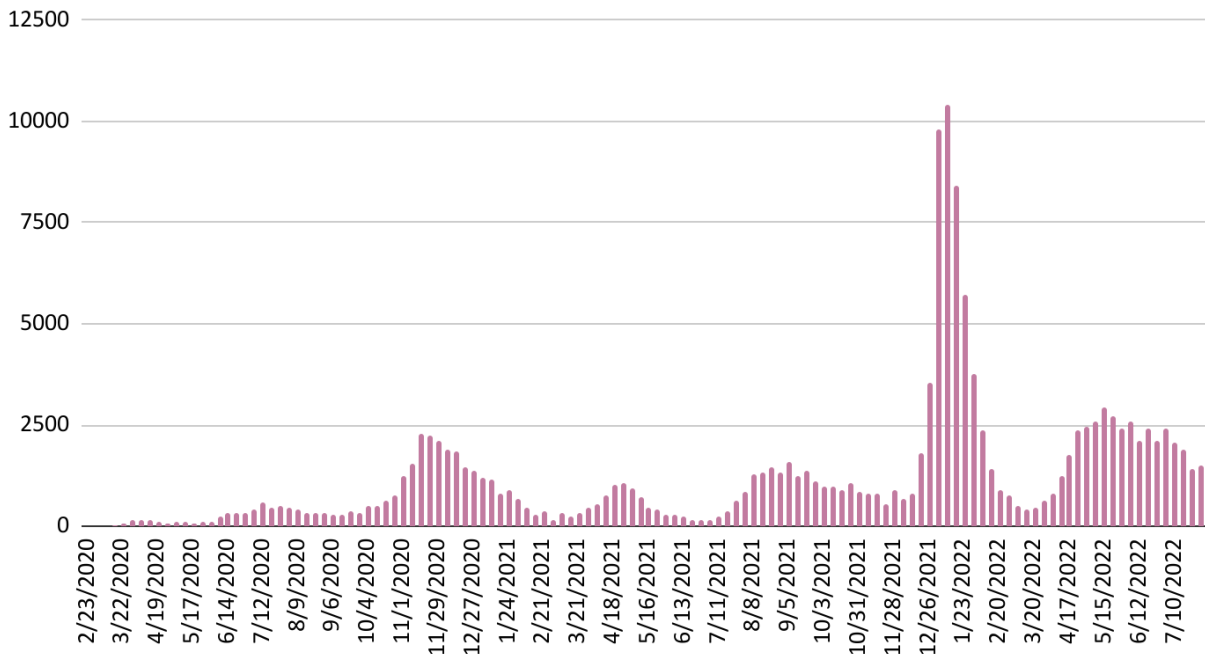


#### Cases Over Time

Figure 55 presents Multnomah County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 15, 2020 with 2,272 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 1,466 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 10,428 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 2,952 cases.



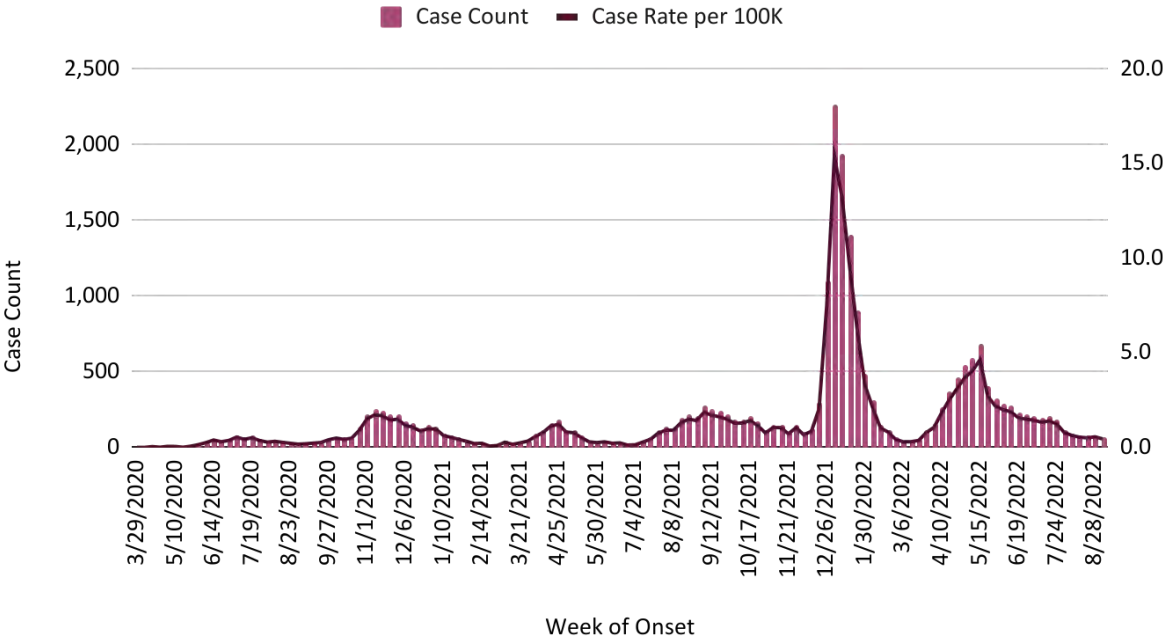
Figure 55: Multnomah Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 56 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Multnomah County. As of the week of July 31, 2022, there were 23,688 pediatric COVID-19 cases in Multnomah. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 2, 2022 with a case rate of 1,540.1 per 100,000. There is a rise in the pediatric COVID-19 cases around July 2021, which remained relatively stable until the Omicron wave in Stage 3. In Stage 4, there was a large surge between April 2022 and July 2022, peaking the week of May 15, 2022, with a case rate of 464.7 per 100,000.

Figure 56: Multnomah pediatric COVID-19 cases and case rate over time



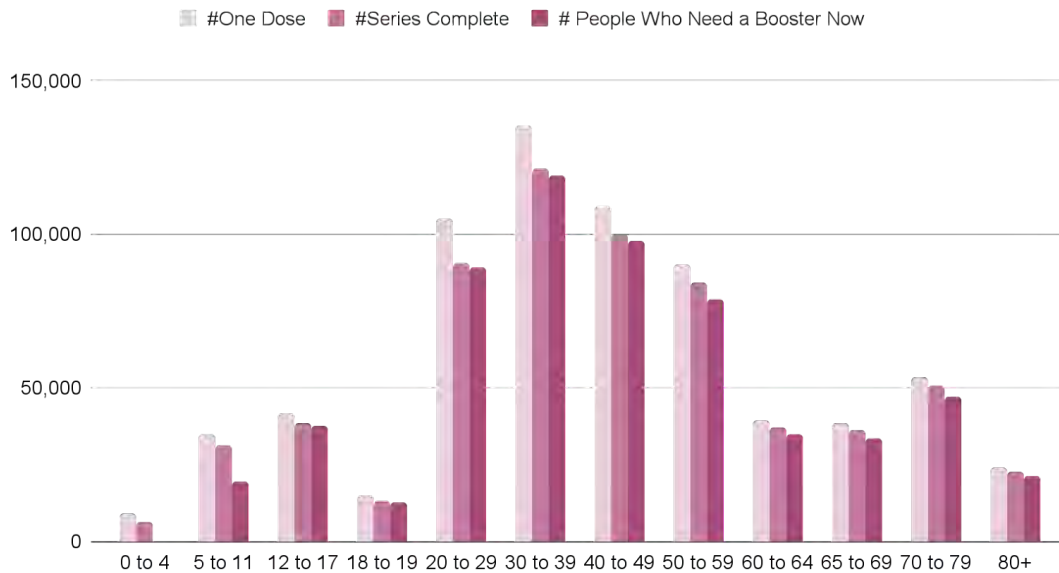
Vaccination Status

As of August 24, 2022, Multnomah County had 83.9% of the county with one dose and 76.2% with a series complete.

COVID-19 Vaccination Status by Age

Figure 57 is a clustered column chart presenting Multnomah County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

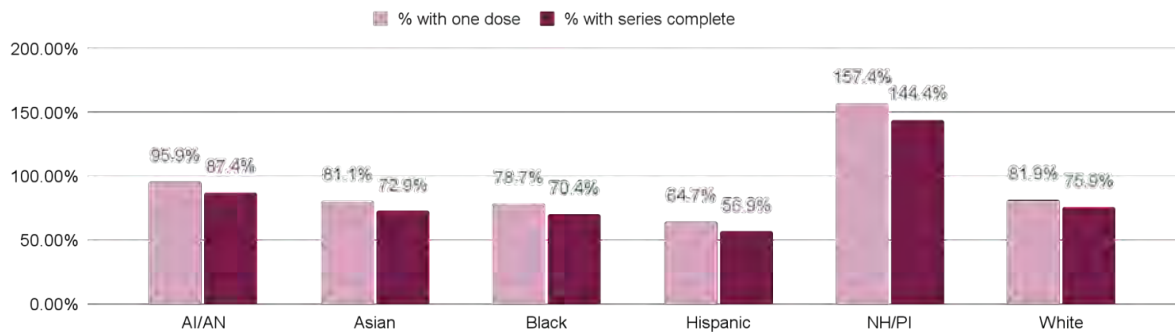
Figure 57: Multnomah Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 58 is a clustered column chart presenting Multnomah County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Multnomah County, individuals who identify as American Indian/Alaska Native have the lowest vaccination coverage, with 64.7% of individuals having at least one dose and 56.9% of individuals with a series complete.

Figure 58: Multnomah County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

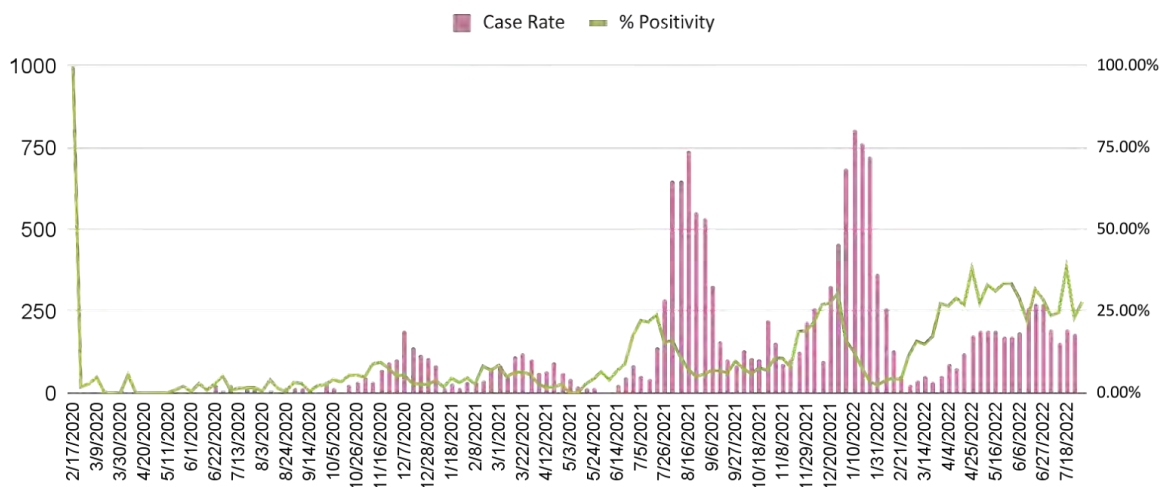
## Tillamook

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 59 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Tillamook County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Tillamook County occurred between October and December 2020 and peaked the week of December 7, 2020 with a case rate of 192 per 100,000. The second wave that occurred between February and May 2021 was smaller and peaked the week of March 22, 2021 with a case rate of 119 per 100,000. In Stage 2, the third wave occurred between July and September 2021 during increasing incidence of the Delta variant, with the highest case rate (742 per 100,000) occurring the week of August 16, 2021. The fourth wave was seen between November 2021-February 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (805 per 100,000) was seen, which occurred during the peak of this wave the week of January 10, 2022. The fifth wave was seen in Tillamook County starting in April 2022 and appears to be ongoing as of July 2022 data.

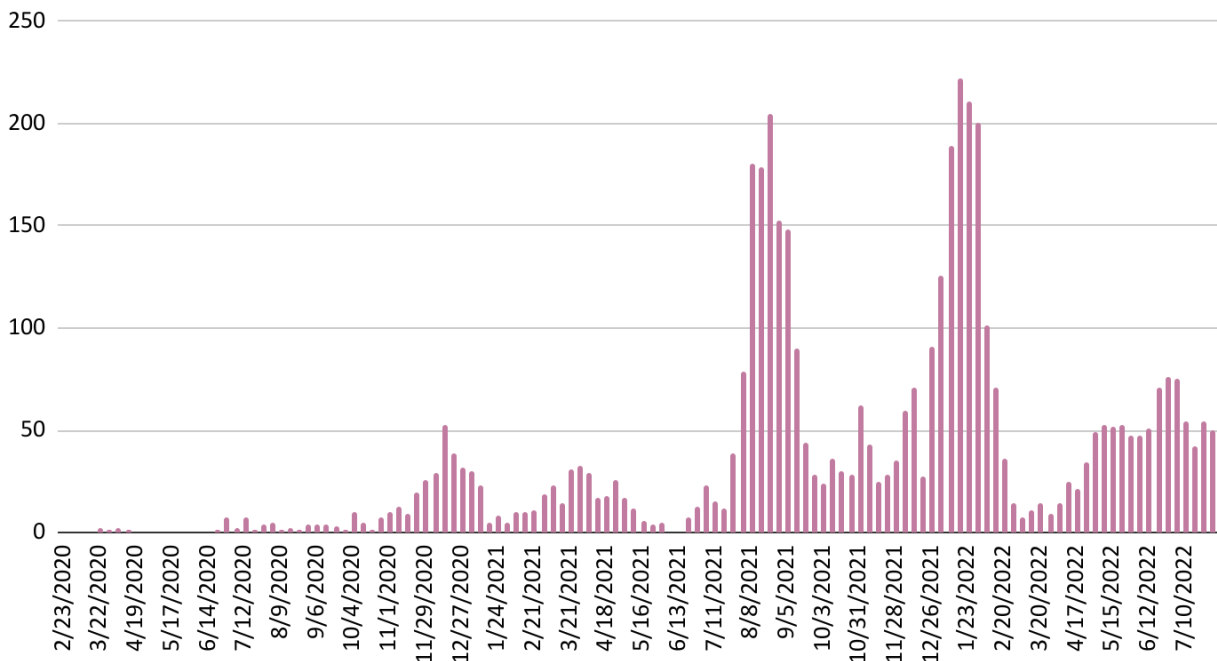
Figure 59: Tillamook COVID-19 case rates



#### Cases Over Time

Figure 60 presents Tillamook County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 26 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 205 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 222 cases. And during Stage 4, COVID-19 cases peaked the week of June 26, 2022 with 76 cases.

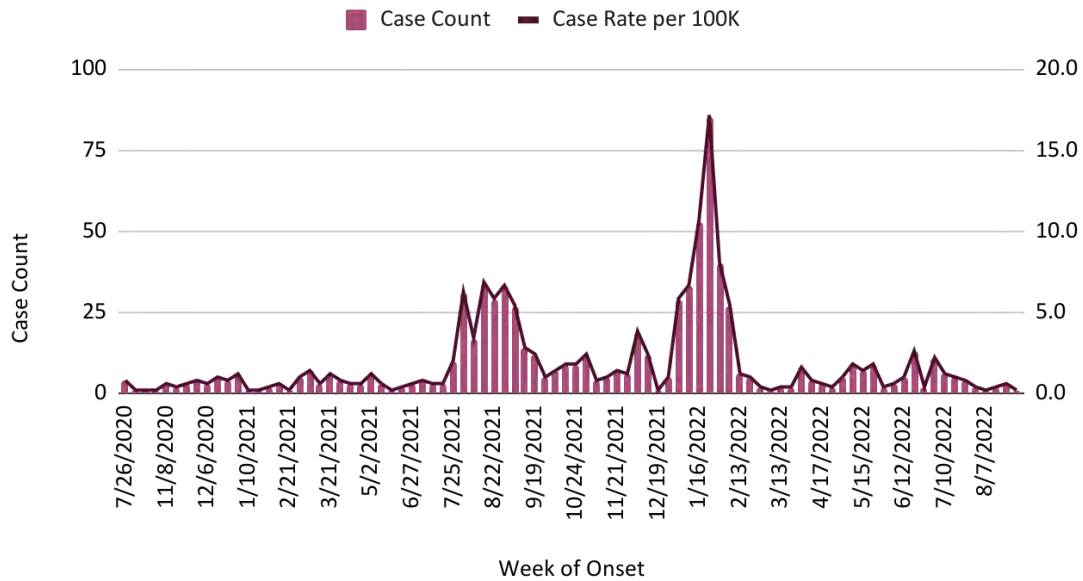
Figure 60: Tillamook Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 61 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Tillamook County. As of the week of July 31, 2022, there were 794 pediatric COVID-19 cases in Tillamook County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 23, 2022 with a case rate of 1,718.2 per 100,000. There was a surge in the pediatric COVID-19 cases around July 2021, which remained relatively stable until the Omicron wave in Stage 3.

Figure 61: Tillamook pediatric COVID-19 cases and case rate over time



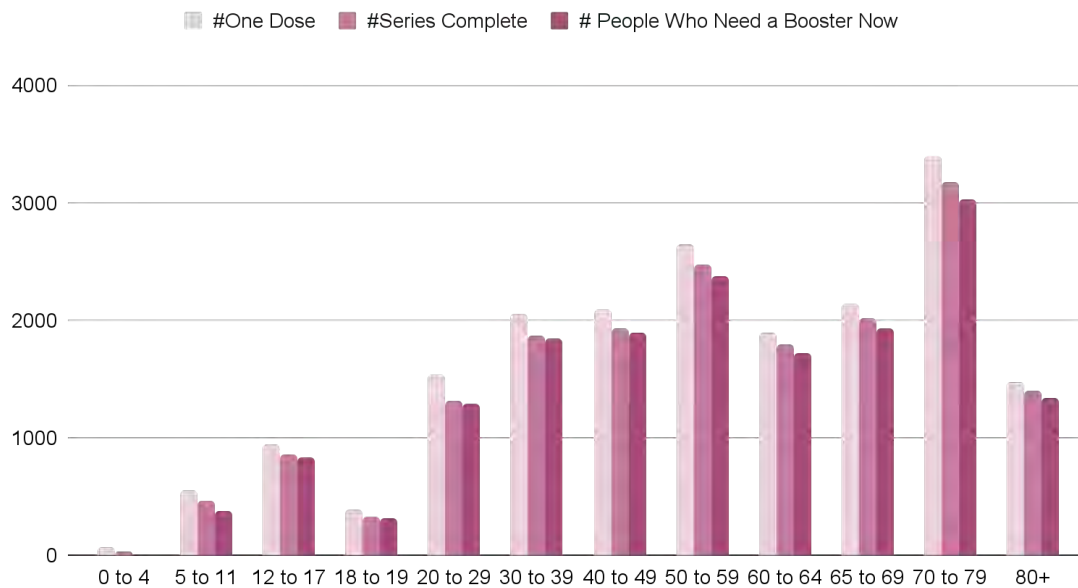
### Vaccination Status

As of August 24, 2022, Tillamook County had 68.7% of the county with one dose and 63.2% with a series complete.

### COVID-19 Vaccination Status by Age

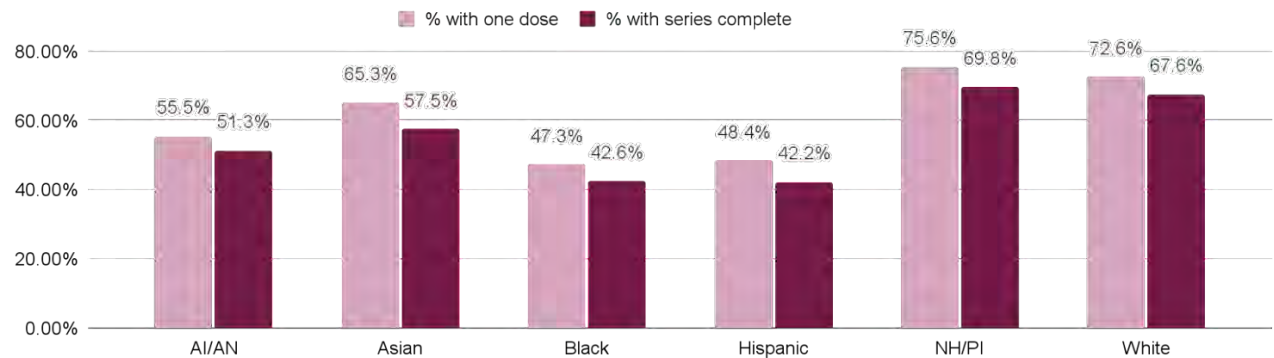
Figure 62 is a clustered column chart presenting Tillamook County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

Figure 62: Tillamook Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 63: Tillamook County % of population with one dose and % series complete by race



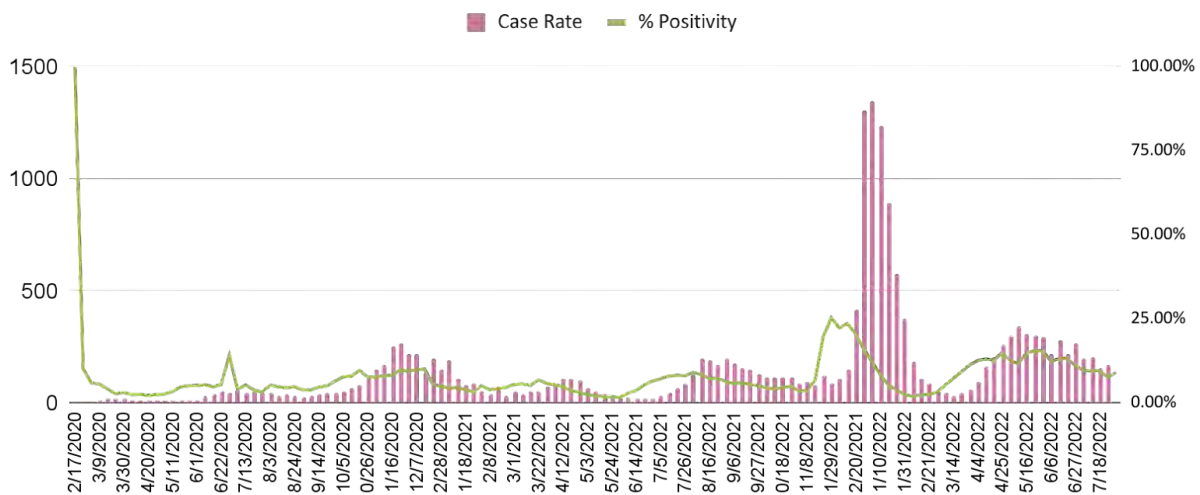
## Washington

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 64 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Washington County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between June and August 2020 and peaked the week of July 6, 2020 with a case rate of 59 per 100,000. The second wave occurred between October 2020 and February 2021 and peaked the week of November 23, 2020 with a case rate of 264 per 100,000. In Stage 2, a third wave occurred between March and April 2021, with the highest case rate (105 per 100,000) occurring the week of April 12, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 197 per 100,000 the week of August 30, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Washington County between December 2021 and February 2022. This fifth wave peaked the week of January 3, 2022 with a case rate of 1,349 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 64: Washington COVID-19 case rates

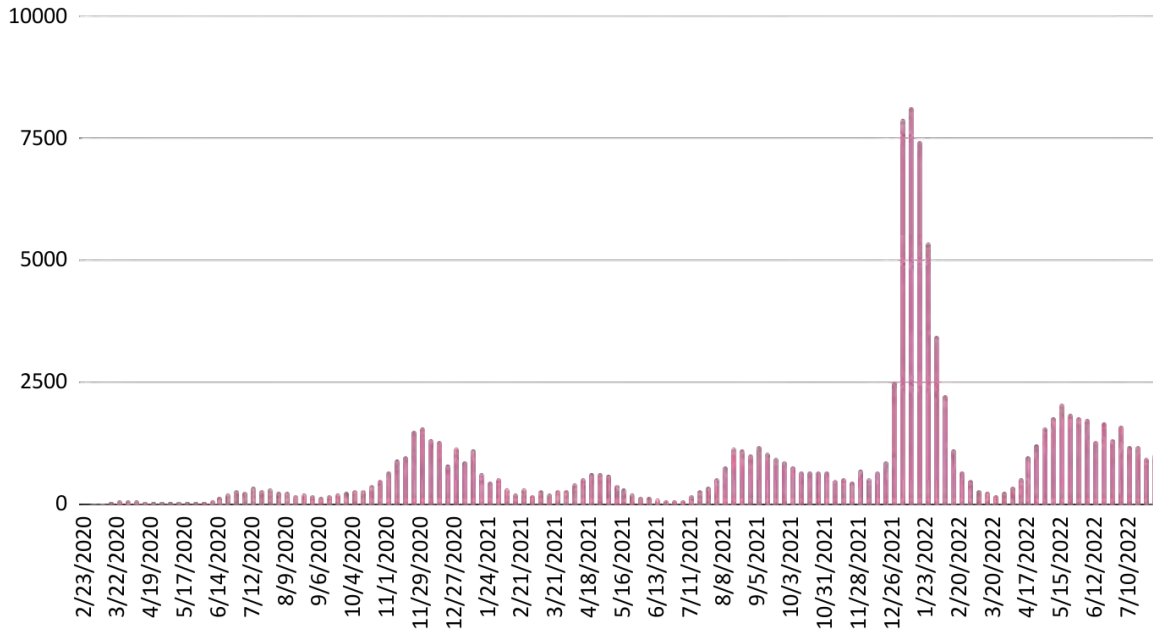




## Cases Over Time

Figure 65 presents Washington County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 1,599 cases. During Stage 2, COVID-19 cases peaked the week of September 5, 2021 with 1,193 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 8,162 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 2,074 cases.

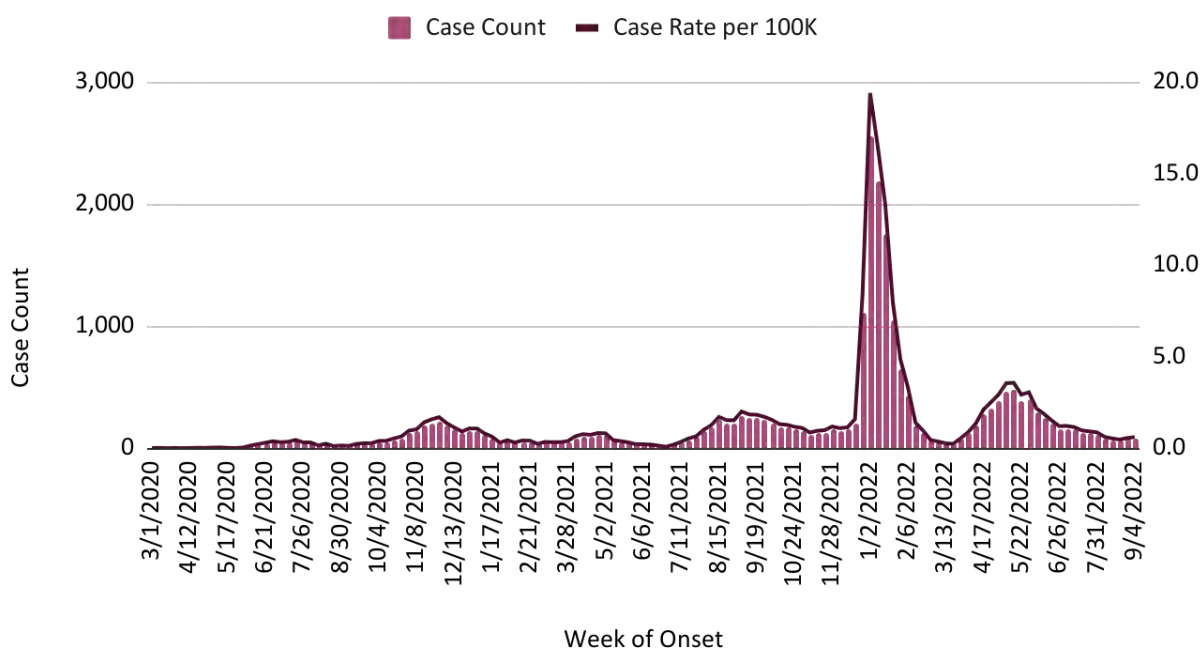
Figure 65: Washington Weekly COVID-19 cases over time



### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 66 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Washington County. As of the week of July 31, 2022, there were 22,884 pediatric COVID-19 cases in Washington County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 2, 2022 with a case rate of 1,940.6 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 5, 2021 with a COVID-19 case rate of 200.9 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked the week of May 5, 2022, with 357.8 COVID-19 cases per 100,000.

Figure 66: Washington pediatric COVID-19 cases and case rate over time



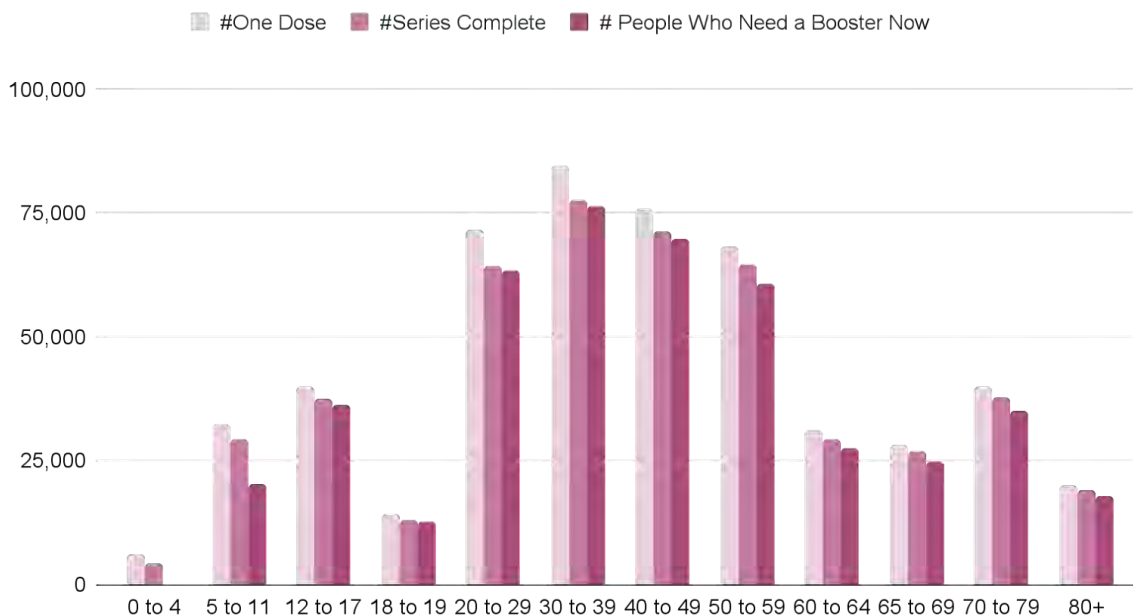
### Vaccination Status

As of August 24, 2022, Washington County had 83.6% of the county with one dose and 77.6% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 67 is a clustered column chart presenting Washington County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

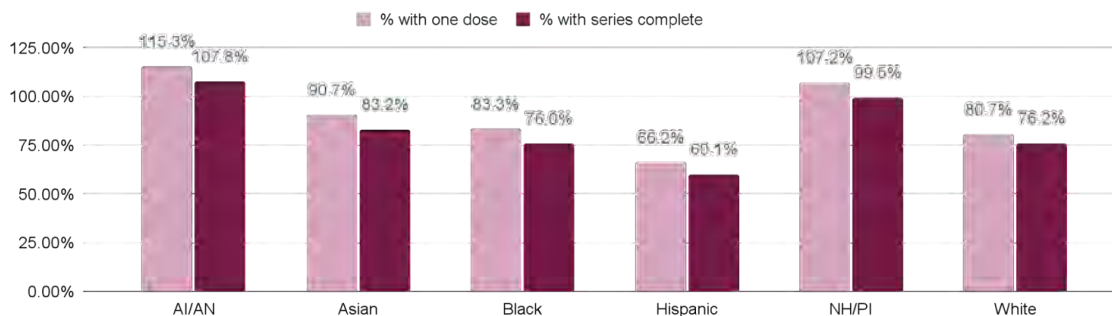
Figure 67: Washington Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 68 is a clustered column chart presenting Washington County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Washington County, individuals who identify as Hispanic have the lowest vaccination coverage, with 66.2% of individuals having at least one dose and 60.1% of individuals with a series complete.

Figure 68: Washington County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

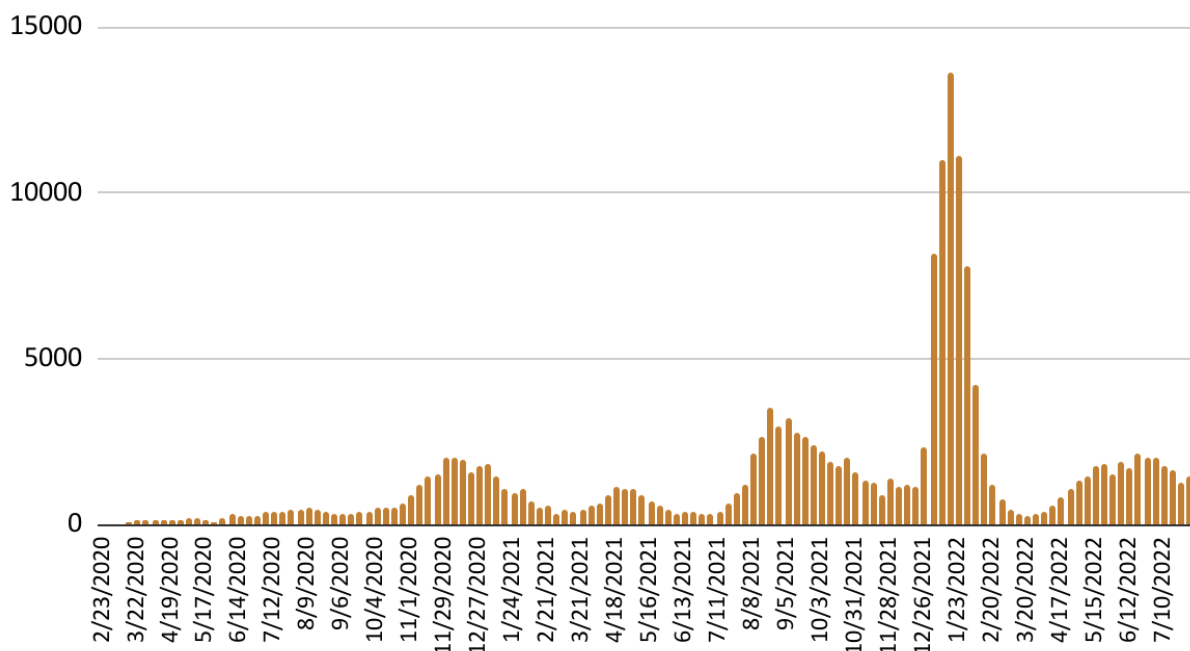
## Region 2

### Regional Data

#### Region 2 Level of Community Spread

Figure 69 is a column chart that presents weekly COVID-19 cases for Region 2. As of the week of July 31st, 2022, Region 2 has seen a total of 176,802 COVID-19 cases. Similar to statewide COVID-19 cases, Region 2 saw 6 distinct waves. Region 2 experienced the highest number of COVID-19 cases during the fifth (Omicron) wave. During the week of January 16, 2022, Region 2 had a total of 13,617 COVID-19 cases.

Figure 69: Region 2 Weekly COVID-19 cases over time



#### Region 2 Vaccination Status

Figure 70 is a stacked column chart that displays the number of individuals who have their COVID-19 vaccination series completed by age group in Region 2. As of September 30, 2022, adults aged 20 to 29 have the most number of individuals with a COVID-19 vaccination series

complete. A large percentage of 50 to 59 year olds have completed a COVID-19 series.

Figure 70: Region 2 number of COVID-19 vaccination series complete by age

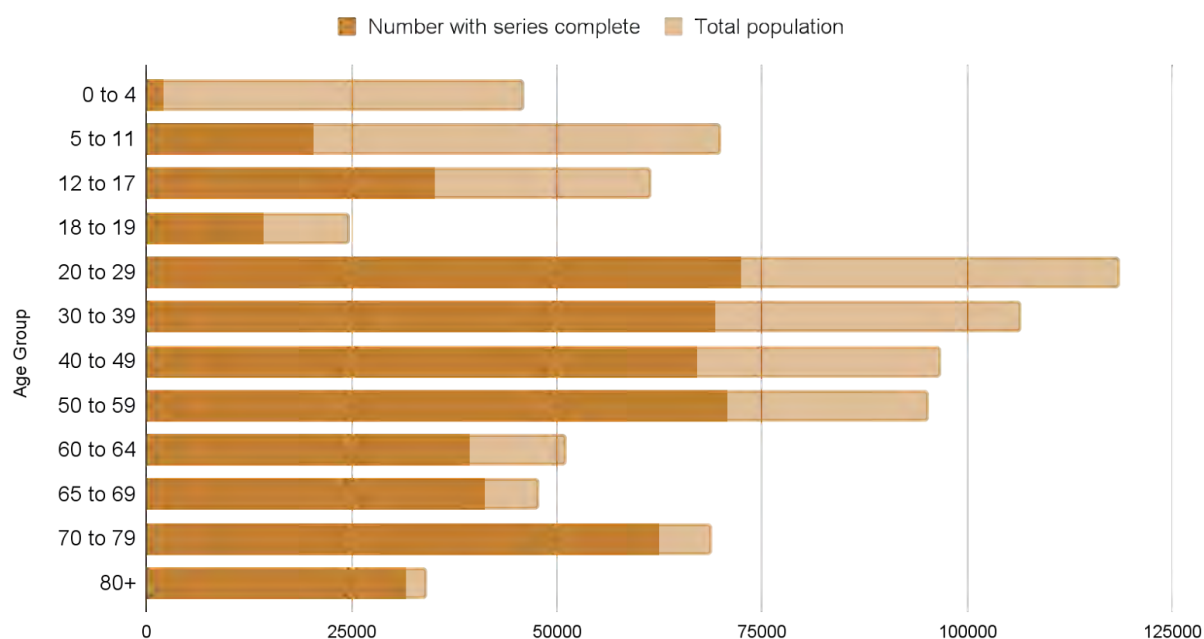
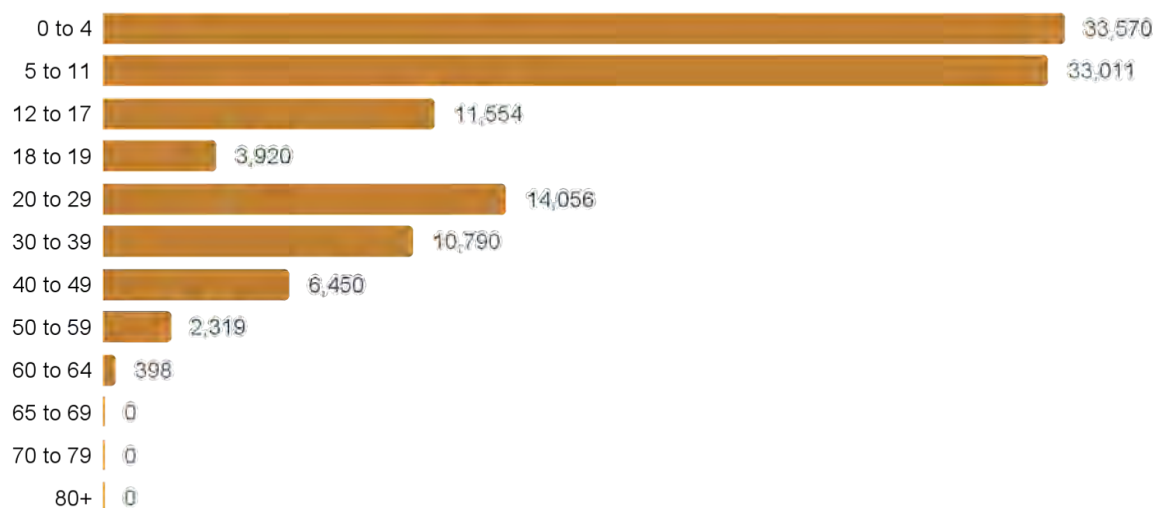


Figure 71 is a bar chart displaying the total number of people needed to reach 80% vaccinated by each age category in Region 2. For adults aged 65 and older, over 80% of the population is vaccinated and thus, there are 0 people remaining. The age groups with the largest number of people needed to reach 80% vaccinated are children aged 0-4 years of age (n=33,570), followed by children ages 5-11 years of age (n=33,011) and adults ages 20-29 years of age (n=14,056).

Figure 71: Region 2 number of people needed to reach 80% vaccinated, by age



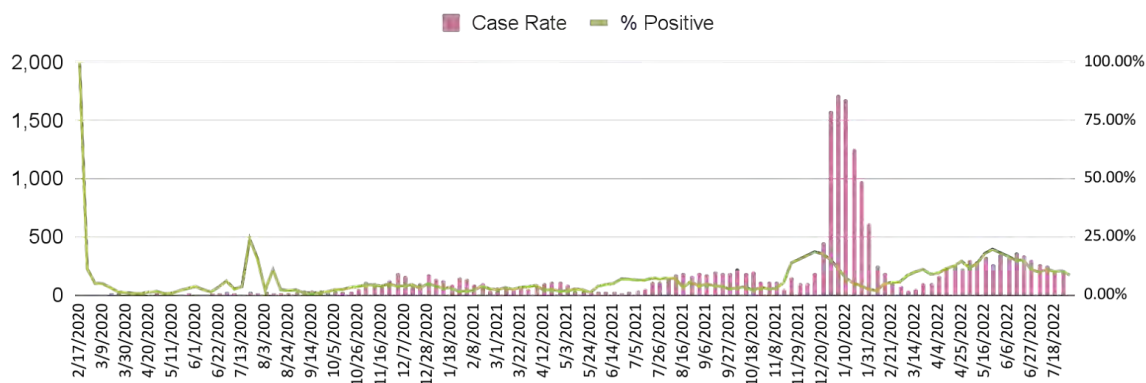
## Benton

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 72 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Benton County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Benton County occurred between October 2020 and February 2021 and peaked the week of November 30, 2020 with a case rate of 182 per 100,000. The second wave that occurred between March and May 2021 was smaller and peaked the week of April 26, 2021 with a case rate of 110 per 100,000. The third wave occurred between July and November 2021 during increasing incidence of the Delta variant, with the highest case rate (227 per 100,000) occurring the week of October 4, 2021. The fourth wave was seen between December 2021-February 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (1,720 per 100,000) was seen, which occurred during the peak of this wave the week of January 3, 2022. The fifth wave was seen in Benton County starting in April 2022 and appears to be ongoing as of July 2022 data.

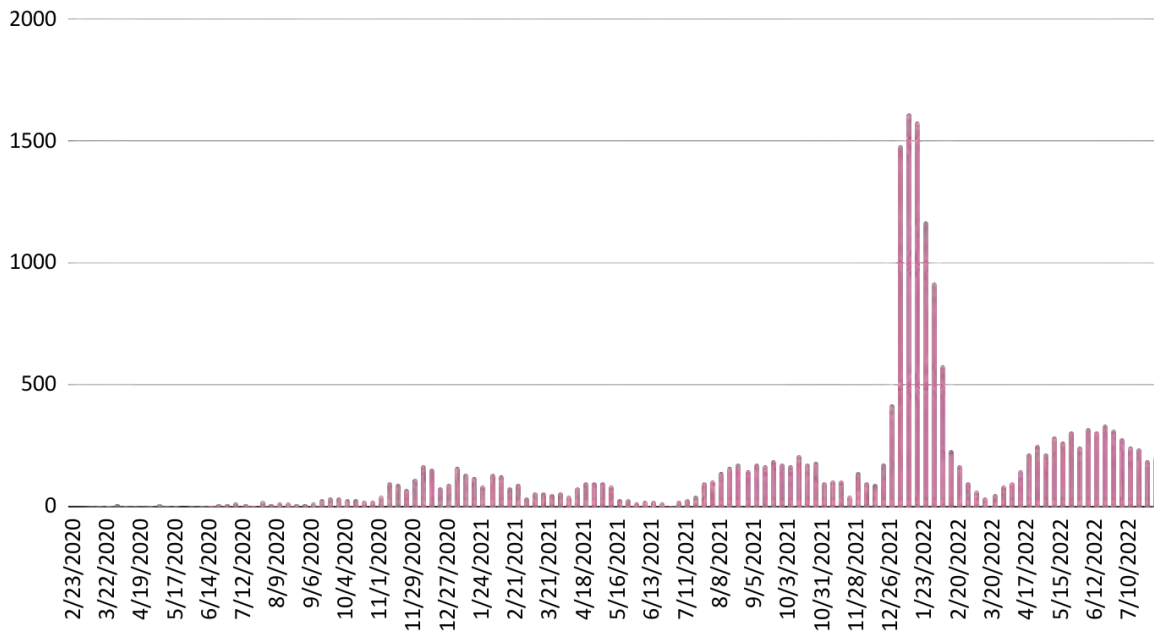
Figure 72: Benton COVID-19 case rates



#### Cases Over Time

Figure 73 presents Benton County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 112 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 175 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 1,616 cases. And during Stage 4, COVID-19 cases peaked the week of June 9, 2022 with 341 cases.

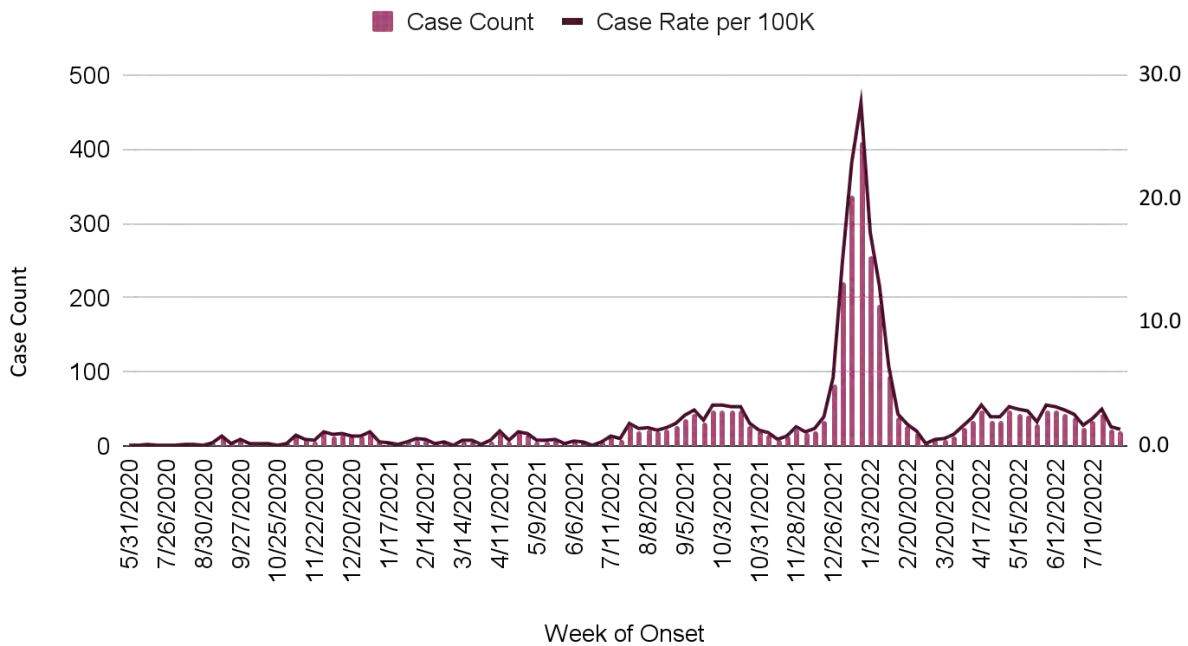
Figure 73: Benton Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 74 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Benton County. As of the week of July 31, 2022, there were 3,338 pediatric COVID-19 cases in Benton County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 2,771 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 26, 2021 with a COVID-19 case rate of 332 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between March and July 2022, which peaked mid-June, 2022, with 332 COVID-19 cases per 100,000.

Figure 74: Benton pediatric COVID-19 cases and case rate over time



### Vaccination Status

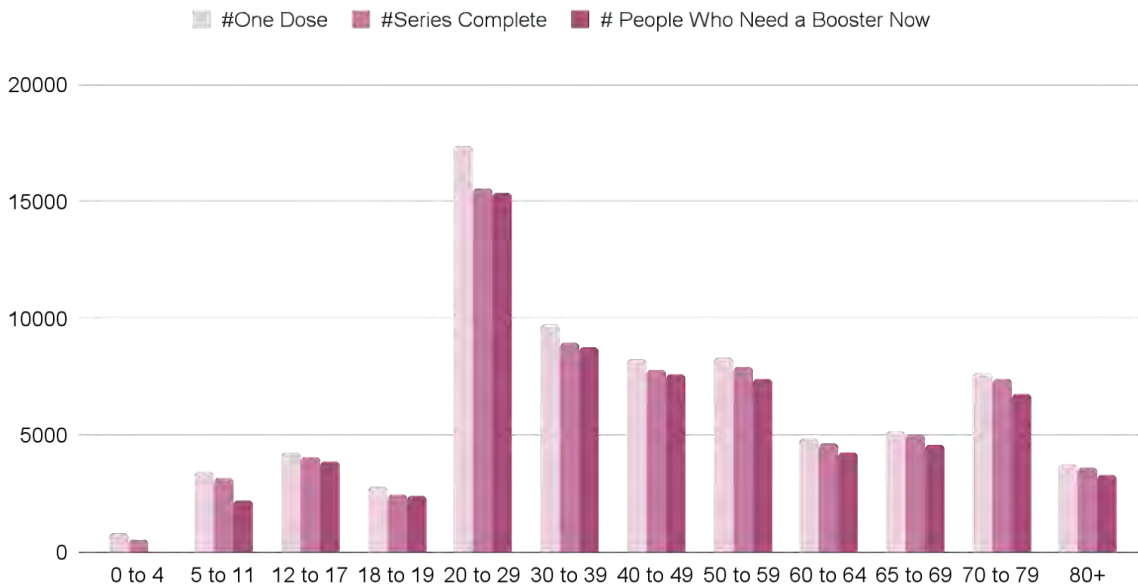
As of August 24, 2022, Benton County had 80.4% of the county with one dose and 74.8% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 75 is a clustered column chart presenting Benton County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.



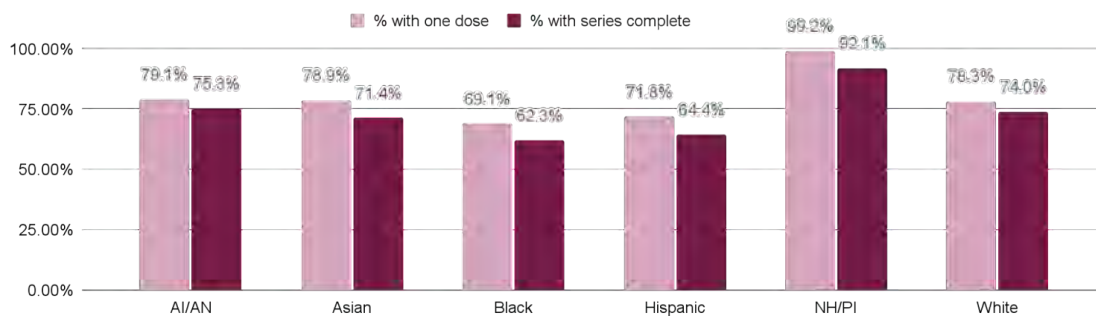
Figure 75: Benton Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 76 is a clustered column chart presenting Benton County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Benton County, individuals who identify as Black have the lowest vaccination coverage, with 69.1% of individuals having at least one dose and 62.3% of individuals with a series complete.

Figure 76: Benton County % of population with one dose and % series complete by race



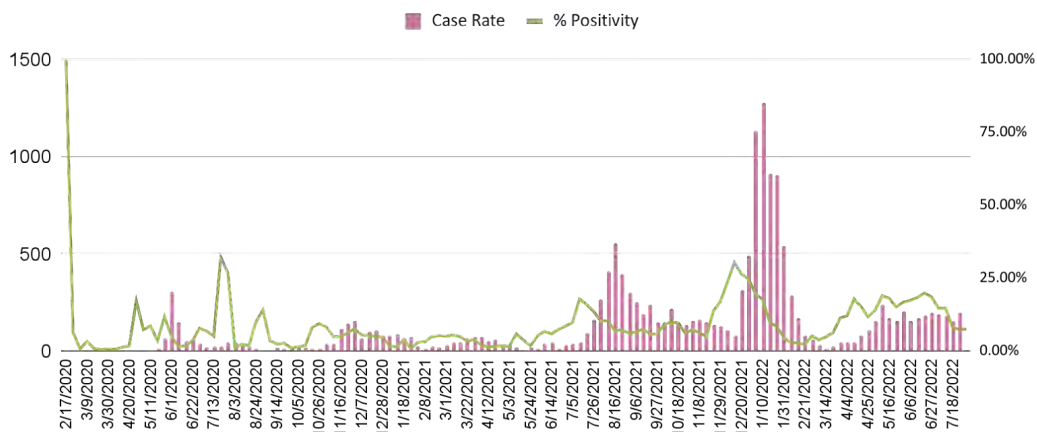
## Lincoln

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 77 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Lincoln County saw six surges of COVID-19 cases. The first wave of COVID-19 cases occurred in June 2020 and peaked the week of June 1, 2020 with a case rate of 306 per 100,000. The second wave occurred between October 2020 and February 2021 and peaked the week of November 30, 2020 with a case rate of 151 per 100,000. In Stage 2, a third wave occurred between March and May 2021, with the highest case rate (71 per 100,000) occurring the week of March 29, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 556 per 100,000 the week of August 16, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Lincoln County between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,275 per 100,000. The sixth wave started in April 2022 and appears to be ongoing as of July 2022 data.

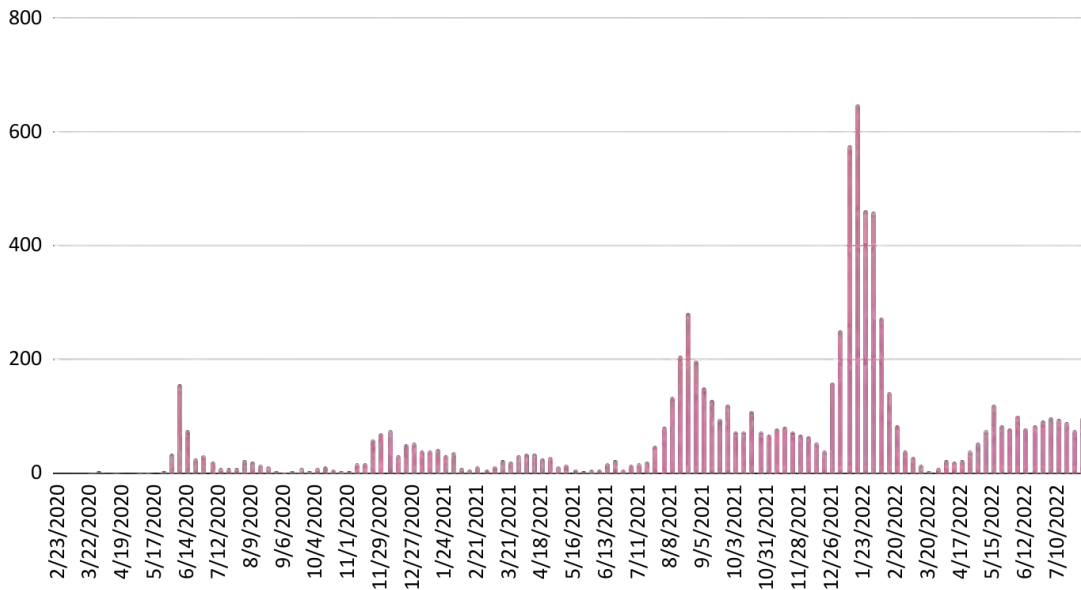
Figure 77: Lincoln COVID-19 case rates



#### Cases Over Time

Figure 78 presents Lincoln County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of June 7, 2020 with 156 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 283 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 649 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 122 cases.

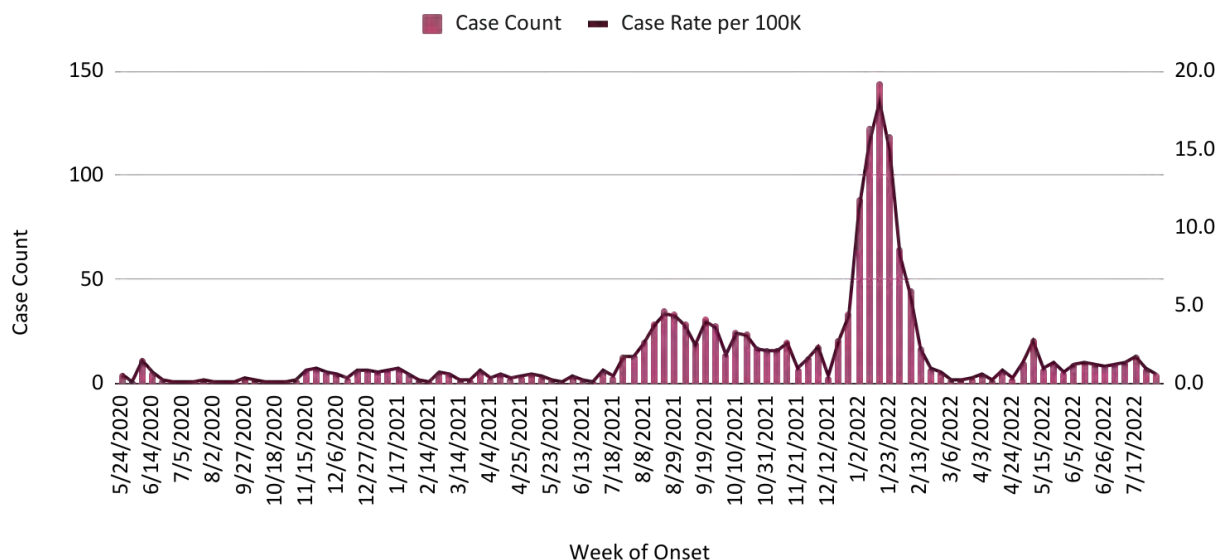
Figure 78: Lincoln Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 79 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Lincoln County. As of the week of July 31, 2022, there were 1,477 pediatric COVID-19 cases in Lincoln County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,804.8 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 22, 2021 with a COVID-19 case rate of 448.1 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked May 8, 2022, with 273.8 COVID-19 cases per 100,000.

Figure 79: Lincoln pediatric COVID-19 cases and case rate over time



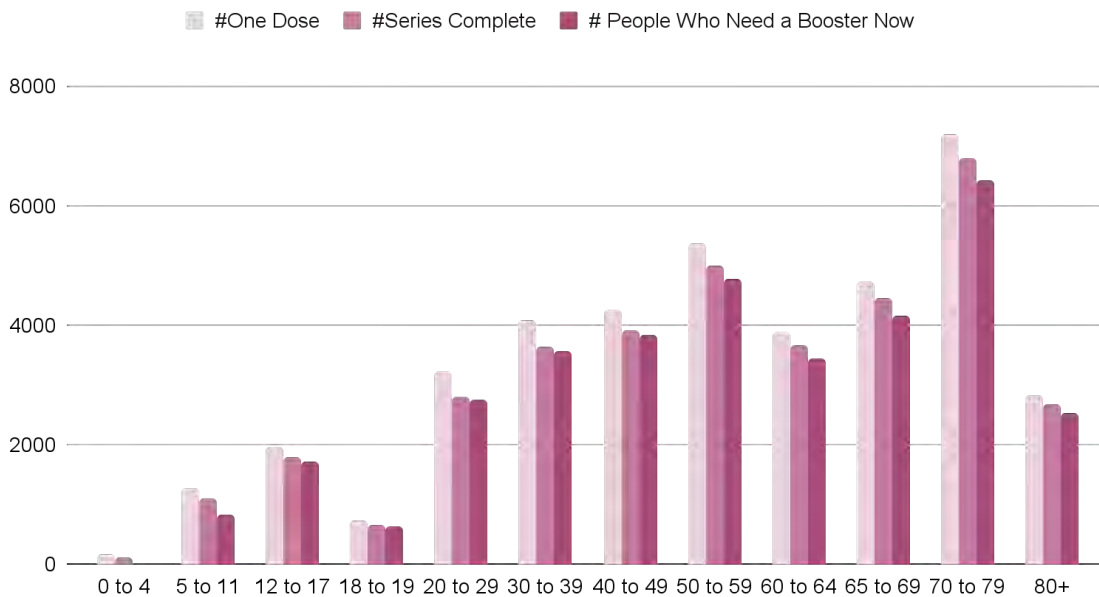
## Vaccination Status

As of August 24, 2022, Lincoln County had 77.2% of the county with one dose and 70.0% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 80 is a clustered column chart presenting Lincoln County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

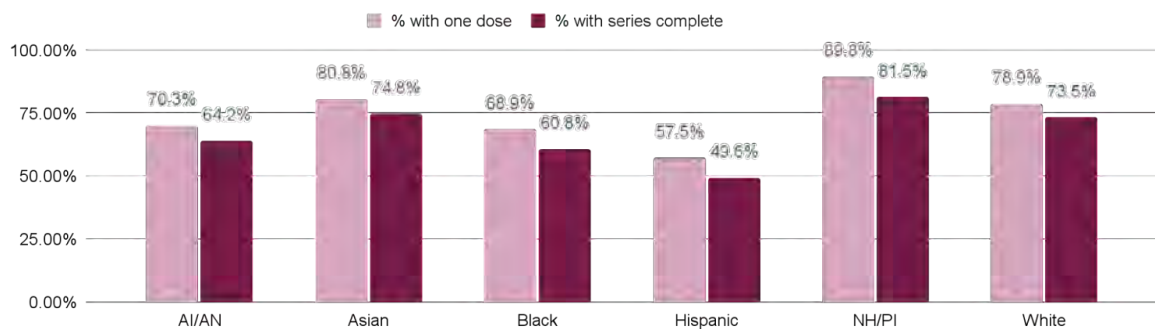
Figure 80: Lincoln Vaccination status by age



### COVID-19 Vaccination Status by Race

Figure 81 is a clustered column chart presenting Lincoln County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Lincoln County, individuals who identify as Hispanic have the lowest vaccination coverage, with 57.5% of individuals having at least one dose and 49.6% of individuals with a series complete.

Figure 81: Lincoln County % of population with one dose and % series complete by race



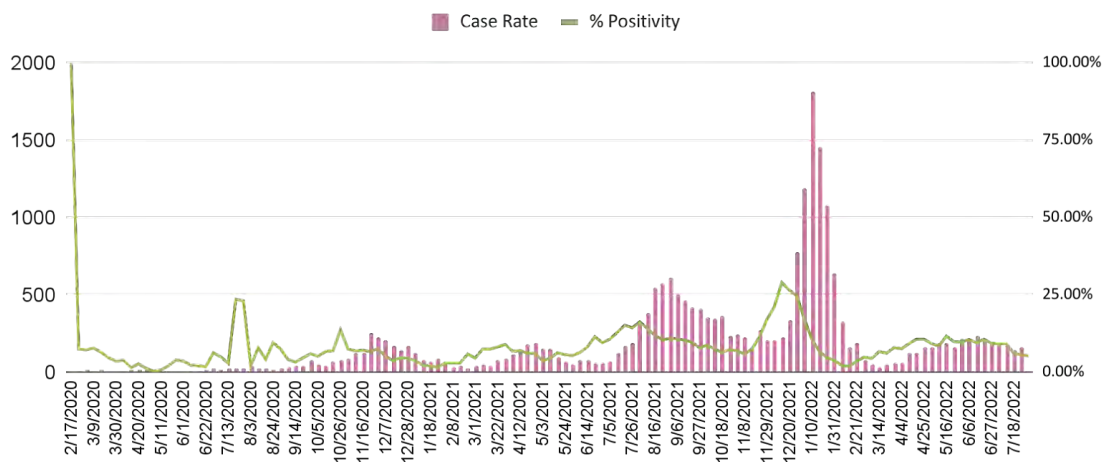
## Linn

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 82 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Linn County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Benton County occurred between October 2020 and January 2021 and peaked the week of November 23, 2020 with a case rate of 256 per 100,000. The second wave that occurred between March and May 2021 was smaller and peaked the week of April 26, 2021 with a case rate of 191 per 100,000. The third wave occurred between July and November 2021 during increasing incidence of the Delta variant, with the highest case rate (606 per 100,000) occurring the week of August 30, 2021. The fourth wave was seen between December 2021-February 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (1,812 per 100,000) was seen, which occurred during the peak of this wave the week of January 10, 2022. The fifth wave was seen in Linn County starting in April 2022 and appears to be ongoing as of July 2022 data.

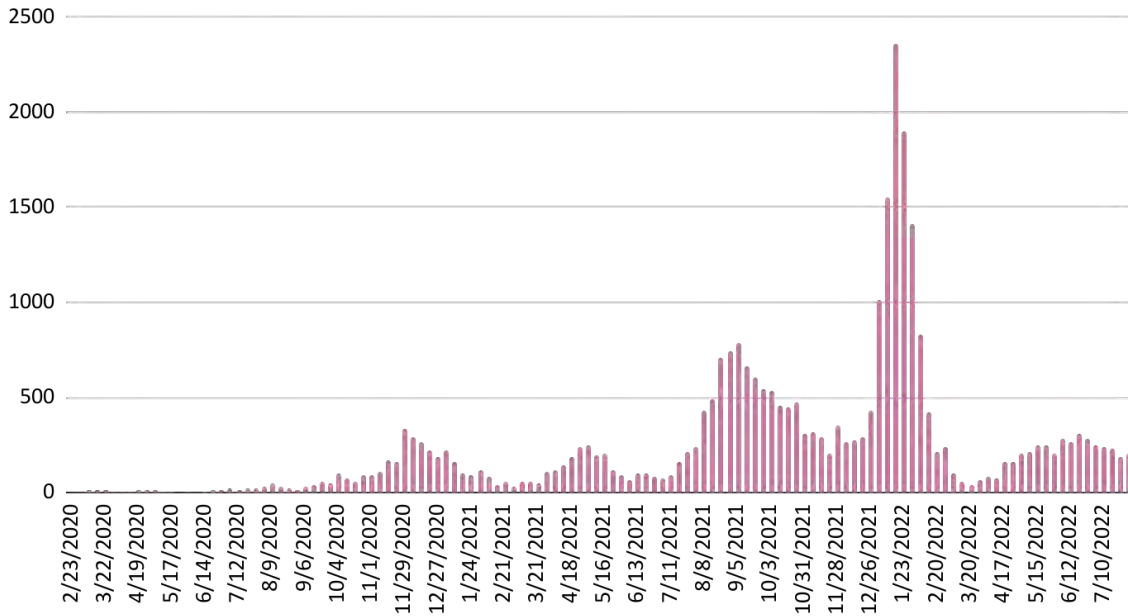
Figure 82: Linn COVID-19 case rates



#### Cases Over Time

Figure 83 presents Linn County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 334 cases. During Stage 2, COVID-19 cases peaked the week of August 29, 2021 with 774 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 2,364 cases. And during Stage 4, COVID-19 cases peaked the week of June 19, 2022 with 309 cases.

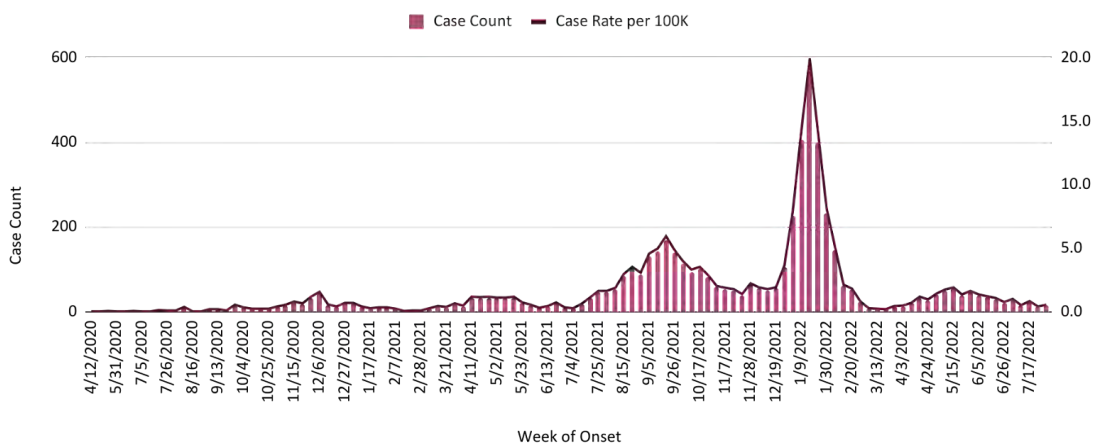
Figure 83: Linn Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 84 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Linn County. As of the week of July 31, 2022, there were 5,408 pediatric COVID-19 cases in Linn County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,992.7 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 19, 2021 with a COVID-19 case rate of 595.4 per 100,000. There was a small increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked May 15, 2022, with 192.6 COVID-19 cases per 100,000

Figure 84: Linn pediatric COVID-19 cases and case rate over time



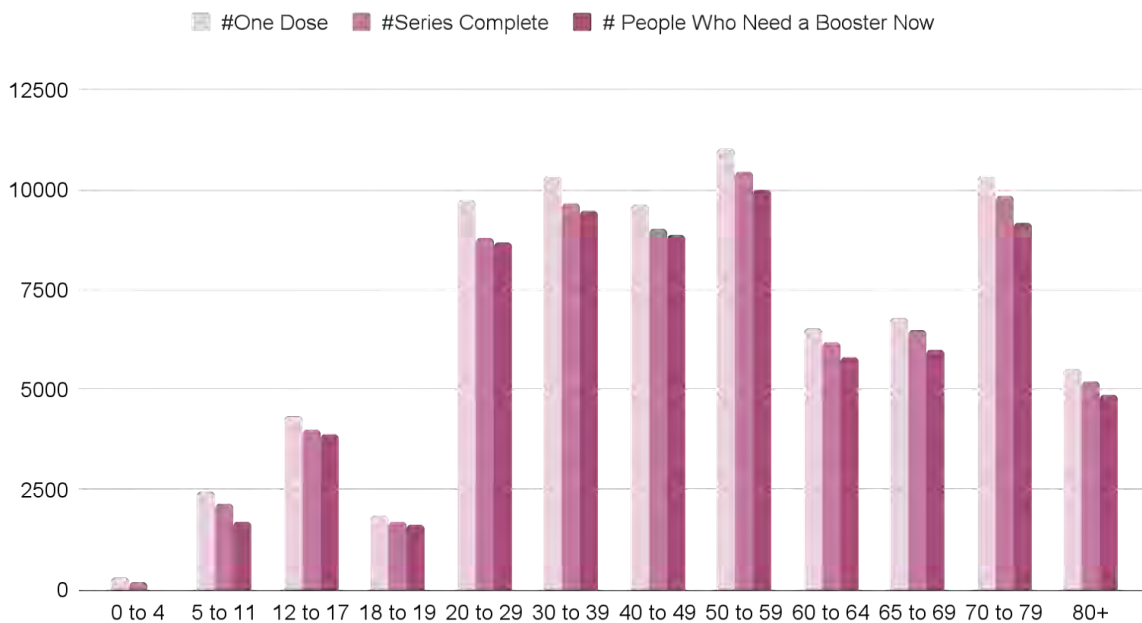
## Vaccination Status

As of August 24, 2022, Linn County had 59.9% of the county with one dose and 56.0% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 85 is a clustered column chart presenting Linn County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

Figure 85: Linn Vaccination status by age

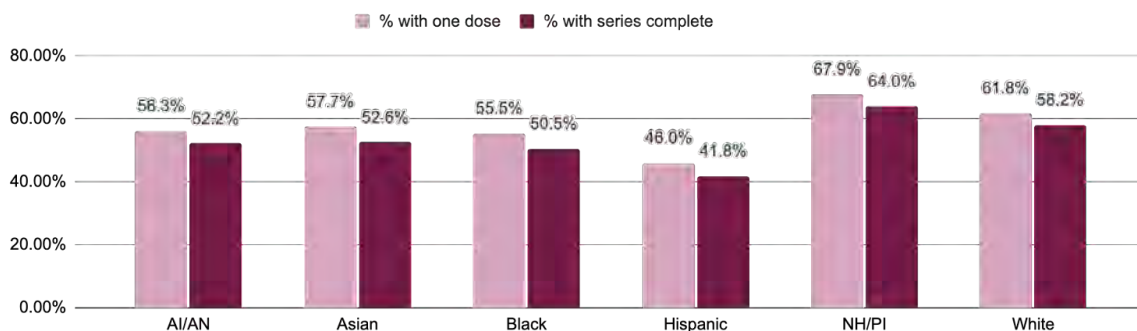


## COVID-19 Vaccination Status by Race

Figure 86 is a clustered column chart presenting Linn County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Linn County, individuals who identify as Hispanic have the lowest vaccination coverage, with 46.0% of individuals having at least one dose and 41.8% of individuals with a series complete.



Figure 86: Linn County % of population with one dose and % series complete by race



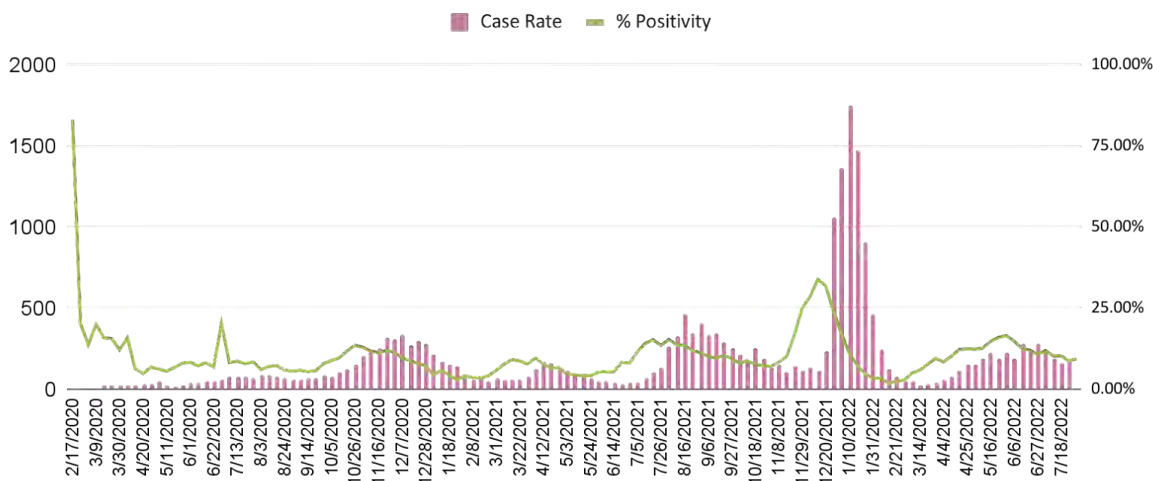
## Marion

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 87 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Marion County saw six surges of COVID-19 cases. The first wave of COVID-19 cases occurred between June and September 2020 and peaked the week of August 10, 2020 with a case rate of 88 per 100,000. The second wave occurred between October 2020 and February 2021 and peaked the week of December 7, 2020 with a case rate of 330 per 100,000. In Stage 2, a third wave occurred between March and June 2021, with the highest case rate (173 per 100,000) occurring the week of April 12, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 462 per 100,000 the week of August 16, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Marion County between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,751 per 100,000. The sixth wave started in April 2022 and appears to be ongoing as of July 2022 data.

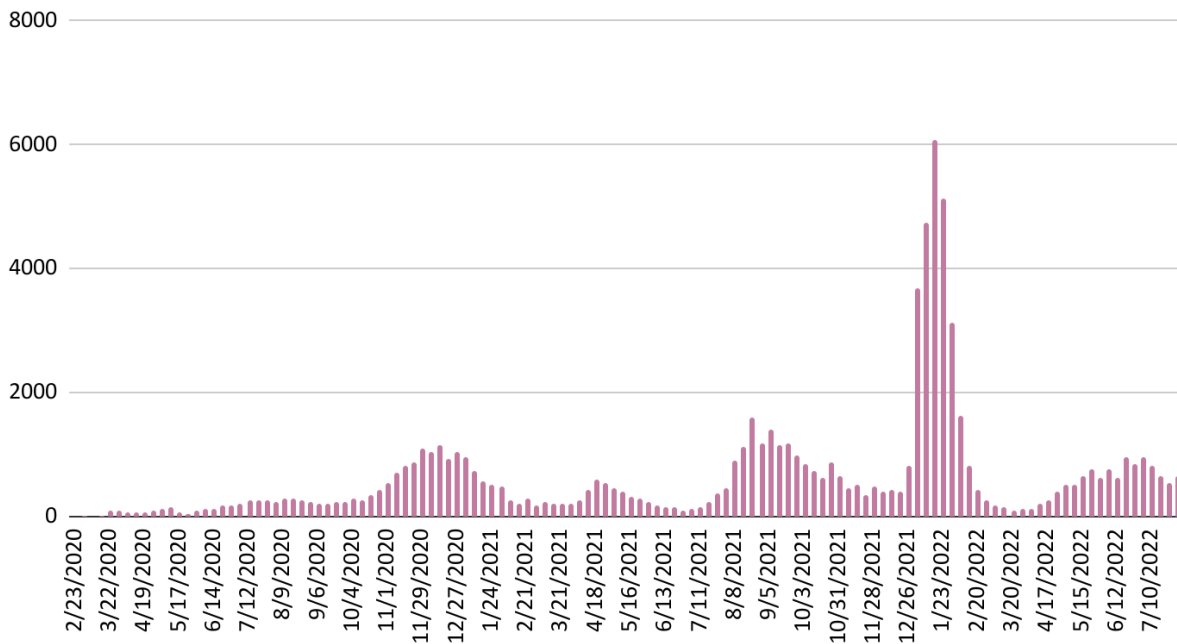
Figure 87: Marion COVID-19 case rates



### Cases Over Time

Figure 88 presents Marion County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 1,110 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 1,605 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 6,080 cases. And during Stage 4, COVID-19 cases peaked the week of June 19, 2022 with 967 cases.

Figure 88: Marion Weekly COVID-19 cases over time

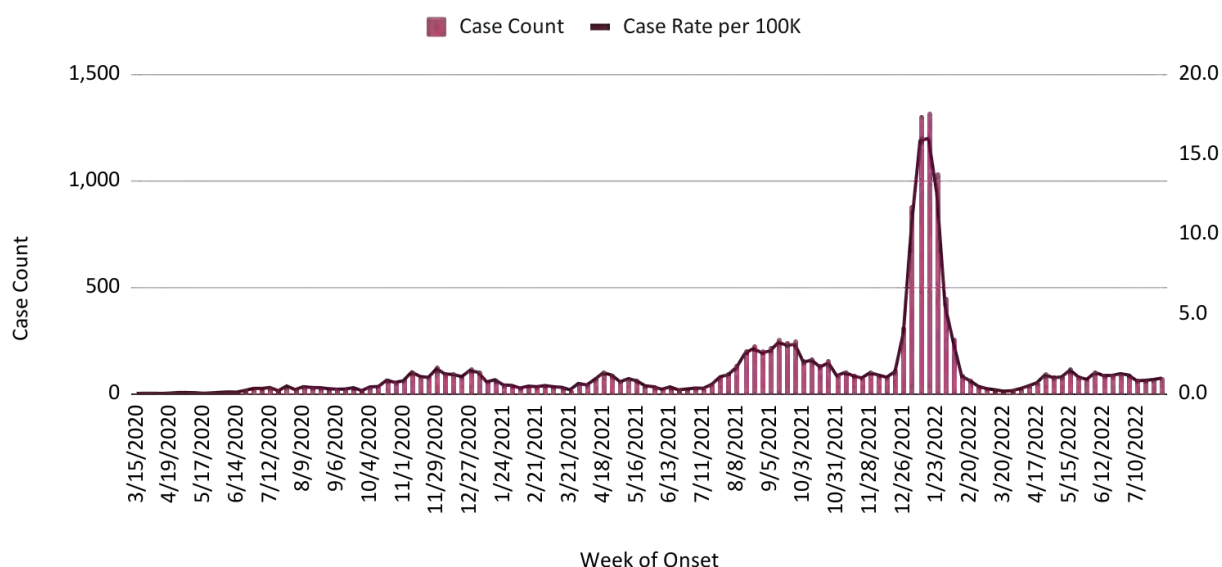


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 89 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Marion County. As of the week of July 31, 2022, there were 13,687 pediatric COVID-19 cases in Marion County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,599.5 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 321.6 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between

April and July 2022, which peaked May 15, 2022, with 148.7 COVID-19 cases per 100,000.

Figure 89: Marion pediatric COVID-19 cases and case rate over time



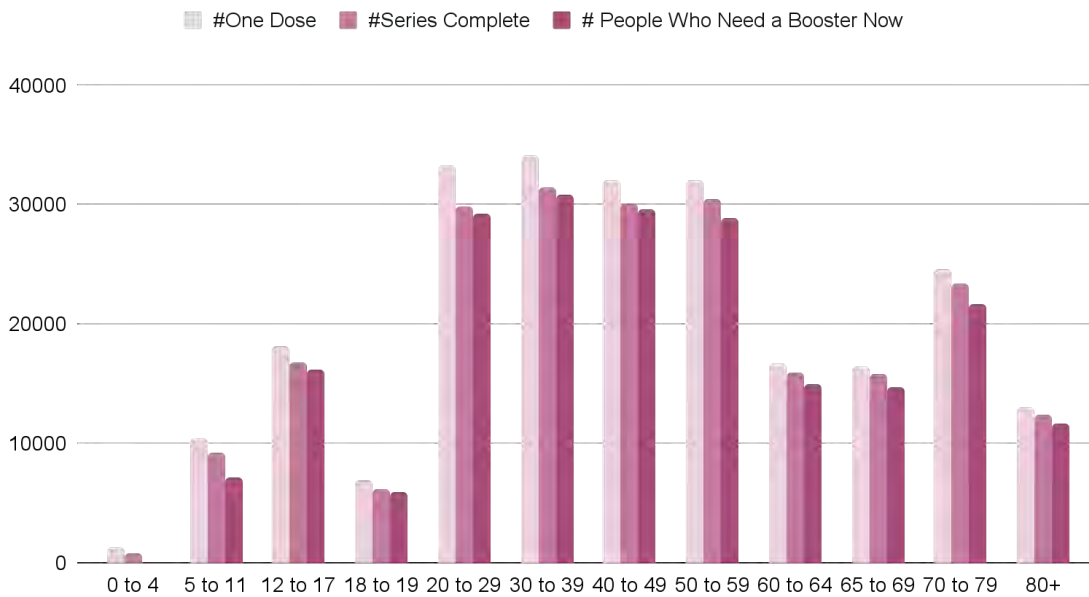
## Vaccination Status

As of August 24, 2022, Marion County had 68.2% of the county with one dose and 63.4% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 90 is a clustered column chart presenting Marion County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

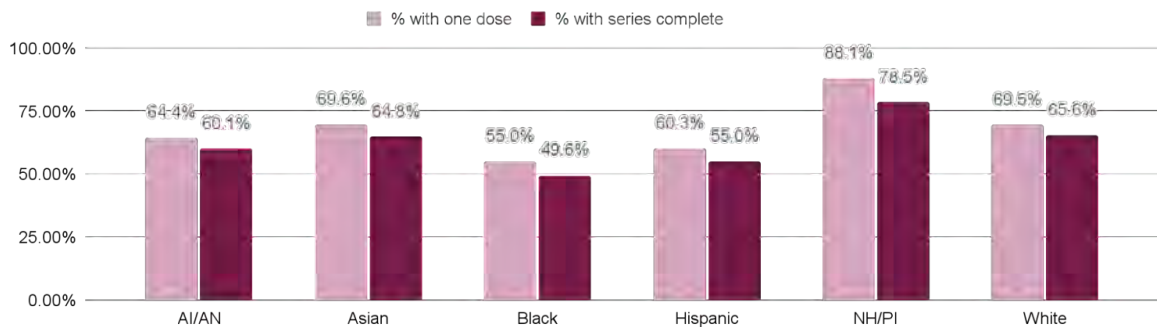
Figure 90: Marion Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 91 is a clustered column chart presenting Marion County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Marion County, individuals who identify as Black have the lowest vaccination coverage, with 55.0% of individuals having at least one dose and 49.6% of individuals with a series complete.

Figure 91: Marion County % of population with one dose and % series complete by race



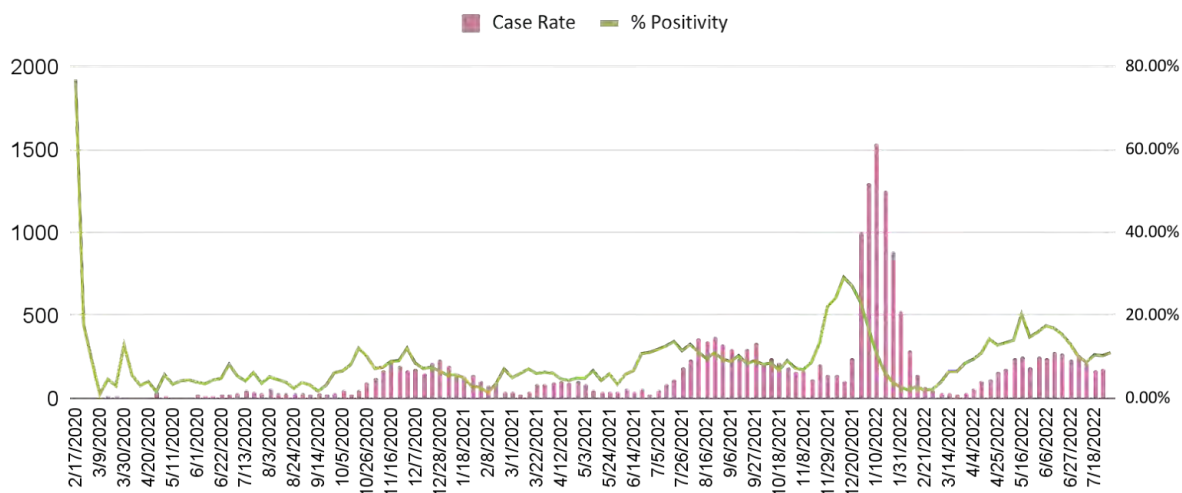
## Polk

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 92 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Polk County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-August 2020 and peaked the week of August 3, 2020 with a case rate of 55 per 100,000. The second wave that occurred between September and December 2020 was larger and peaked the week of December 28, 2020 with a case rate of 236 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (107 per 100,000) occurring the week of April 26, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (372 per 100,000) was seen, which occurred during the peak of this wave the week of August 23, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,534 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

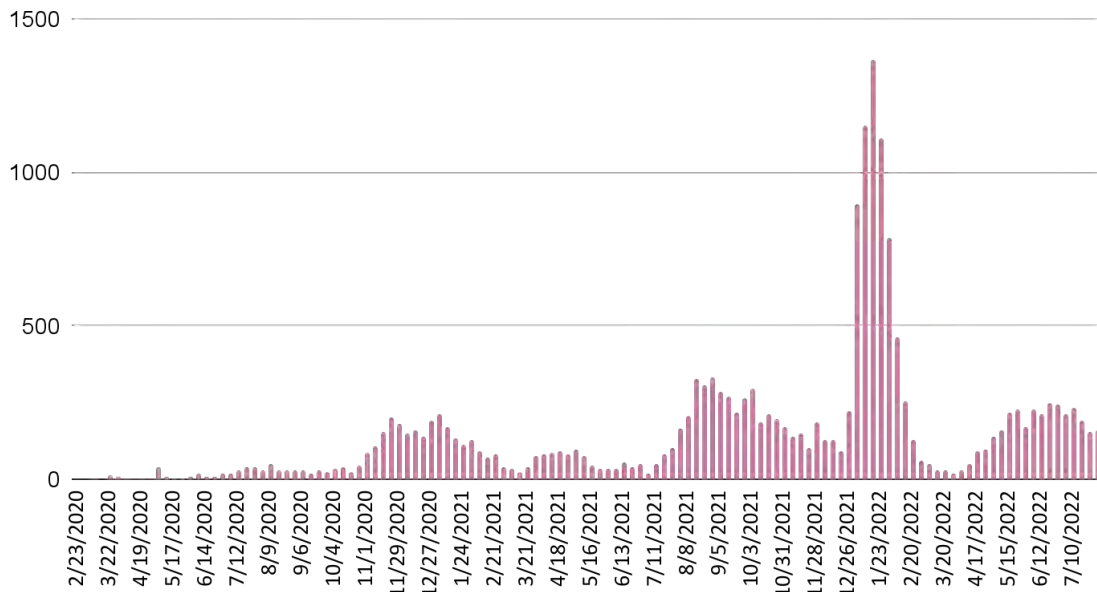
Figure 92: Polk COVID-19 case rates



#### Case Over Time

Figure 93 presents Polk County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 22, 2020 with 200 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 326 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 1,364 cases. And during Stage 4, COVID-19 cases peaked the week of June 19, 2022 with 248 cases.

Figure 93: Polk Weekly COVID-19 cases over time

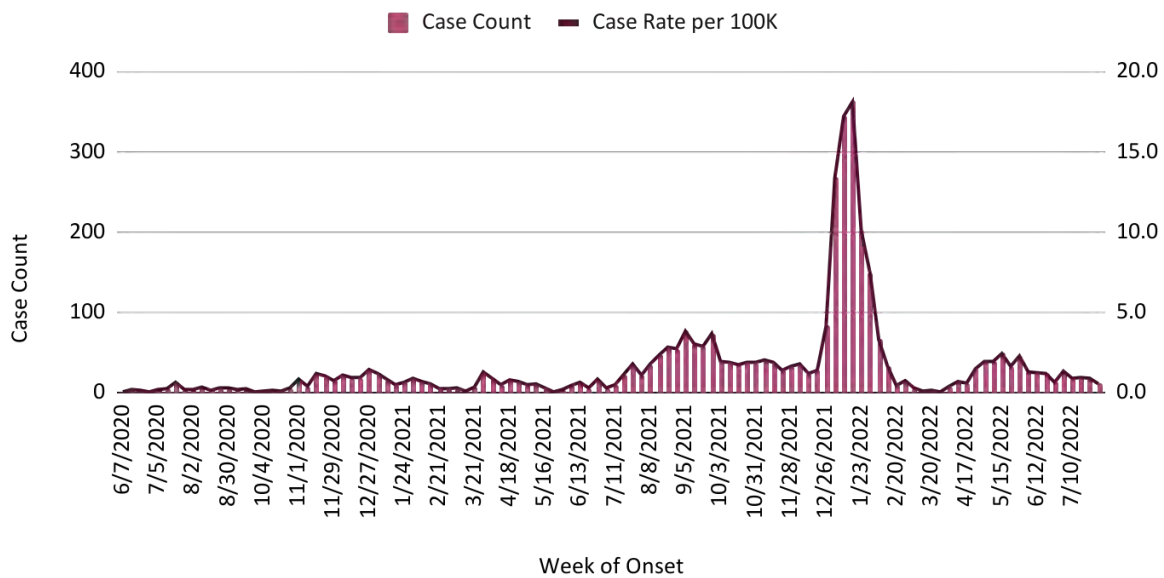


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 94 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Polk County. As of the week of July 31, 2022, there were 3,530 pediatric COVID-19 cases in Polk County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,811.6 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 5, 2021 with a COVID-19 case rate of 383.2 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between March and July 2022,

which peaked May 15, 2022, with 234.9 COVID-19 cases per 100,000.

Figure 94: Polk pediatric COVID-19 cases and case rate over time



## Vaccination Status

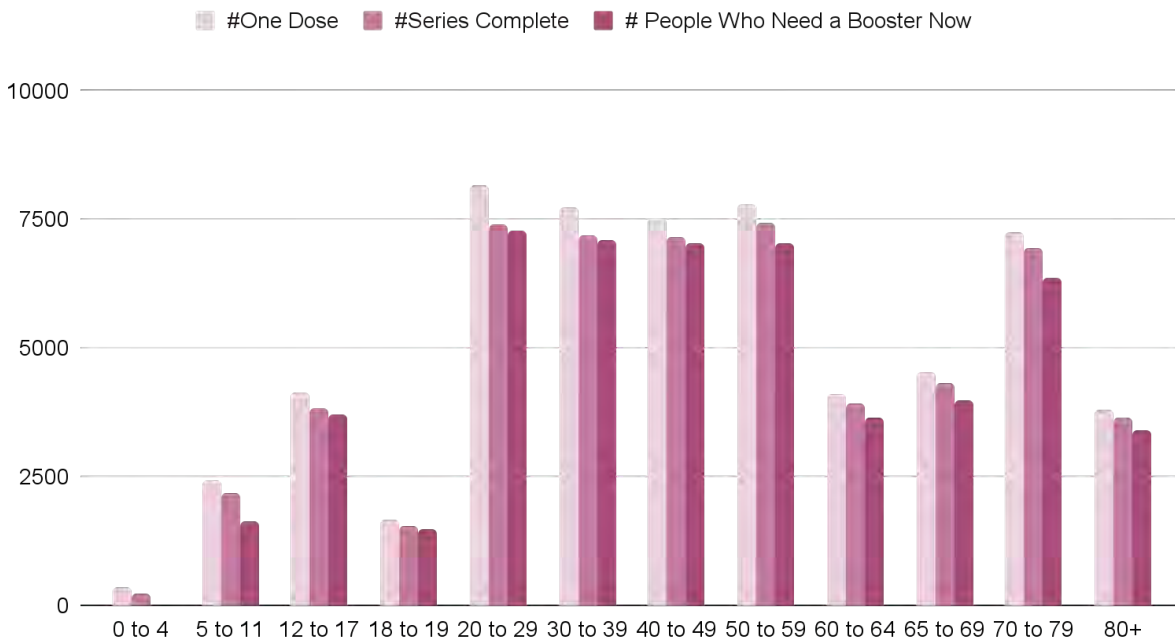
As of August 24, 2022, Polk County had 66.3% of the county with one dose and 61.2% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 95 is a clustered column chart presenting Polk County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.



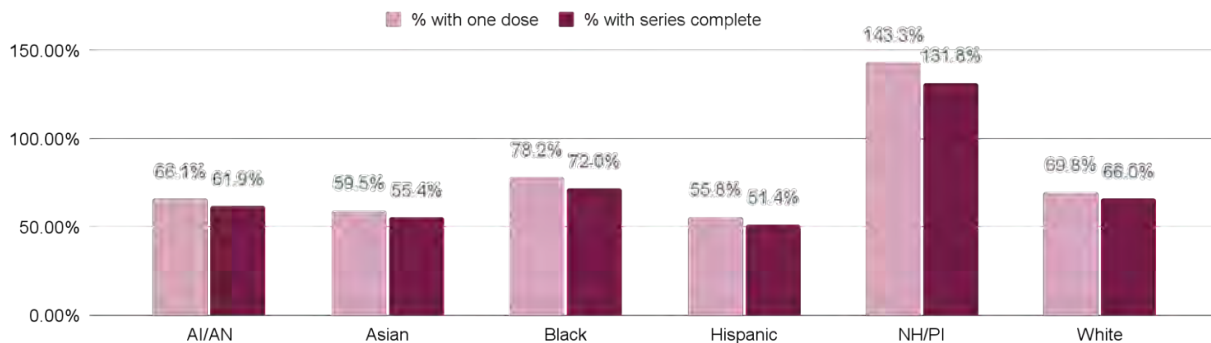
Figure 95: Polk Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 96 is a clustered column chart presenting Polk County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Polk County, individuals who identify as Hispanic have the lowest vaccination coverage, with 55.8% of individuals having at least one dose and 51.4% of individuals with a series complete.

Figure 96: Polk County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

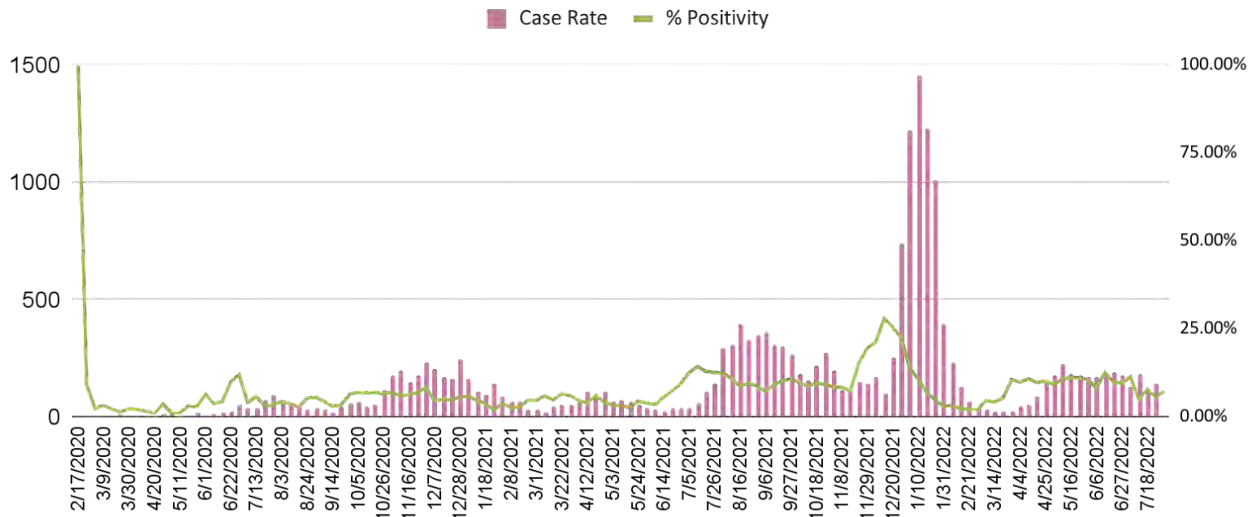
## Yamhill

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 97 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Yamhill County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-August 2020 and peaked the week of July 27, 2020 with a case rate of 93 per 100,000. The second wave that occurred between September and December 2020 was larger and peaked the week of December 28, 2020 with a case rate of 241 per 100,000. The third wave occurred between April and June 2021, with the highest case rate (105 per 100,000) occurring the week of April 26, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (393 per 100,000) was seen, which occurred during the peak of this wave the week of August 16, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,457 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

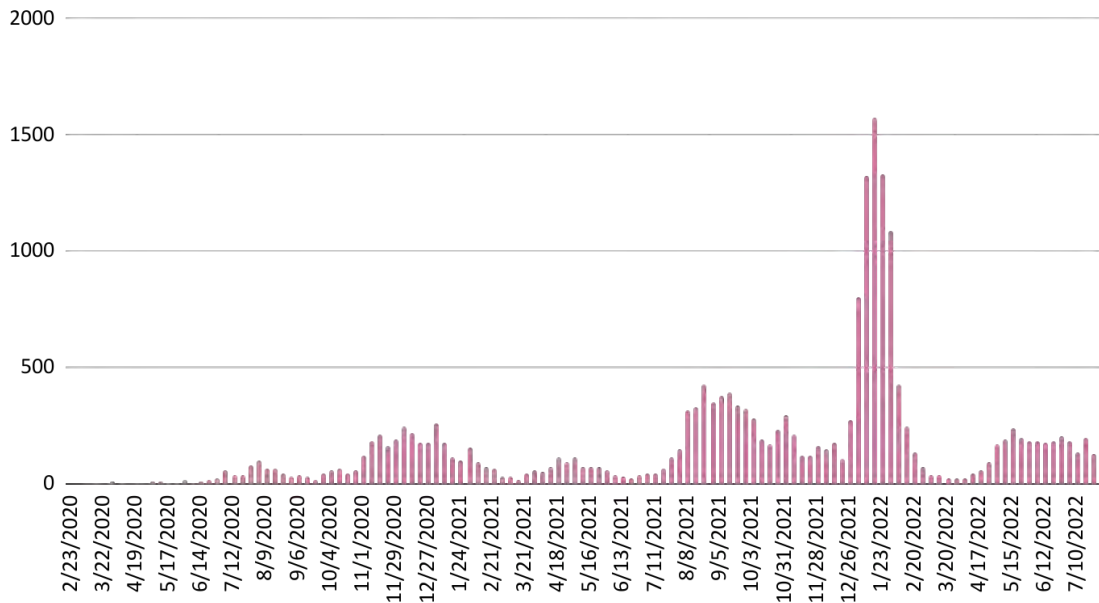
Figure 97: Yamhill COVID-19 case rates



#### Cases Over Time

Figure 98 presents Yamhill County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 15, 2020 with 210 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 425 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 1,577 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 239 cases.

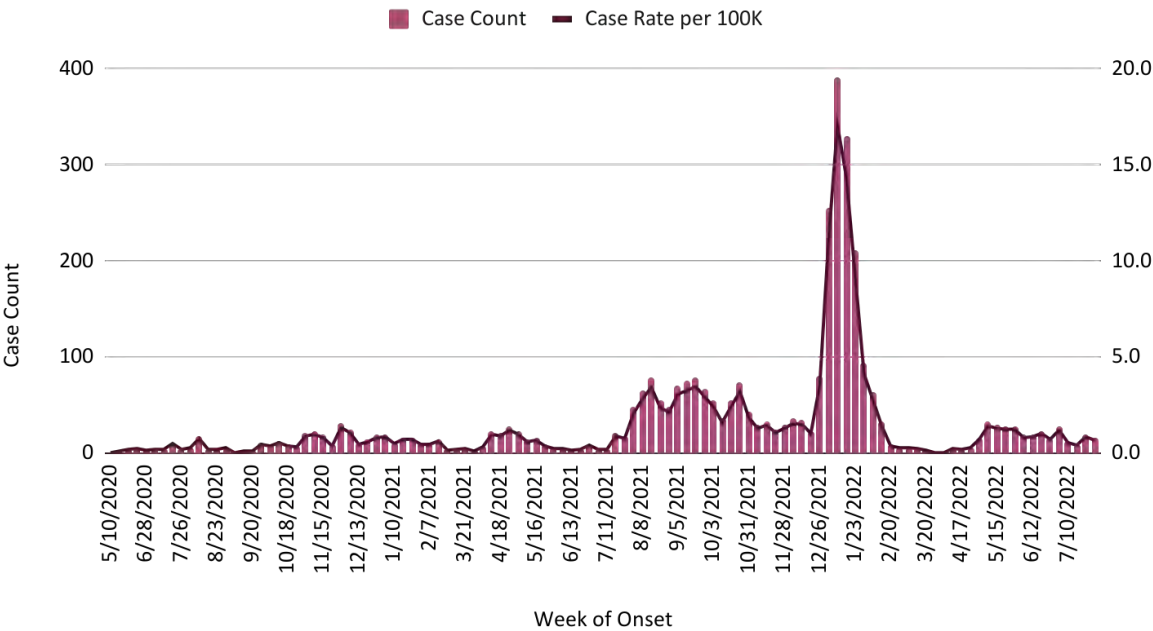
Figure 98: Yamhill Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 99 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Yamhill County. As of the week of July 31, 2022, there were 3,549 pediatric COVID-19 cases in Yamhill County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 1,706.8 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 19, 2021 with a COVID-19 case rate of 349.2 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between March and July 2022, which peaked May 8, 2022, with 144 COVID-19 cases per 100,000.

Figure 99: Yamhill pediatric COVID-19 cases and case rate over time



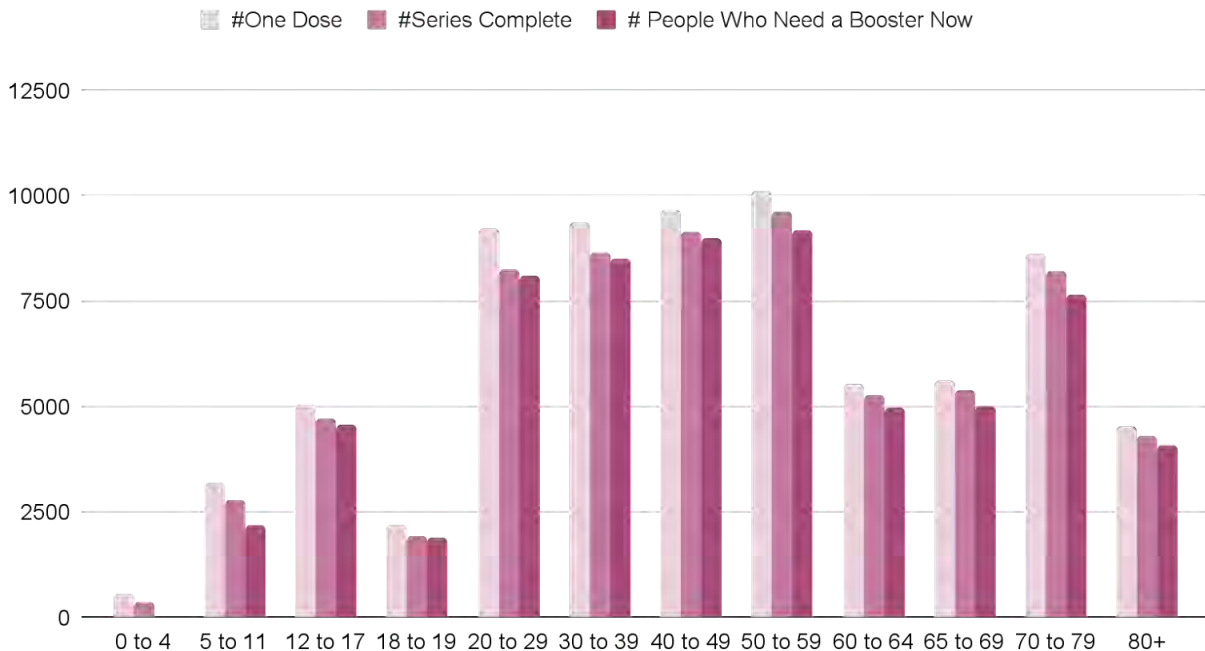
Vaccination Status

As of August 24, 2022, Yamhill County had 67.4% of the county with one dose and 62.7% with a series complete.

COVID-19 Vaccination Status by Age

Figure 100 is a clustered column chart presenting Yamhill County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

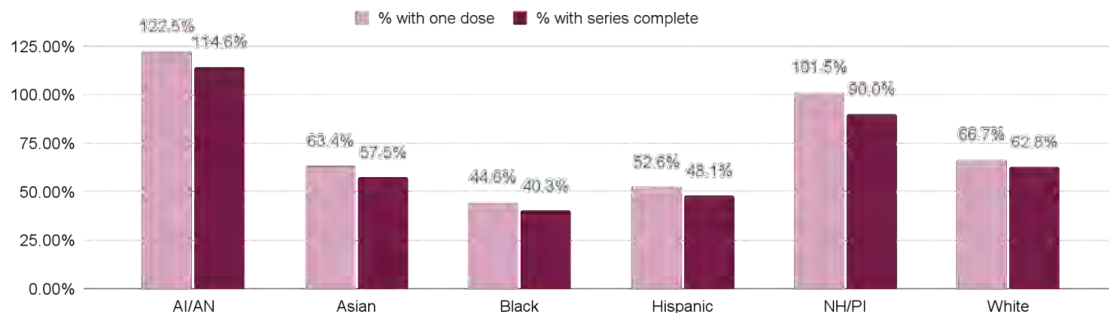
Figure 100: Yamhill Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 101 is a clustered column chart presenting Yamhill County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Yamhill County, individuals who identify as Black have the lowest vaccination coverage, with 44.6% of individuals having at least one dose and 40.3% of individuals with a series complete.

Figure 101: Yamhill County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

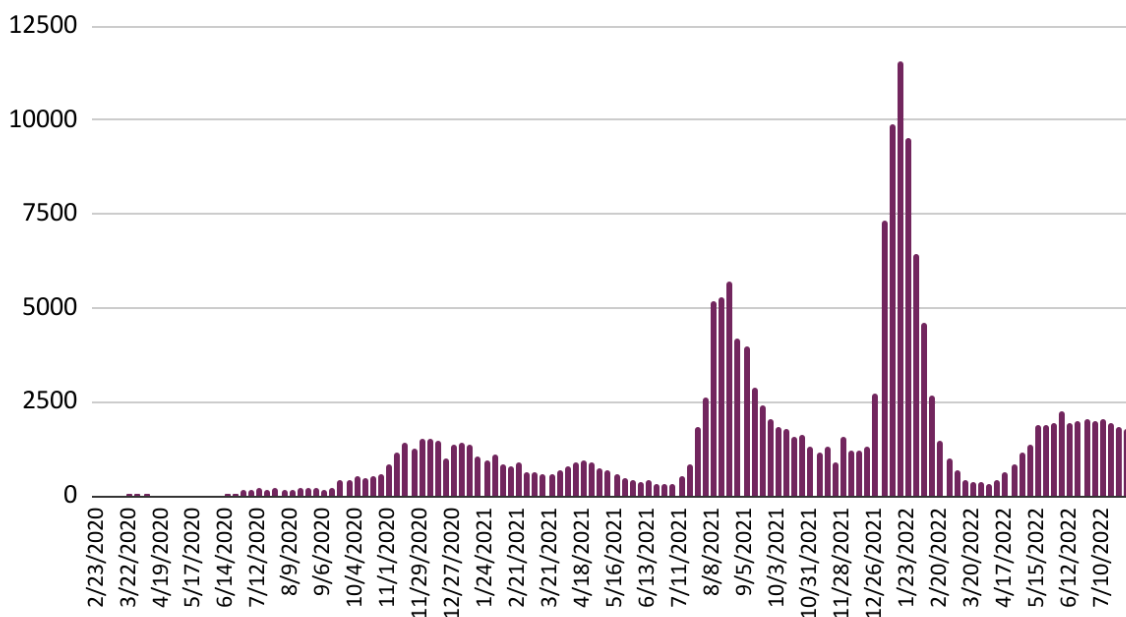
## Region 3

### Regional Data

#### Region 3 Level of Community Spread

Figure 102 is a column chart that presents weekly COVID-19 cases for Region 3. As of the week of July 31st, 2022, Region 3 has seen a total of 178,098 COVID-19 cases. Similar to statewide COVID-19 cases, Region 3 saw 6 distinct waves. Region 3 experienced the highest number of COVID-19 cases during the fifth (Omicron) wave. During the week of January 16, 2022, Region 2 had a total of 11,580 COVID-19 cases.

Figure 102: Region 3 Weekly COVID-19 cases over time



#### Region 3 Vaccination Status

Figure 103 is a stacked column chart that displays the number of individuals who have their COVID-19 vaccination series completed by age group in Region 3. As of September 30, 2022, older adults aged 70 to 79 have the most number of individuals with a COVID-19 vaccination

series complete.

Figure 103: Region 3 number of COVID-19 vaccination series complete by age

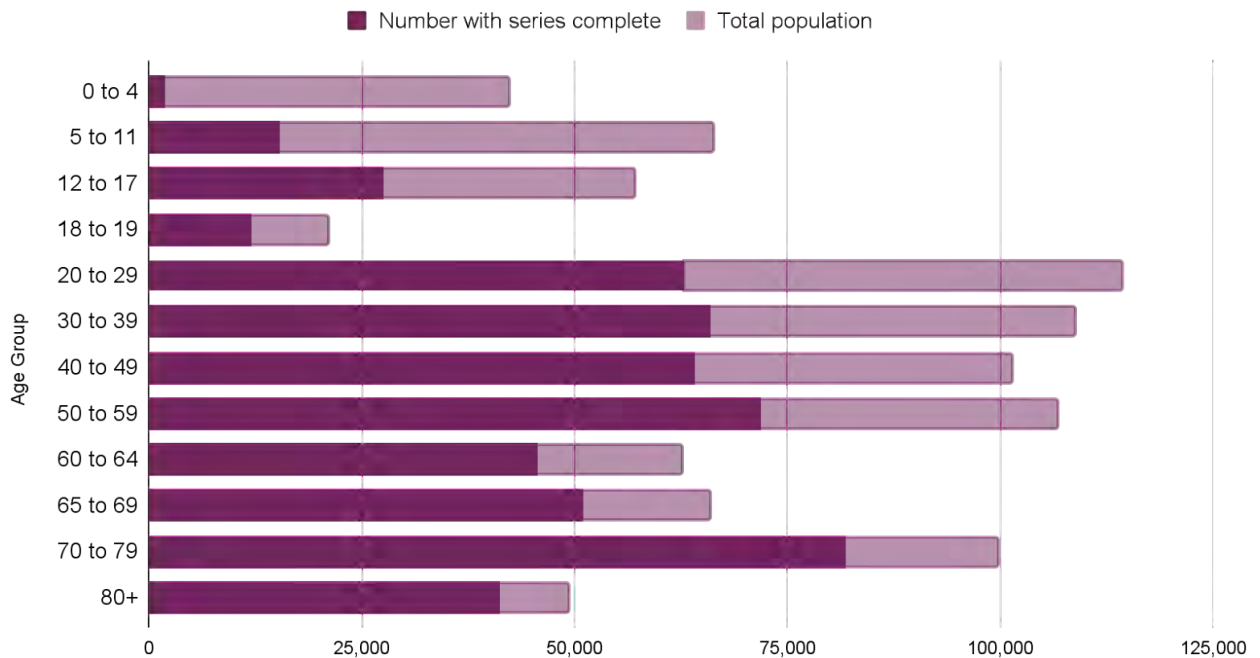
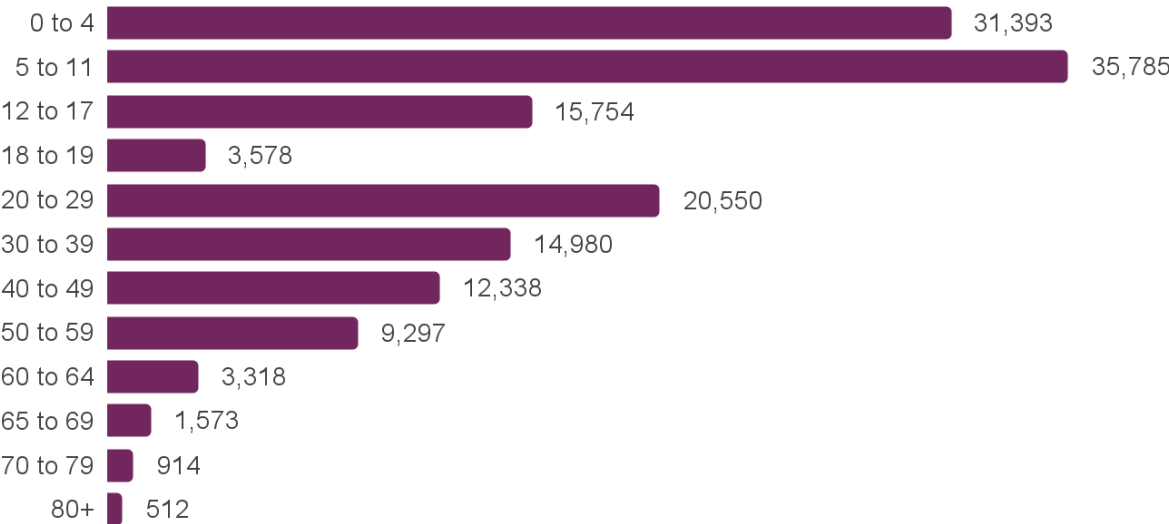


Figure 104 is a bar chart displaying the total number of people needed to reach 80% vaccinated by each age category in Region 3. No age group in Region 3 has reached 80% vaccinated. The age groups with the largest number of people needed to reach 80% vaccinated are children aged 5-11 years of age (n=35,785), followed by children ages 0-4 years of age (n=31,939) and adults ages 20-29 years of age (n=20,550).

Figure 104: Region 3 number of people needed to reach 80% vaccinated, by age

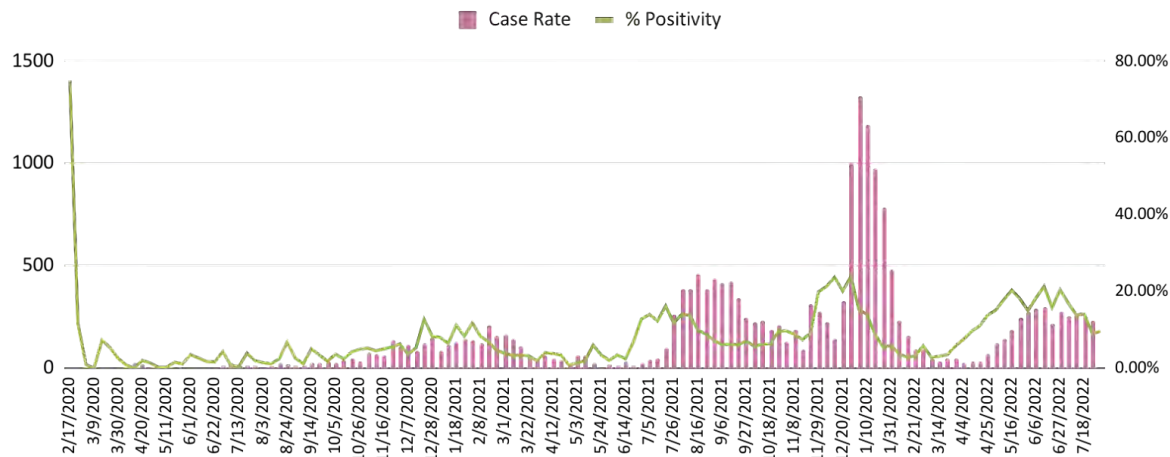


Coos

Level of Community Spread

Case Rate and Percent Positivity

Figure 105: Coos COVID-19 case rates



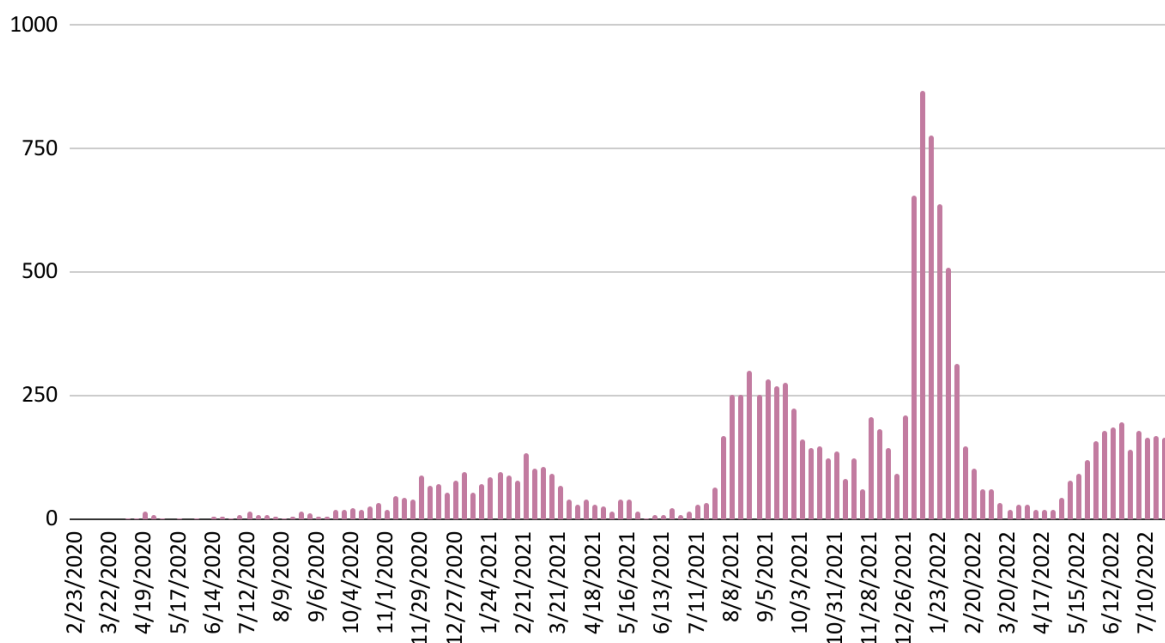
Cases Over Time

Figure 106 presents Coos County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 88 cases. During Stage 2, COVID-19 cases



peaked the week of August 22, 2021 with 300 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 867 cases. And during Stage 4, COVID-19 cases peaked the week of June 19, 2022 with 9 cases.

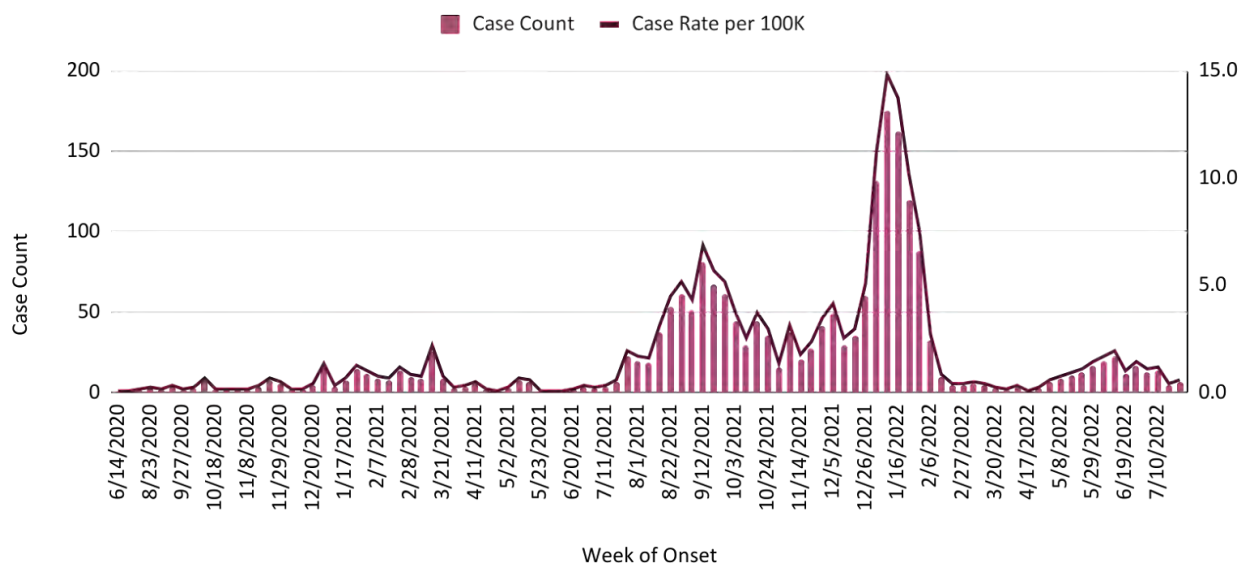
Figure 106: Coos Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 107 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Coos County. As of the week of July 31, 2022, there were 2,129 pediatric COVID-19 cases in Coos County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 1,484.1 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 686.9 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked June 12, 2022, with 195.0 COVID-19 cases per 100,000.

Figure 107: Coos pediatric COVID-19 cases and case rate over time



## Vaccination Status

As of August 24, 2022, Coos County had 62.3% of the county with one dose and 57.5% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 108 is a clustered column chart presenting Coos County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

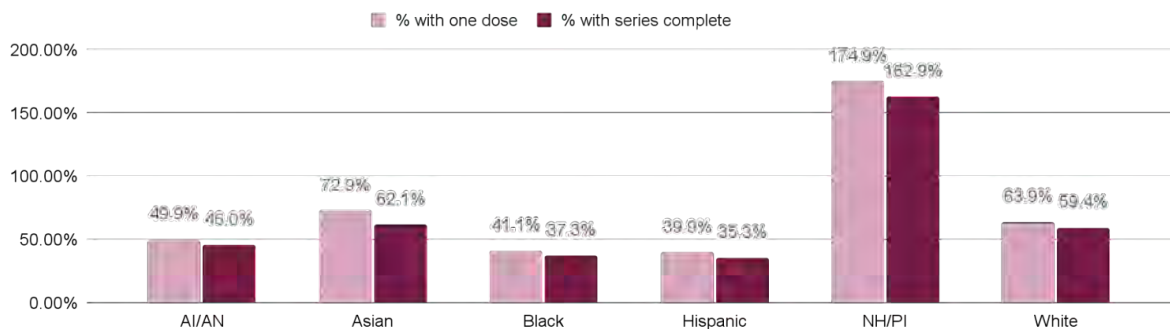
Figure 108: Coos Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 109 is a clustered column chart presenting Coos County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Coos County, individuals who identify as Hispanic have the lowest vaccination coverage, with 39.9% of individuals having at least one dose and 35.3% of individuals with a series complete.

Figure 109: Coos County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

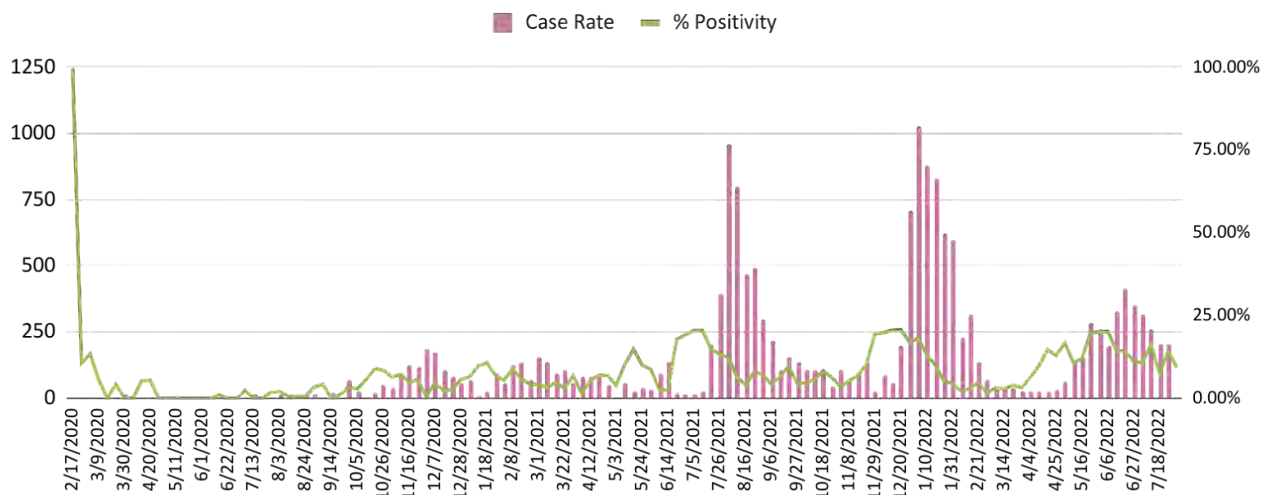
## Curry

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 110 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Curry County saw five surges of COVID-19 cases. The first wave of COVID-19 cases occurred between September and December 2020 and peaked the week of November 30, 2020 with a case rate of 186 per 100,000. In Stage 2, another wave occurred between January and May 2021, with the highest case rate (156 per 100,000) occurring the week of March 1, 2021. The third wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (959 per 100,000) was seen, which occurred during the peak of this wave the week of August 2, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fourth wave was seen in Oregon between December 2021 and February 2022. This fourth wave peaked the week of January 3, 2022 with a case rate of 1,027 per 100,000. The fifth wave started in March 2022 and appears to be ongoing as of July 2022 data.

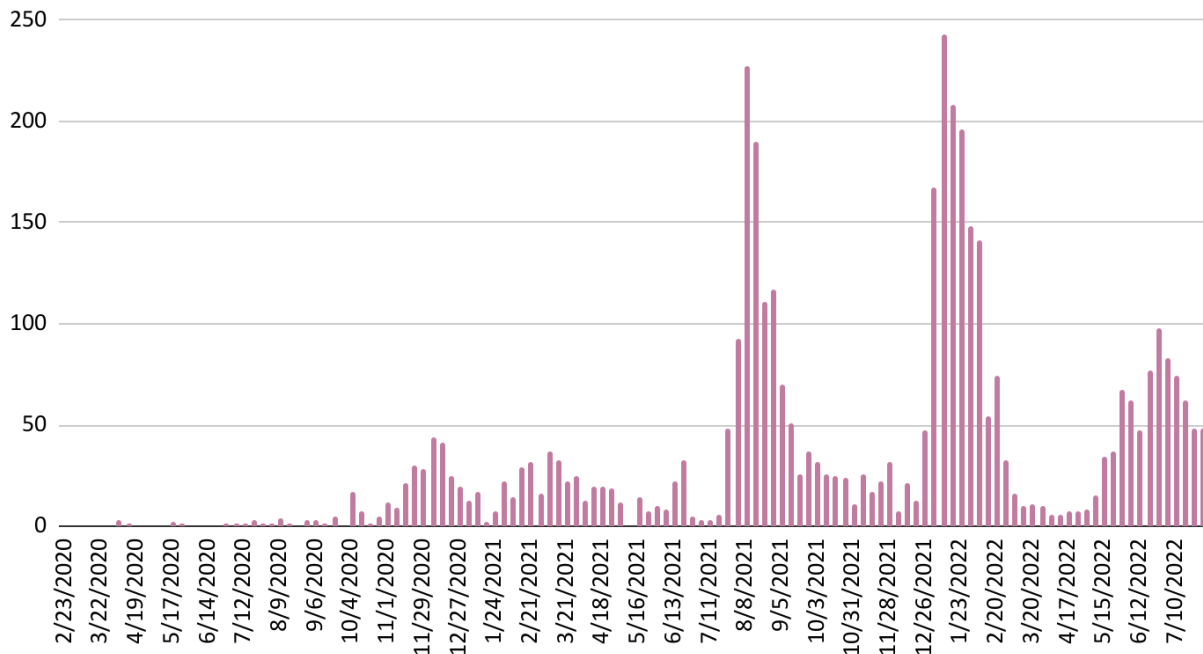
Figure 110: Curry COVID-19 case rates



#### Cases Over Time

Figure 111 presents Curry County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 22, 2020 with 30 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 227 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 243 cases. And during Stage 4, COVID-19 cases peaked the week of June 26, 2022 with 98 cases.

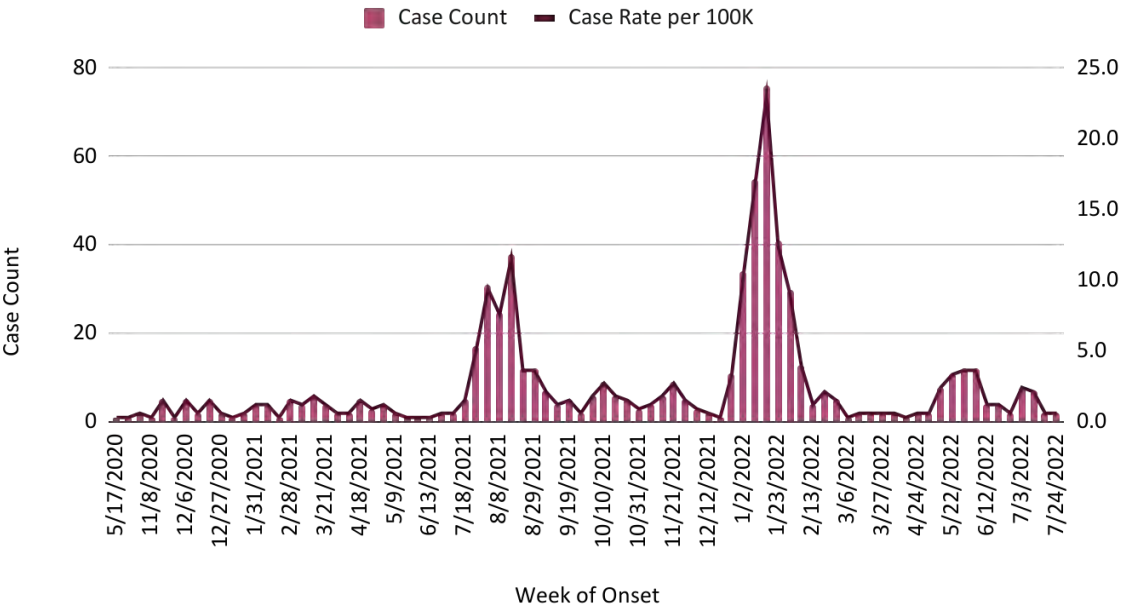
Figure 111: Curry Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 112 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Curry County. As of the week of July 31, 2022, there were 663 pediatric COVID-19 cases in Curry County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 2,307.2 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in June 2021, which peaked the week of August 15, 2021 with a COVID-19 case rate of 1,153.6 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked June 5, 2022, with 364.30 COVID-19 cases per 100,000.

Figure 112: Curry pediatric COVID-19 cases and case rate over time



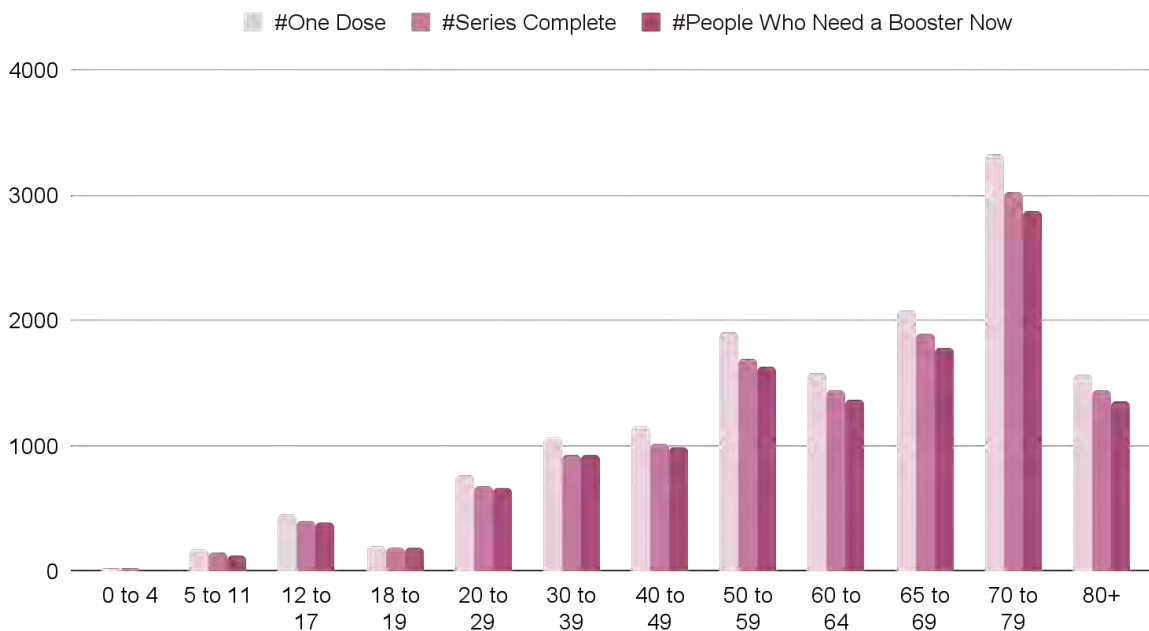
Vaccination Status

As of August 24, 2022, Curry County had 60% of the county with one dose and 53.7% with a series complete.

COVID-19 Vaccination Status by Age

Figure 113 is a clustered column chart presenting Curry County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

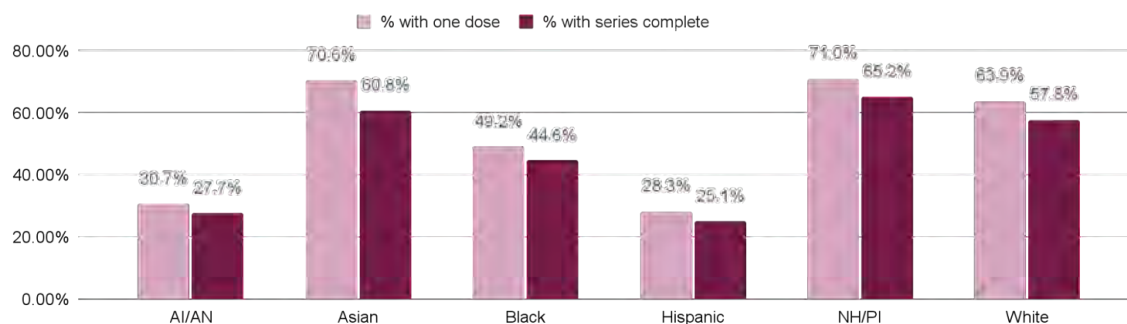
Figure 113: Curry Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 114 is a clustered column chart presenting Curry County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Curry County, individuals who identify as Hispanic have the lowest vaccination coverage, with 28.3% of individuals having at least one dose and 25.1% of individuals with a series complete.

Figure 114: Curry County % of population with one dose and % series complete by race



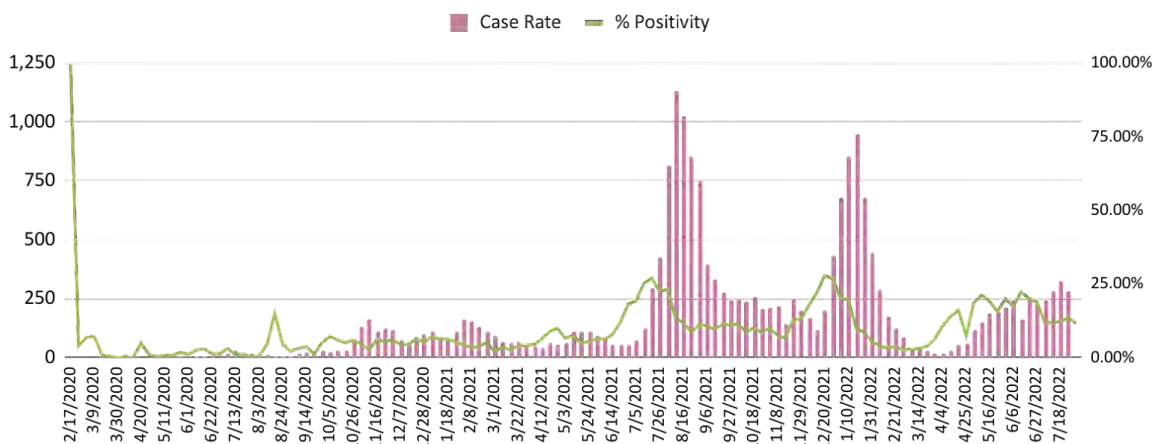
## Douglas

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 115 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Douglas County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred August-December 2020 and peaked the week of November 9, 2020 with a case rate of 164 per 100,000. The second wave that occurred between December 2020 and April 2021 peaked the week of February 1, 2020 with a case rate of 164 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (110 per 100,000) occurring the week of May 17, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (1,128 per 100,000) was seen, which occurred during the peak of this wave the week of August 9, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 17, 2022 with a case rate of 948 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 115: Douglas COVID-19 case rates

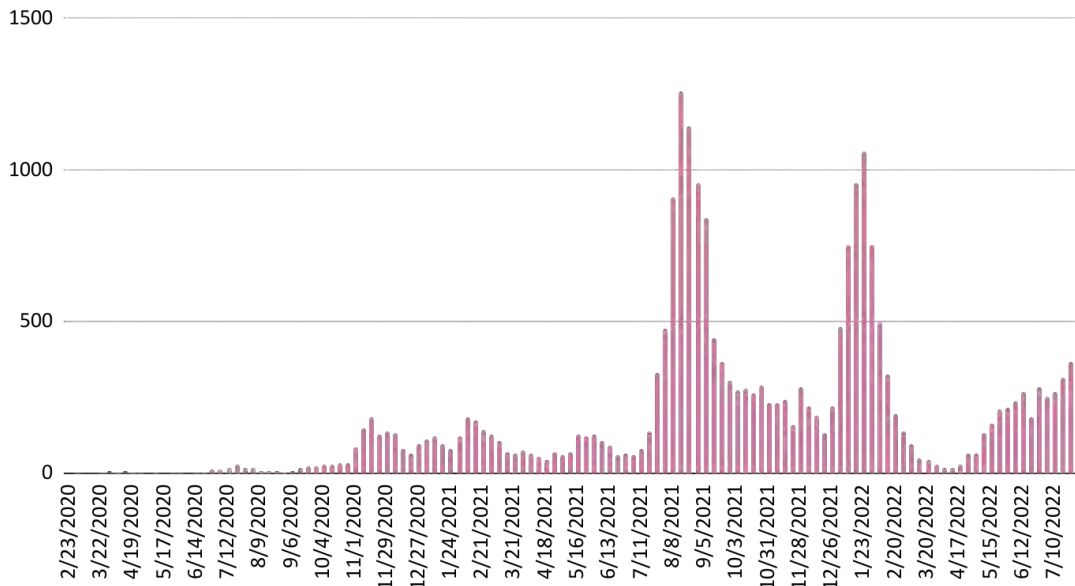


#### Cases Over Time

Figure 116 presents Douglas County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 15, 2020 with 183 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 1,260 cases. In Stage 3, COVID-19 cases peaked the week of January 23, 2022 with 1,059 cases. And during Stage 4, COVID-19 cases peaked the week of June 24, 2022 with 366 cases.



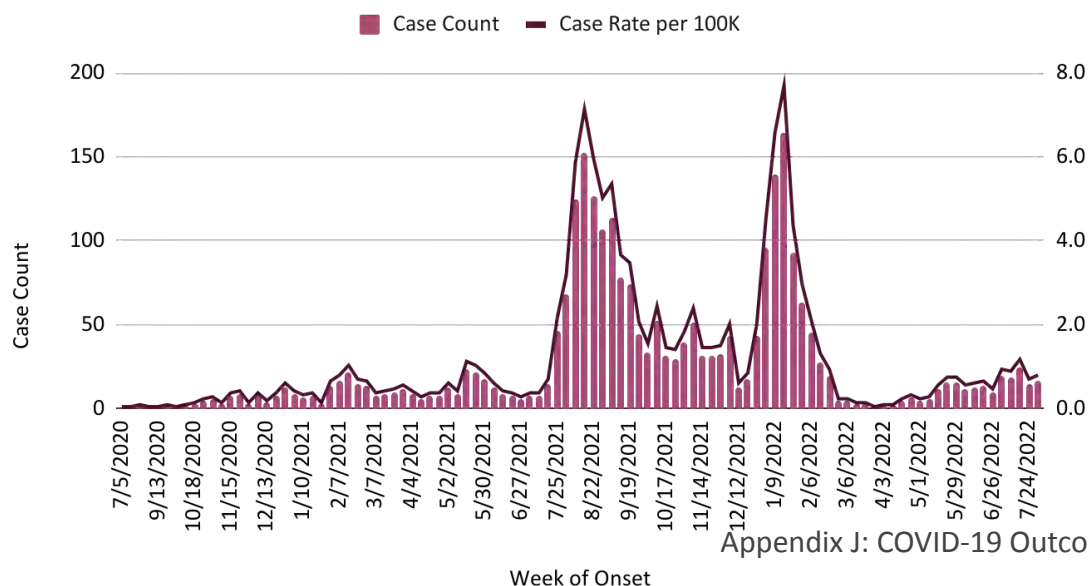
Figure 116: Douglas Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 117 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Douglas County. As of the week of July 31, 2022, there were 2,677 pediatric COVID-19 cases in Douglas County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 770.7 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 15, 2021 with a COVID-19 case rate of 714.3 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked July 17, 2022, with 117.5 COVID-19 cases per 100,000.

Figure 117: Douglas pediatric COVID-19 cases and case rate over time



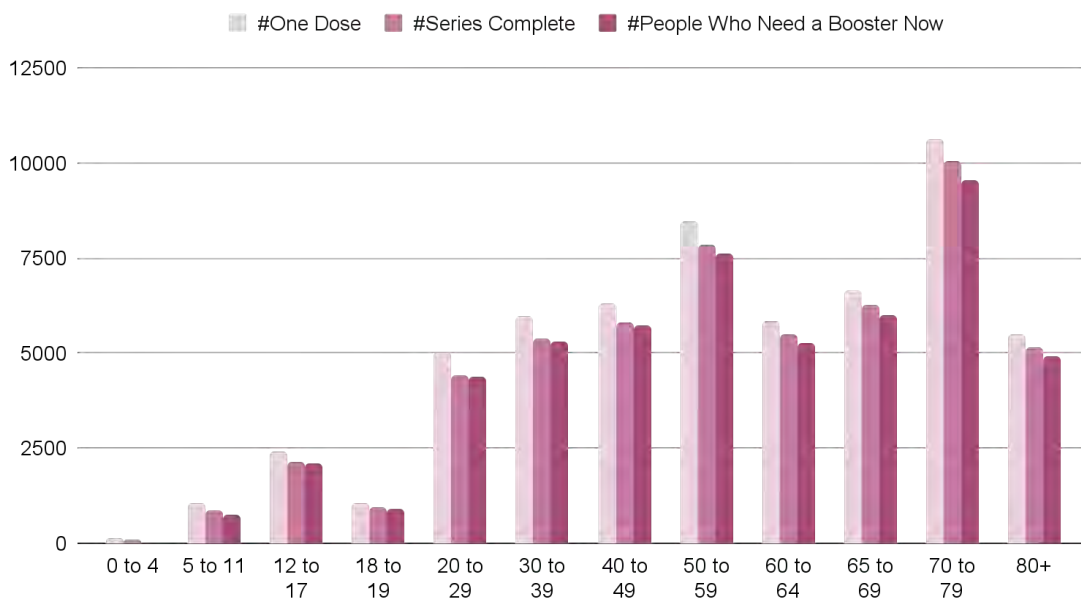
## Vaccination Status

As of August 24, 2022, Douglas County had 52.4% of the county with one dose and 48.3% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 118 is a clustered column chart presenting Douglas County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

Figure 118: Douglas Vaccination status by age

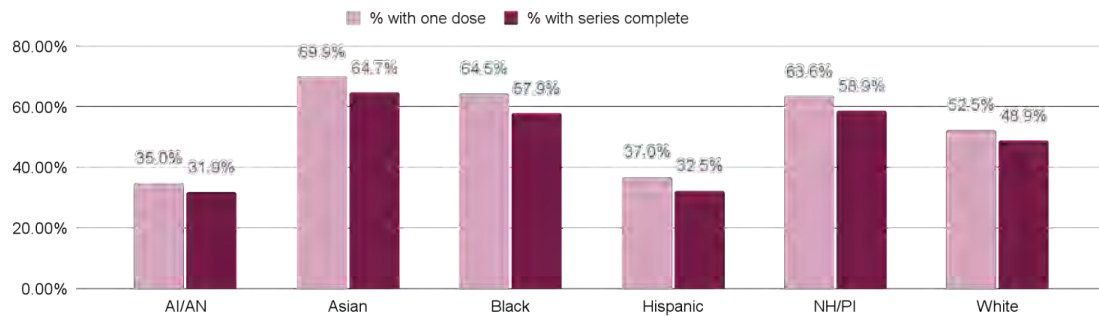


## COVID-19 Vaccination Status by Race

Figure 119 is a clustered column chart presenting Douglas County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Douglas County, individuals who identify as American Indian/Alaska Native have the lowest vaccination coverage, with 35.0% of individuals having at least one dose and

31.9% of individuals with a series complete.

Figure 119: Douglas County % of population with one dose and % series complete by race



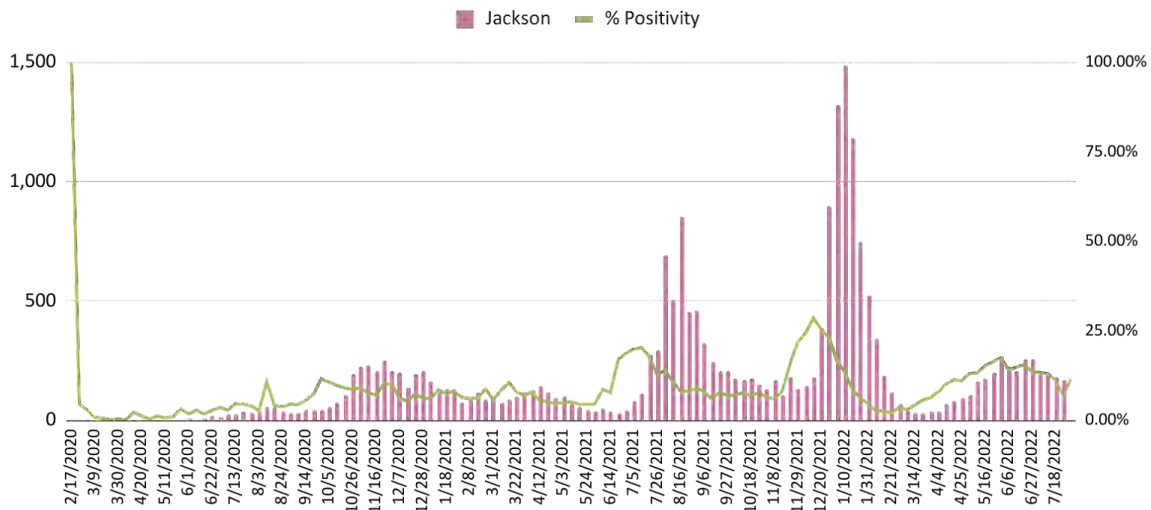
## Jackson

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 120 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Jackson County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred July-October 2020 and peaked the week of August 10, 2020 with a case rate of 58 per 100,000. The second wave that occurred between October 2020 and February 2021 peaked the week of November 23, 2020 with a case rate of 248 per 100,000. In Stage 2, the third wave occurred between March and June 2021, with the highest case rate (144 per 100,000) occurring the week of April 12, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (856 per 100,000) was seen, which occurred during the peak of this wave the week of August 16, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,490 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

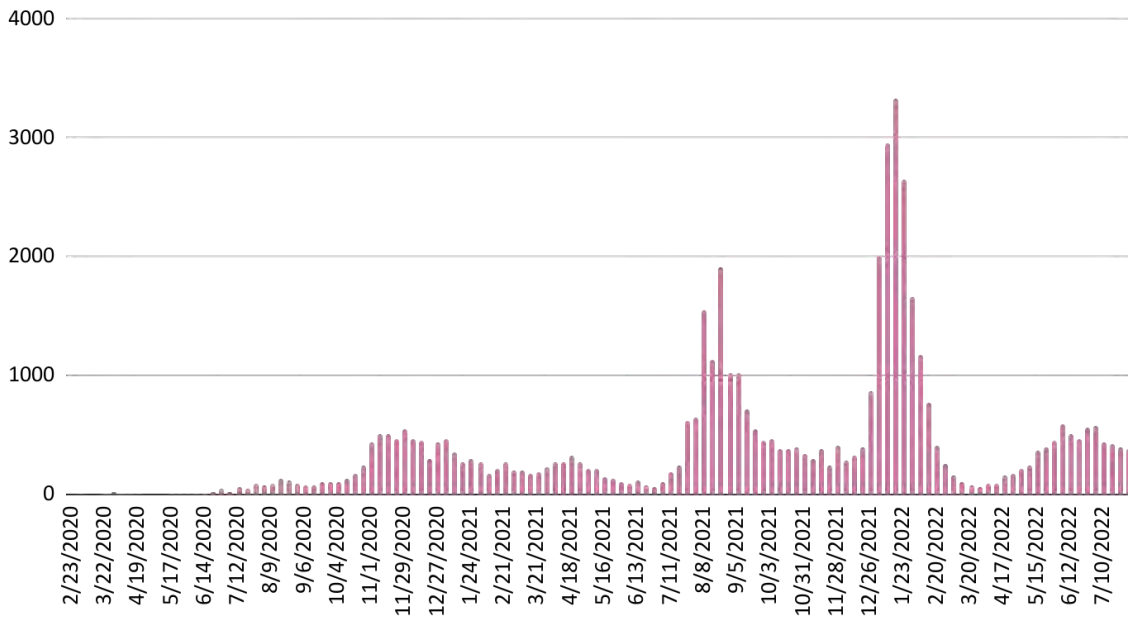
Figure 120: Jackson COVID-19 case rates



### Cases Over Time

Figure 121 presents Jackson County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 555 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 1,915 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 3,336 cases. And during Stage 4, COVID-19 cases peaked the week of June 5, 2022 with 596 cases.

Figure 121: Jackson Weekly COVID-19 cases over time

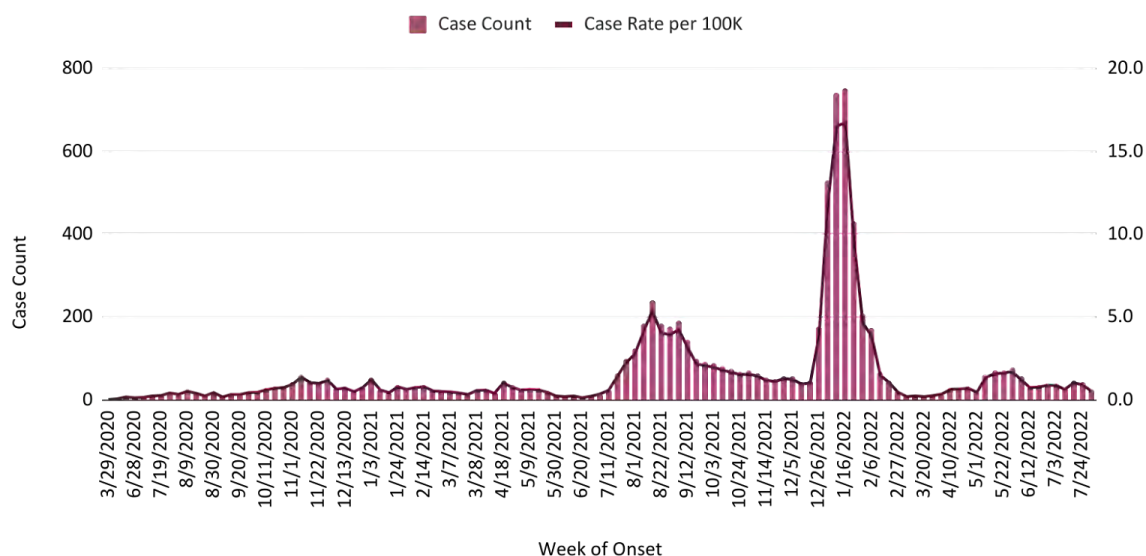


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 122 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Jackson County. As of the week of July 31, 2022, there were 7,690 pediatric COVID-19 cases in Jackson County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,676.4 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 15, 2021 with a COVID-19 case rate of 538.0 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked May 29, 2022, with 171.2 COVID-19 cases per

100,000.

Figure 122: Jackson pediatric COVID-19 cases and case rate over time



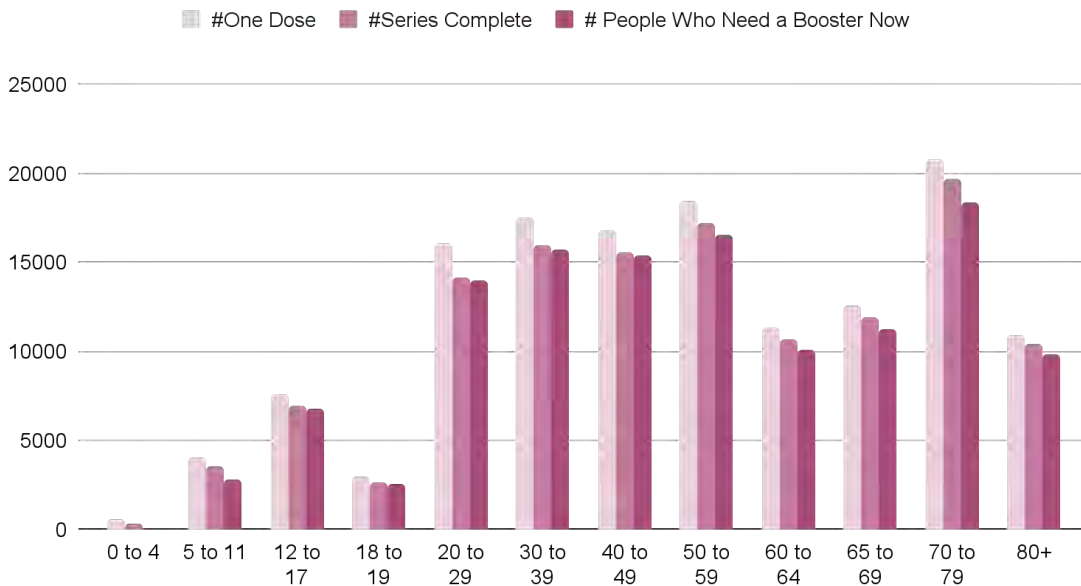
## Vaccination Status

As of August 24, 2022, Jackson County had 62% of the county with one dose and 57.1% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 123 is a clustered column chart presenting Jackson County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

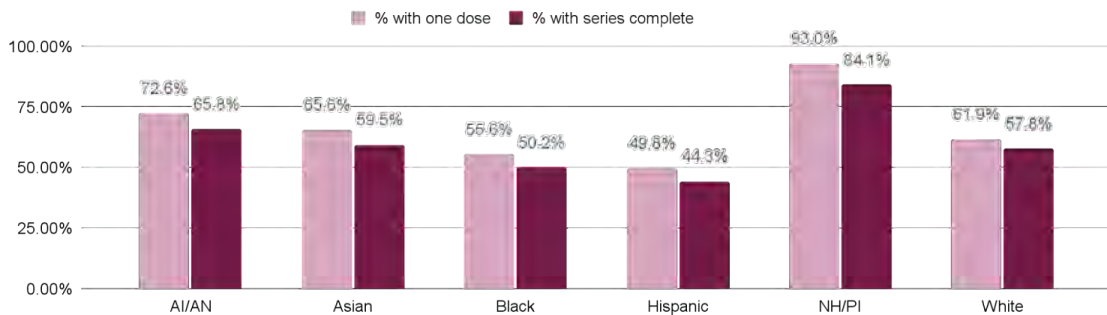
Figure 123: Jackson Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 124 is a clustered column chart presenting Jackson County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Jackson County, individuals who identify as Hispanic have the lowest vaccination coverage, with 49.8% of individuals having at least one dose and 44.3% of individuals with a series complete.

Figure 124: Jackson County % of population with one dose and % series complete by race



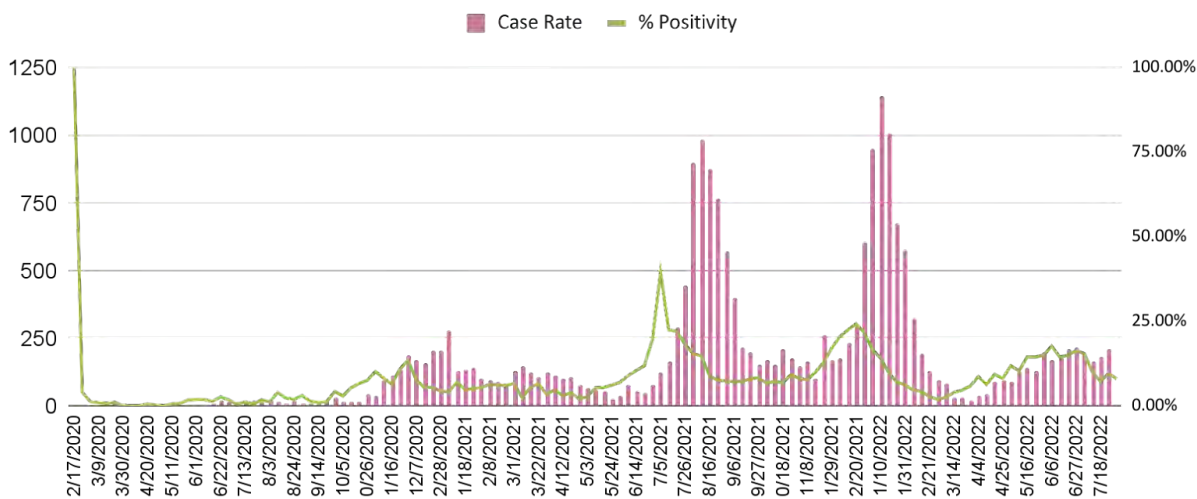
## Josephine

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 125 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Josephine County saw five surges of COVID-19 cases. The first wave of COVID-19 cases occurred between October 2020 and February 2021 peaked the week of January 4, 2020 with a case rate of 276 per 100,000. In Stage 2, the second wave occurred between February and May 2021, with the highest case rate (144 per 100,000) occurring the week of March 8, 2021. The third wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (985 per 100,000) was seen, which occurred during the peak of this wave the week of August 9, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the next wave was seen in Oregon between December 2021 and February 2022. This wave peaked the week of January 10, 2022 with a case rate of 1,144 per 100,000. The fifth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 125: Josephine COVID-19 case rates

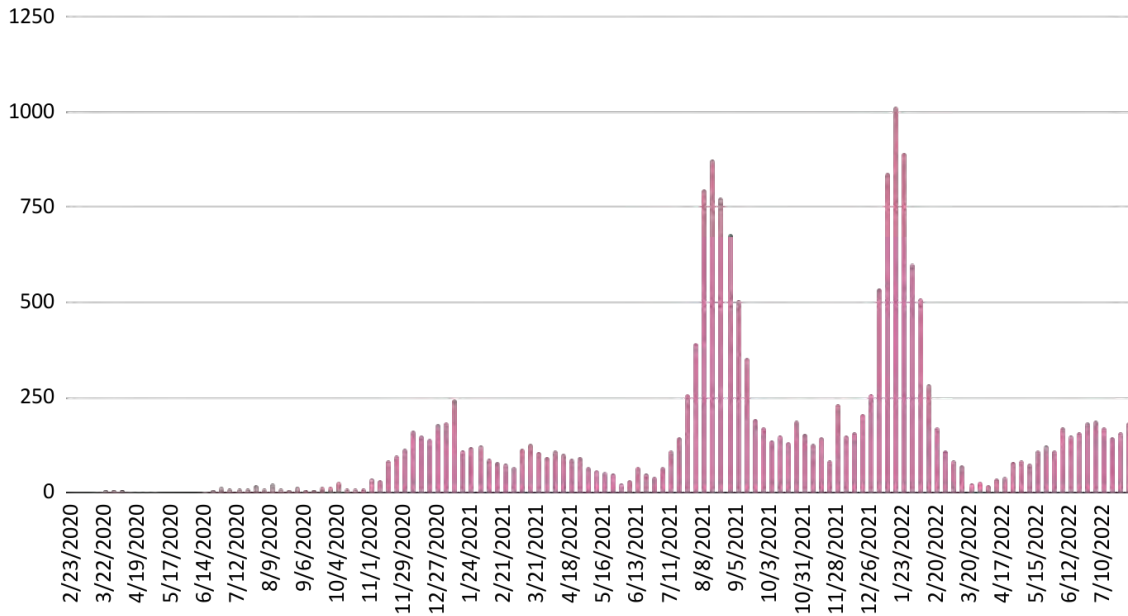


#### Cases Over Time

Figure 126 presents Josephine County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 117 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 875 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 1,015 cases. And during Stage 4, COVID-19 cases peaked the week of July 3, 2022 with 189 cases.



Figure 126: Josephine Weekly COVID-19 cases over time

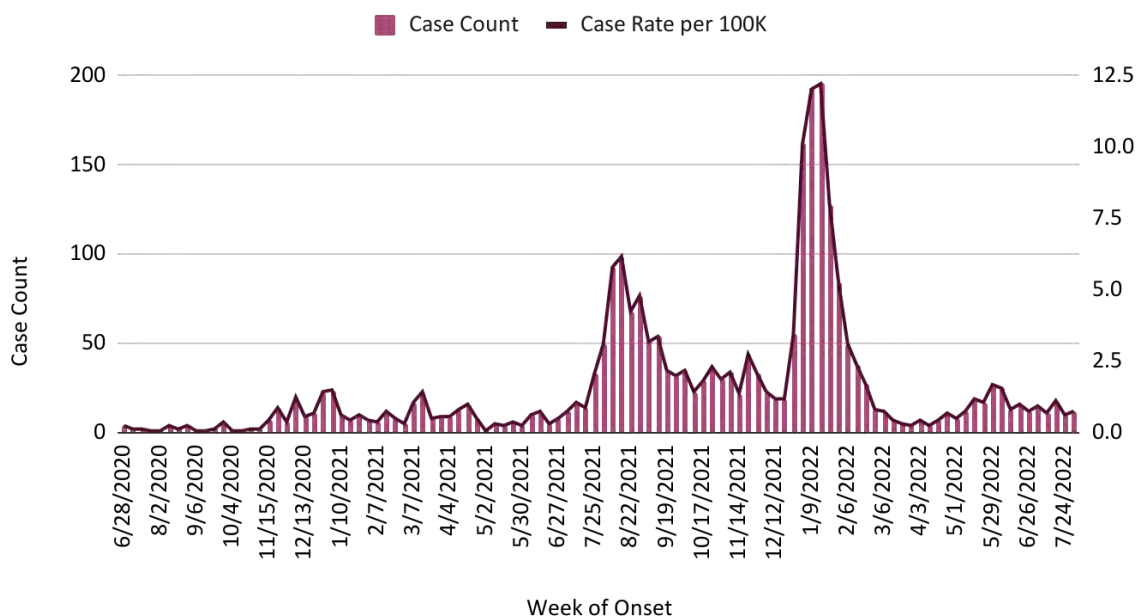


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 127 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Josephine County. As of the week of July 31, 2022, there were 2,574 pediatric COVID-19 cases in Josephine County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,221.6 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 15, 2021 with a COVID-19 case rate of 617.1 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked May 29, 2022, with 168.3 COVID-19 cases per

100,000.

Figure 127: Josephine pediatric COVID-19 cases and case rate over time



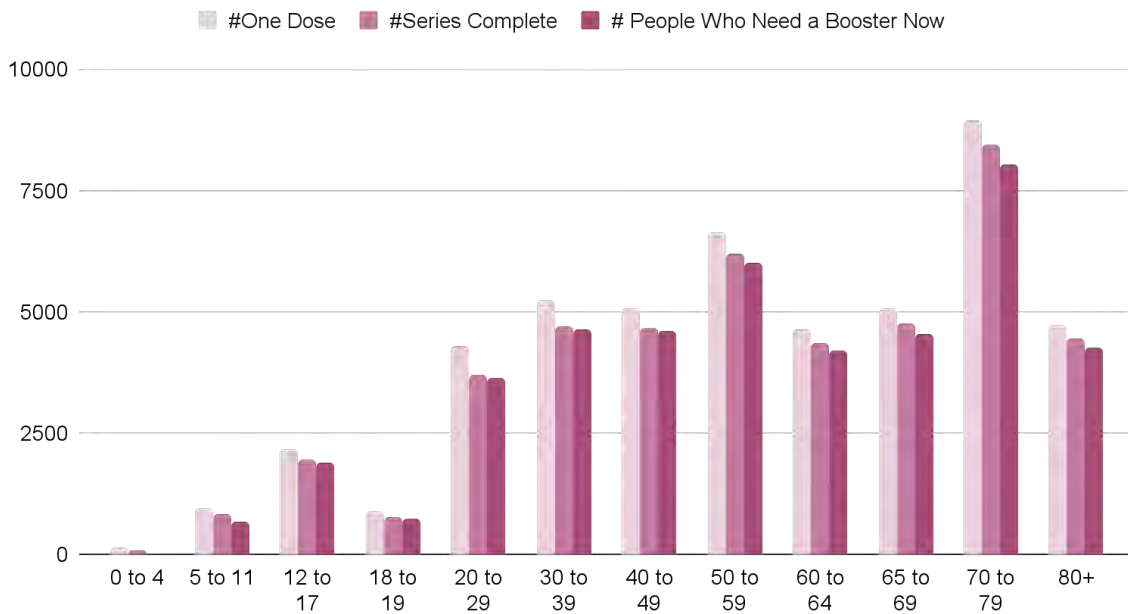
### Vaccination Status

As of August 24, 2022, Josephine County had 54.5% of the county with one dose and 50.1% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 128 is a clustered column chart presenting Josephine County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

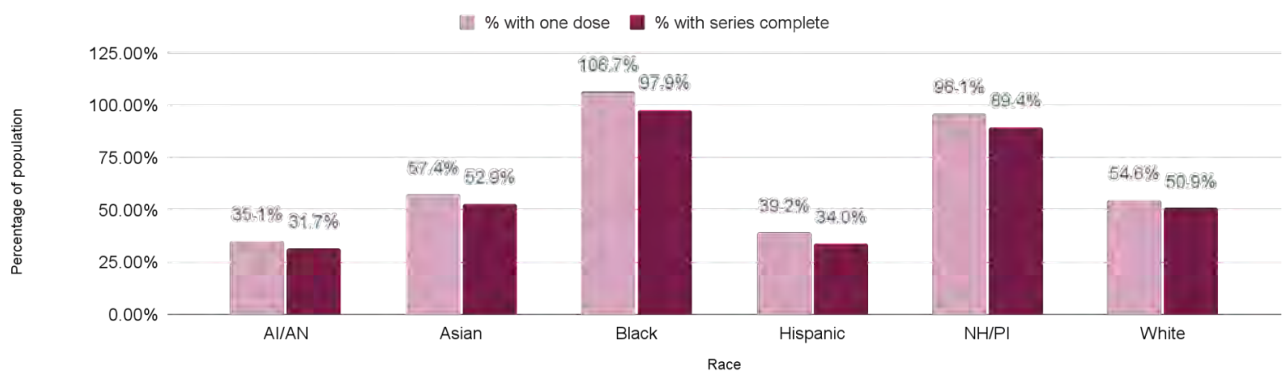
Figure 128: Josephine Vaccination status by age



### COVID-19 Vaccination Status by Race

Figure 129 is a clustered column chart presenting Josephine County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Josephine County, individuals who identify as American Indian/Alaska Native have the lowest vaccination coverage, with 35.1% of individuals having at least one dose and 31.7% of individuals with a series complete.

Figure 129: Josephine County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

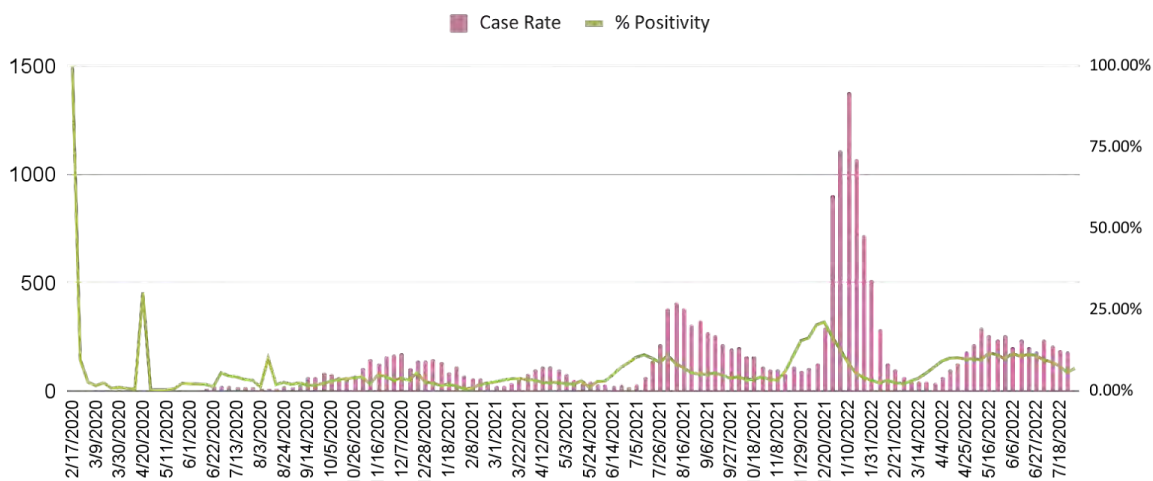
## Lane

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 130 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Lane County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred August-December 2020 and peaked the week of December 7, 2020 with a case rate of 176 per 100,000. The second wave that occurred between December 2020 and April 2021 peaked the week of January 4, 2020 with a case rate of 148 per 100,000. In Stage 2, the third wave occurred between March and June 2021, with the highest case rate (115 per 100,000) occurring the week of April 12, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (412 per 100,000) was seen, which occurred during the peak of this wave the week of August 9, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,382 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

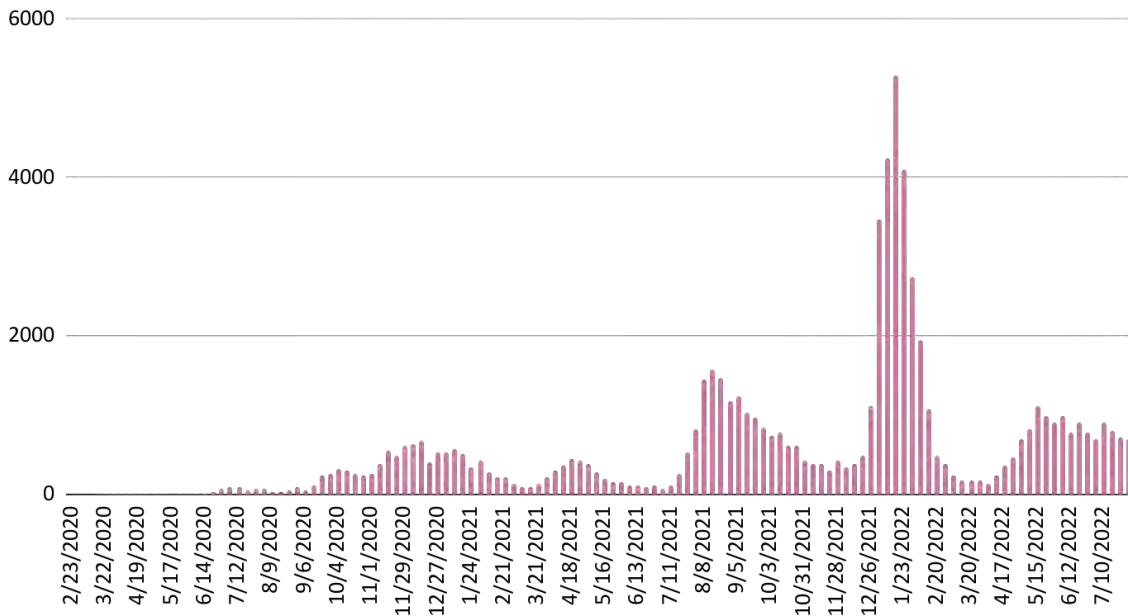
Figure 130: Lane COVID-19 case rates



#### Cases Over Time

Figure 131 presents Lane County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 609 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 1,578 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 5,289 cases. And during Stage 4, COVID-19 cases peaked the week of May 15, 2022 with 1,118 cases.

Figure 131: Lane Weekly COVID-19 cases over time

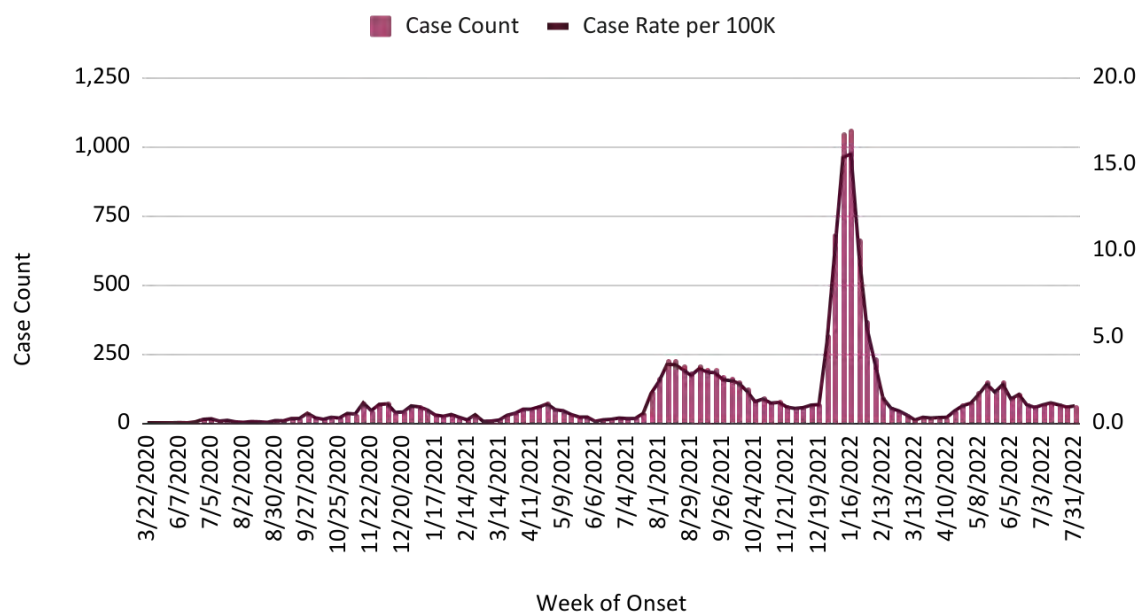


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 132 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Lane County. As of the week of July 31, 2022, there were 10,928 pediatric COVID-19 cases in Lane County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,557.3 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 8, 2021 with a COVID-19 case rate of 339.9 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July

2022, which peaked May 15, 2022, with 225.6 COVID-19 cases per 100,000.

Figure 132: Lane pediatric COVID-19 cases and case rate over time



## Vaccination Status

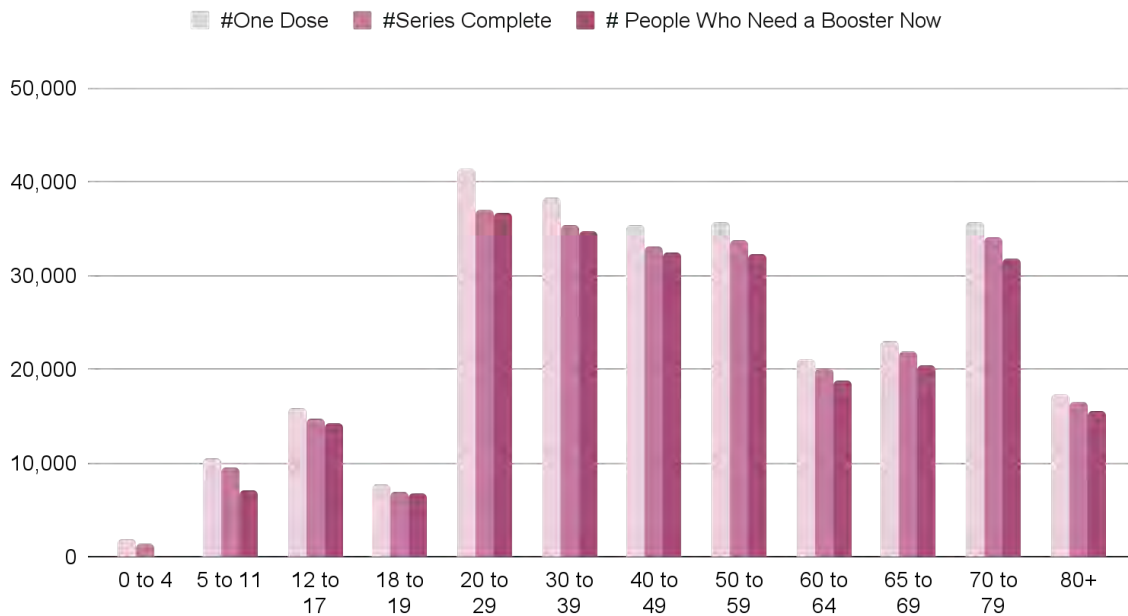
As of August 24, 2022, Lane County had 73.5% of the county with one dose and 68.5% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 133 is a clustered column chart presenting Lane County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a

booster now by age.

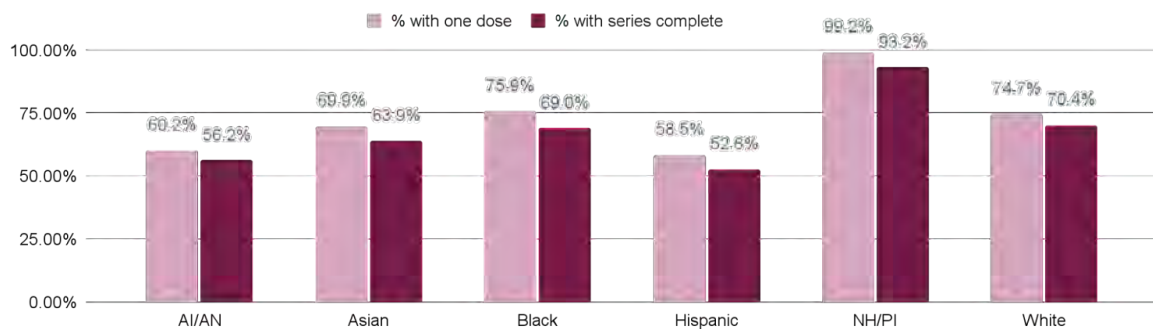
Figure 133: Lane Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 134 is a clustered column chart presenting Lane County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Lane County, individuals who identify as Hispanic have the lowest vaccination coverage, with 58.5% of individuals having at least one dose and 52.6% of individuals with a series complete.

Figure 134: Lane County % of population with one dose and % series complete by race



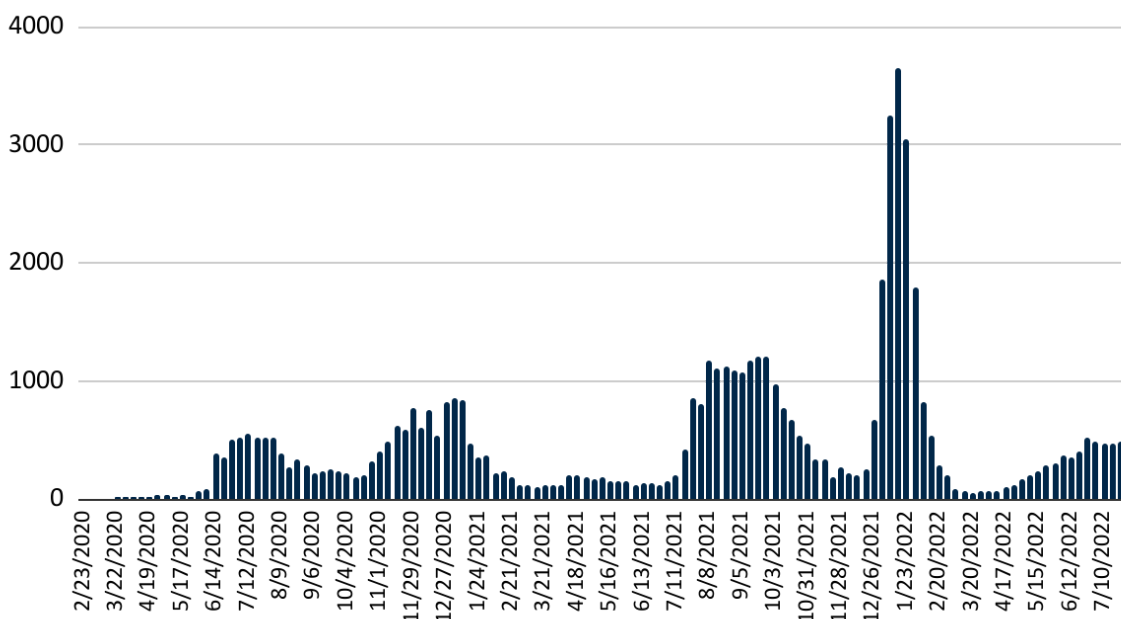
## Region 4

### Regional Data

#### Region 4 Level of Community Spread

Figure 135 is a column chart that presents weekly COVID-19 cases for Region 4. As of the week of July 31st, 2022, Region 4 has seen a total of 57,763 COVID-19 cases. Similar to statewide COVID-19 cases, Region 4 saw 6 distinct waves. Region 4 experienced the highest number of COVID-19 cases during the fifth (Omicron) wave. During the week of January 16, 2022, Region 4 had a total of 3,650 COVID-19 cases.

Figure 135: Region 4 Weekly COVID-19 cases over time



#### Region 4 Vaccination Status

Figure 136 is a stacked column chart that displays the number of individuals who have their COVID-19 vaccination series completed by age group in Region 4. As of September 30, 2022, adults aged 50 to 59 have the most number of individuals with a COVID-19 vaccination series



complete, and adults aged 20 to 49 and 70 to 79 have similar rates.

Figure 136: Region 4 number of COVID-19 vaccination series complete by age

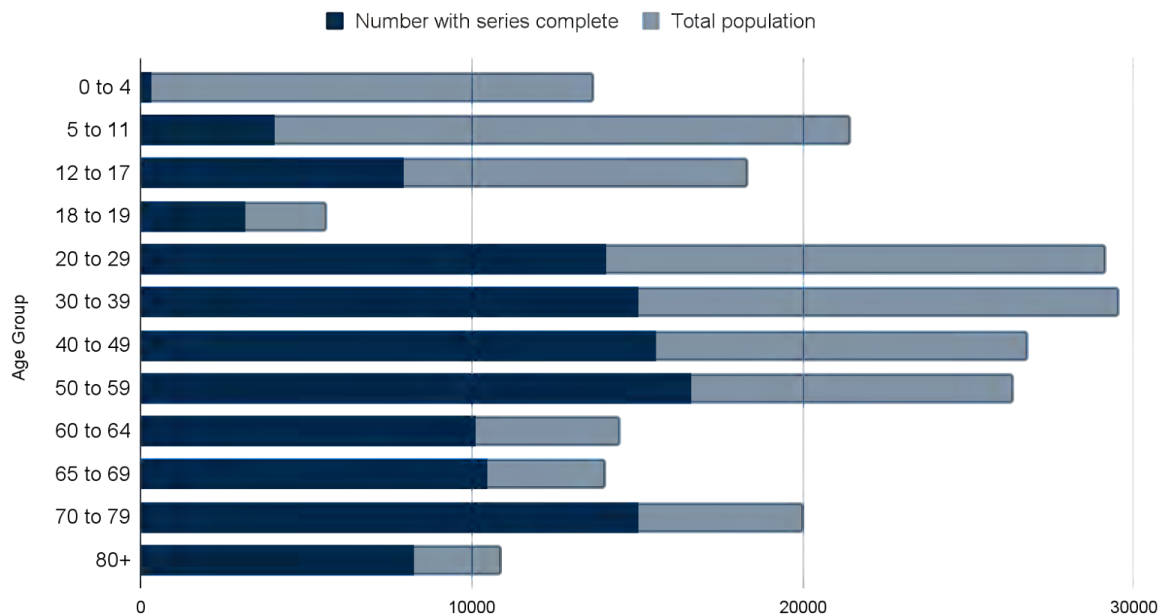
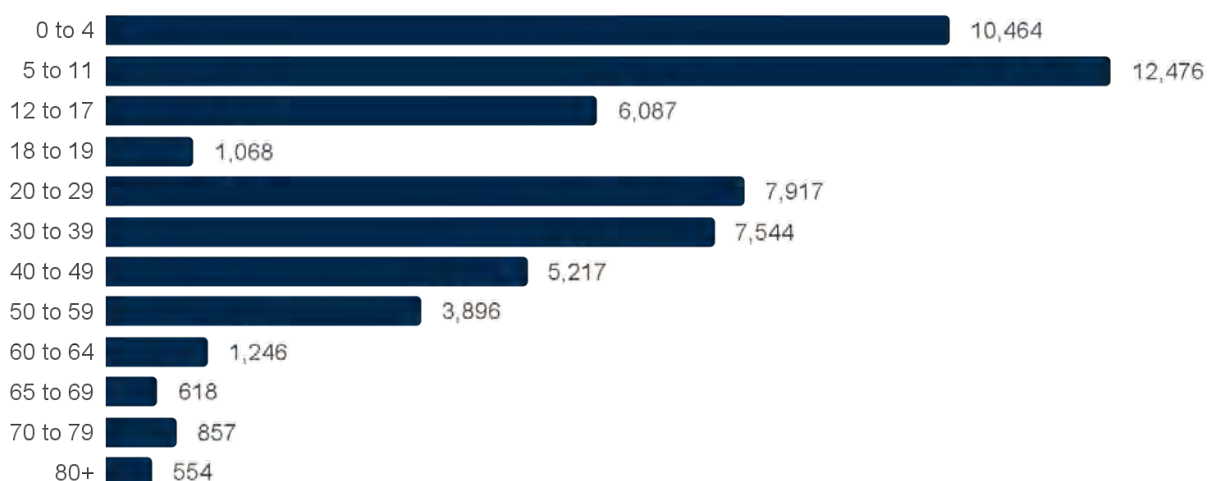


Figure 137 is a bar chart displaying the total number of people needed to reach 80% vaccinated by each age category in Region 4. No age group in Region 4 has reached 80% vaccinated. The age groups with the largest number of people needed to reach 80% vaccinated are children aged 5-11 years of age (n=12,476), followed by children ages 0-4 years of age (n=10,464) and adults ages 20-29 years of age (n=7,917).

Figure 137: Region 4 number of people needed to reach 80% vaccinated, by age



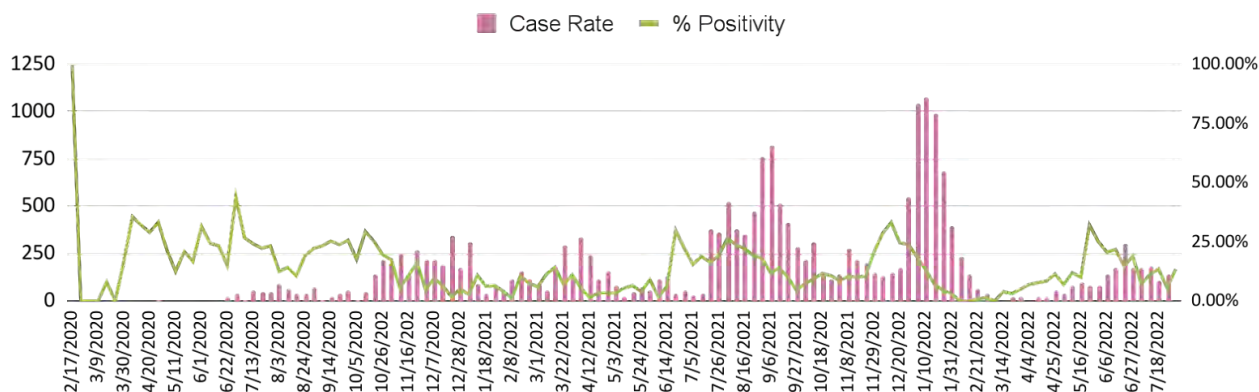
## Baker

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 138 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Baker County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-October 2020 and peaked the week of August 3, 2020 with a case rate of 89 per 100,000. The second wave that occurred between October 2020 and January 2021 peaked the week of December 21, 2020 with a case rate of 344 per 100,000. In Stage 2, the third wave occurred between February and May 2021, with the highest case rate (338 per 100,000) occurring the week of April 5, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (824 per 100,000) was seen, which occurred during the peak of this wave the week of September 6, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,079 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

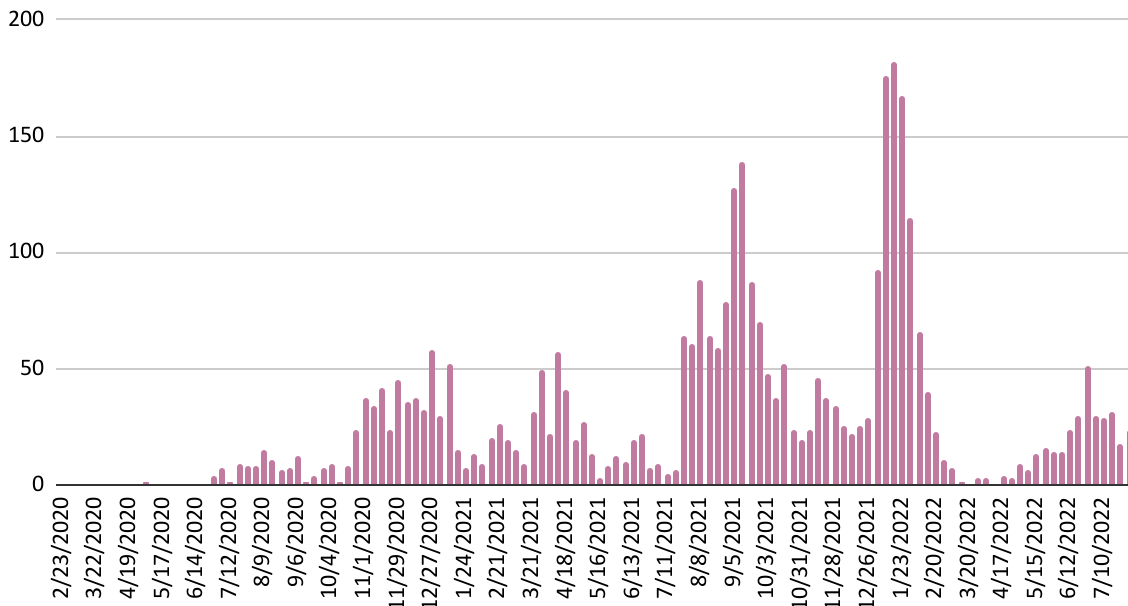
Figure 138: Baker COVID-19 case rates



#### Cases Over Time

Figure 139 presents Baker County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 45 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 88 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 182 cases. And during Stage 4, COVID-19 cases peaked the week of June 26, 2022 with 51 cases.

Figure 139: Baker Weekly COVID-19 cases over time

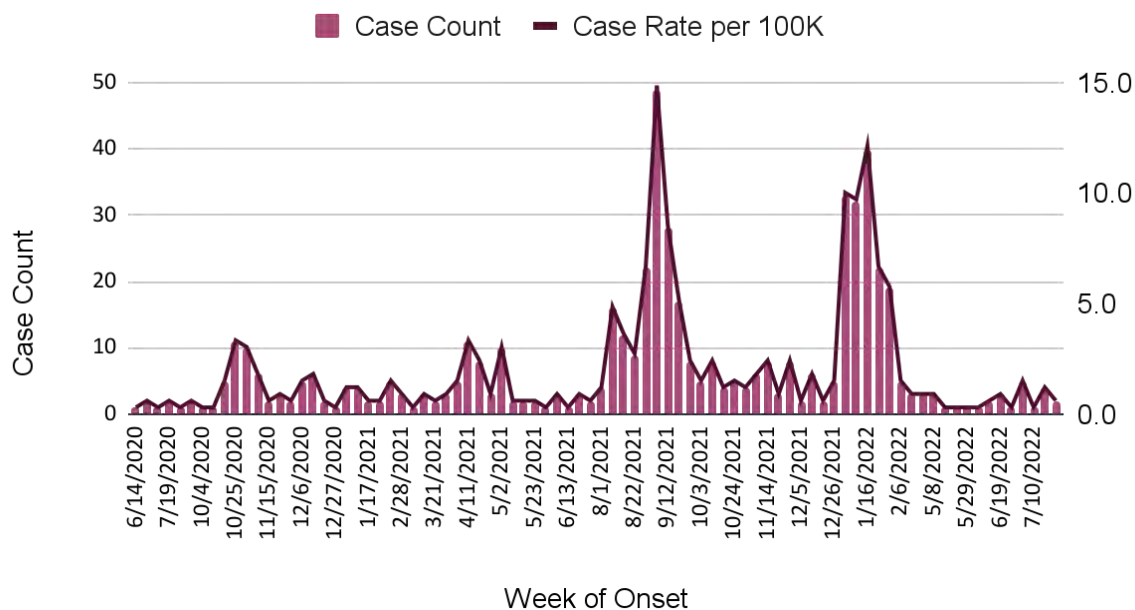


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 140 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Baker County. As of the week of July 31, 2022, there were 560 pediatric COVID-19 cases in Baker County. Pediatric COVID-19 cases were highest during the Delta wave, peaking the week of September 5, 2021 with a case rate of 1,487.1 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in December 2021, which peaked the week of January 16, 2022 with a COVID-19 case rate of

1214.0 per 100,000.

Figure 140: Baker pediatric COVID-19 cases and case rate over time



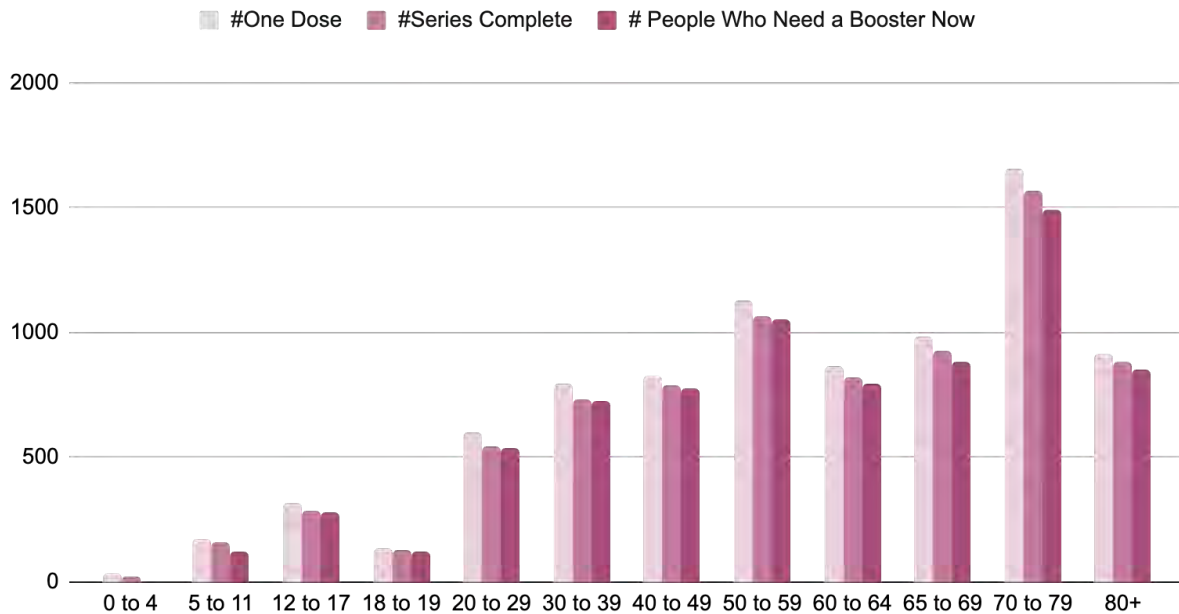
### Vaccination Status

As of August 24, 2022, Baker County had 49.5% of the county with one dose and 46.5% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 141 is a clustered column chart presenting Baker County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

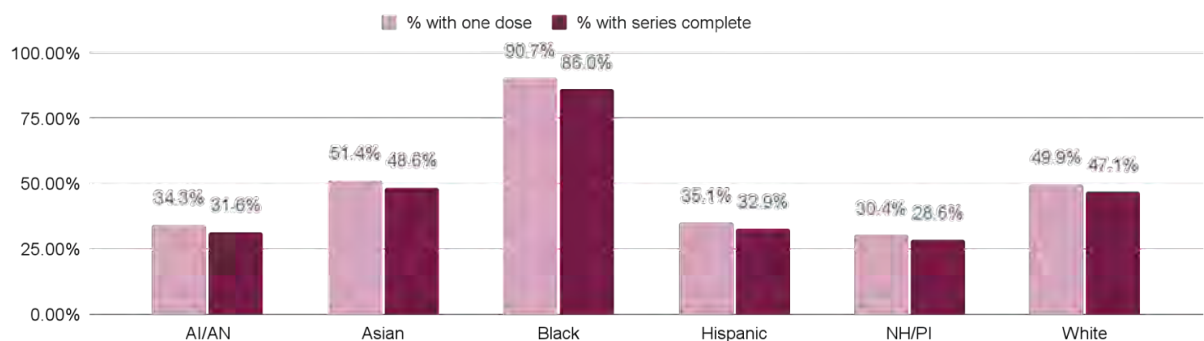
Figure 141: Baker Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 142 is a clustered column chart presenting Baker County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Baker County, individuals who identify as Native Hawaiian/Pacific Islander have the lowest vaccination coverage, with 30.4% of individuals having at least one dose and 28.6% of individuals with a series complete.

Figure 142: Baker County % of population with one dose and % series complete by race



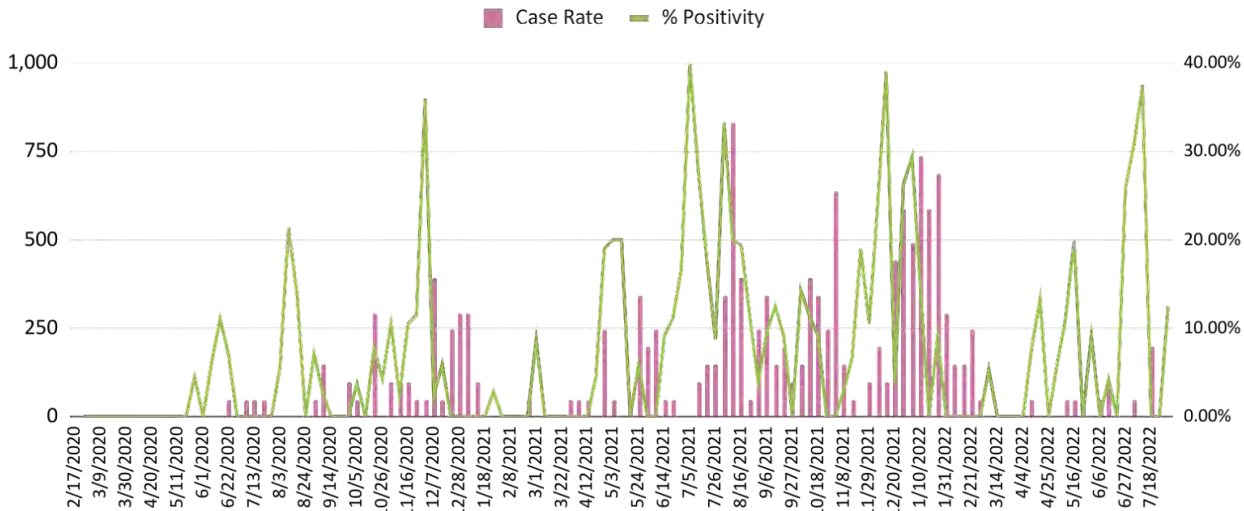
## Gilliam

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 143 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Gilliam County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-November 2020 and peaked the week of October 19, 2020 with a case rate of 294 per 100,000. The second wave that occurred between October 2020 and March 2021 peaked the week of December 7, 2020 with a case rate of 392 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (343 per 100,000) occurring the week of May 24, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (834 per 100,000) was seen, which occurred during the peak of this wave the week of August 9, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 736 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

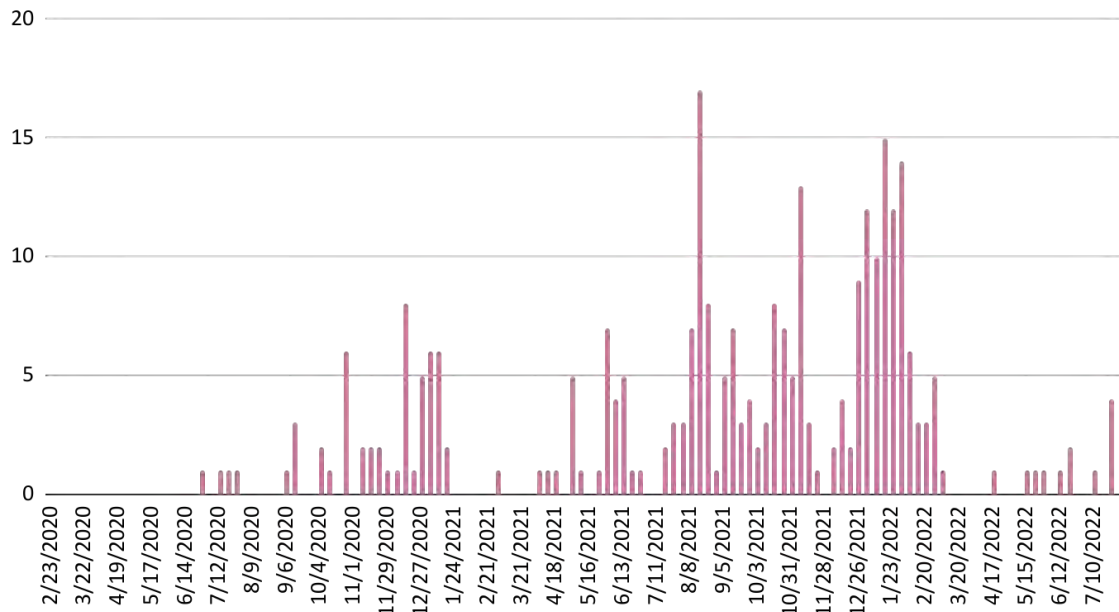
143: Gilliam COVID-19 case rates



#### Cases Over Time

Figure 144 presents Gilliam County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of October 25, 2020 with 6 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 17 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 15 cases. And during Stage 4, COVID-19 cases peaked the week of July 24, 2022 with 4 cases.

Figure 144: Gilliam Weekly COVID-19 cases over time

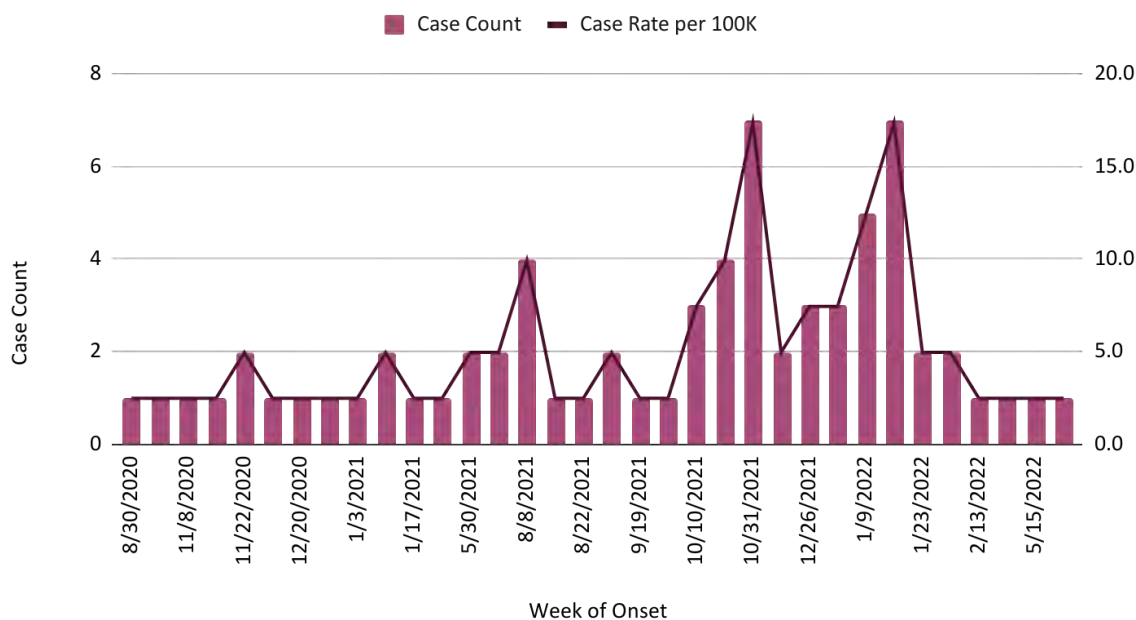


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 145 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Gilliam County. As of the week of July 31, 2022, there were 70 pediatric COVID-19 cases in Gilliam County. Pediatric COVID-19 cases were highest the weeks of October 31, 2021 and January 16, 2022, with case rates of 1,737.0 per 100,000. Similar to other counties, there was an increase in pediatric COVID-19 cases in May 2021, which peaked the week of August 8, 2021 with a COVID-19 case rate of 993.6 per

100,000.

Figure 145: Gilliam pediatric COVID-19 cases and case rate over time



## Vaccination Status

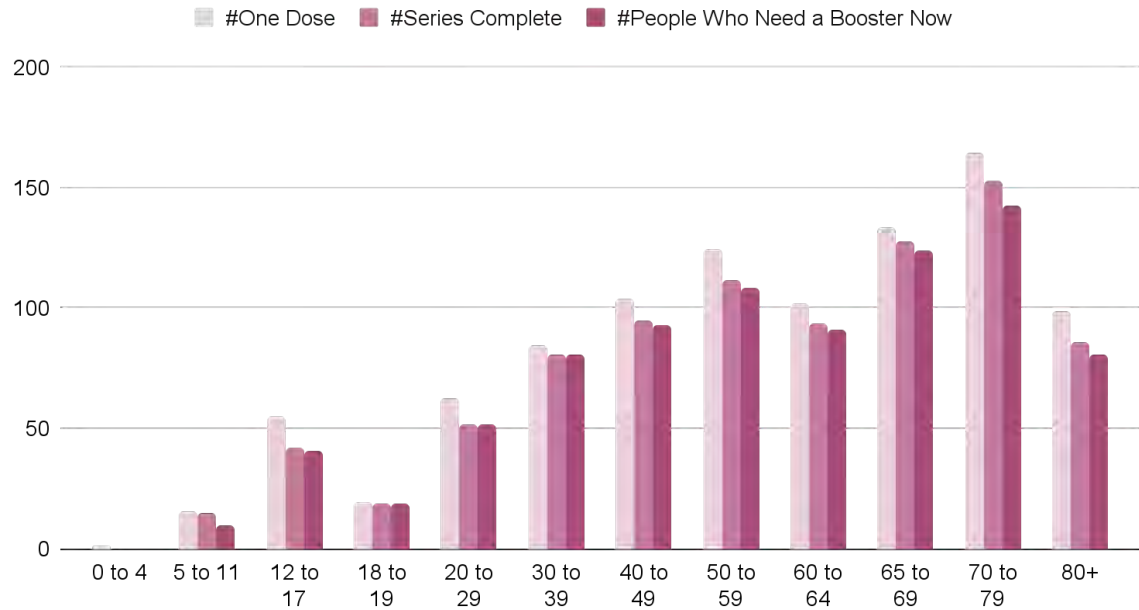
As of August 24, 2022, Gilliam County had 46.9% of the county with one dose and 42.5% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 146 is a clustered column chart presenting Gilliam County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.



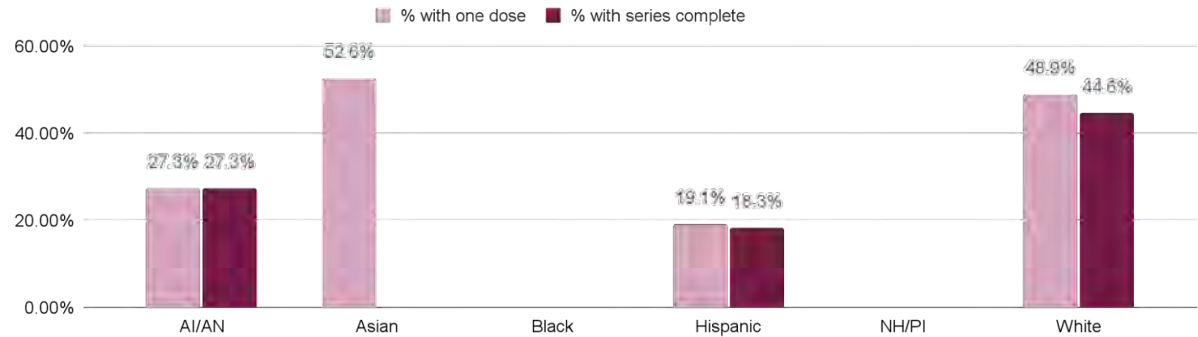
Figure 146: Gilliam Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 147 is a clustered column chart presenting Gilliam County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Gilliam County, individuals who identify as Hispanic have the lowest vaccination coverage, with 19.1% of individuals having at least one dose and 18.3% of individuals with a series complete.

Figure 147: Gilliam County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

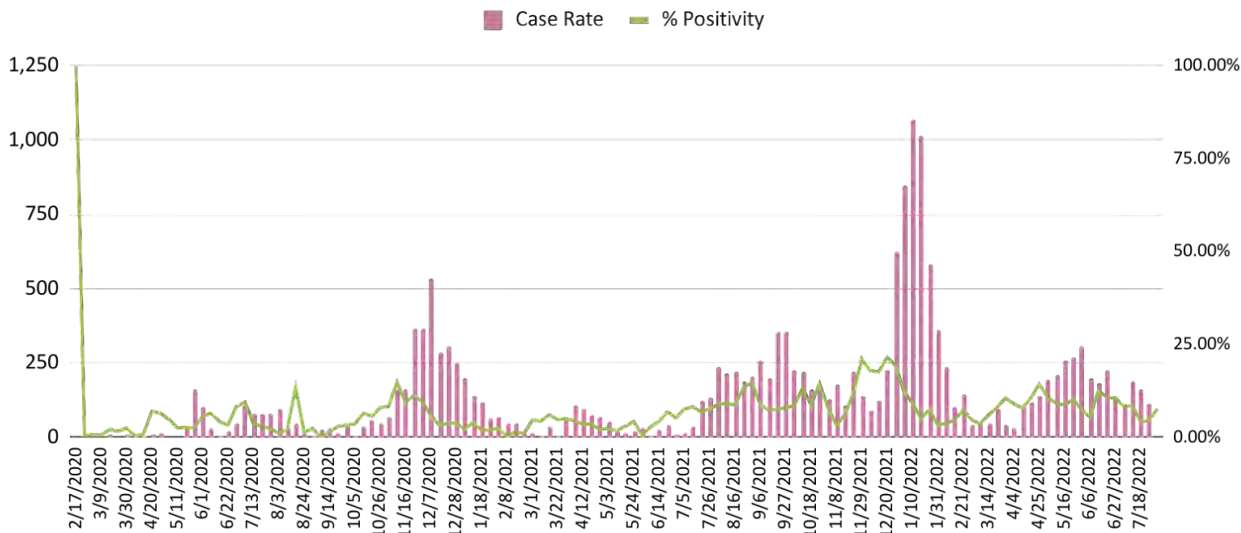
## Hood River

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 148 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Hood River County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred May-September 2020 and peaked the week of May 25, 2020 with a case rate of 159 per 100,000. The second wave that occurred between September 2020 and March 2021 peaked the week of December 7, 2020 with a case rate of 536 per 100,000. In Stage 2, the third wave occurred between March and June 2021, with the highest case rate (109 per 100,000) occurring the week of April 5, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (356 per 100,000) was seen, which occurred during the peak of this wave the week of September 20, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,067 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

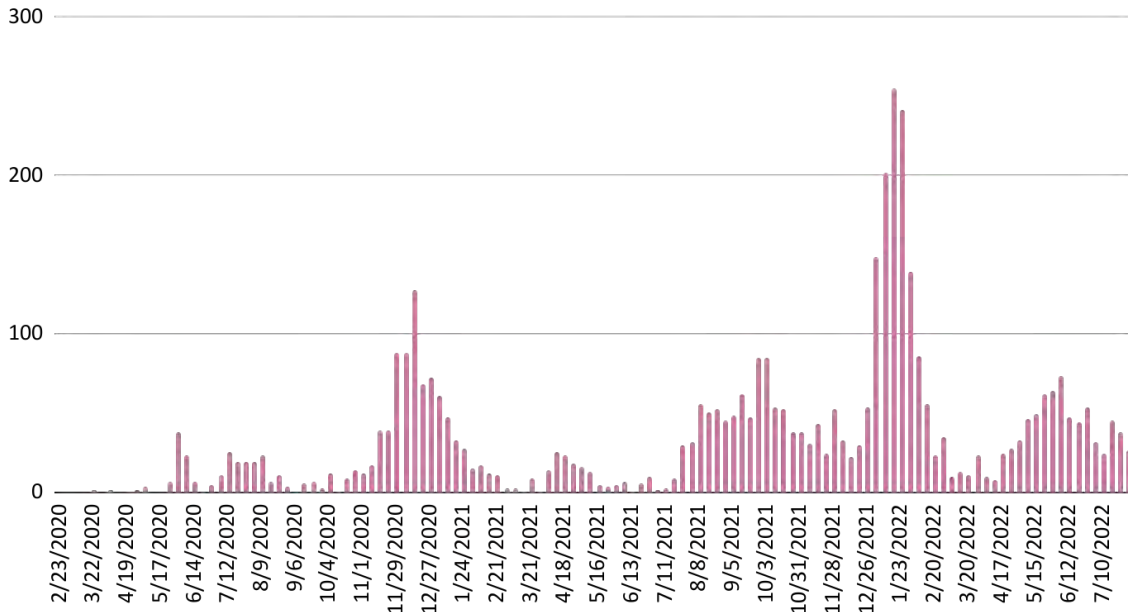
Figure 148: Hood River COVID-19 case rates



#### Cases Over Time

Figure 149 presents Hood River County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 88 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 56 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 255 cases. And during Stage 4, COVID-19 cases peaked the week of June 5, 2022 with 74 cases.

Figure 149: Hood River Weekly COVID-19 cases over time

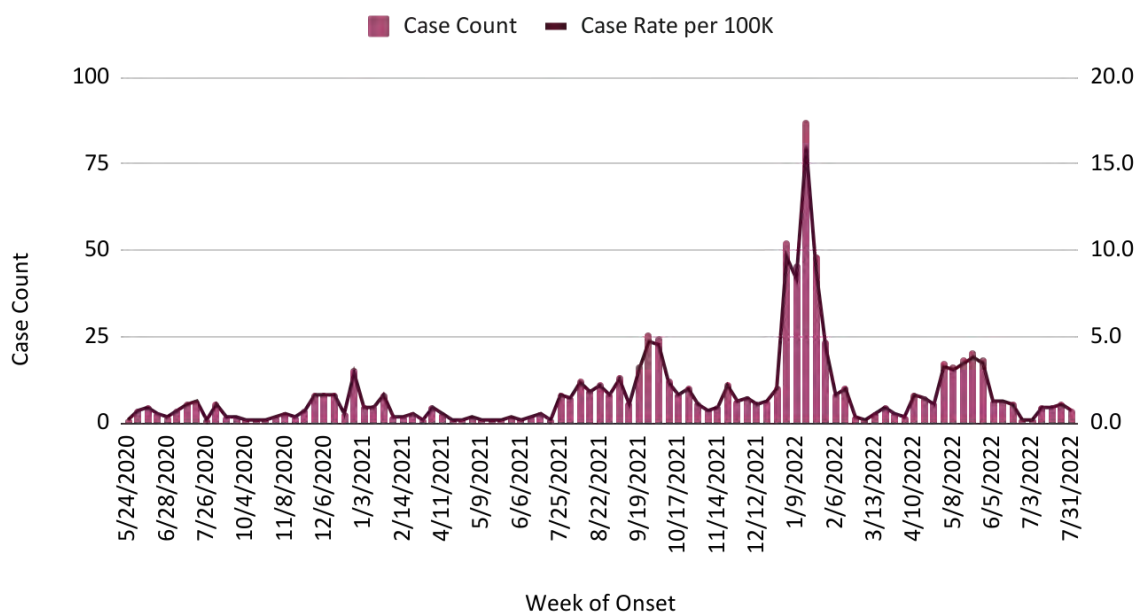


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 150 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Hood River County. As of the week of July 31, 2022, there were 857 pediatric COVID-19 cases in Hood River County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,598.0 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 26, 2021 with a COVID-19 case rate of 472.1 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked May 22, 2022, with 381.3 COVID-19 cases per

100,000.

Figure 150: Hood River pediatric COVID-19 cases and case rate over time



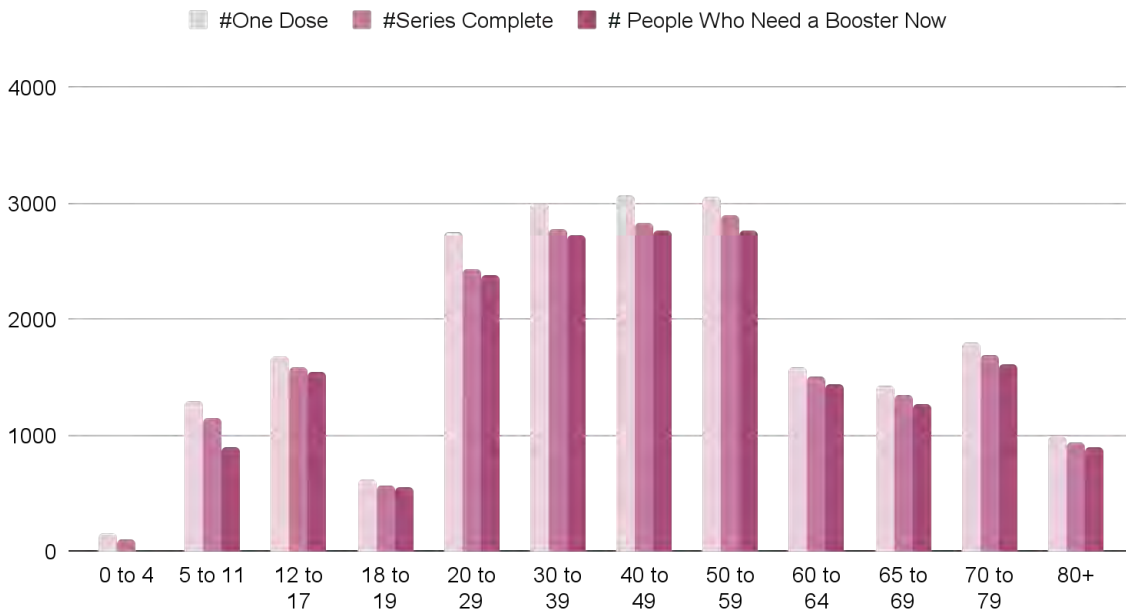
## Vaccination Status

As of August 24, 2022, Hood River County had 89.0% of the county with one dose and 82.2% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 151 is a clustered column chart presenting Hood River County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

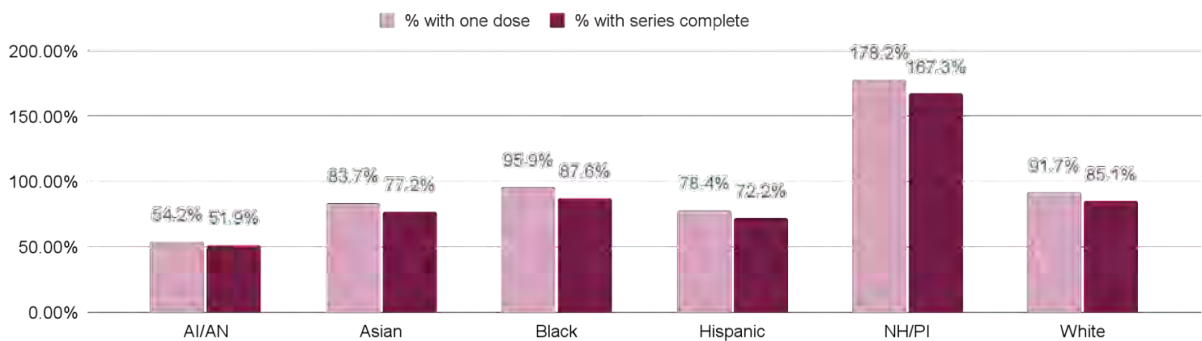
Figure 151: Hood River Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 152 is a clustered column chart presenting Hood River County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Hood River County, individuals who identify as American Indian/Alaska Native have the lowest vaccination coverage, with 54.2% of individuals having at least one dose and 51.9% of individuals with a series complete.

Figure 152: Hood River County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

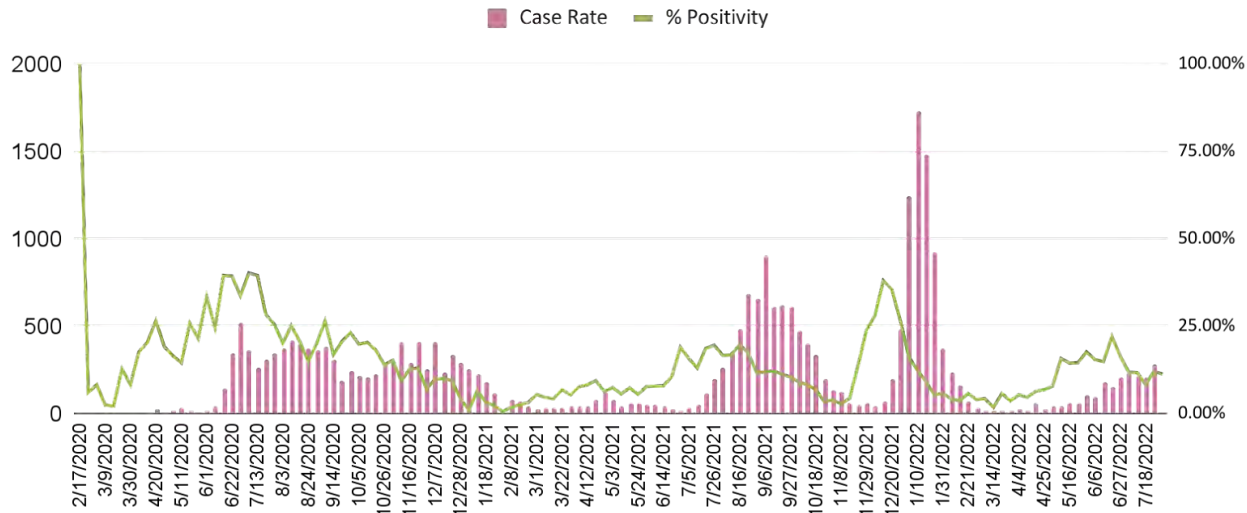
## Malheur

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 153 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Malheur County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a smaller wave that occurred June-September 2020 and peaked the week of June 29, 2020 with a case rate of 519 per 100,000. The second wave that occurred between October 2020 and January 2021 peaked the week of November 9, 2020 with a case rate of 406 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (122 per 100,000) occurring the week of April 26, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (900 per 100,000) was seen, which occurred during the peak of this wave the week of September 6, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,728 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

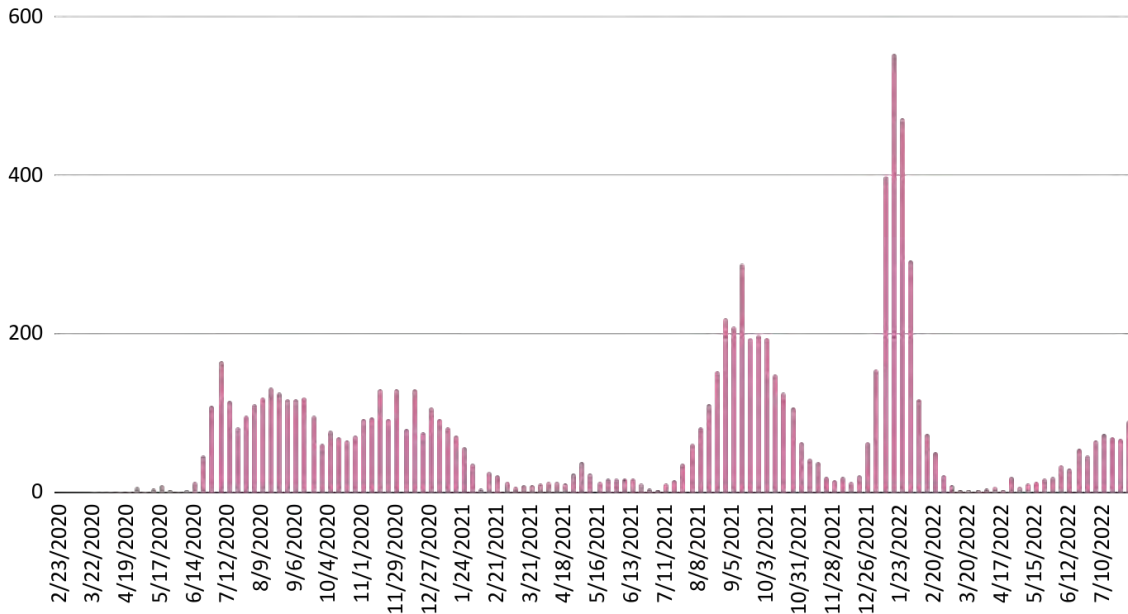
Figure 153: Malheur COVID-19 case rates



#### Cases Over Time

Figure 154 presents Malheur County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of July 5, 2020 with 66 cases. During Stage 2, COVID-19 cases peaked the week of August 29, 2021 with 220 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 553 cases. And during Stage 4, COVID-19 cases peaked the week of July 31, 2022 with 90 cases.

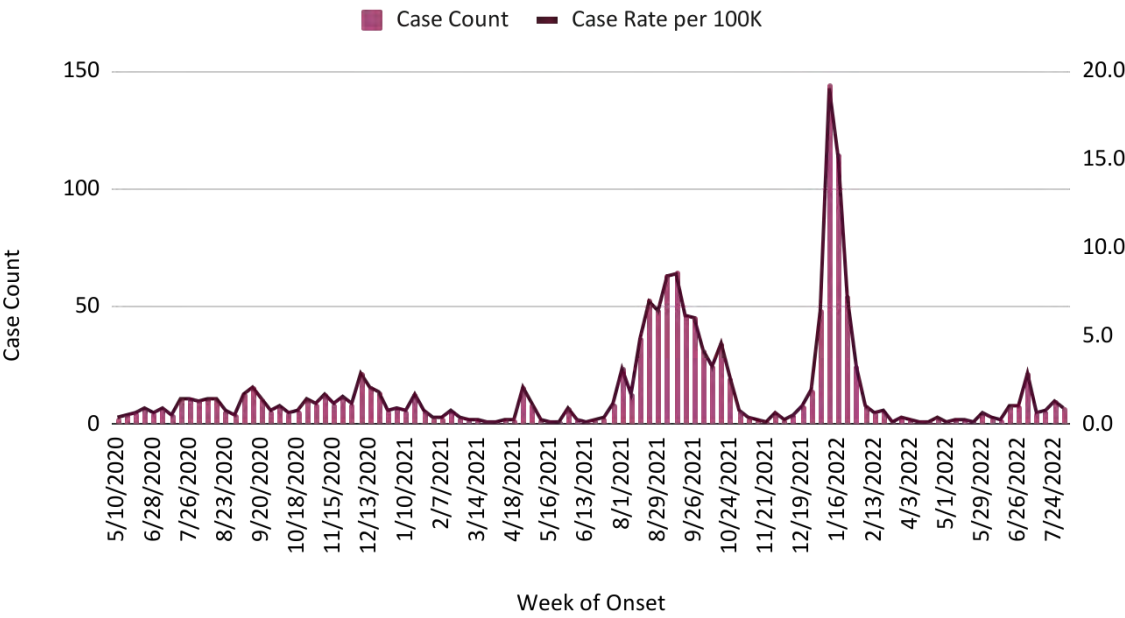
Figure 154: Malheur Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 155 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Malheur County. As of the week of July 31, 2022, there were 1,452 pediatric COVID-19 cases in Malheur County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 1,902.1 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 852.7 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked July 3, 2022, with 288.6 COVID-19 cases per 100,000.

Figure 155: Malheur pediatric COVID-19 cases and case rate over time



Vaccination Status

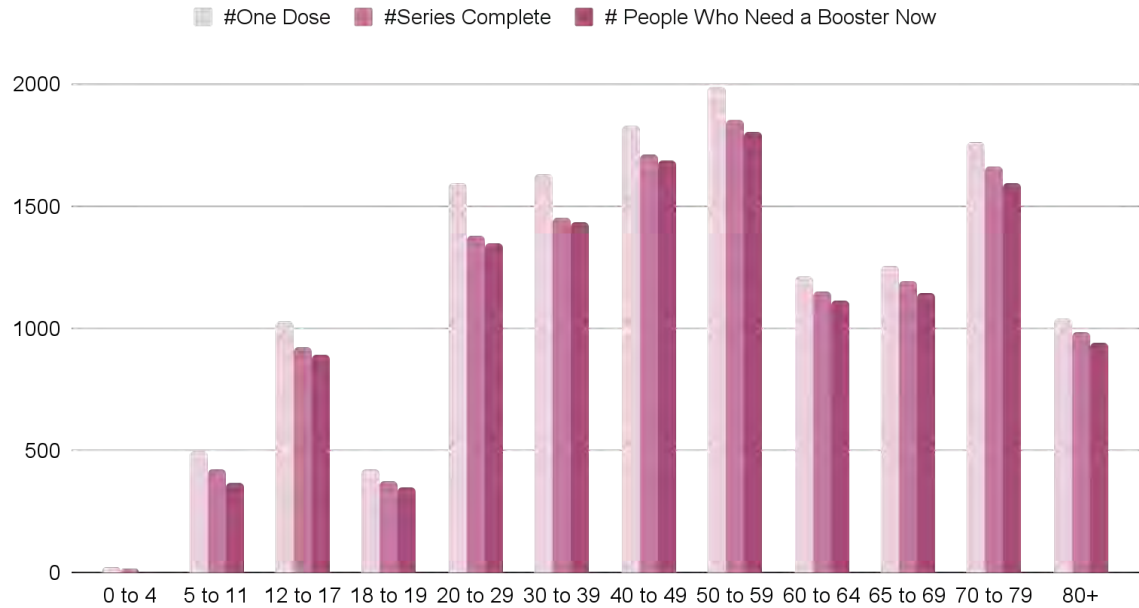
As of August 24, 2022, Malheur County had 44.3% of the county with one dose and 40.7% with a series complete.

COVID-19 Vaccination Status by Age

Figure 156 is a clustered column chart presenting Malheur County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.



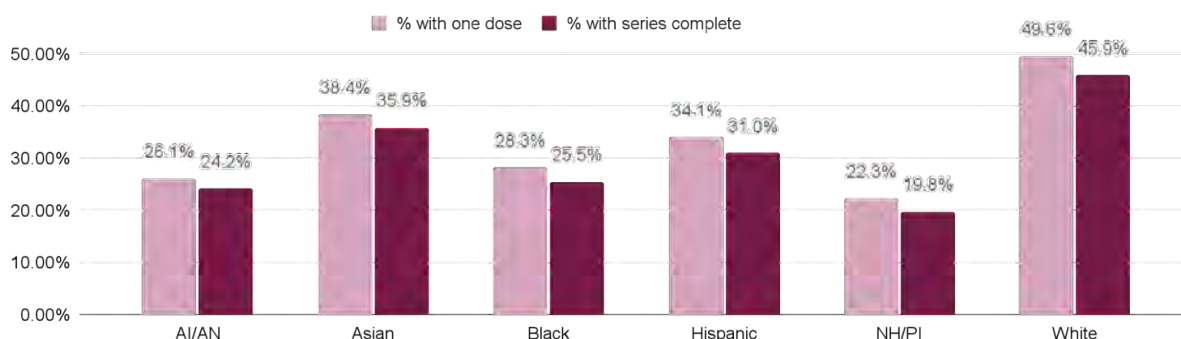
Figure 156: Malheur Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 157 is a clustered column chart presenting Malheur County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Malheur County, individuals who identify as Native Hawaiian/Pacific Islander have the lowest vaccination coverage, with 22.3% of individuals having at least one dose and 19.8% of individuals with a series complete.

Figure 157: Malheur County % of population with one dose and % series complete by race



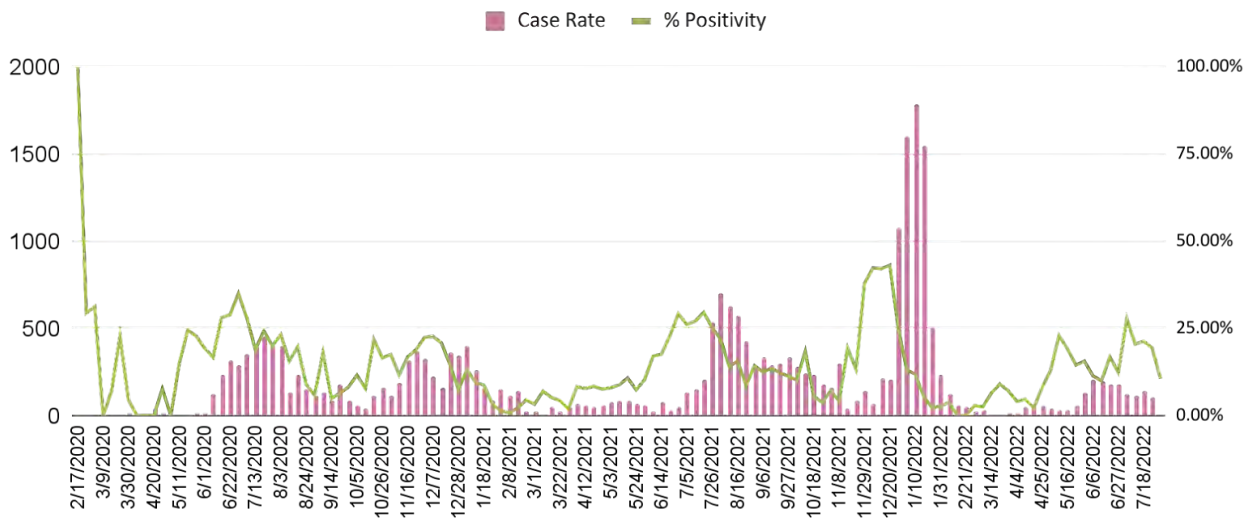
## Morrow

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 158 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Morrow County saw six surges of COVID-19 cases. The first wave of COVID-19 cases occurred June-October 2020 and peaked the week of July 20, 2020 with a case rate of 451 per 100,000. The second wave that occurred between October 2020 and March 2021 peaked the week of January 4, 2020 with a case rate of 396 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (87 per 100,000) occurring the week of May 10, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (704 per 100,000) was seen, which occurred during the peak of this wave the week of August 2, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,781 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

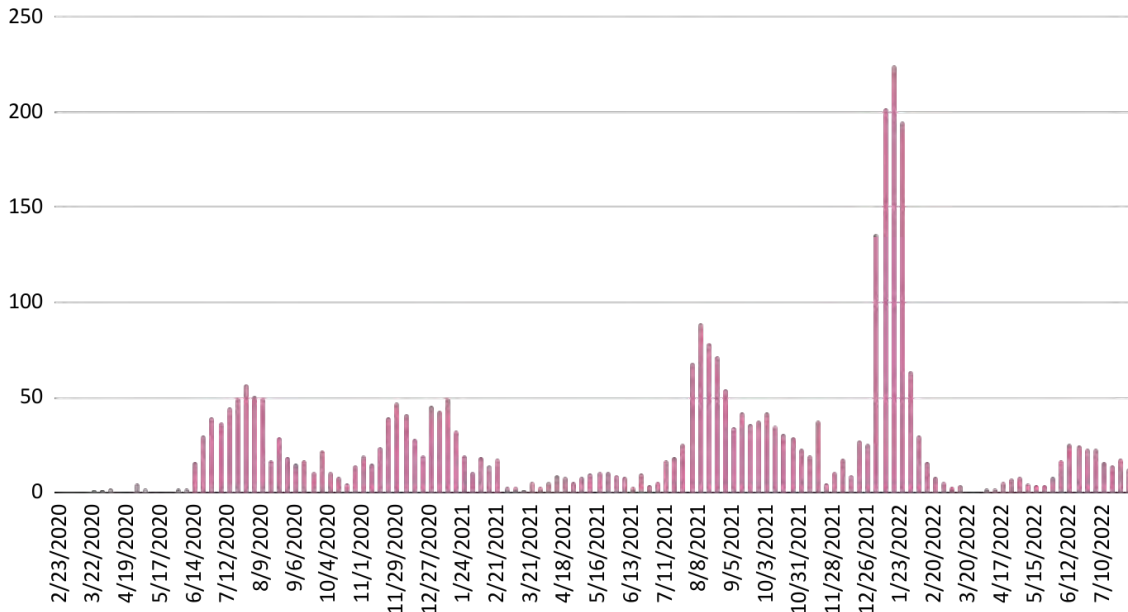
Figure 158: Morrow COVID-19 case rates



### Cases Over Time

Figure 159 presents Morrow County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of July 26, 2020 with 57 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 89 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 225 cases. And during Stage 4, COVID-19 cases peaked the week of June 12, 2022 with 26 cases.

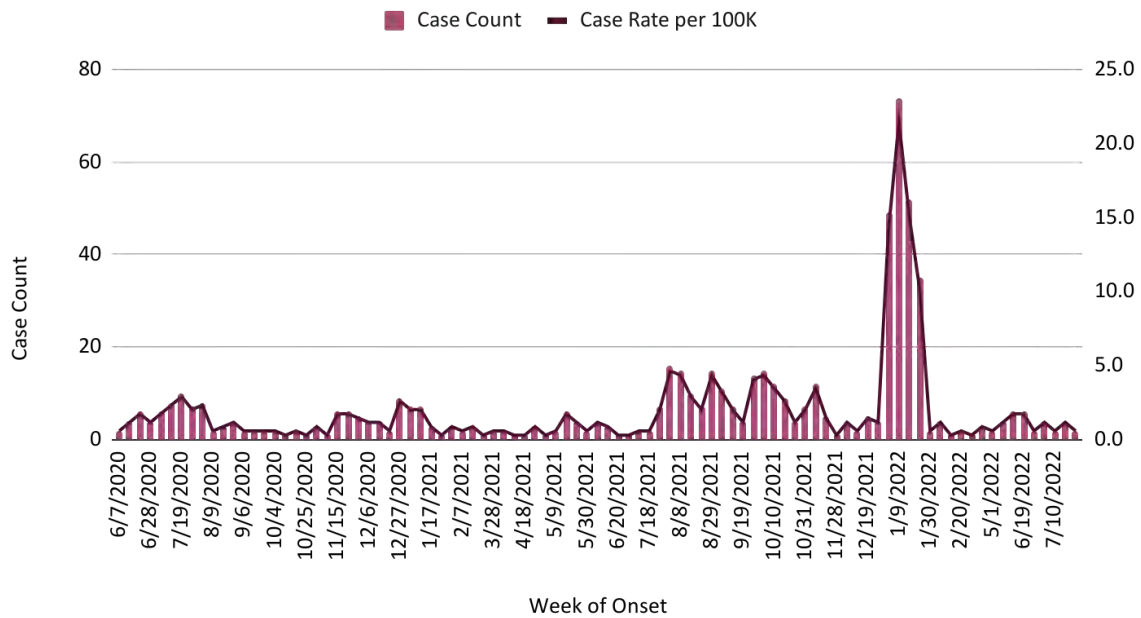
Figure 159: Morrow Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 160 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Morrow County. As of the week of July 31, 2022, there were 623 pediatric COVID-19 cases in Morrow County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 2,145.5 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 1, 2021 with a COVID-19 case rate of 463.9 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked June 19, 2022, with 174 COVID-19 cases per 100,000.

Figure 160: Morrow pediatric COVID-19 cases and case rate over time



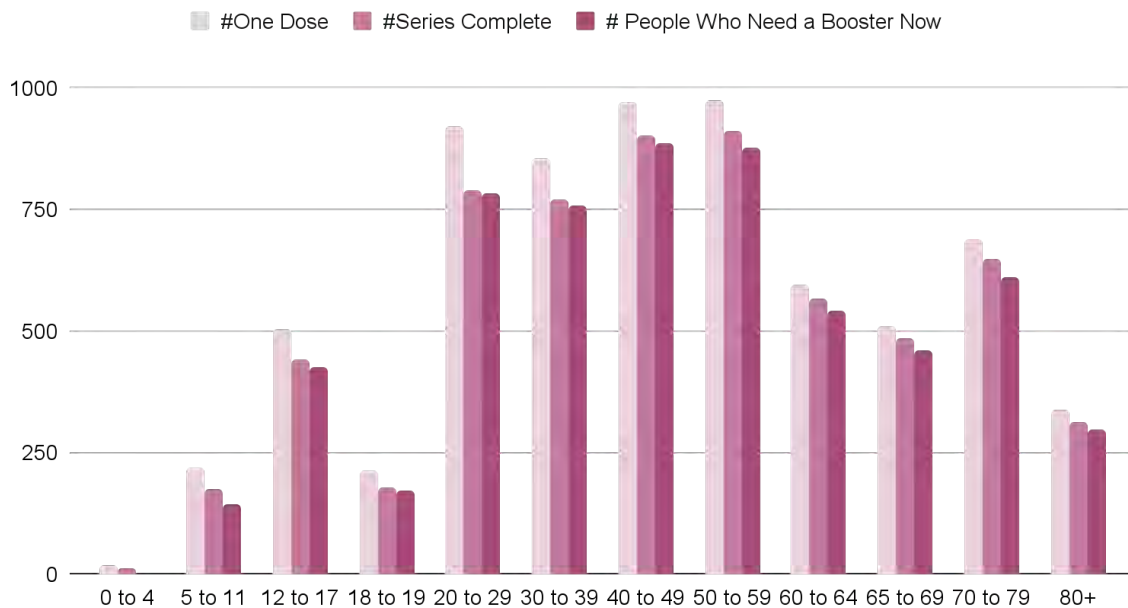
## Vaccination Status

As of August 24, 2022, Morrow County had 53.4% of the county with one dose and 48.7% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 161 is a clustered column chart presenting Morrow County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

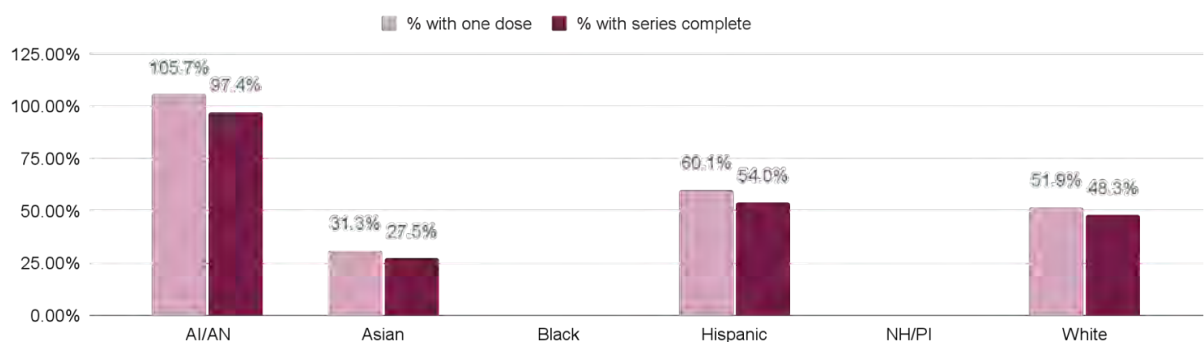
Figure 161: Morrow Vaccination status by age



### COVID-19 Vaccination Status by Race

Figure 162 is a clustered column chart presenting Morrow County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Morrow County, individuals who identify as Asian have the lowest vaccination coverage, with 31.3% of individuals having at least one dose and 27.5% of individuals with a series complete.

Figure 162: Morrow County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

Vaccination data for some populations by county are suppressed due to low numbers.

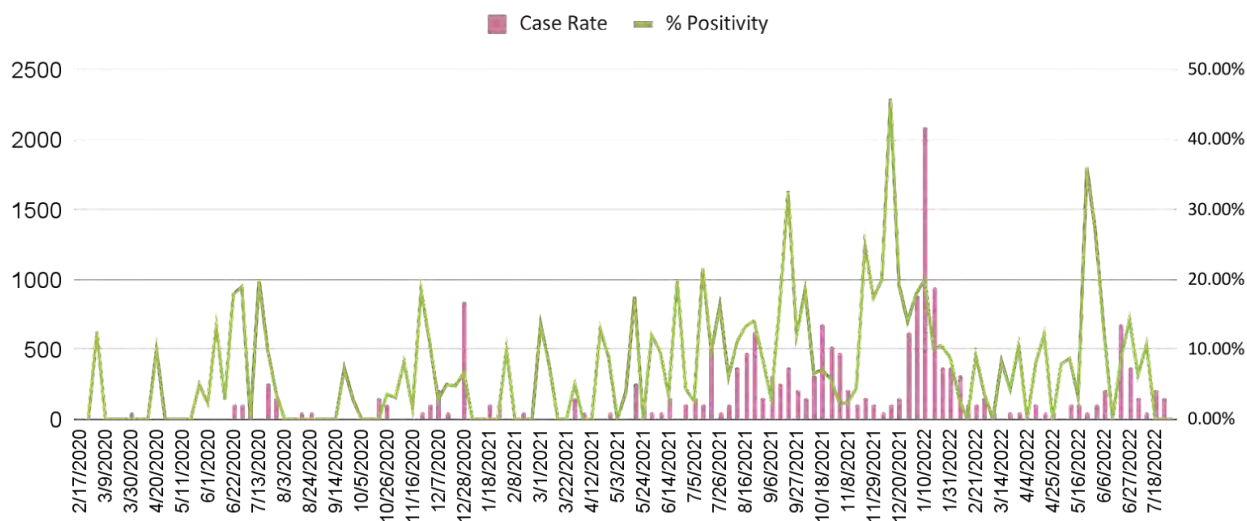
## Sherman

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 163 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Sherman County saw six surges of COVID-19 cases. The first wave of COVID-19 cases occurred June-August 2020 and peaked the week of July 20, 2020 with a case rate of 262 per 100,000. The second wave that occurred between October 2020 and March 2021 peaked the week of December 28, 2020 with a case rate of 839 per 100,000. In Stage 2, the third wave occurred between April and June 2021, with the highest case rate (262 per 100,000) occurring the week of May 17, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (681 per 100,000) was seen, which occurred during the peak of this wave the week of October 18, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 2,096 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 163: Sherman COVID-19 case rates

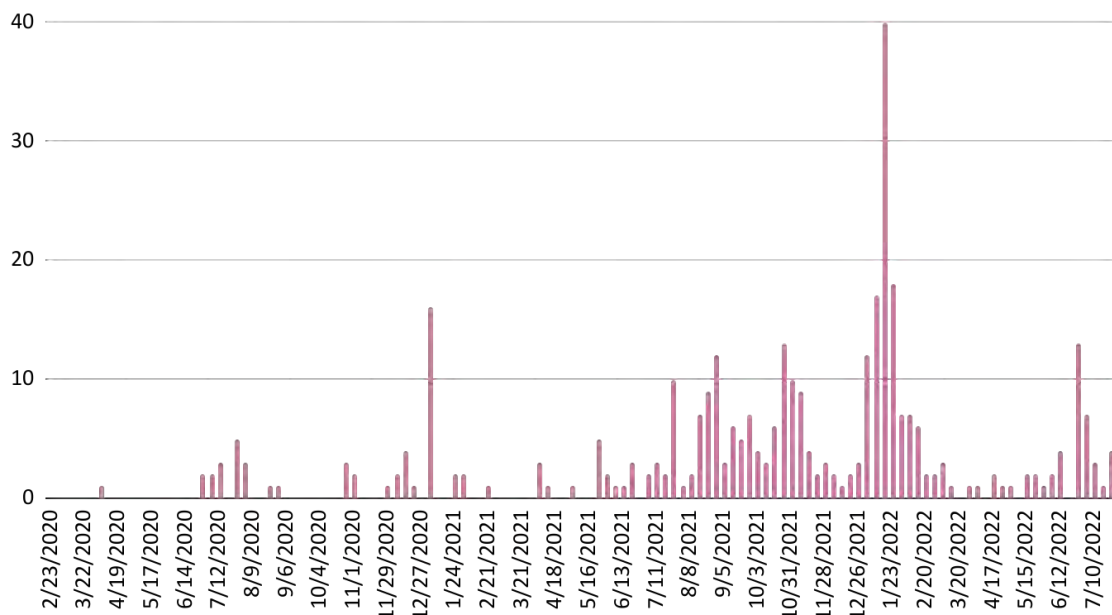


#### Cases Over Time

Figure 164 presents Sherman County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of July 26, 2020 with 5 cases. During Stage 2, COVID-19 cases peaked the week of January 3, 2021 with 16 cases. In Stage 3, COVID-19 cases peaked the week of

January 16, 2022 with 40 cases. And during Stage 4, COVID-19 cases peaked the week of June 26, 2022 with 13 cases.

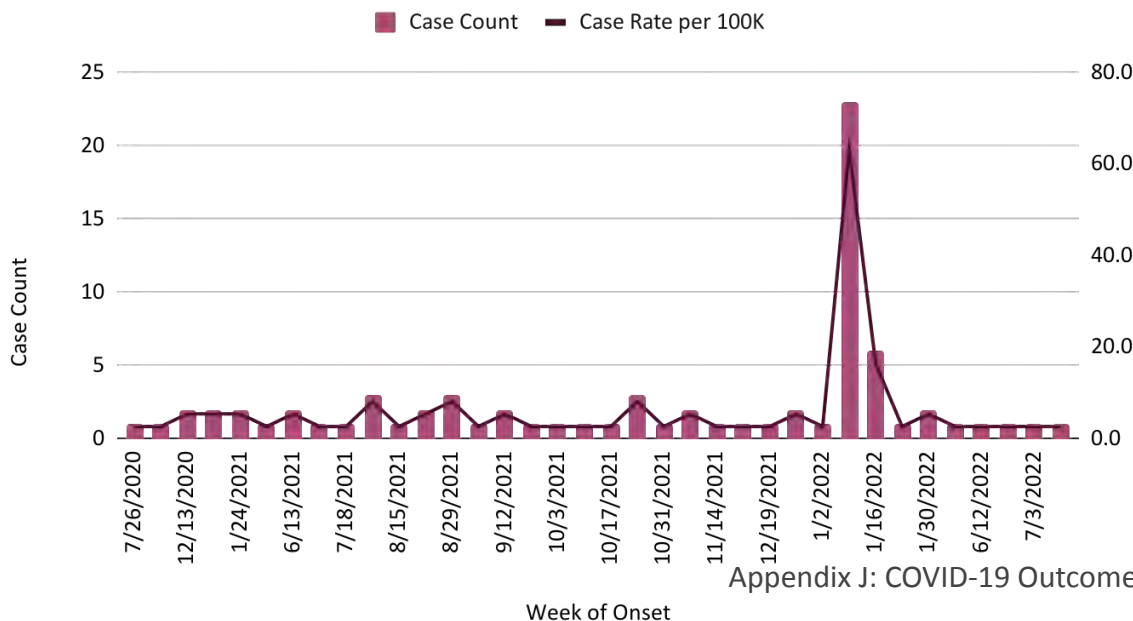
Figure 164: Sherman Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 165 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Sherman County. As of the week of July 31, 2022, there were 78 pediatric COVID-19 cases in Sherman County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 6,336.1 per 100,000.

Figure 165: Sherman pediatric COVID-19 cases and case rate over time





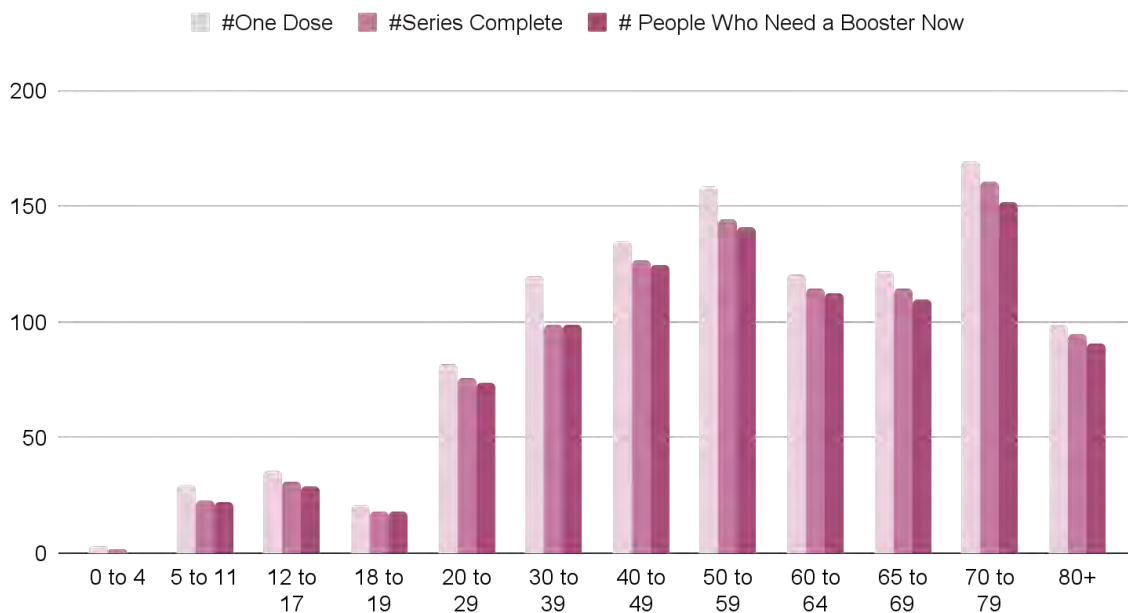
## Vaccination Status

As of August 24, 2022, Sherman County had 57.0% of the county with one dose and 52.2% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 166 is a clustered column chart presenting Sherman County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

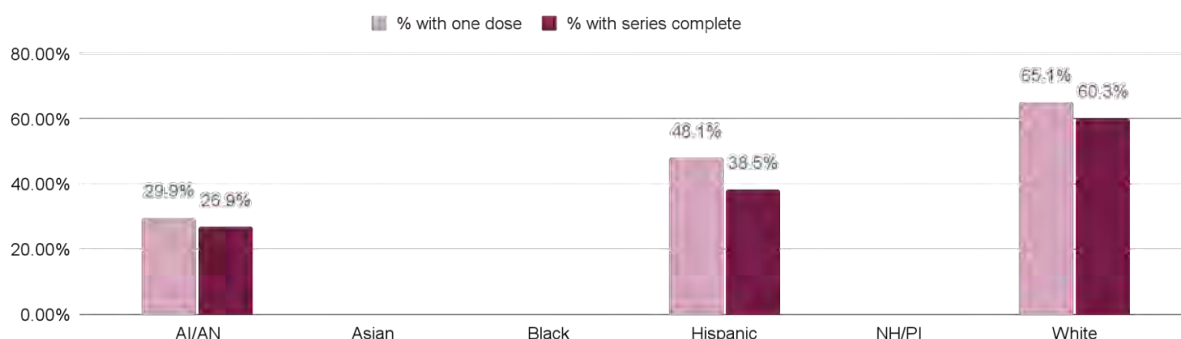
Figure 166: Sherman Vaccination status by age



### COVID-19 Vaccination Status by Race

Figure 167 is a clustered column chart presenting Sherman County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Sherman County, individuals who identify as Native Hawaiian/Pacific Islander have the lowest vaccination coverage, with 29.9% of individuals having at least one dose and 26.9% of individuals with a series complete.

Figure 167: Sherman County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

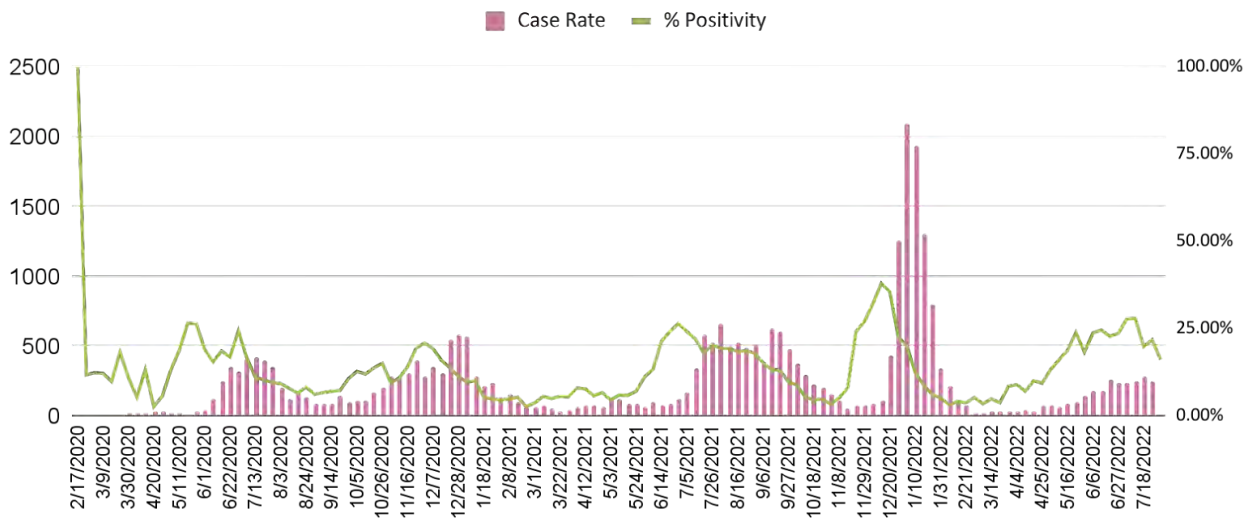
## Umatilla

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 168 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Umatilla County saw six surges of COVID-19 cases. The first wave of COVID-19 cases occurred June-September 2020 and peaked the week of July 13, 2020 with a case rate of 415 per 100,000. The second wave that occurred between October 2020 and March 2021 peaked the week of December 28, 2020 with a case rate of 575 per 100,000. In Stage 2, the third wave occurred between March and June 2021, with the highest case rate (122 per 100,000) occurring the week of May 3, 2021. The fourth wave was seen between July-November 2021 and occurred during increasing incidence of the Delta variant. In the fourth wave, the highest case rate yet (657 per 100,000) was seen, which occurred during the peak of this wave the week of August 2, 2021. Case rates after this wave never quite reached the low case rates after the third wave. During the spread of the Omicron variant, the fifth wave was seen in Oregon between December 2021 and February 2022. This fifth wave peaked the week of January 3, 2022 with a case rate of 2,094 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

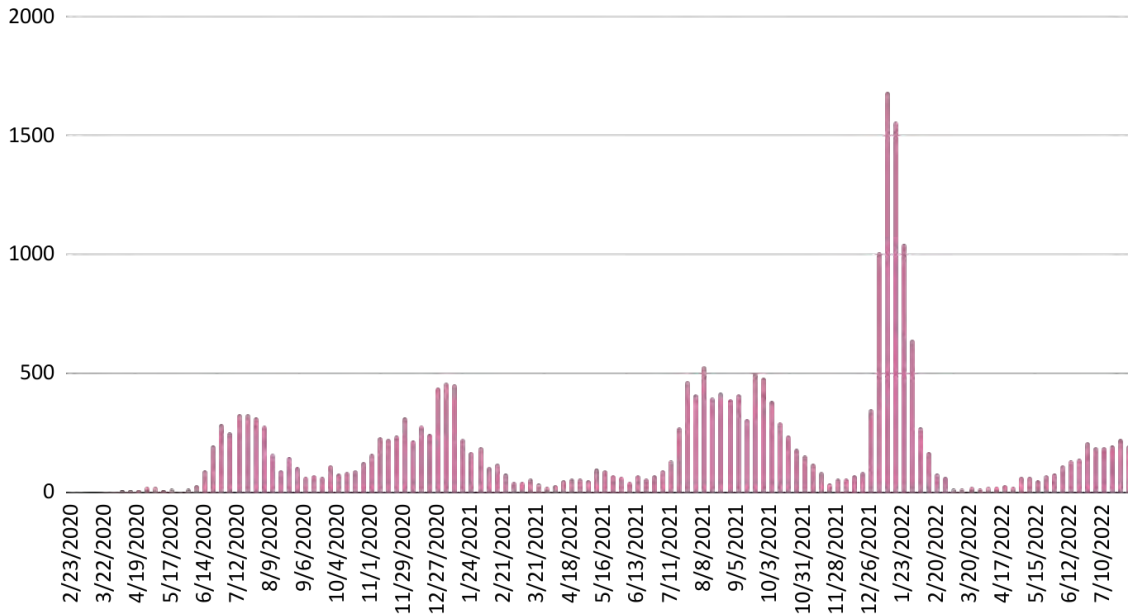
Figure 168: Umatilla COVID-19 case rates



#### Cases Over Time

Figure 169 presents Umatilla County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of July 19, 2020 with 334 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 529 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 1,686 cases. And during Stage 4, COVID-19 cases peaked the week of July 24, 2022 with 225 cases.

Figure 169: Umatilla Weekly COVID-19 cases over time

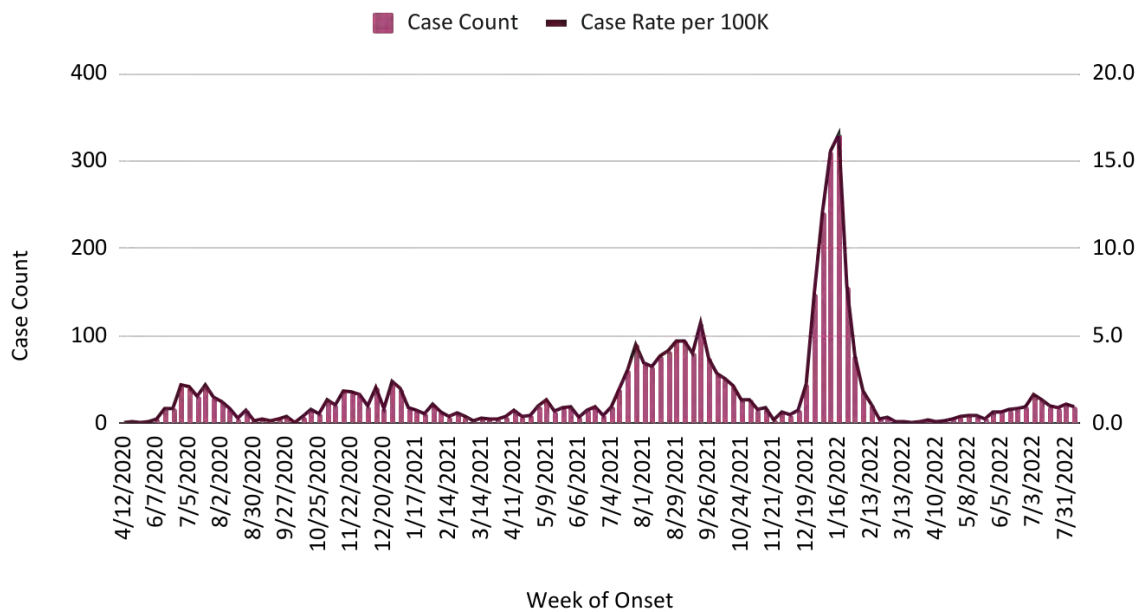


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 170 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Umatilla County. As of the week of July 31, 2022, there were 3,866 pediatric COVID-19 cases in Umatilla County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,653.3 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 19, 2021 with a COVID-19

case rate of 576.2 per 100,000.

Figure 170: Umatilla pediatric COVID-19 cases and case rate over time



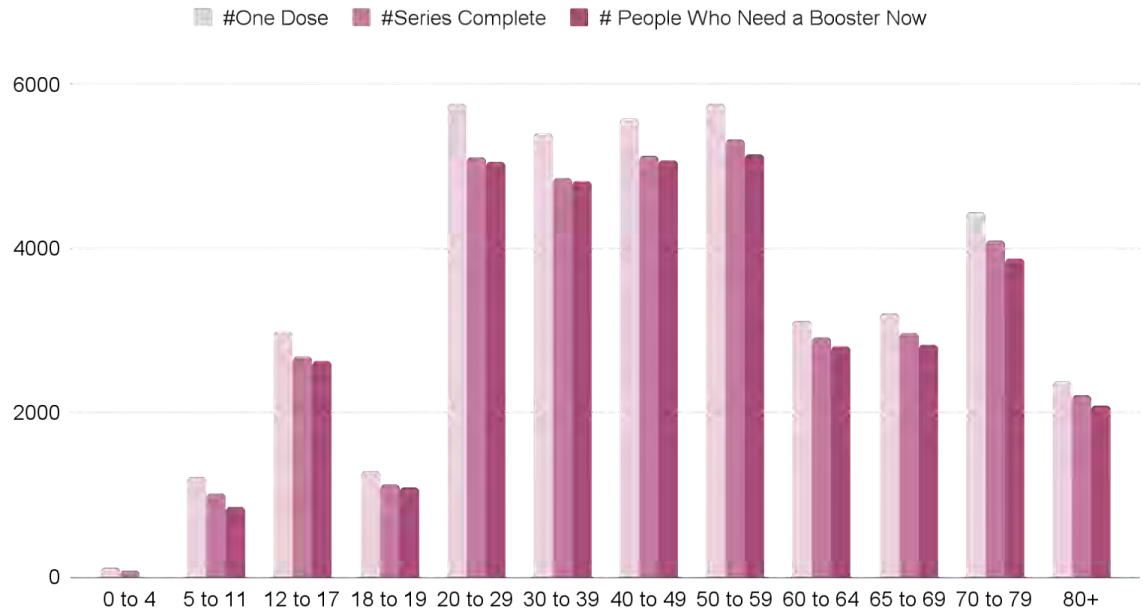
## Vaccination Status

As of August 24, 2022, Umatilla County had 50.9% of the county with one dose and 56.2% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 171 is a clustered column chart presenting Umatilla County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

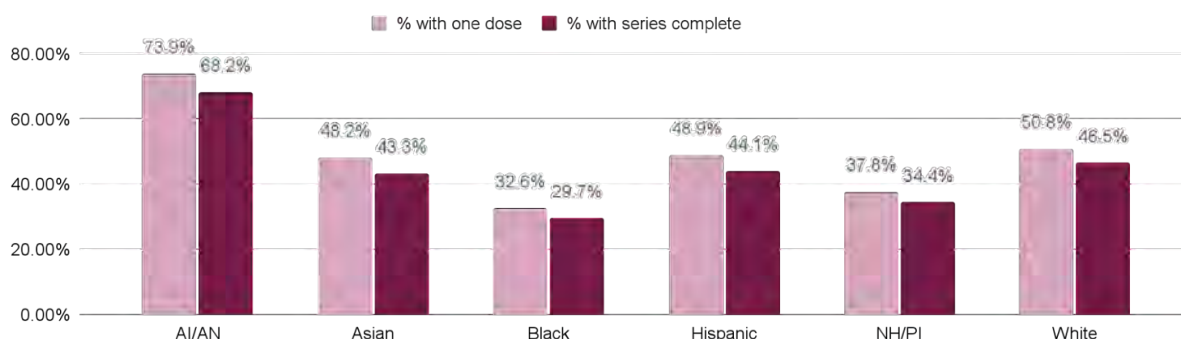
Figure 171: Umatilla Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 172 is a clustered column chart presenting Umatilla County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Umatilla County, individuals who identify as Black have the lowest vaccination coverage, with 32.6% of individuals having at least one dose and 29.7% of individuals with a series complete.

Figure 172: Umatilla County % of population with one dose and % series complete by race



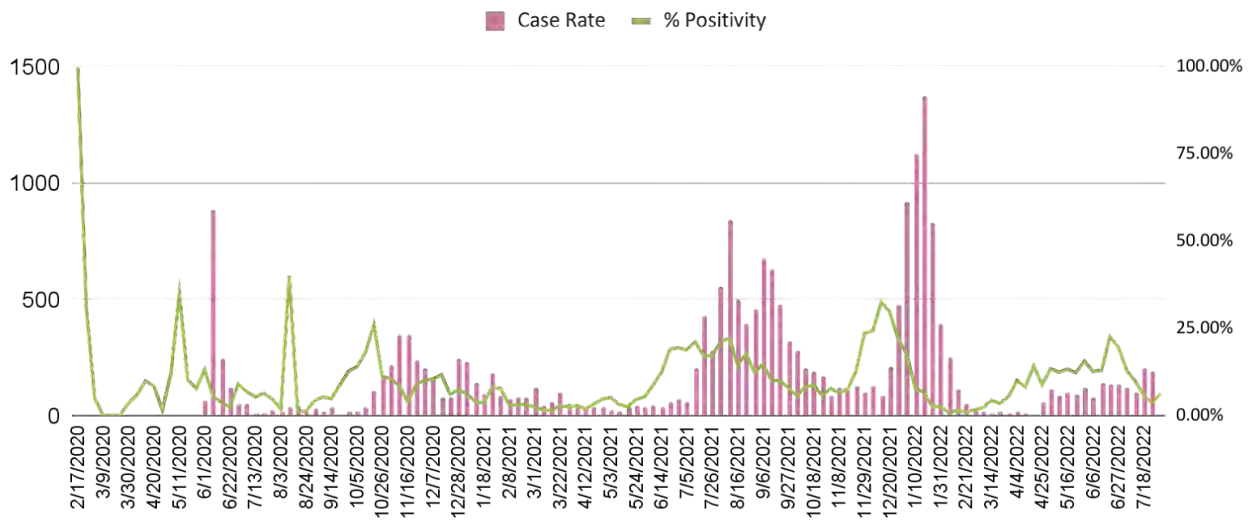
## Union

### Level of Community Spread

#### Case Rates and Case Positivity

Figure 173 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Union County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Union County occurred in June 2020 and peaked the week of June 8, 2020 with a case rate of 886 per 100,000. The second wave that occurred between October 2020 and April 2021 was smaller but longer and peaked the week of November 9, 2020 with a case rate of 350 per 100,000. The third wave occurred between July and November 2021 during increasing incidence of the Delta variant, with the highest case rate (844 per 100,000) occurring the week of August 9, 2021. The fourth wave was seen between December 2021-January 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (1,373 per 100,000) was seen, which occurred during the peak of this wave the week of January 17, 2022. The fifth wave was seen in Union County starting in April 2022 and appears to be ongoing as of July 2022 data.

Figure 173: Union COVID-19 case rates

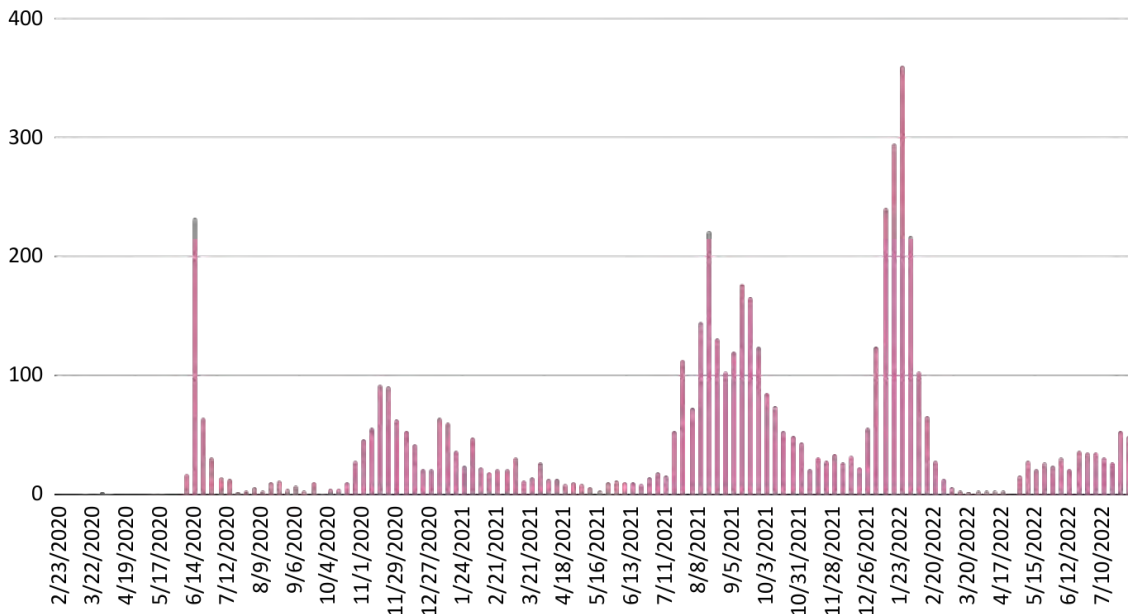


### Cases Over Time

Figure 174 presents Union County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of June 14, 2020 with 233 cases. During Stage 2, COVID-19 cases peaked the week of August 15, 2021 with 222 cases. In Stage 3, COVID-19 cases peaked the week of January 23, 2022 with 361 cases. And during Stage 4, COVID-19 cases peaked the week of July 24, 2022 with 54 cases.



Figure 174: Union Weekly COVID-19 cases over time

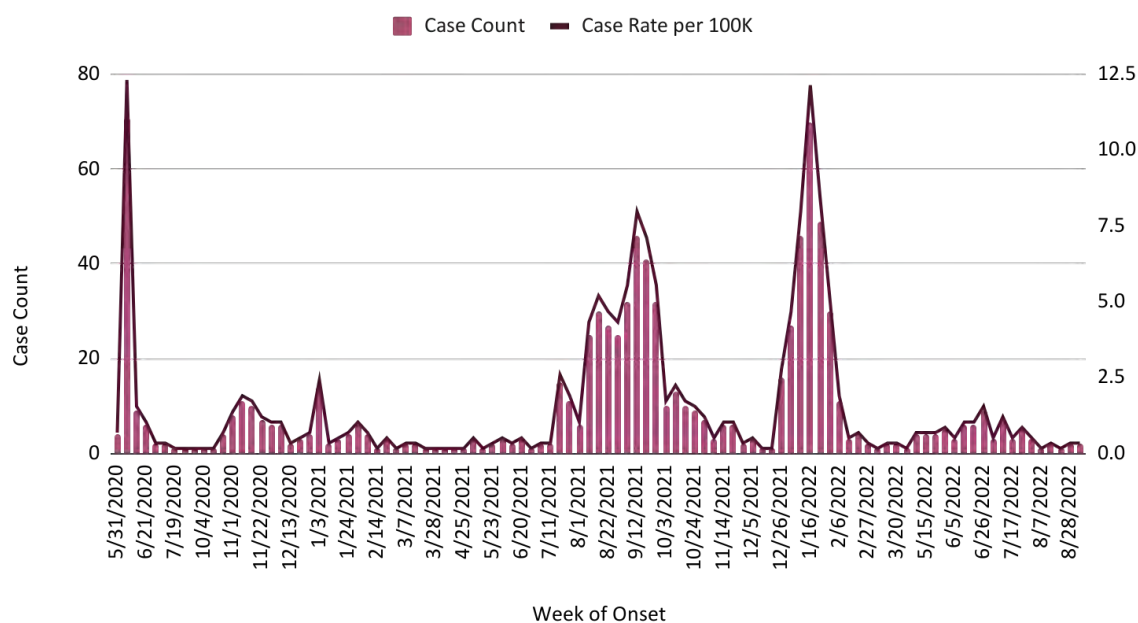


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 175 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Umatilla County. As of the week of July 31, 2022, there were 913 pediatric COVID-19 cases in Umatilla County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,214.9 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 798.3 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between

April and July 2022, which peaked June 26, 2022, with 156.2 COVID-19 cases per 100,000.

Figure 175: Union pediatric COVID-19 cases and case rate over time



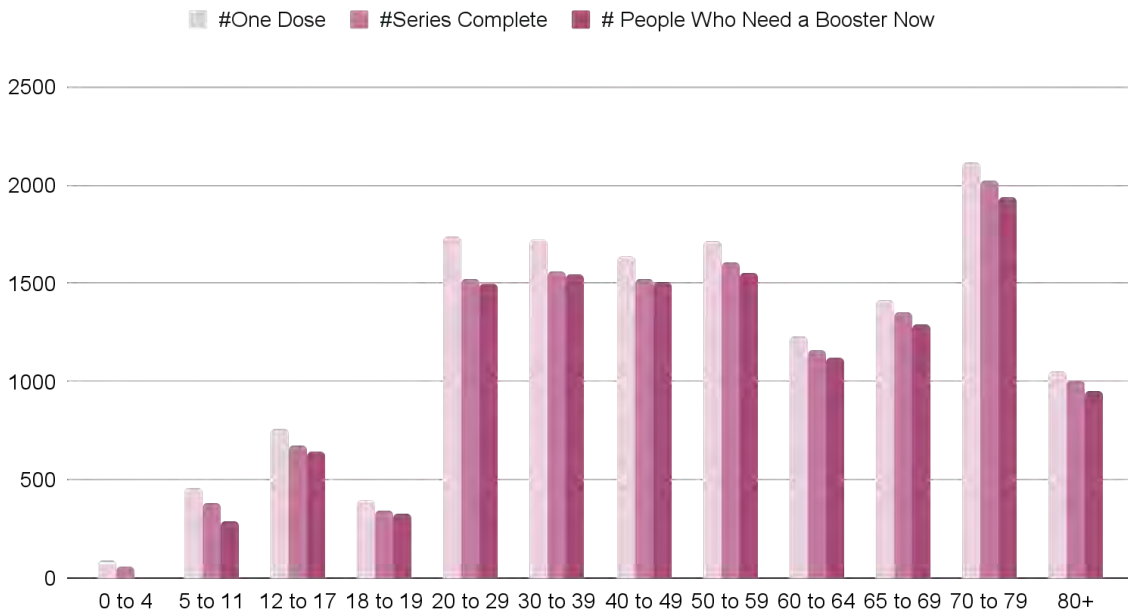
## Vaccination Status

As of August 24, 2022, Union County had 54.0% of the county with one dose and 49.8% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 176 is a clustered column chart presenting Union County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

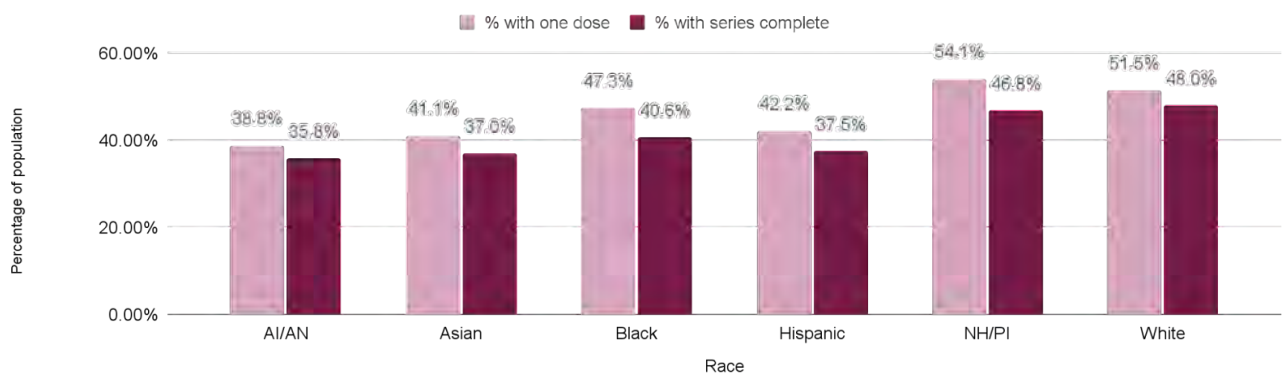
Figure 176: Union Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 177 is a clustered column chart presenting Union County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Union County, individuals who identify as American Indian/Alaska Native have the lowest vaccination coverage, with 38.8% of individuals having at least one dose and 35.8% of individuals with a series complete.

Figure 177: Union County % of population with one dose and % series complete by race



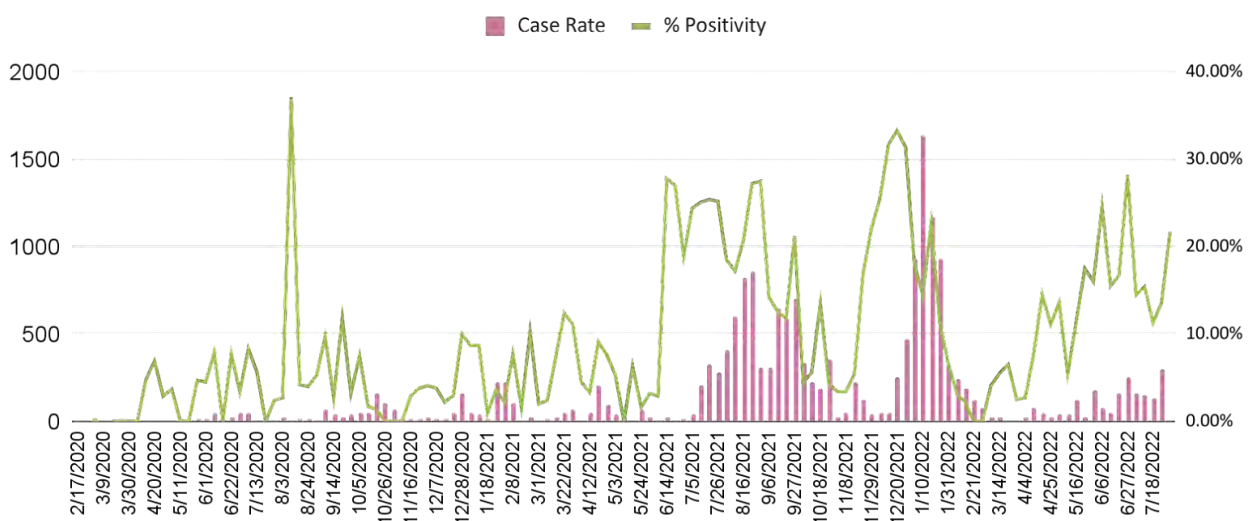
## Wallowa

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 178 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Wallowa County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between August and November 2020 and peaked the week of October 19, 2020 with a case rate of 161 per 100,000. The second wave occurred between December 2020 and February 2021 and peaked the week of January 25, 2021 with a case rate of 229 per 100,000. In Stage 2, a third small wave occurred between March and May 2021, with the highest case rate (202 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between July and November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 861 per 100,000 the week of August 23, 2021. During the spread of the Omicron variant, the fifth wave was seen in Wallowa County between December 2021 and January 2022. This fifth wave peaked the week of January 10, 2022 with a case rate of 1,641 per 100,000. The sixth wave started in May 2022 and appears to be ongoing as of July 2022 data.

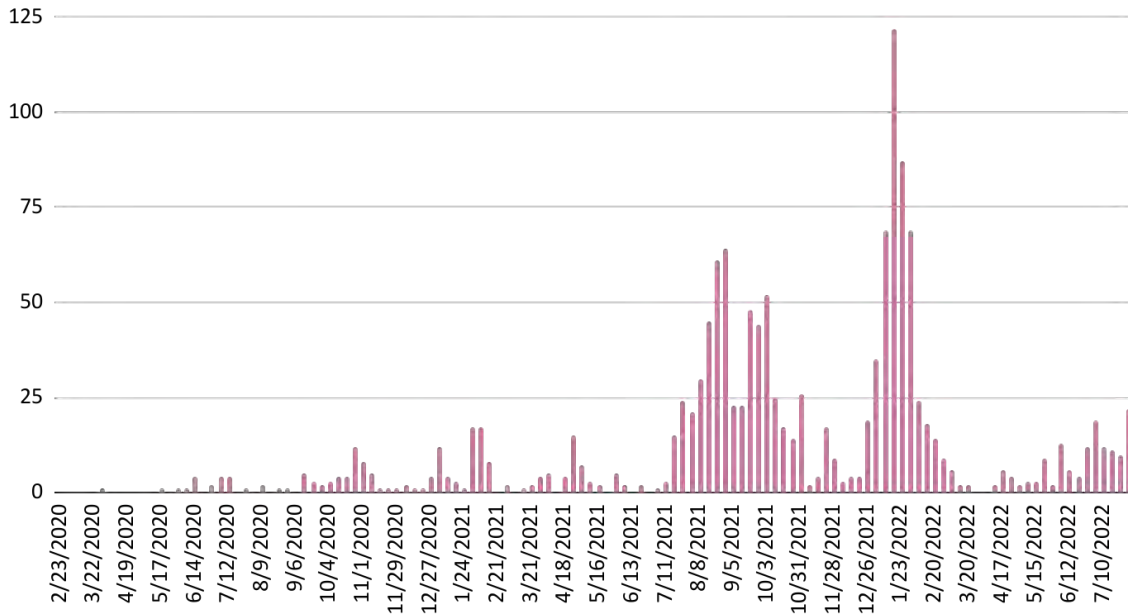
Figure 178: Wallowa COVID-19 case rates



#### Cases Over Time

Figure 179 presents Wallowa County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of October 25, 2020 with 12 cases. During Stage 2, COVID-19 cases peaked the week of August 29, 2021 with 64 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 122 cases. And during Stage 4, COVID-19 cases peaked the week of July 31, 2022 with 22 cases.

Figure 179: Wallowa Weekly COVID-19 cases over time

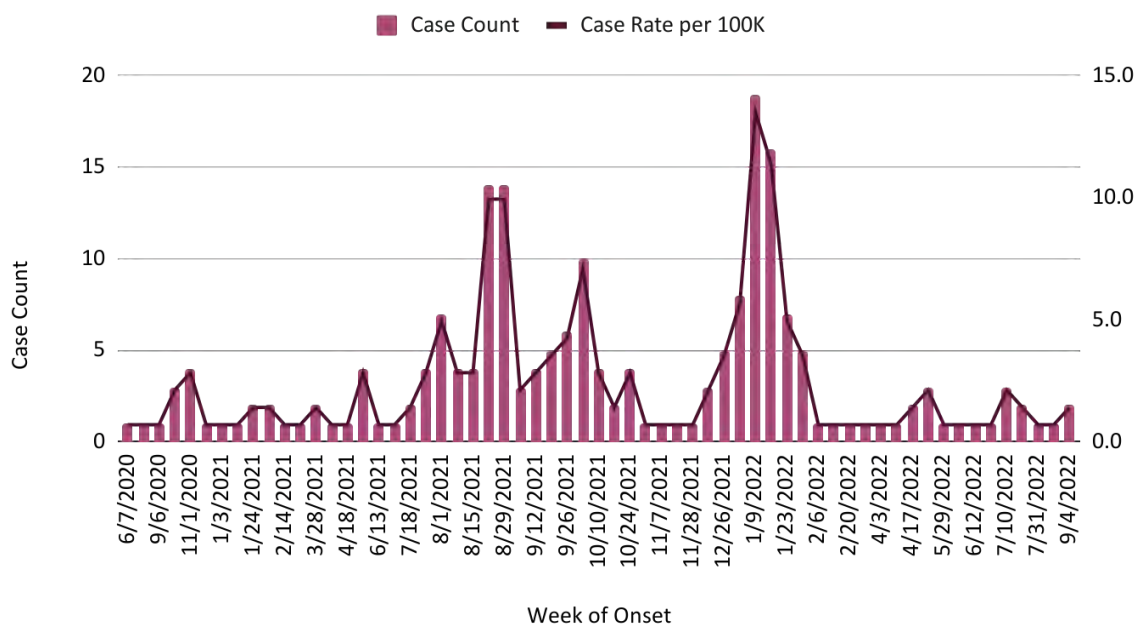


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 180 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Wallowa County. As of the week of July 31, 2022, there were 204 pediatric COVID-19 cases in Wallowa County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 1,351.4 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of August 29, 2021 with a COVID-19 case rate of 995.7 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and

July 2022, which peaked May 1, 2022, with 213.4 COVID-19 cases per 100,000.

Figure 180: Wallowa pediatric COVID-19 cases and case rate over time



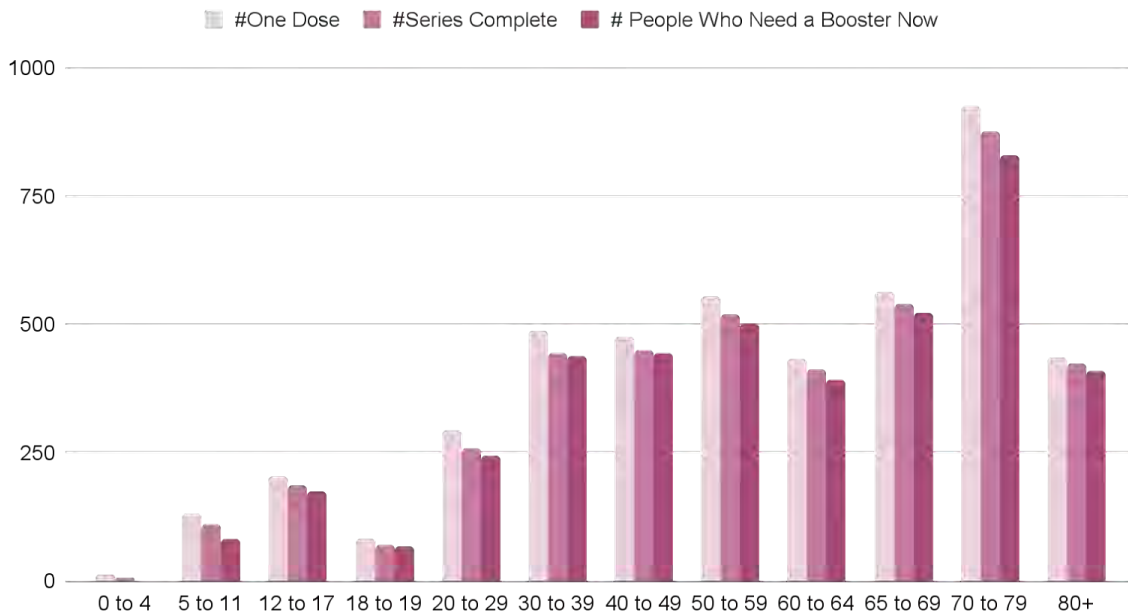
## Vaccination Status

As of August 24, 2022, Wallowa County had 61.2% of the county with one dose and 57.1% with a series complete.

## COVID-19 Vaccination Status by Age

Figure 181 is a clustered column chart presenting Wallowa County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

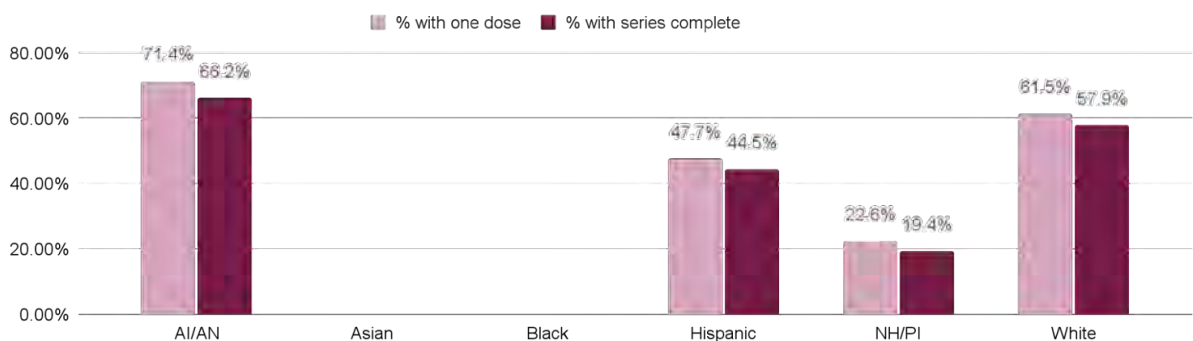
Figure 181: Wallowa Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 182 is a clustered column chart presenting Wallowa County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Wallowa County, individuals who identify as Native Hawaiian/Pacific Islander have the lowest vaccination coverage, with 22.6% of individuals having at least one dose and 19.4% of individuals with a series complete.

Figure 182: Wallowa County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

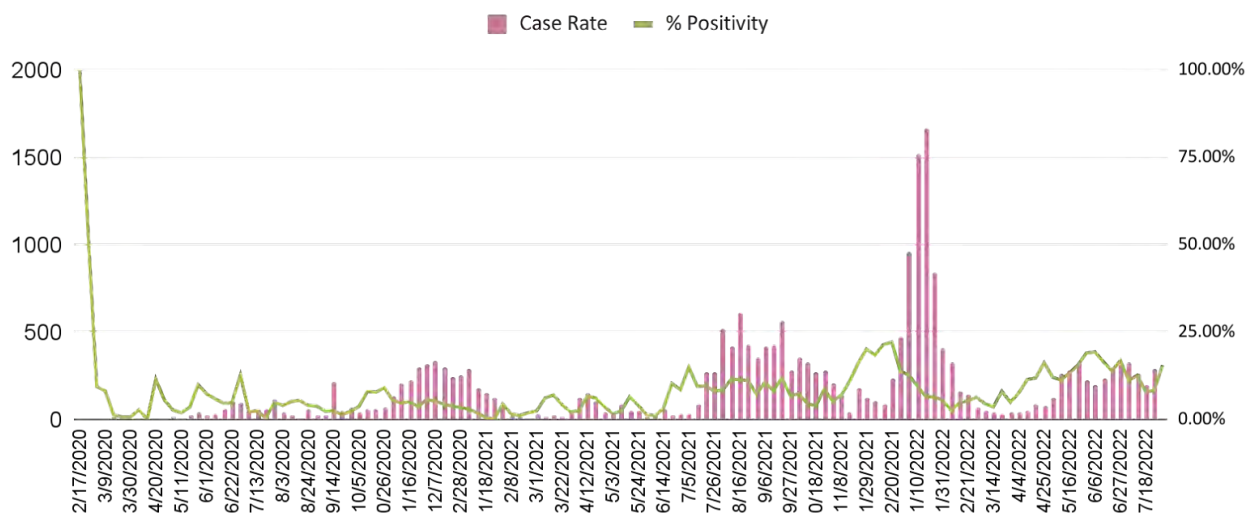
## Wasco

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 183 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Wasco County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between June and August 2020 and peaked the week of June 22, 2020 with a case rate of 102 per 100,000. The second wave occurred between October 2020 and February 2021 and peaked the week of December 7, 2020 with a case rate of 339 per 100,000. In Stage 2, a third small wave occurred between March and June 2021, with the highest case rate (154 per 100,000) occurring the week of April 12, 2021. The fourth wave was seen between July and November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 609 per 100,000 the week of August 16, 2021. During the spread of the Omicron variant, the fifth wave was seen in Wasco County between December 2021 and January 2022. This fifth wave peaked the week of January 17, 2022 with a case rate of 1,667 per 100,000. The sixth wave started in April 2022 and appears to be ongoing as of July 2022 data.

Figure 183: Wasco COVID-19 case rates

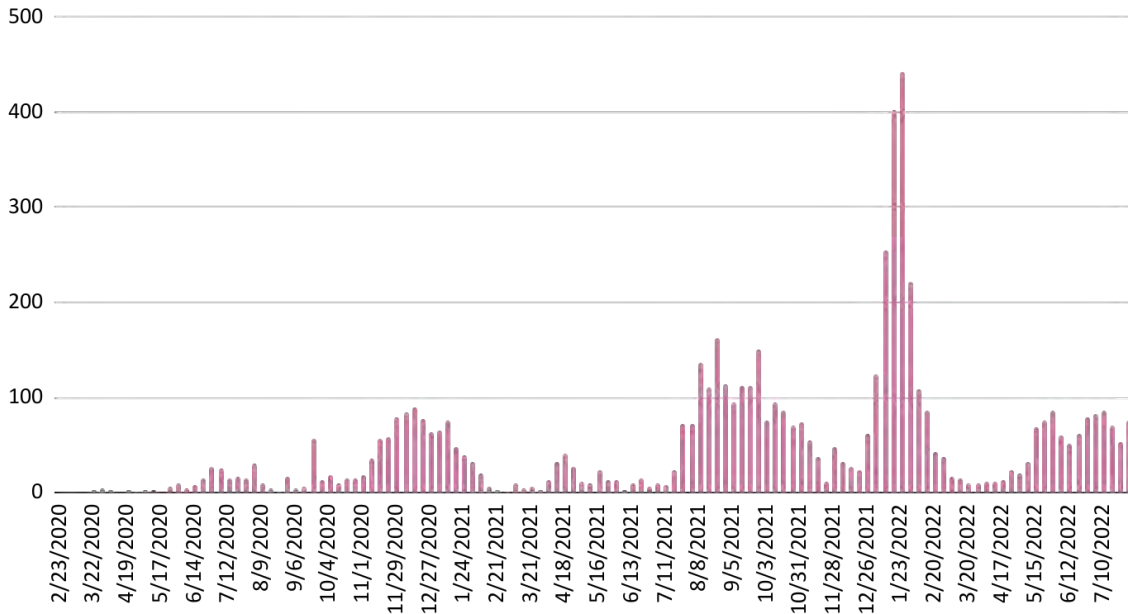


#### Cases Over Time

Figure 184 presents Wasco County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 80 cases. During Stage 2, COVID-19 cases peaked the week of August 8, 2021 with 137 cases. In Stage 3, COVID-19 cases peaked the week of January 23, 2022 with 443 cases. And during Stage 4, COVID-19 cases peaked the week of May 29, 2022 with 87 cases.



Figure 184: Wasco Weekly COVID-19 cases over time

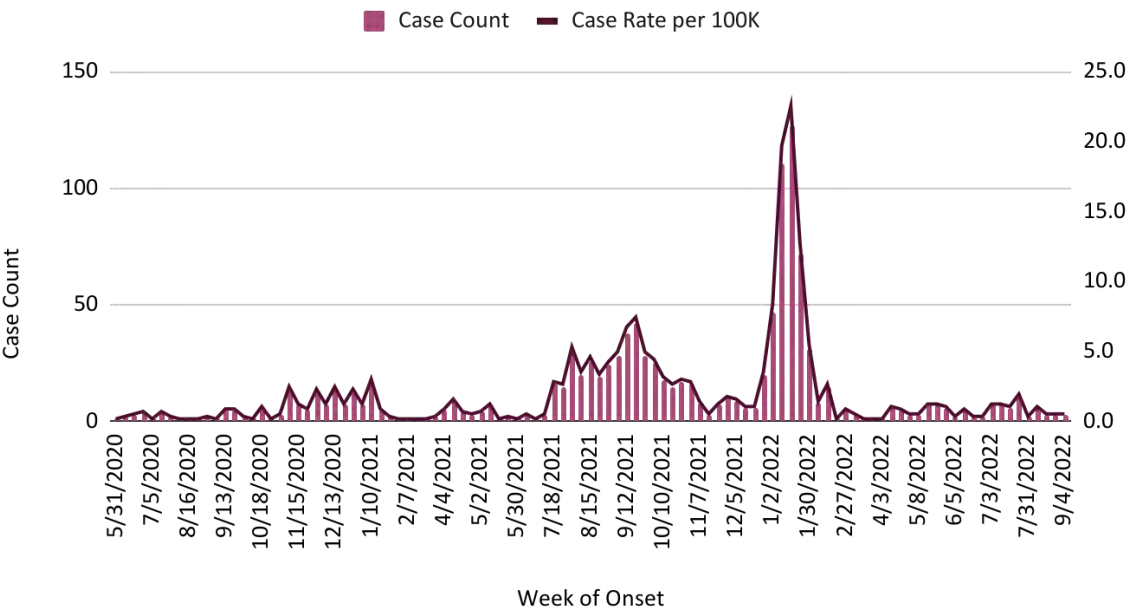


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 185 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Wasco County. As of the week of July 31, 2022, there were 1,156 pediatric COVID-19 cases in Wasco County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 2,253.8 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 19, 2021 with a COVID-19 case rate of 745.3 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between

April and July 2022, which peaked July 24, 2022, with 195.2 COVID-19 cases per 100,000.

Figure 185: Wasco pediatric COVID-19 cases and case rate over time



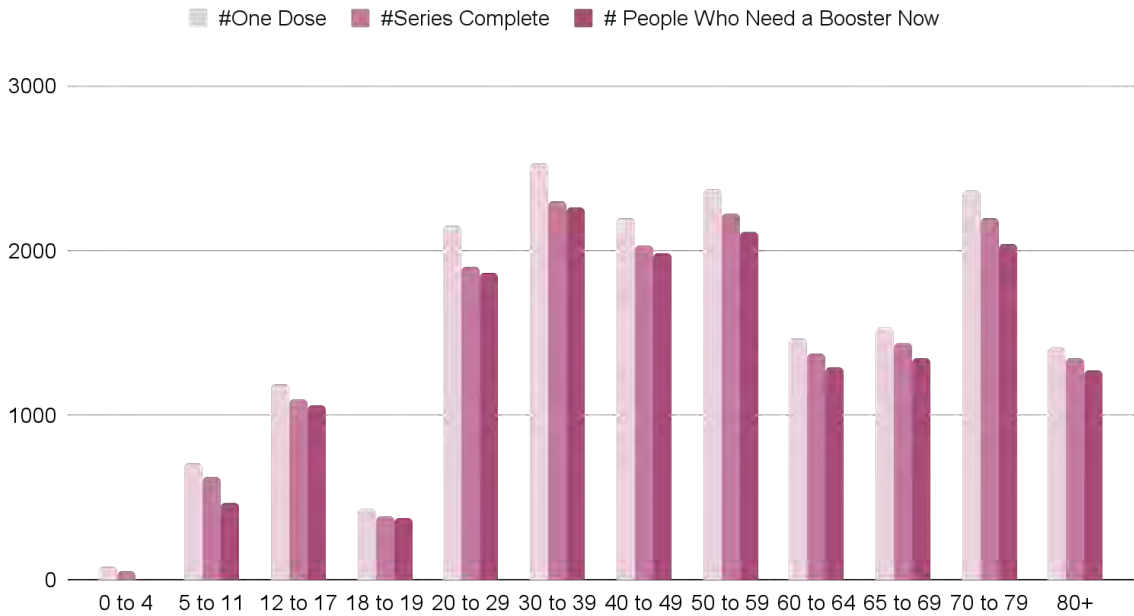
Vaccination Status

As of August 24, 2022, Wasco County had 68.7% of the county with one dose and 62.2% with a series complete.

COVID-19 Vaccination Status by Age

Figure 186 is a clustered column chart presenting Wasco County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

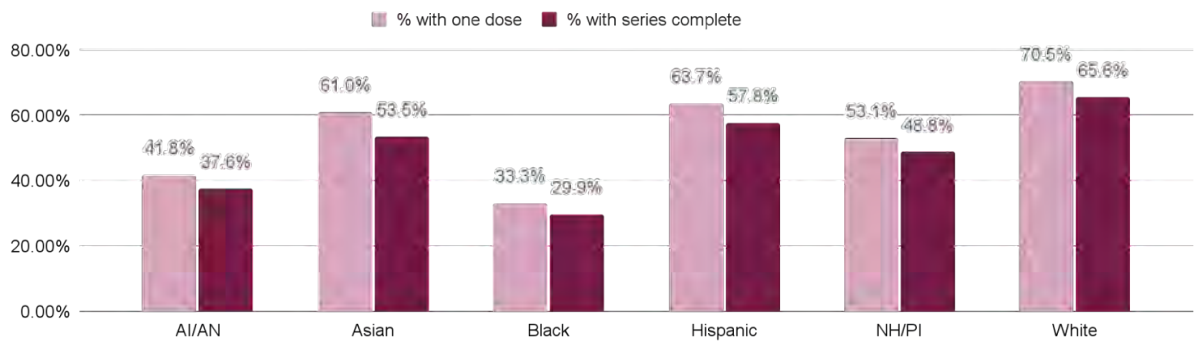
Figure 186: Wasco Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 187 is a clustered column chart presenting Wasco County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Wasco County, individuals who identify as Black have the lowest vaccination coverage, with 33.3% of individuals having at least one dose and 29.9% of individuals with a series complete.

Figure 187: Wasco County % of population with one dose and % series complete by race



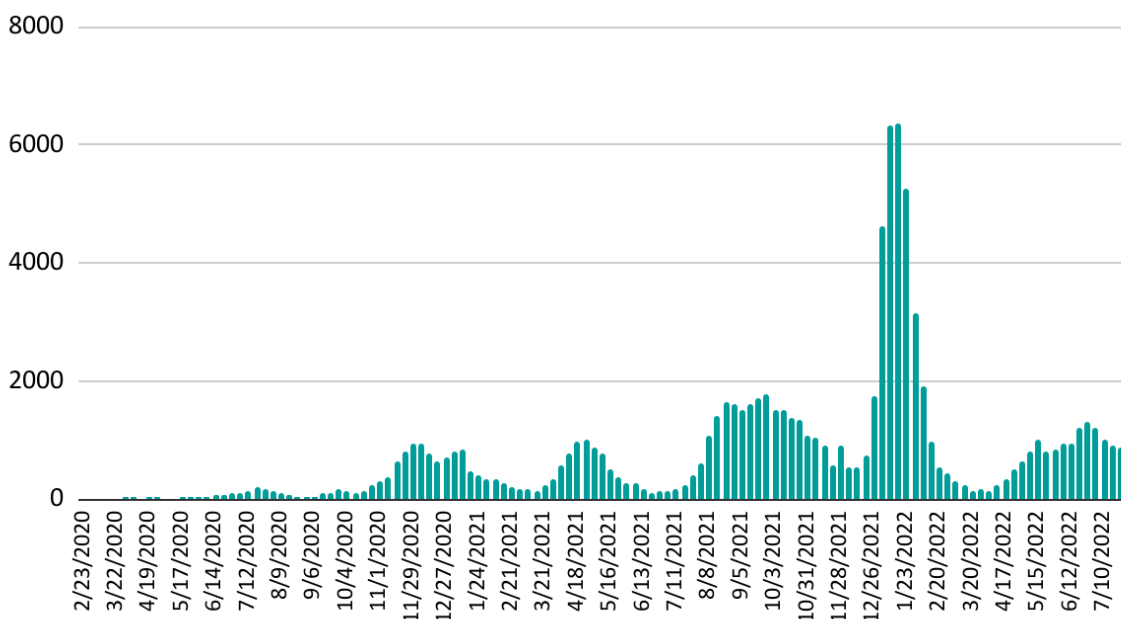
## Region 5

### Regional Data

#### Region 5 Level of Community Spread

Figure 188 is a column chart that presents weekly COVID-19 cases for Region 5. As of the week of July 31st, 2022, Region 5 has seen a total of 92,740 COVID-19 cases. Similar to statewide COVID-19 cases, Region 5 saw 6 distinct waves. Region 5 experienced the highest number of COVID-19 cases during the fifth (Omicron) wave. During the week of January 16, 2022, Region 5 had a total of 6,364 COVID-19 cases.

Figure 188: Region 5 Weekly COVID-19 cases over time



#### Region 5 Vaccination Status

Figure 189 is a stacked column chart that displays the number of individuals who have their COVID-19 vaccination series completed by age group in Region 5. As of September 30, 2022, older adults aged 70 to 79 have the most number of individuals with a COVID-19 vaccination

series complete.

Figure 189: Region 5 number of COVID-19 vaccination series complete by age

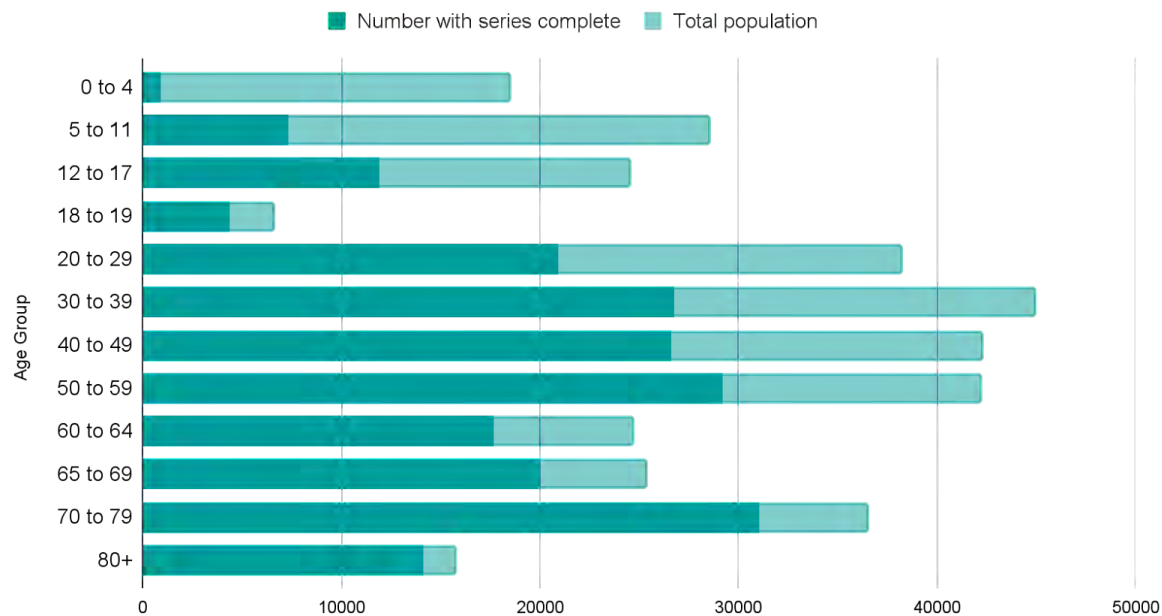
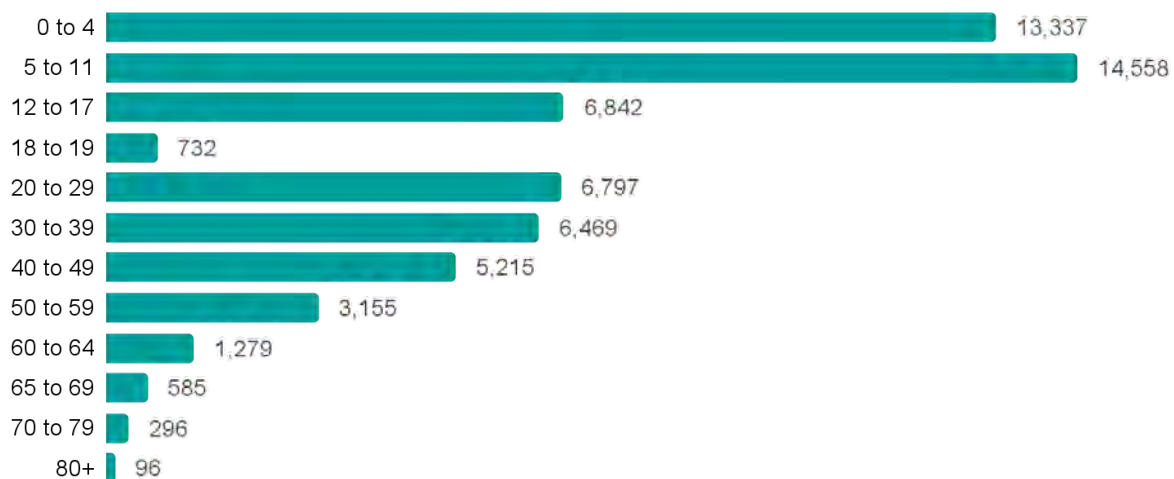


Figure 190 is a bar chart displaying the total number of people needed to reach 80% vaccinated by each age category in Region 5. No age group in Region 5 has reached 80% vaccinated. The age groups with the largest number of people needed to reach 80% vaccinated are children aged 5-11 years of age (n=14,558), followed by children ages 0-4 years of age (n=13,337) and adults ages 20-29 years of age (n=6,797).

Figure 190: Region 5 number of people needed to reach 80% vaccinated, by age



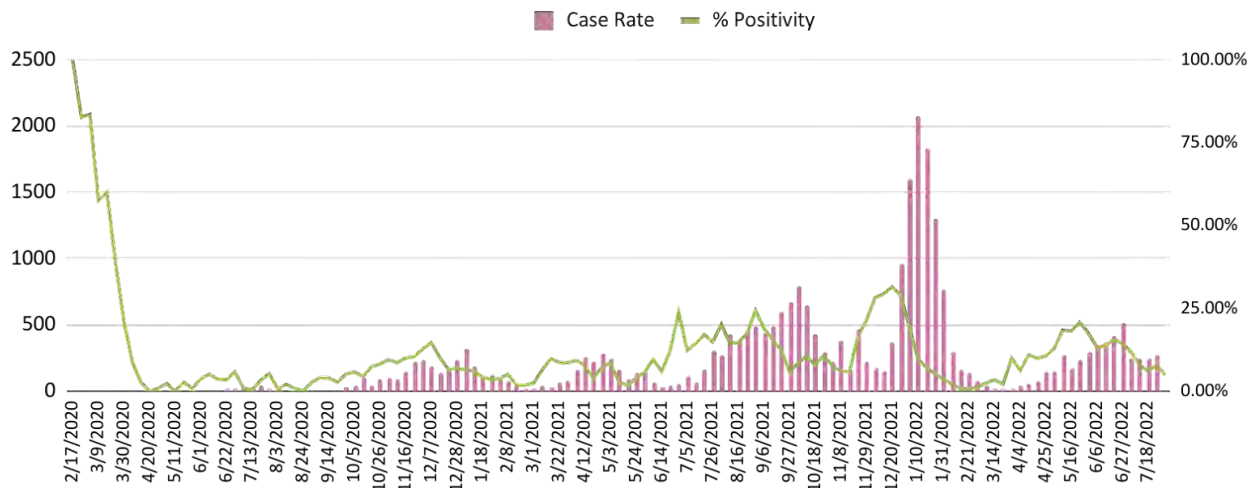
## Crook

### Level of Community Spread

#### Case Rates and Case Positivity

Figure 191 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Crook County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Crook County occurred between October 2020 and February 2021 and peaked the week of January 4, 2020 with a case rate of 314 per 100,000. The second wave that occurred between March and May 2021 was smaller and peaked the week of April 26, 2021 with a case rate of 279 per 100,000. The third wave occurred between July and November 2021 during increasing incidence of the Delta variant, with the highest case rate (789 per 100,000) occurring the week of October 4, 2021. The fourth wave was seen between December 2021-January 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (2,076 per 100,000) was seen, which occurred during the peak of this wave the week of January 10, 2022. The fifth wave was seen in Harney County starting in April 2022 and appears to be ongoing as of July 2022 data.

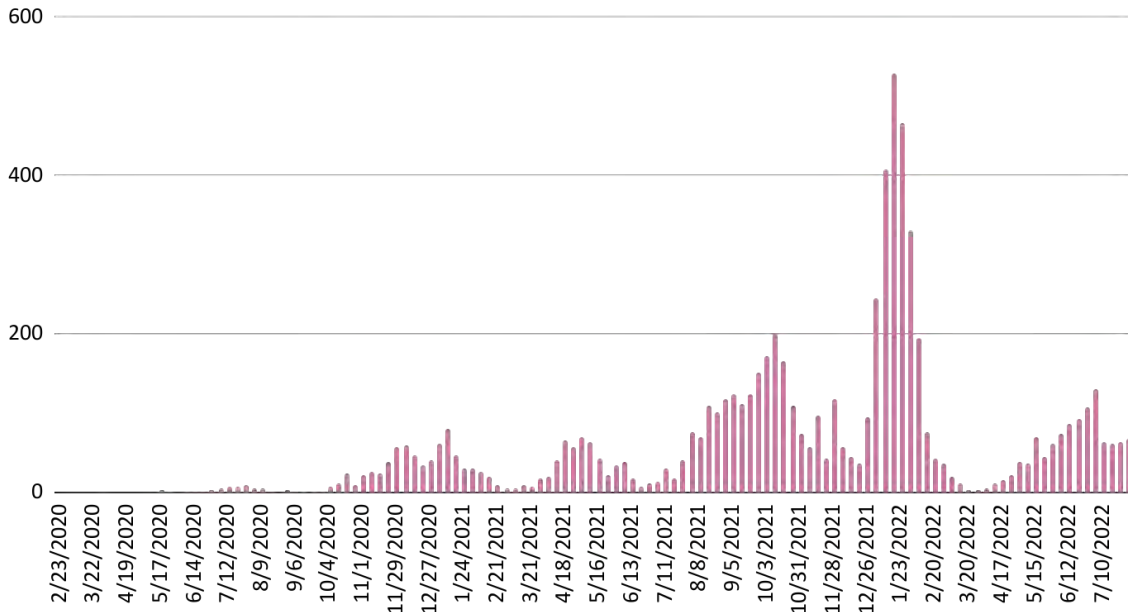
Figure 191: Crook COVID-19 case rates



#### Cases Over Time

Figure 192 presents Crook County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 58 cases. During Stage 2, COVID-19 cases peaked the week of August 29, 2021 with 119 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 529 cases. And during Stage 4, COVID-19 cases peaked the week of July 3, 2022 with 130 cases.

Figure 192: Crook Weekly COVID-19 cases over time

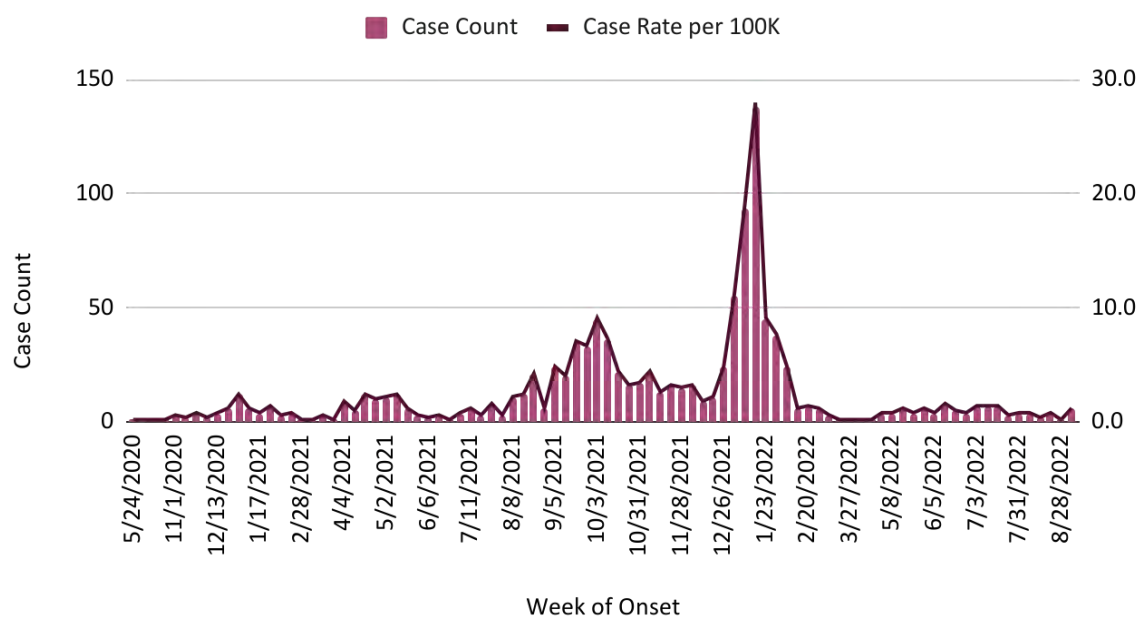


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 193 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Crook County. As of the week of July 31, 2022, there were 1,082 pediatric COVID-19 cases in Crook County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 2,800.3 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of October 3, 2021 with a COVID-19 case rate of 913.1 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between

April and July 2022, which peaked June 12, 2022, with 162.3 COVID-19 cases per 100,000.

Figure 193: Crook pediatric COVID-19 cases and case rate over time



### Vaccination Status

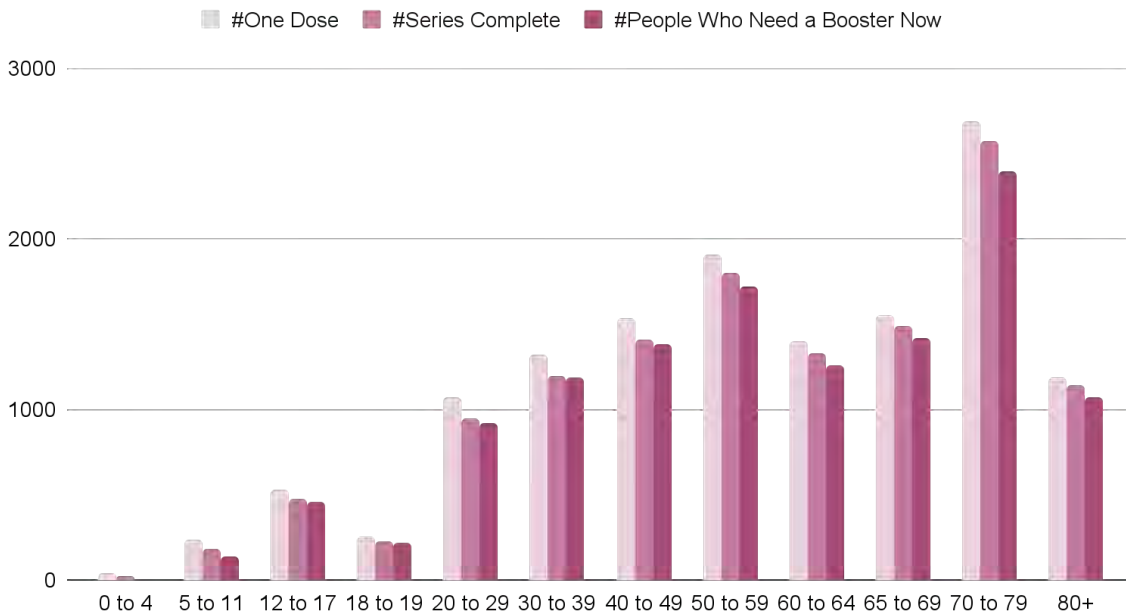
As of August 24, 2022, Crook County had 53.3% of the county with one dose and 49.7% with a series complete.



### COVID-19 Vaccination Status by Age

Figure 194 is a clustered column chart presenting Crook County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a

Figure 194: Crook Vaccination status by age

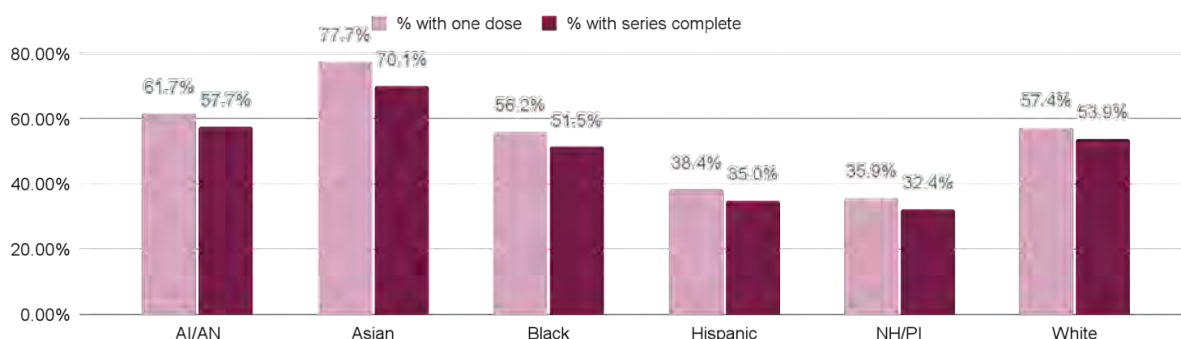


booster now by age.

### COVID-19 Vaccination Status by Race

Figure 195 is a clustered column chart presenting Crook County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Crook County, individuals who identify as Native Hawaiian/Pacific Islander have the lowest vaccination coverage, with 35.9% of individuals having at least one dose and 32.4% of individuals with a series complete.

Figure 195: Crook County % of population with one dose and % series complete by race



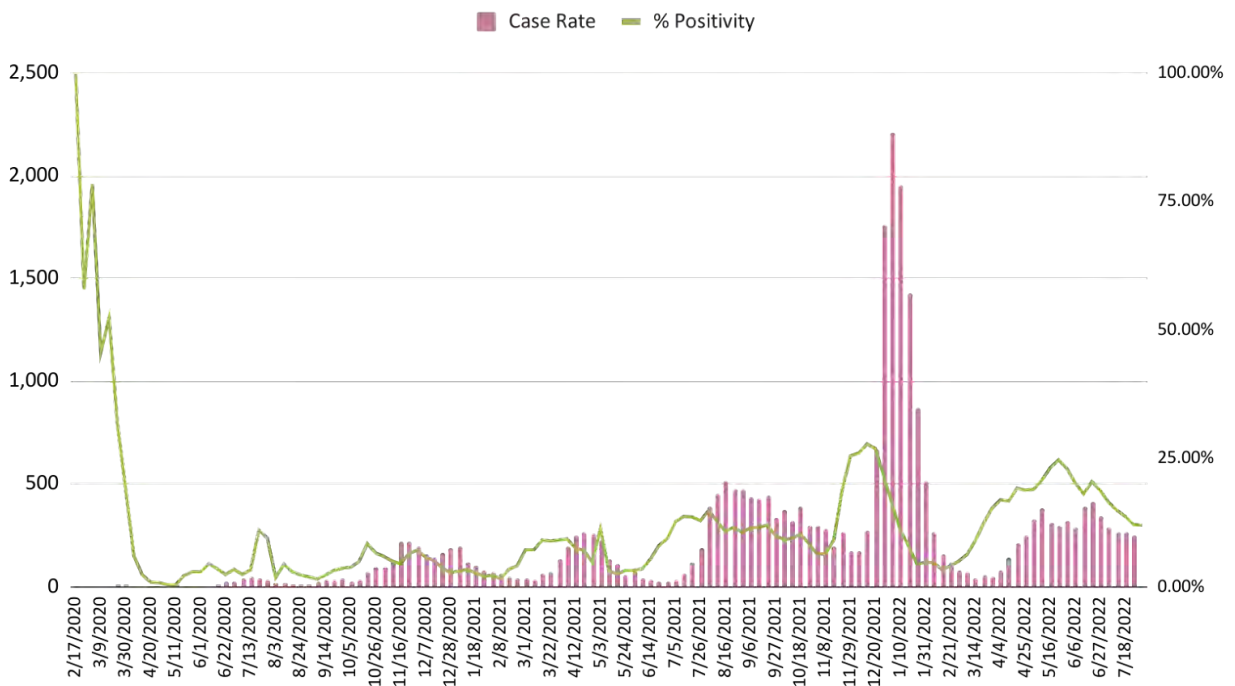
## Deschutes

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 196 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Deschutes County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between June and August 2020 and peaked the week of July 13, 2020 with a case rate of 52 per 100,000. The second wave occurred between October 2020 and March 2021 and peaked the week of November 16, 2020 with a case rate of 223 per 100,000. In Stage 2, a third wave occurred between March and June 2021, with the highest case rate (268 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between July and November 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 513 per 100,000 the week of August 16, 2021. During the spread of the Omicron variant, the fifth wave was seen in Deschutes County between December 2021 and January 2022. This fifth wave peaked the week of January 3, 2022 with a case rate of 2,212 per 100,000. The sixth wave started in April 2022 and appears to be ongoing as of July 2022 data.

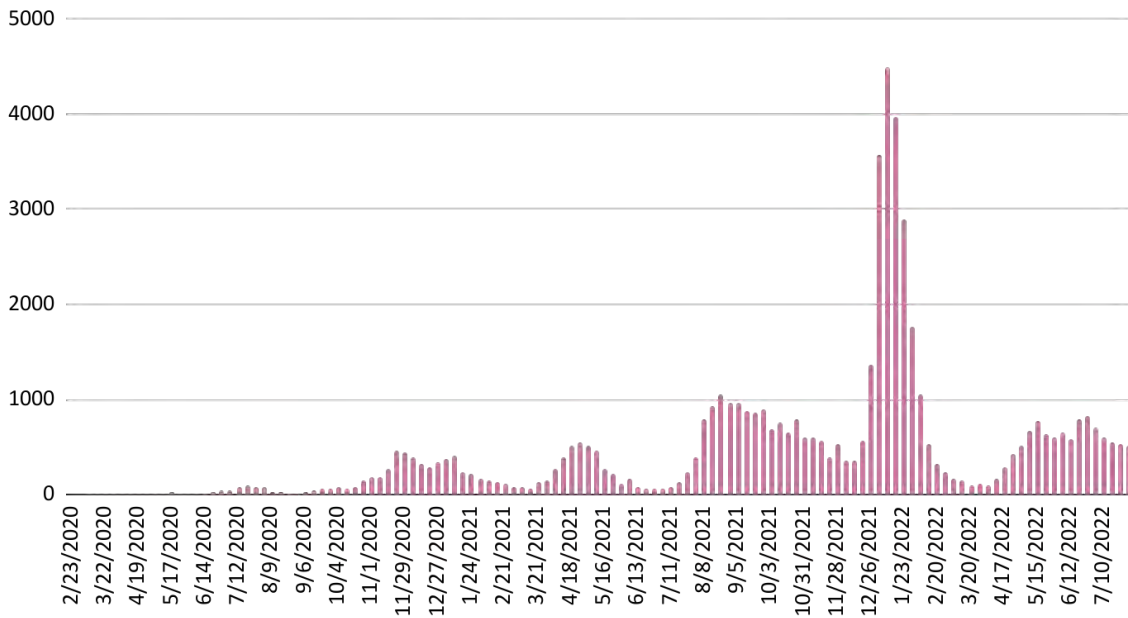
Figure 196: Deschutes COVID-19 case rates



#### Cases Over Time

Figure 197 presents Deschutes County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 447 cases. During Stage 2, COVID-19 cases peaked the week of August 22, 2021 with 1,044 cases. In Stage 3, COVID-19 cases peaked the week of January 9, 2022 with 4,498 cases. And during Stage 4, COVID-19 cases peaked the week of June 26, 2022 with 833 cases.

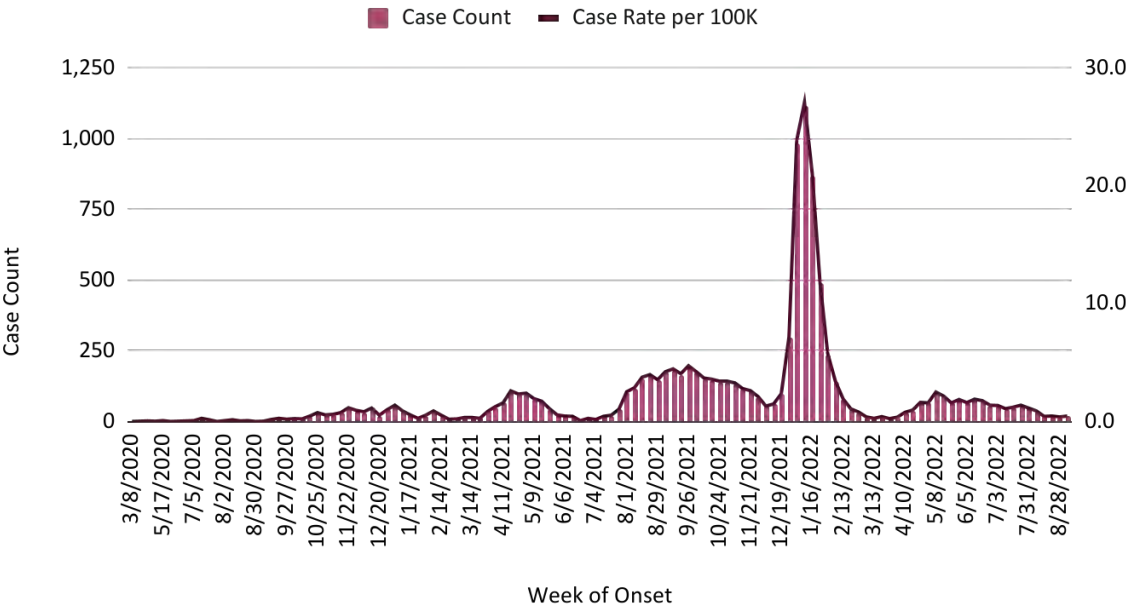
Figure 197: Deschutes Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 198 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Deschutes County. As of the week of July 31, 2022, there were 9,981 pediatric COVID-19 cases in Deschutes County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 2,709.6 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 26, 2021 with a COVID-19 case rate of 475.5 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked May 8, 2022, with 252.3 COVID-19 cases per 100,000.

Figure 198: Deschutes pediatric COVID-19 cases and case rate over time



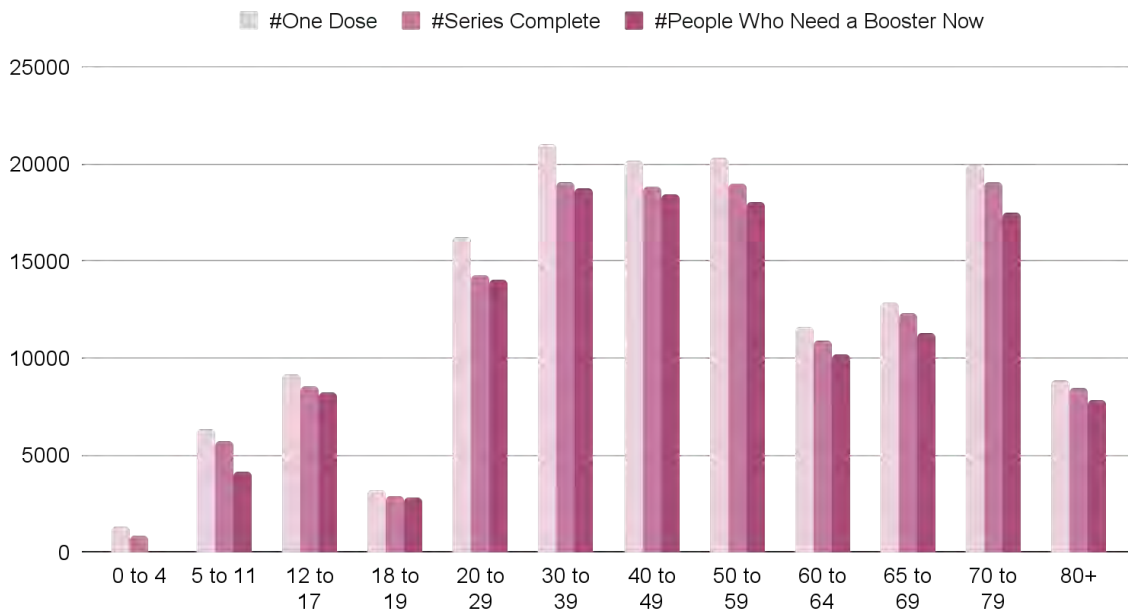
Vaccination Status

As of August 24, 2022, Deschutes County had 73.8% of the county with one dose and 68.15% with a series complete.

COVID-19 Vaccination Status by Age

Figure 199 is a clustered column chart presenting Deschutes County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

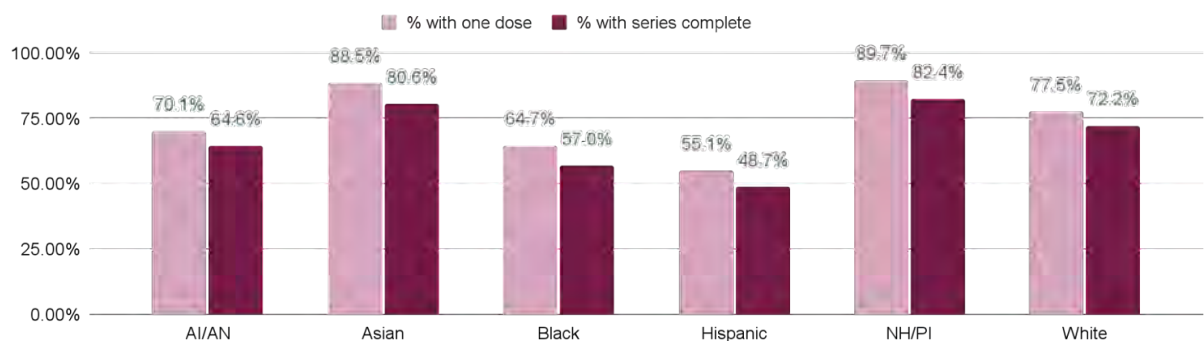
Figure 199: Deschutes Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 200 is a clustered column chart presenting Deschutes County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Deschutes County, individuals who identify as Hispanic have the lowest vaccination coverage, with 55.1% of individuals having at least one dose and 48.7% of individuals with a series complete.

Figure 200: Deschutes County % of population with one dose and % series complete by race



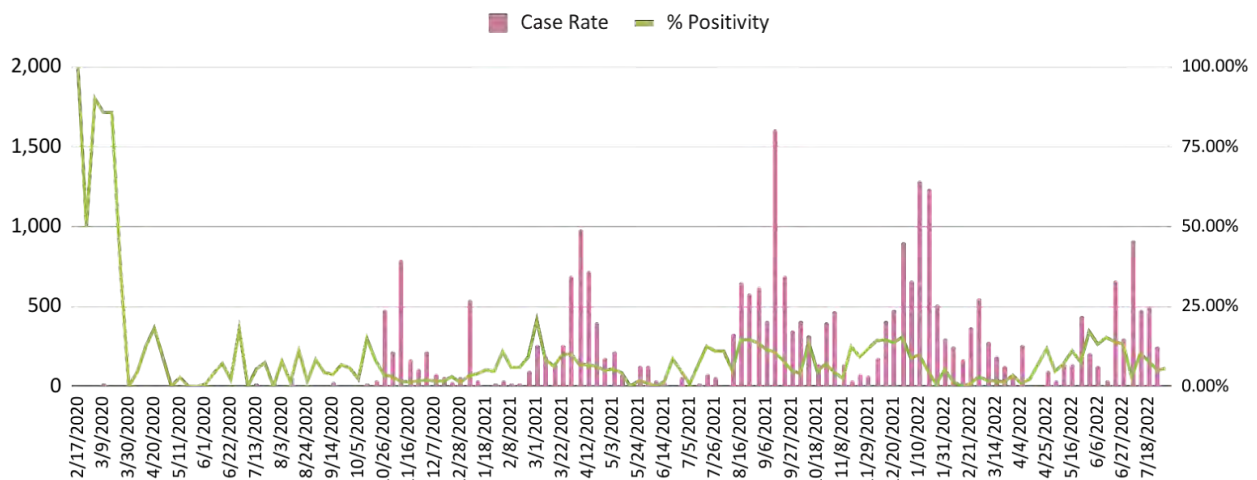
## Grant

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 201 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Grant County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Klamath County occurred between October and December 2020 and peaked the week of November 9, 2020 with a case rate of 789 per 100,000. The second wave that occurred between March and May 2021 and peaked the week of April 5, 2021 with a case rate of 983 per 100,000. The third wave occurred between July and November 2021 during increasing incidence of the Delta variant, with the highest case rate yet (1,605 per 100,000) occurring the week of September 13, 2021. The fourth wave was seen between December 2021-March 2022 during the spread of the Omicron variant. The highest case rate (1,287 per 100,000) occurred during the peak of this wave the week of January 10, 2022. The fifth wave was seen in Grant County starting in April 2022 and appears to be ongoing as of July 2022 data.

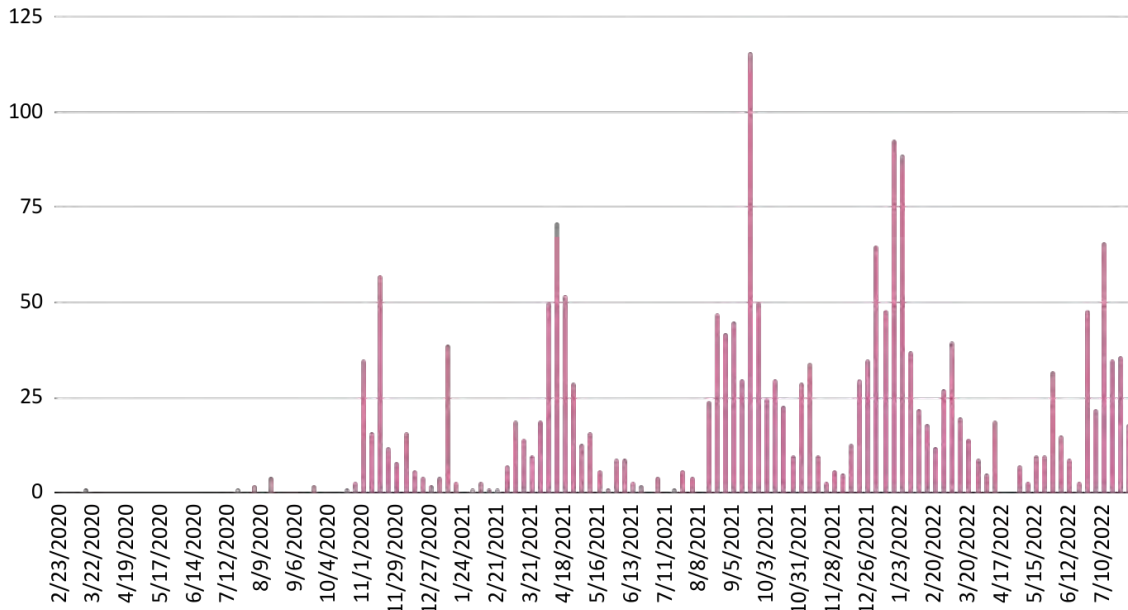
Figure 201: Grant COVID-19 case rates



#### Cases Over Time

Figure 202 presents Grant County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 15, 2020 with 57 cases. During Stage 2, COVID-19 cases peaked the week of April 11, 2021 with 71 cases. In Stage 3, COVID-19 cases peaked the week of September 19, 2022 with 116 cases. And during Stage 4, COVID-19 cases peaked the week of July 10, 2022 with 66 cases.

Figure 202: Grant Weekly COVID-19 cases over time



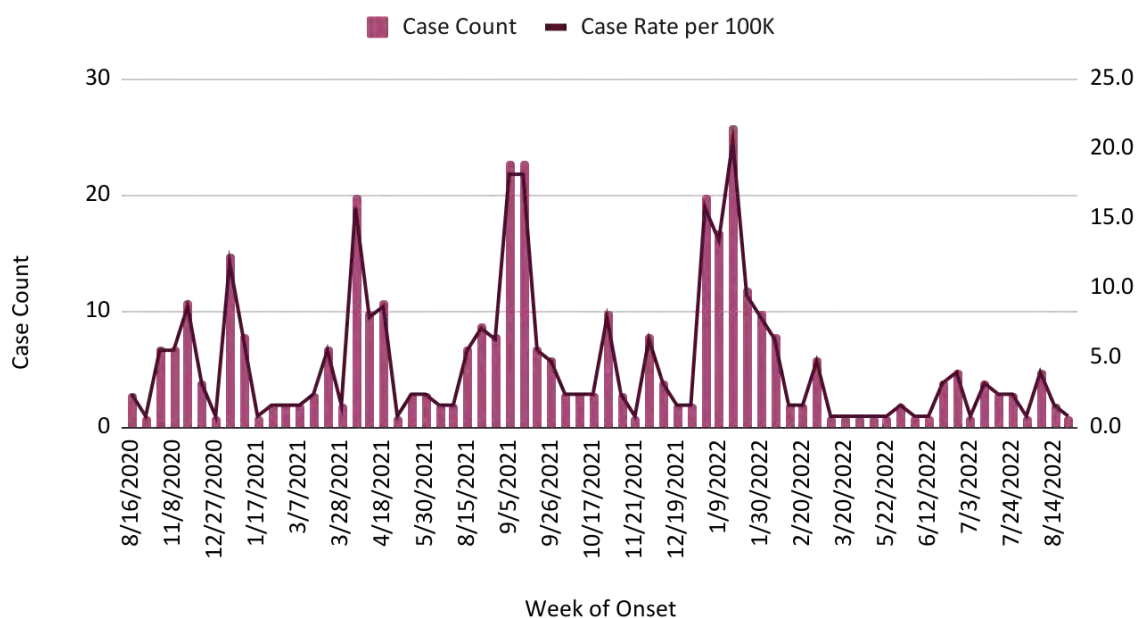
#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 203 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Grant County. As of the week of July 31, 2022, there were 383 pediatric COVID-19 cases in Grant County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 2,052.1 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 1,815.3 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between



April and July 2022, which peaked June 26, 2022, with 394.6 COVID-19 cases per 100,000.

Figure 203: Grant pediatric COVID-19 cases and case rate over time

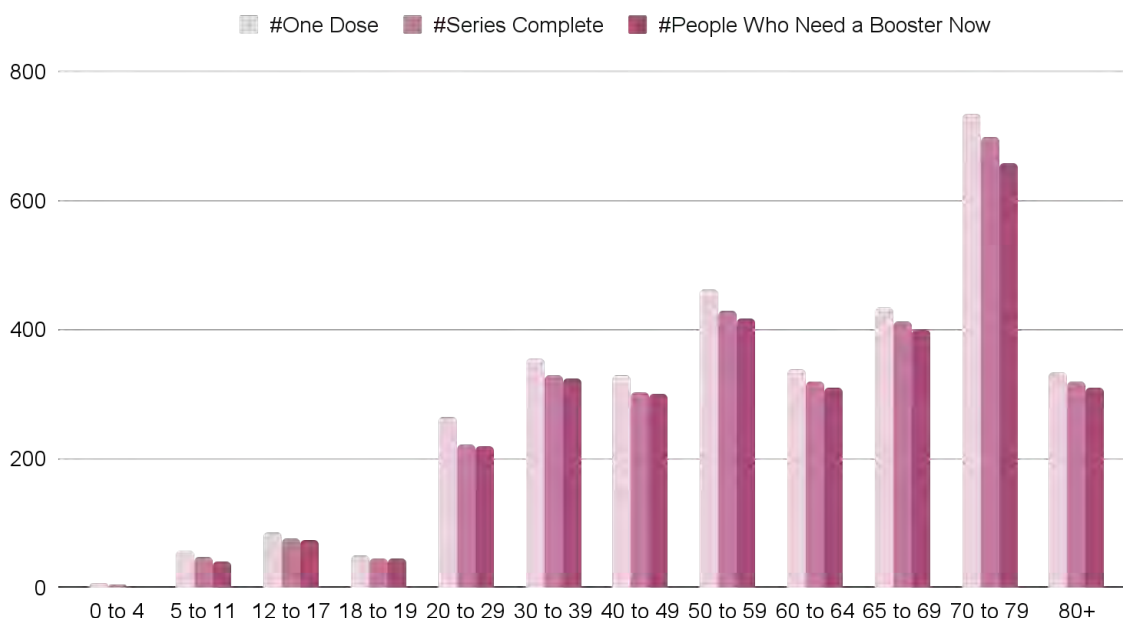


### Vaccination Status

As of August 24, 2022, Grant County had 47.4% of the county with one dose and 43.9% with a series complete.

## COVID-19 Vaccination Status by Age

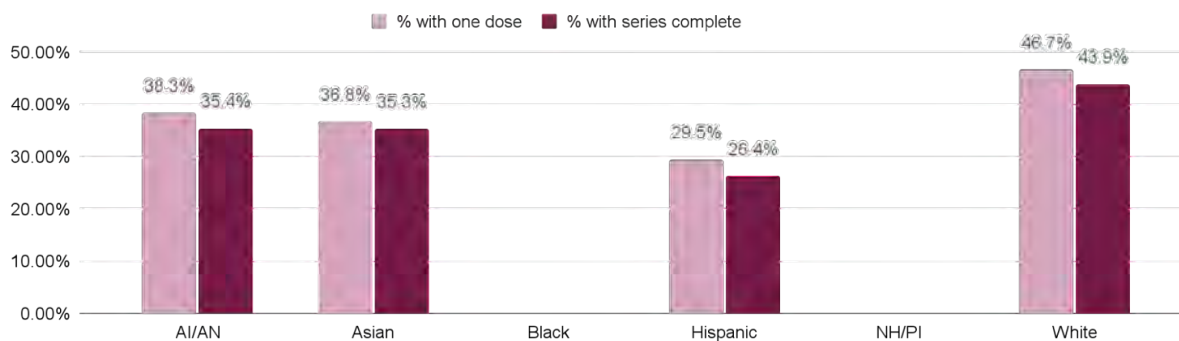
Figure 204: Grant Vaccination status by age



## COVID-19 Vaccination Status by Race

Figure 205 is a clustered column chart presenting Grant County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Grant County, individuals who identify as Hispanic have the lowest vaccination coverage, with 29.5% of individuals having at least one dose and 26.4% of individuals with a series complete.

Figure 205: Grant County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

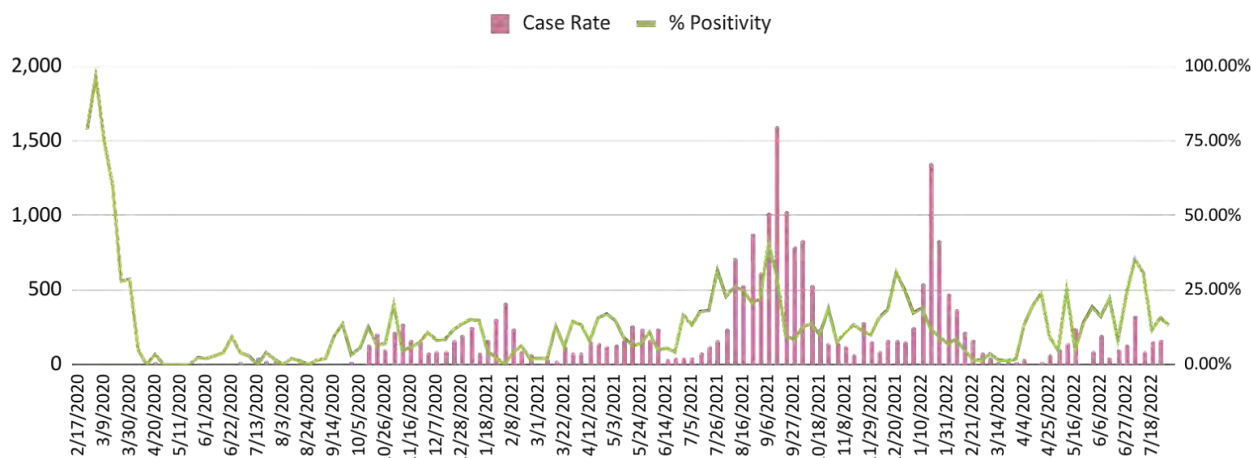
## Harney

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 206 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Harney County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Harney County occurred between October 2020 and March 2021 and peaked the week of February 1, 2020 with a case rate of 411 per 100,000. The second wave that occurred between March and June 2021 was smaller and peaked the week of May 17, 2021 with a case rate of 265 per 100,000. The third wave occurred between July and October 2021 during increasing incidence of the Delta variant, with the highest case rate (1,605 per 100,000) occurring the week of September 13, 2021. The fourth wave was seen between December 2021-January 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (1,353 per 100,000) was seen, which occurred during the peak of this wave the week of January 17, 2022. The fifth wave was seen in Harney County starting in April 2022 and appears to be ongoing as of July 2022 data.

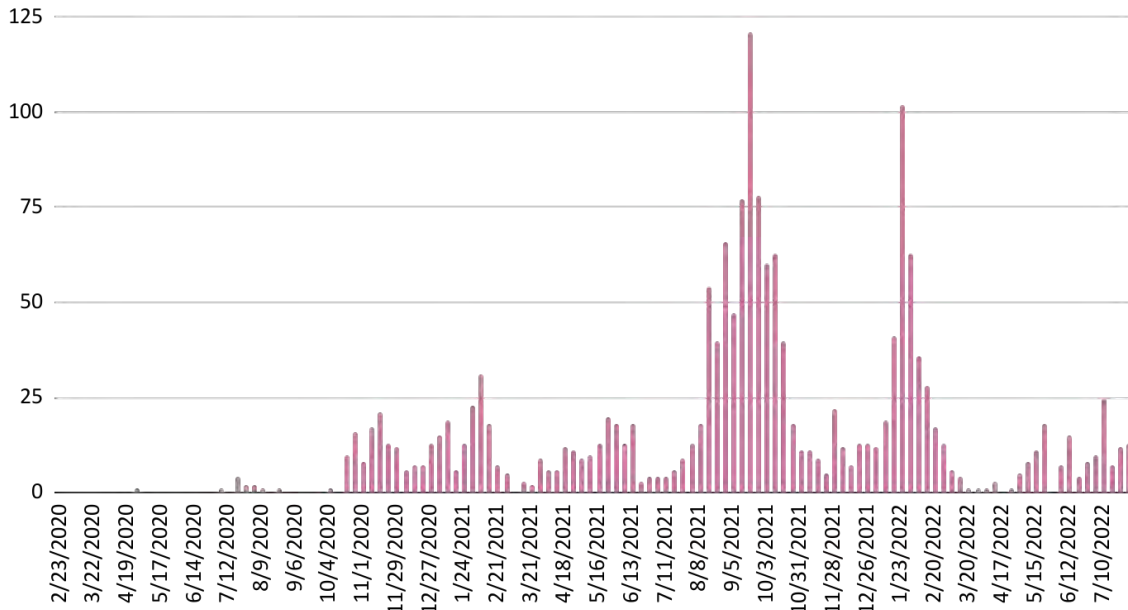
Figure 206: Harney COVID-19 case rates



#### Cases Over Time

Figure 207 presents Harney County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 15, 2020 with 21 cases. During Stage 2, COVID-19 cases peaked the week of August 29, 2021 with 66 cases. In Stage 3, COVID-19 cases peaked the week of September 19, 2021 with 121 cases. And during Stage 4, COVID-19 cases peaked the week of July 10, 2022 with 25 cases.

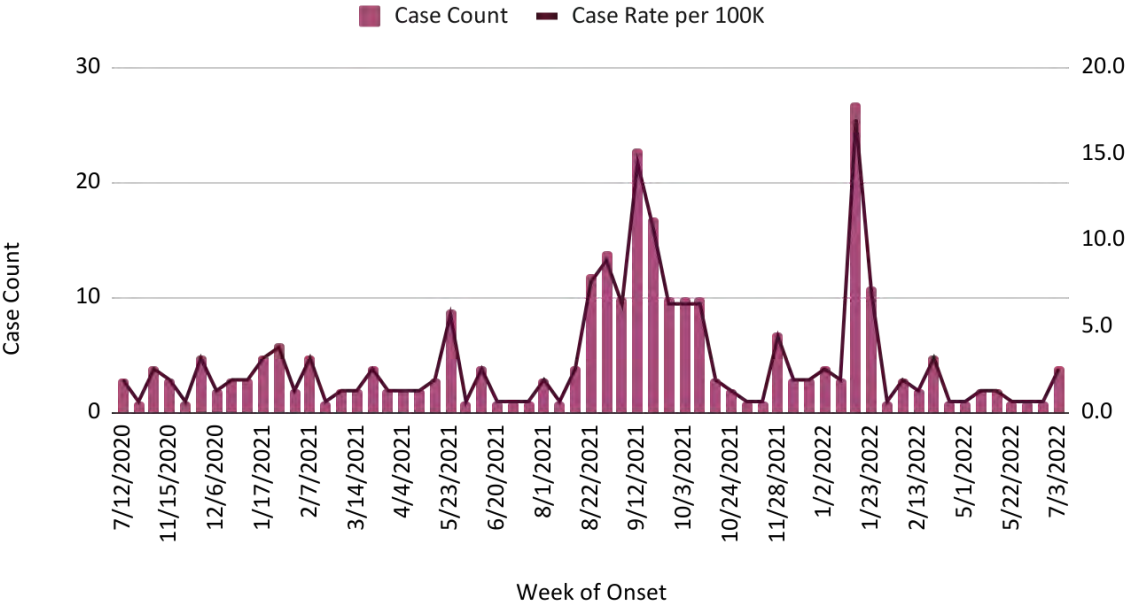
Figure 207: Harney Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 208 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Harney County. As of the week of July 31, 2022, there were 284 pediatric COVID-19 cases in Harney County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,698.1 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 1,446.5 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked July 3, 2022, with 251.6 COVID-19 cases per 100,000.

Figure 208: Harney pediatric COVID-19 cases and case rate over time



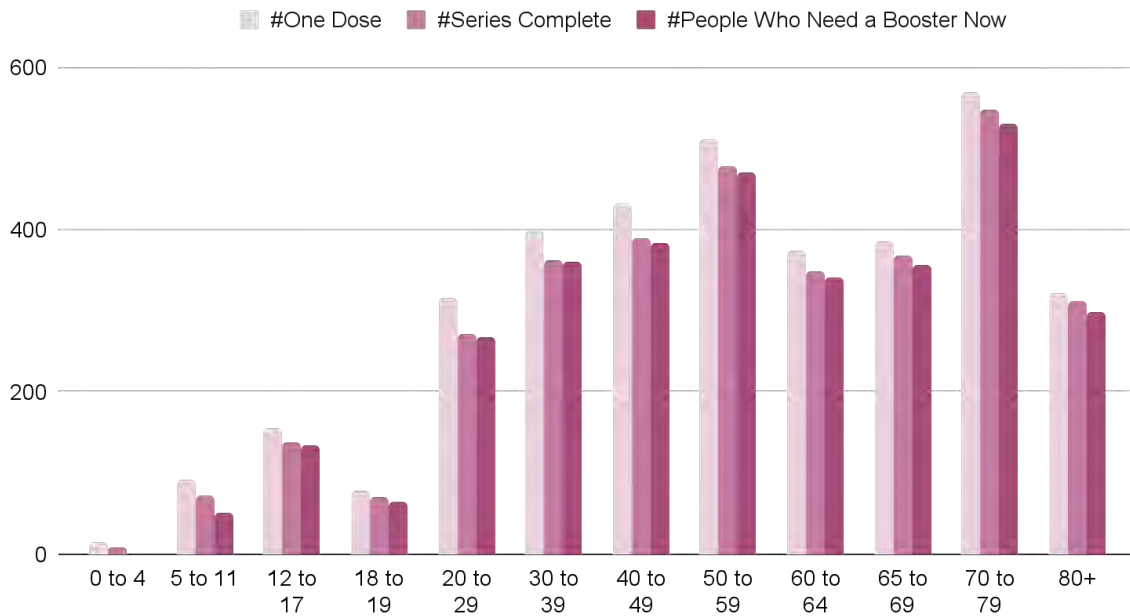
Vaccination Status

As of August 24, 2022, Harney County had 48.0% of the county with one dose and 44.27% with a series complete.

COVID-19 Vaccination Status by Age

Figure 209 is a clustered column chart presenting Harney County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

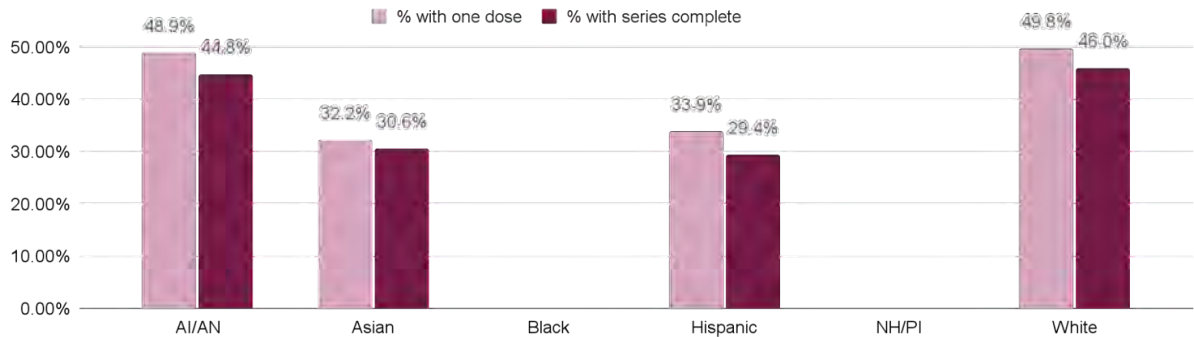
Figure 209: Harney Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 210 is a clustered column chart presenting Harney County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Harney County, individuals who identify as Asian have the lowest vaccination coverage, with 32.2% of individuals having at least one dose and 30.6% of individuals with a series complete.

Figure 210: Harney County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

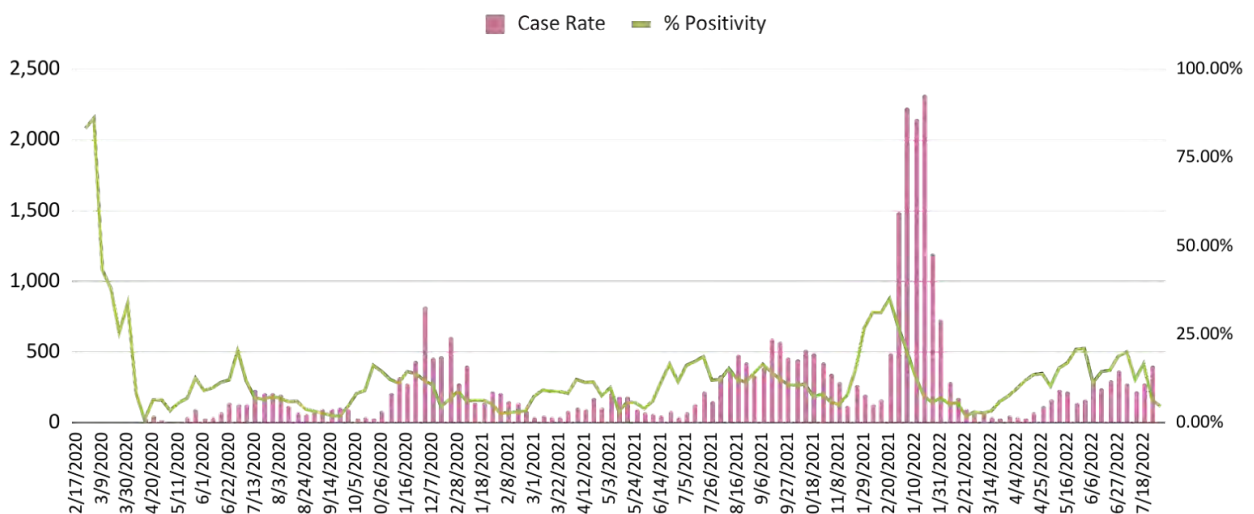
## Jefferson

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 211 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Jefferson County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between June and September 2020 and peaked the week of July 13, 2020 with a case rate of 233 per 100,000. The second wave occurred between October 2020 and March 2021 and peaked the week of November 30, 2020 with a case rate of 828 per 100,000. In Stage 2, a small third wave occurred between March and June 2021, with the highest case rate (213 per 100,000) occurring the week of May 3, 2021. The fourth wave was seen between July and December 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 595 per 100,000 the week of September 13, 2021. During the spread of the Omicron variant, the fifth wave was seen in Jefferson County between December 2021 and January 2022. This fifth wave peaked the week of January 17, 2022 with a case rate of 2,318 per 100,000. The sixth wave started in April 2022 and appears to be ongoing as of July 2022 data.

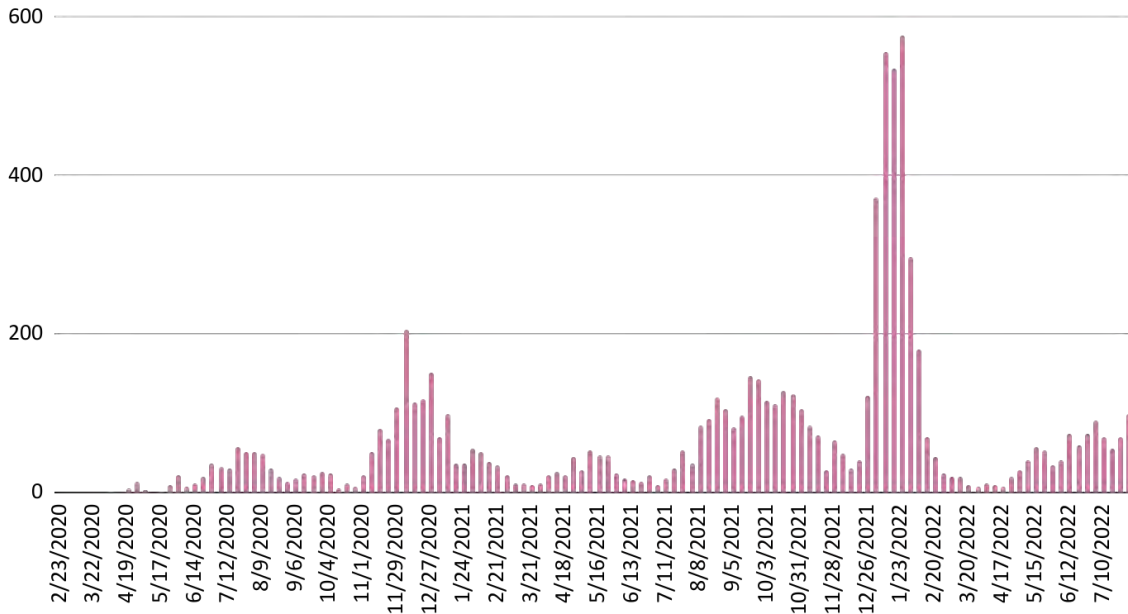
Figure 211: Jefferson COVID-19 case rates



#### Cases Over Time

Figure 212 presents Jefferson County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 108 cases. During Stage 2, COVID-19 cases peaked the week of December 6, 2020 with 206 cases. In Stage 3, COVID-19 cases peaked the week of January 23, 2022 with 577 cases. And during Stage 4, COVID-19 cases peaked the week of July 31, 2022 with 100 cases.

Figure 212: Jefferson Weekly COVID-19 cases over time

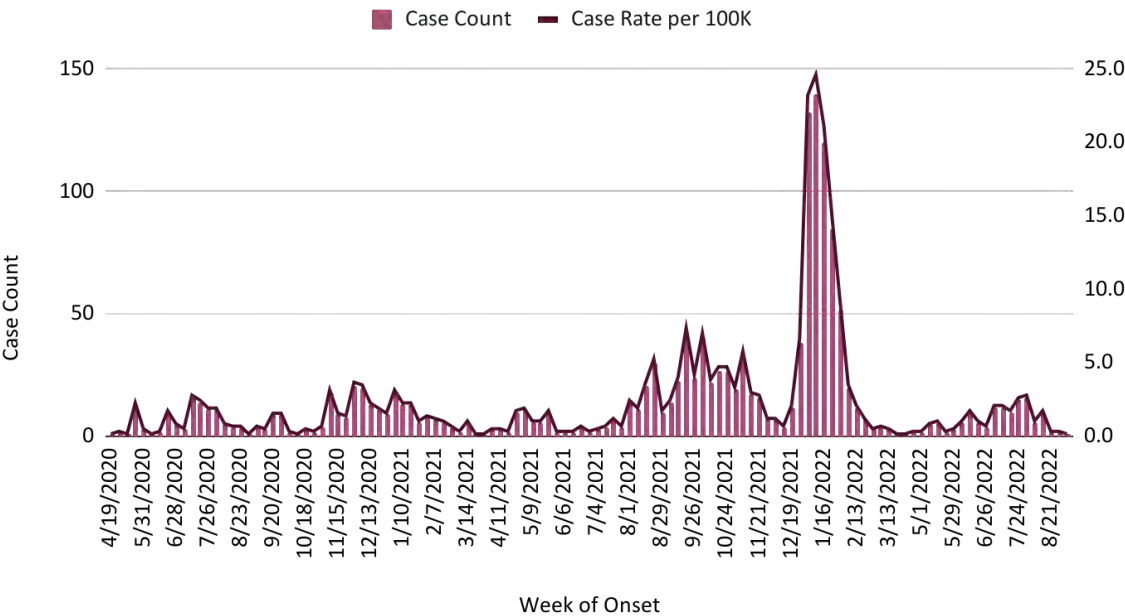


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 213 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Jefferson County. As of the week of July 31, 2022, there were 1,568 pediatric COVID-19 cases in Jefferson County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 9, 2022 with a case rate of 2,463.5 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 19, 2021 with a COVID-19 case rate of 739 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked July 31, 2022, with 281.5 COVID-19 cases per 100,000.



Figure 213: Jefferson pediatric COVID-19 cases and case rate over time



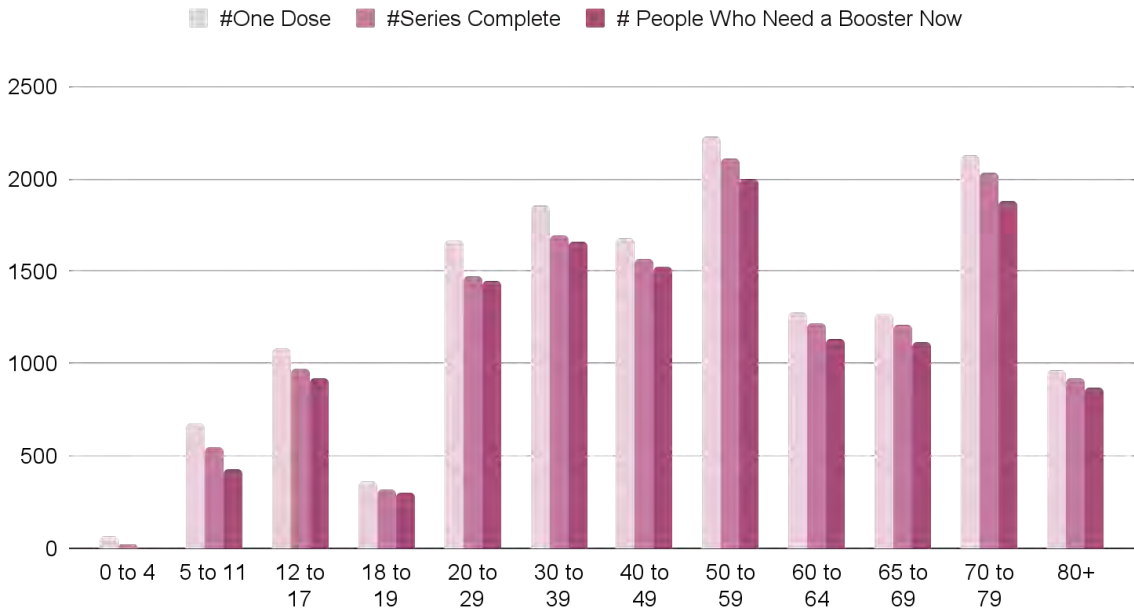
Vaccination Status

As of August 24, 2022, Jefferson County had 60.6% of the county with one dose and 56.1% with a series complete.

COVID-19 Vaccination Status by Age

Figure 214 is a clustered column chart presenting Jefferson County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

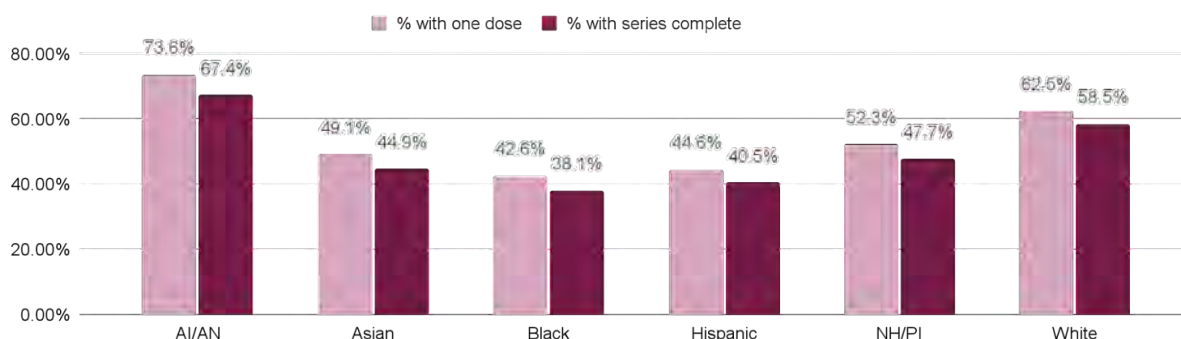
Figure 214: Jefferson Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 215 is a clustered column chart presenting Jefferson County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Jefferson County, individuals who identify as Native Hawaiian/Pacific Islander have the lowest vaccination coverage, with 30.4% of individuals having at least one dose and 28.6% of individuals with a series complete.

Figure 215: Jefferson County % of population with one dose and % series complete by race



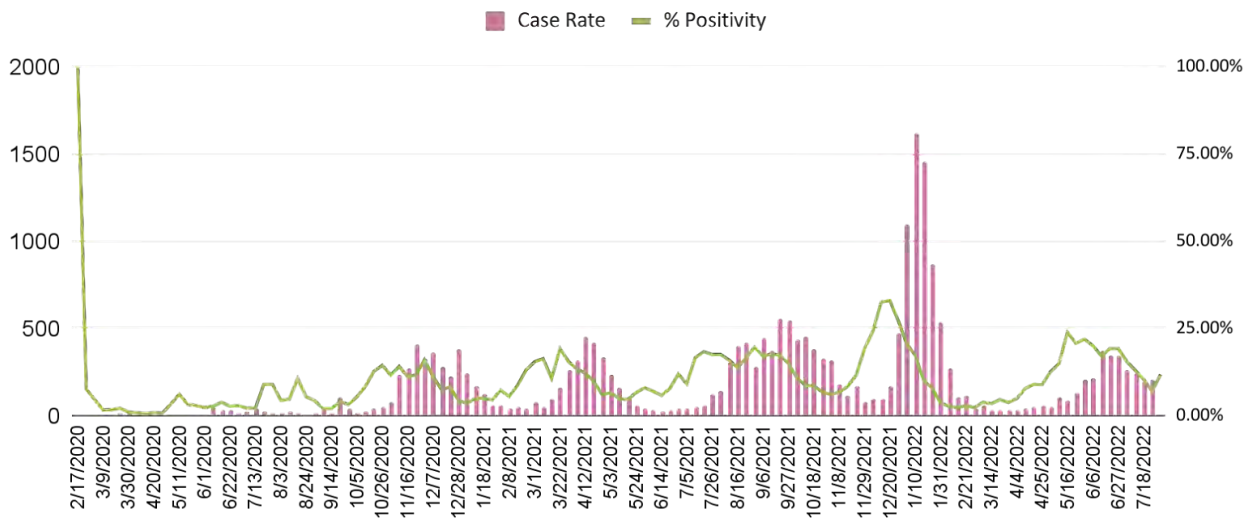
## Klamath

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 216 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Klamath County only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. The first wave of COVID-19 cases in Klamath County occurred between October 2020 and February 2021 and peaked the week of November 23, 2020 with a case rate of 412 per 100,000. The second wave that occurred between March and May 2021 was smaller and peaked the week of April 12, 2021 with a case rate of 451 per 100,000. The third wave occurred between July and November 2021 during increasing incidence of the Delta variant, with the highest case rate (556 per 100,000) occurring the week of September 20, 2021. The fourth wave was seen between December 2021-January 2022 during the spread of the Omicron variant. In the fourth wave, the highest case rate yet (1,623 per 100,000) was seen, which occurred during the peak of this wave the week of January 10, 2022. The fifth wave was seen in Klamath County starting in April 2022 and appears to be ongoing as of July 2022 data.

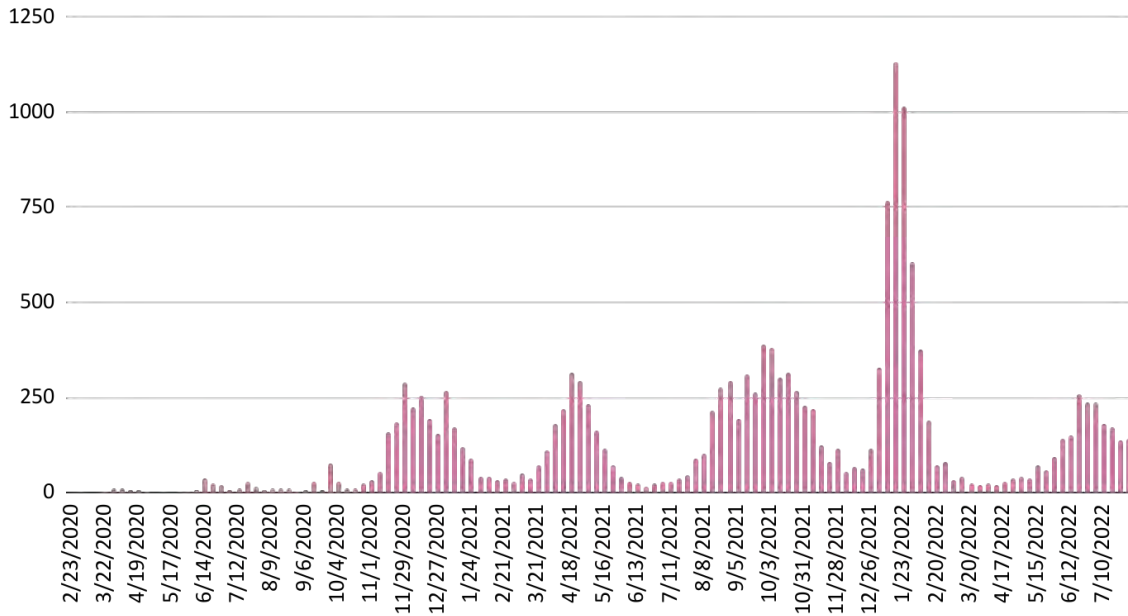
Figure 216: Klamath COVID-19 case rates



#### Cases Over Time

Figure 217 presents Klamath County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 288 cases. During Stage 2, COVID-19 cases peaked the week of April 18, 2021 with 315 cases. In Stage 3, COVID-19 cases peaked the week of January 16, 2022 with 1,133 cases. And during Stage 4, COVID-19 cases peaked the week of June 19, 2022 with 259 cases.

Figure 217: Klamath Weekly COVID-19 cases over time

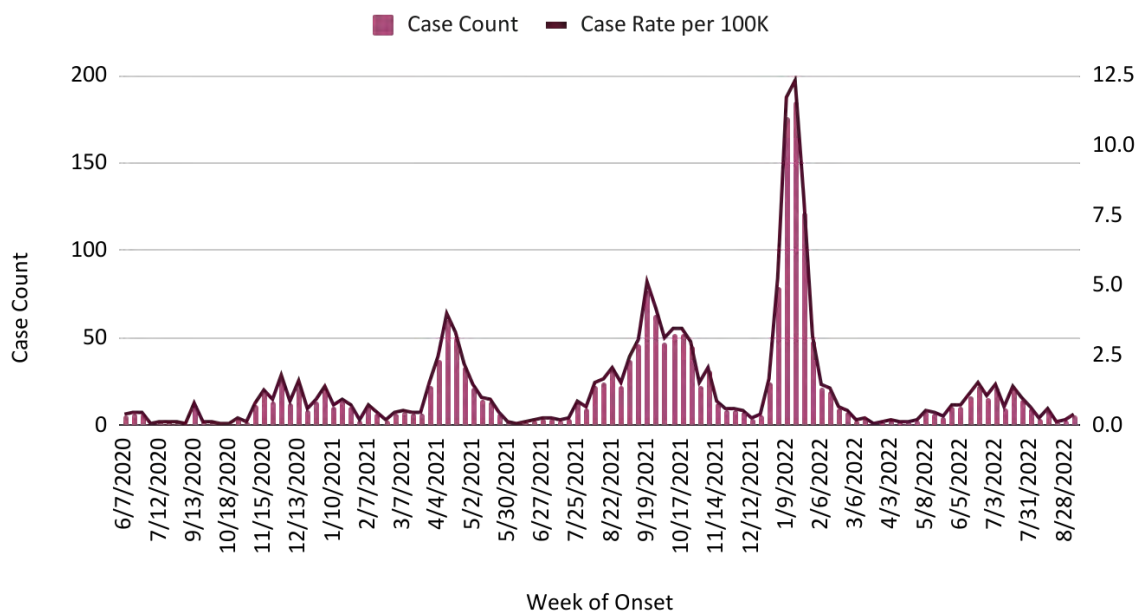


#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 218 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Klamath County. As of the week of July 31, 2022, there were 2,116 pediatric COVID-19 cases in Klamath County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 1,232.9 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 19, 2021 with a COVID-19 case rate of 513.2 per 100,000. There was an increase in pediatric COVID-19 cases in Stage 4 between April and July 2022, which peaked June 19, 2022, with 153.3 COVID-19 cases per

100,000.

Figure 218: Klamath pediatric COVID-19 cases and case rate over time



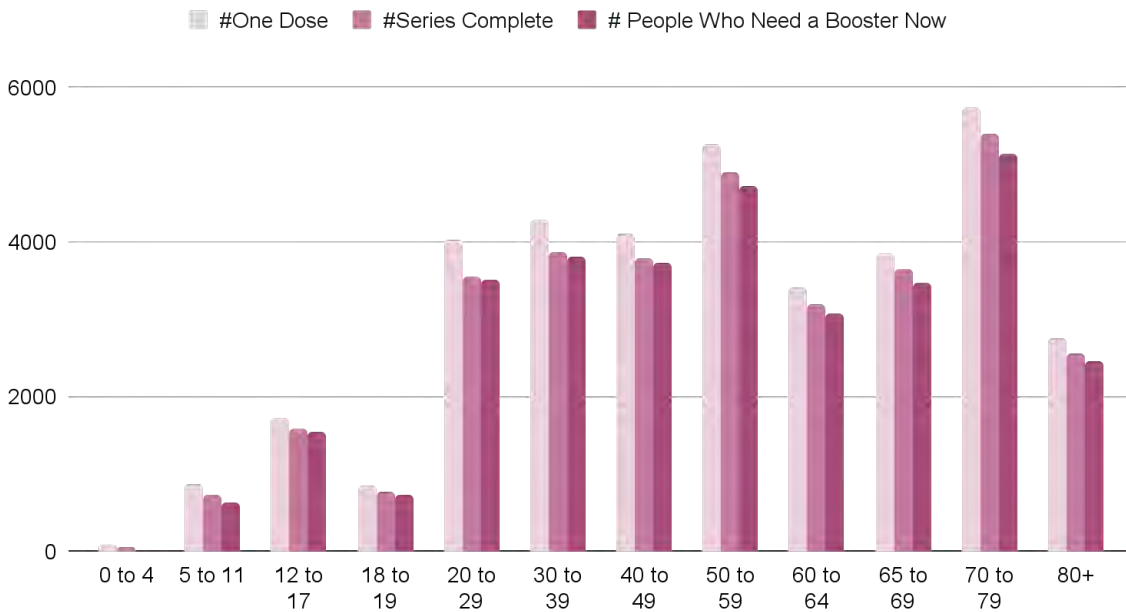
### Vaccination Status

As of August 24, 2022, Klamath County had 52.7% of the county with one dose and 48.4% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 219 is a clustered column chart presenting Klamath County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

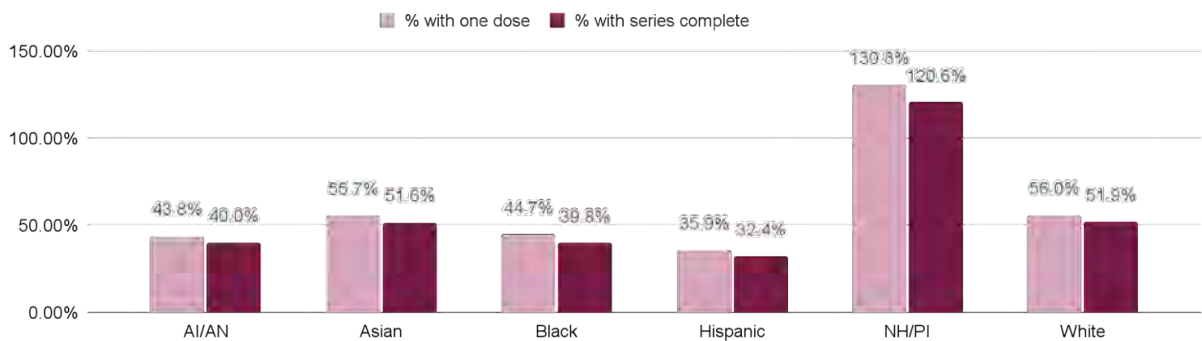
Figure 219: Klamath Vaccination status by age



#### COVID-19 Vaccination Status by Race

Figure 220 is a clustered column chart presenting Klamath County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Klamath County, individuals who identify as Hispanic have the lowest vaccination coverage, with 35.9% of individuals having at least one dose and 32.4% of individuals with a series complete.

Figure 220: Klamath County % of population with one dose and % series complete by race



Vaccination data in charts that display percentage of population by race may equal more than 100% because there are more people who identify as some race categories (AI/AN, Black, NH/PI) with an address in Oregon that received a vaccination than are estimated in the population.

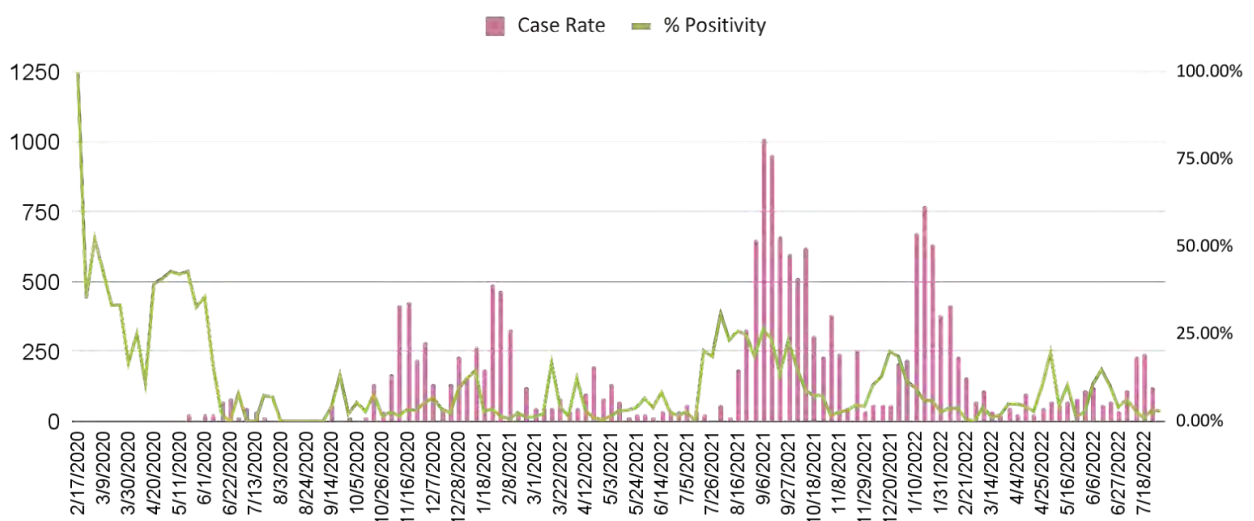
## Lake

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 221 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Similar to the state, Lake County saw six surges of COVID-19 cases. The first wave of COVID-19 cases was a small surge that occurred between May and July 2020 and peaked the week of June 22, 2020 with a case rate of 86 per 100,000. The second wave occurred between October 2020 and March 2021 and had two peaks; the week of November 16, 2020 with a case rate of 428 per 100,000, and the week of January 24, 2021 with a case rate of 428 per 100,000. In Stage 2, a small third wave occurred between March and May 2021, with the highest case rate (196 per 100,000) occurring the week of April 19, 2021. The fourth wave was seen between August-December 2021 and occurred during increasing incidence of the Delta variant, with a case rate of 1,015 per 100,000 the week of September 6, 2021. During the spread of the Omicron variant, the fifth wave was seen in Lake County between December 2021 and February 2022. This fifth wave peaked the week of January 17, 2022 with a case rate of 770 per 100,000. The sixth wave started in March 2022 and appears to be ongoing as of July 2022 data.

Figure 221: Lake COVID-19 case rates

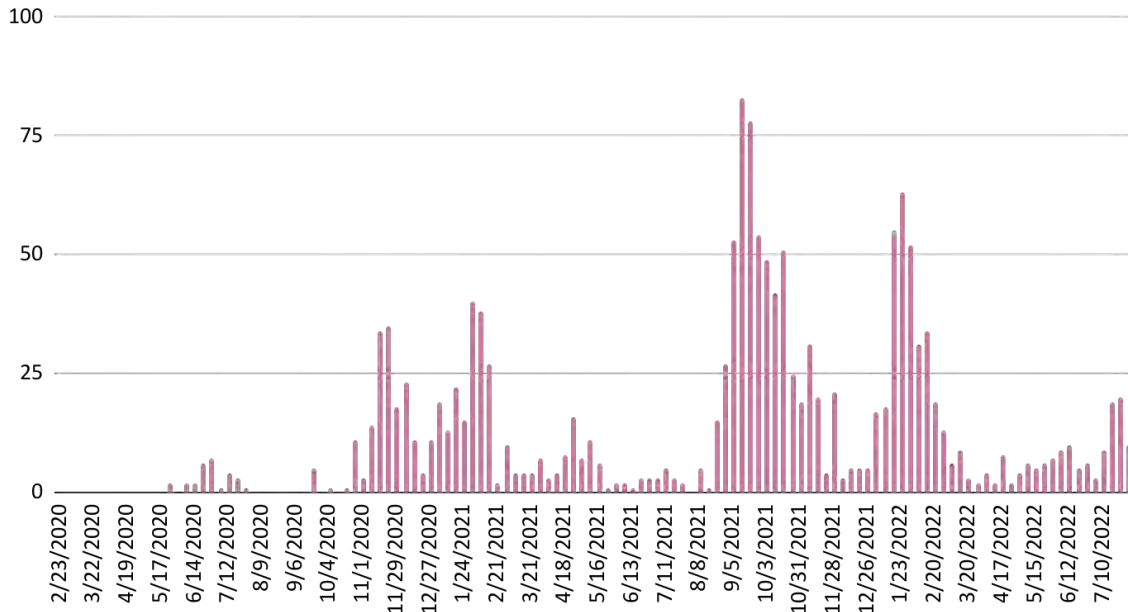


#### Cases Over Time

Figure 222 presents Lake County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 22, 2020 with 35 cases. During Stage 2, COVID-19 cases peaked the week of January 31, 2021 with 40 cases. In Stage 3, COVID-19 cases peaked the week of September 12, 2021 with 83 cases. And during Stage 4, COVID-19 cases peaked the week of July 24, 2022 with 20 cases.



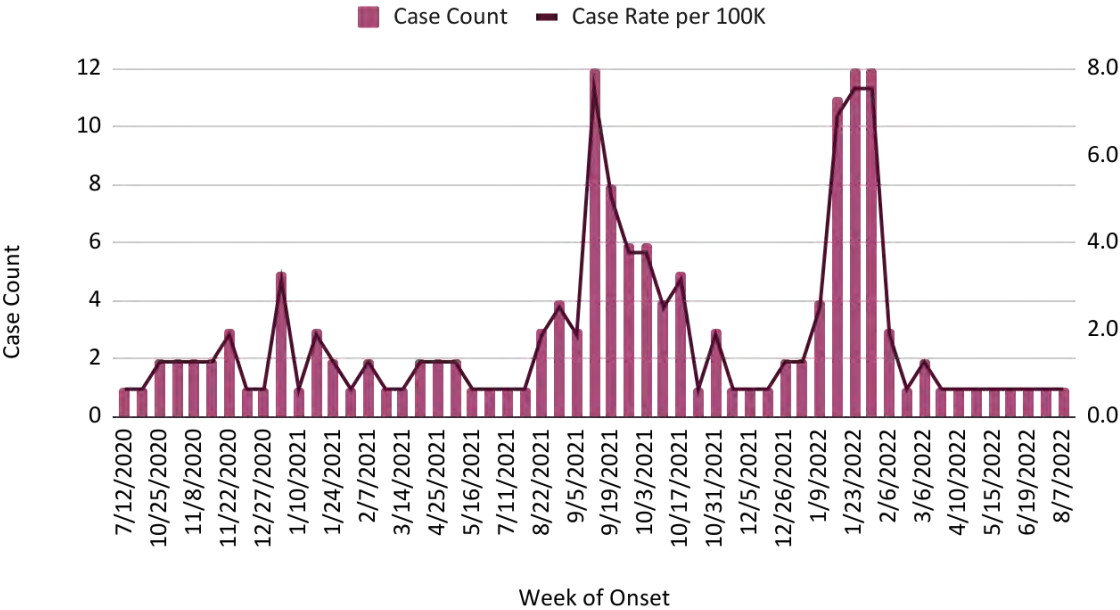
Figure 222: Lake Weekly COVID-19 cases over time



#### Pediatric COVID-19 Cases and Case Rate Over Time

Figure 223 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Lake County. As of the week of July 31, 2022, there were 155 pediatric COVID-19 cases in Lake County. Pediatric COVID-19 cases were high during the Omicron wave, peaking the week of January 30, 2022 with a case rate of 754.2 per 100,000. Similar to other counties, there was a surge in pediatric COVID-19 cases in July 2021, which peaked the week of September 12, 2021 with a COVID-19 case rate of 754.2 per 100,000.

Figure 223: Lake pediatric COVID-19 cases and case rate over time



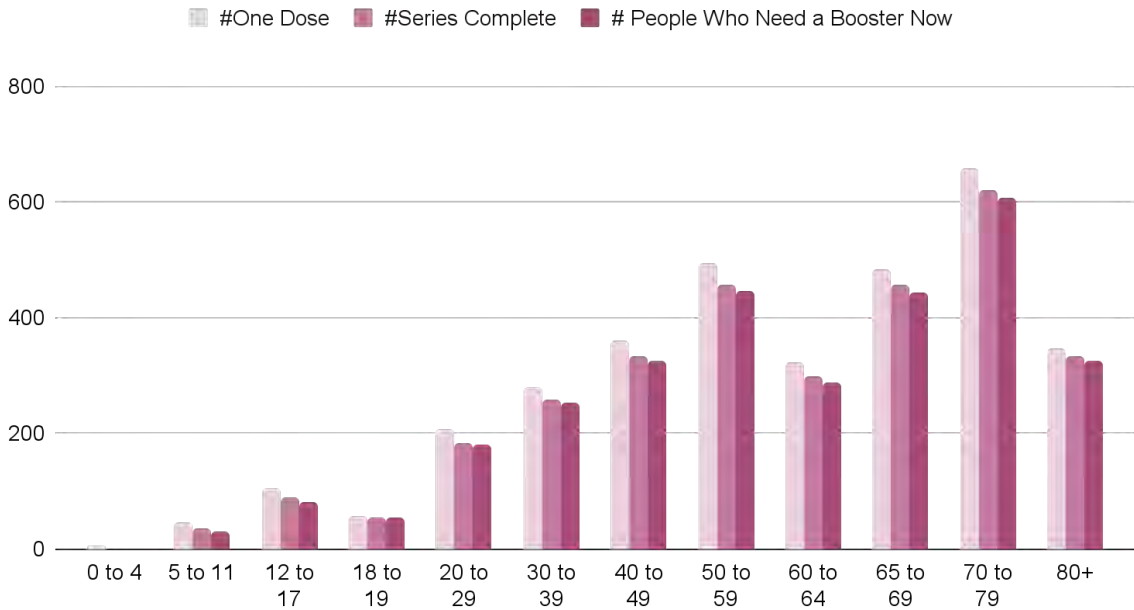
Vaccination Status

As of August 24, 2022, Lake County had 40.7% of the county with one dose and 37.6% with a series complete.

COVID-19 Vaccination Status by Age

Figure 224 is a clustered column chart presenting Lake County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

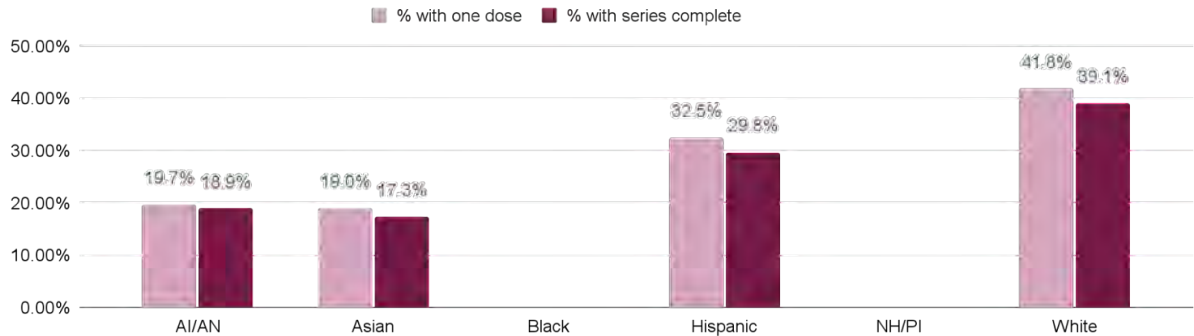
Figure 224: Lake Vaccination status by age



COVID-19 Vaccination Status by Race

Figure 225 is a clustered column chart presenting Lake County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Lake County, individuals who identify as Asian have the lowest vaccination coverage, with 19.0% of individuals having at least one dose and 17.3% of individuals with a series complete.

Figure 225: Lake County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

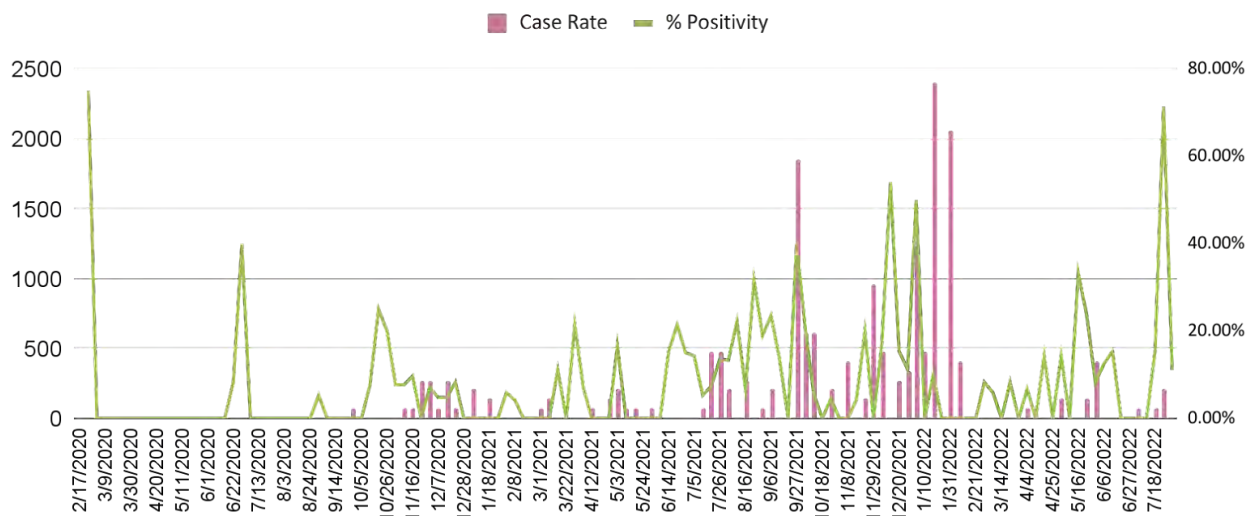
## Wheeler

### Level of Community Spread

#### Case Rate and Percent Positivity

Figure 226 reports the case rate per 100,000 (the column chart) and percent of COVID-19 tests that were positive over time (the line chart). Unlike the state, Wheeler County didn't really have major surges, but there were certain points in time when there were cases seen. only saw five surges of COVID-19 cases between the beginning of the pandemic and July 2022. Between November and December 2020 there were three weeks where the case rate reached 275 per 100,000: November 23, 2020, November 30, 2020, and December 14, 2020. There was a jump in cases the week of May 3, 2021 with a case rate of 206 per 100,000. A surge occurred in September 2021 during increasing incidence of the Delta variant, with the highest case rate (1,854 per 100,000) occurring the week of September 27, 2021. Another wave was seen between December 2021-January 2022 during the spread of the Omicron variant. In this wave, the highest case rate yet (2,404 per 100,000) was seen, which occurred during the peak of this wave the week of January 17, 2022.

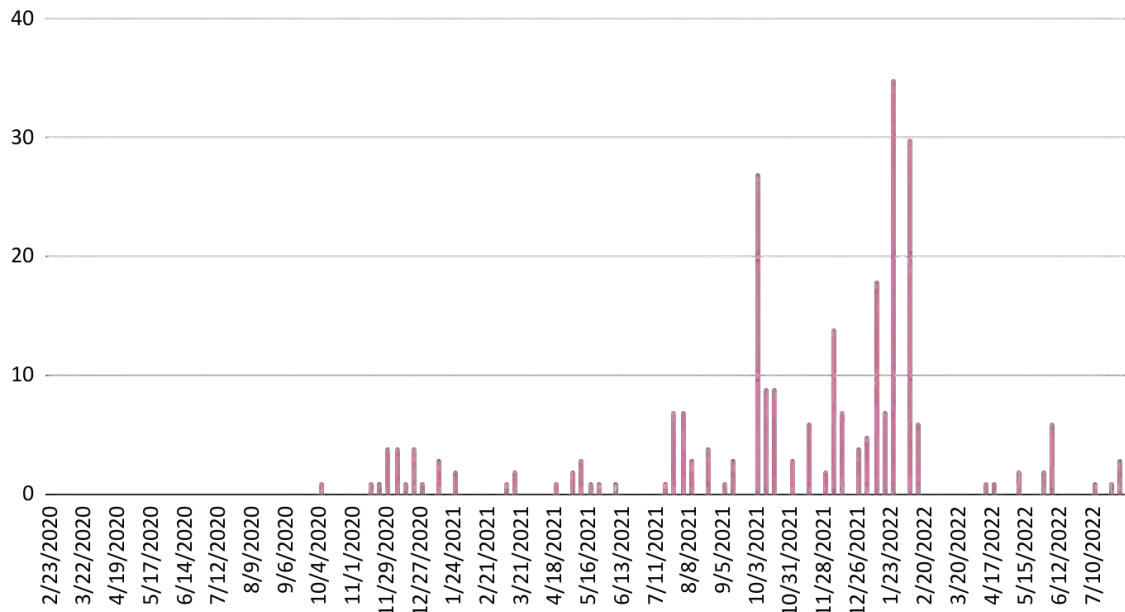
Figure 226: Wheeler COVID-19 case rates



#### Cases Over Time

Figure 227 presents Wheeler County COVID-19 case counts over time. In Stage 1, COVID-19 cases peaked the week of November 29, 2020 with 4 cases. During Stage 2, COVID-19 cases peaked the week of August 1, 2021 with 7 cases. In Stage 3, COVID-19 cases peaked the week of January 3, 2022 with 35 cases. And during Stage 4, COVID-19 cases peaked the week of June 5, 2022 with 6 cases.

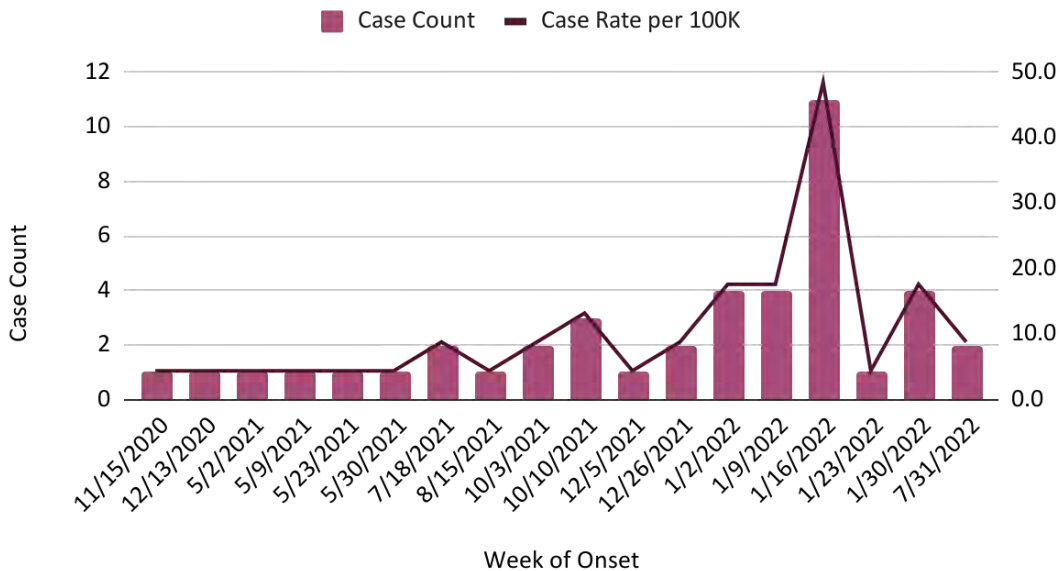
Figure 227: Wheeler Weekly COVID-19 cases over time



Pediatric COVID-19 Cases and Case Rate Over Time

Figure 228 reports the weekly number of COVID-19 cases (the columns) and the COVID-19 case rate per 100,000 (the line chart) over time in Wheeler County. As of the week of July 31, 2022, there were 43 pediatric COVID-19 cases in Wheeler County. Pediatric COVID-19 cases were highest during the Omicron wave, peaking the week of January 16, 2022 with a case rate of 4,845.8 per 100,000.

Figure 228: Wheeler pediatric COVID-19 cases and case rate over time



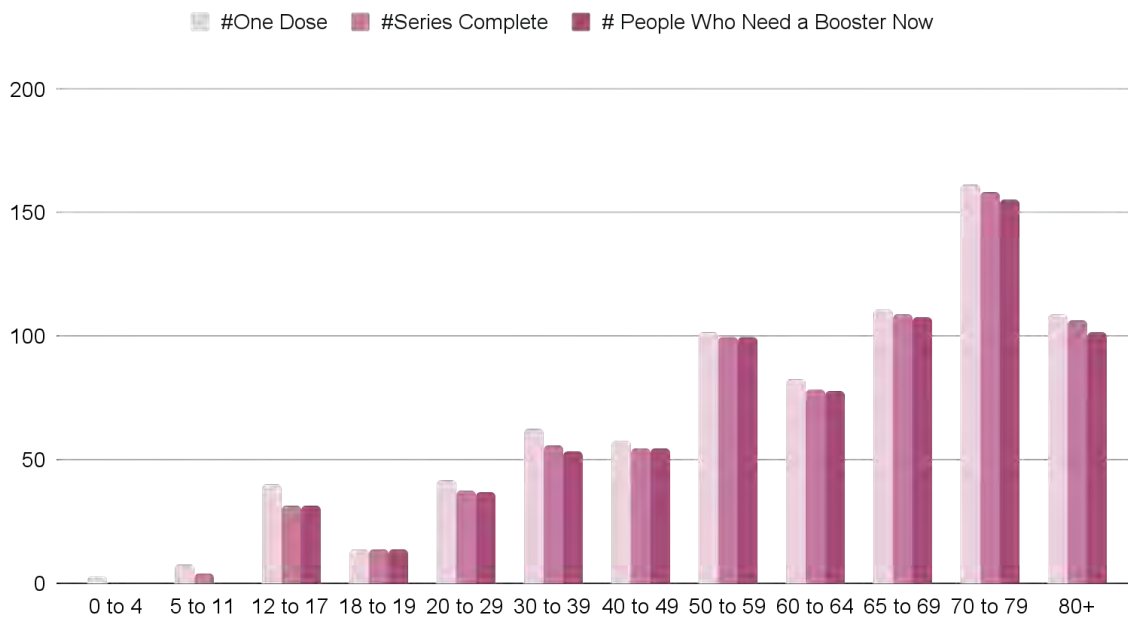
## Vaccination Status

As of August 24, 2022, Wheeler County had 53.9% of the county with one dose and 51.03% with a series complete.

### COVID-19 Vaccination Status by Age

Figure 229 is a clustered column chart presenting Wheeler County COVID-19 vaccination status, number one dose, number with series completion, and total number of people who need a booster now by age.

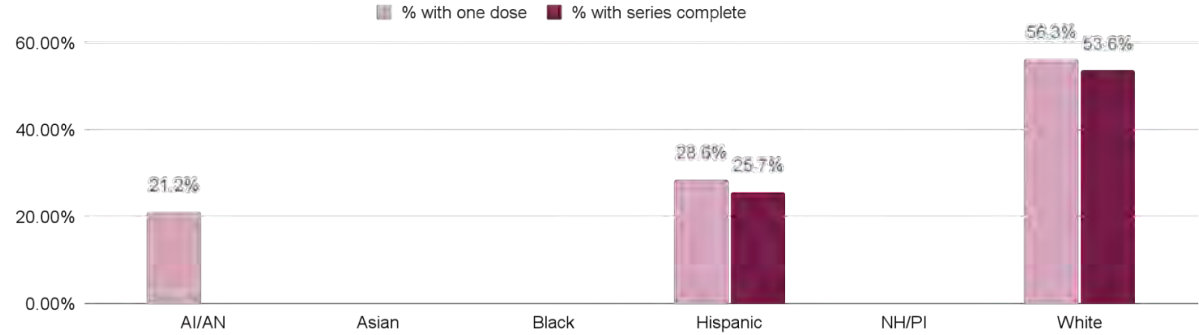
Figure 229: Wheeler Vaccination status by age



### COVID-19 Vaccination Status by Race

Figure 230 is a clustered column chart presenting Wheeler County COVID-19 vaccination status, including the percentage of individuals with at least one dose and the percent with series complete by race. In Wheeler County, individuals who identify as Native American/Alaska Native have the lowest vaccination coverage, with 21.2% of individuals having at least one dose.

Figure 230: Wheeler County % of population with one dose and % series complete by race



Vaccination data for some populations by county are suppressed due to low numbers.

## Appendix K: Secondary Health Outcomes

Notes about these charts	2
<b>Oregon, Statewide</b>	<b>5</b>
Excess Deaths	5
Estimates of Excess Deaths	5
Behavioral Health	6
Oregon Opioid Overdose Deaths	6
Anxiety and Depression	6
Perinatal Health Outcomes	9
Preterm birth rate	9
Suicide	10
Suicides, Total	10
Sexually Transmitted Diseases	10
Chlamydia	10
HIV	11
Unemployment	12
Regular Immunizations	13
Kindergartners with School-Required Vaccines	13
Women of Child-Bearing Age with TDaP Vaccine	13



## Notes about these charts

Regions in these charts are modified regions based on the Oregon emergency response regions. Region 1 includes Clackamas, Clatsop, Columbia, Multnomah, Tillamook, and Washington. Region 2 includes Benton, Lincoln, Linn, Marion, Polk, and Yamhill. Region 3 includes Coos, Curry, Douglas, Jackson, Josephine, and Lane. Region 4 includes Baker, Gillam, Hood River, Malheur, Morrow, Sherman, Umatilla, Union, Wallowa, and Wasco. And Region 5 includes Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, and Wheeler.

Charts have varying sizes of “Y” axis to fit the data per the population being represented on the chart (for example county, region, age band, etc.) so use caution when viewing charts side by side.

Some data is organized by stage of the pandemic.

- **Stage 1** - *March 2020 - November 2020*: outbreak, disease investigation, implementing public health protections (masking, distancing, shutdowns), preparing for vaccination
- **Stage 2** - *December 2020 - August 2021*: vaccination, disease investigation, enforcing public health protections, and partial reopening
- **Stage 3** - *September 2021 - February 2022*: vaccinations, reopening and dealing with variants
- **Stage 4** - *March 2022 - Present July 2022*: total reopening, no public health protections (except in health care settings), and changes in investigative guidelines

Data sources:

- **Anxiety and depression** data come from the US Census Household Pulse Survey. Data for Oregon were accessed online at:  
<https://www.census.gov/programs-surveys/household-pulse-survey/data.html>
- **Chlamydia** case data come from the Oregon Public Health Division - Acute and Communicable Disease Prevention, compiled from reports submitted to

OPHD. Data accessed online at:

[https://public.tableau.com/app/profile/oregon.public.health.division.acute.and.communicable.disease.pre/viz/MonthlyReportDashboard\\_EXTERNAL\\_AGGREGATED/MonthlyReportDashboard](https://public.tableau.com/app/profile/oregon.public.health.division.acute.and.communicable.disease.pre/viz/MonthlyReportDashboard_EXTERNAL_AGGREGATED/MonthlyReportDashboard)

- **Kindergarten vaccinations** data accessed online at:  
<https://public.tableau.com/app/profile/oregon.immunization.program/viz/SchoolLawTableau/Immunizations>
- **HIV case data** come from the Oregon Public Health Division - Acute and Communicable Disease Prevention, compiled from reports submitted to OPHD. Data accessed online at:  
[https://public.tableau.com/app/profile/oregon.public.health.division.acute.and.communicable.disease.pre/viz/MonthlyReportDashboard\\_EXTERNAL\\_AGGREGATED/MonthlyReportDashboard](https://public.tableau.com/app/profile/oregon.public.health.division.acute.and.communicable.disease.pre/viz/MonthlyReportDashboard_EXTERNAL_AGGREGATED/MonthlyReportDashboard)
- **Low birthweight infants:** Data for Oregon come from Oregon's Vital Statistics Annual Report. This is available online at:  
<https://visual-data.dhsoha.state.or.us/t/OHA/views/Annualtrendsinbirthandpregnancydashboard/TrendsDashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y>
- **Opioid overdose deaths** come from State Unintentional Drug Overdose Reporting System (SUDORS) highlighted in OHA's Opioid Overdoes Public Health Surveillance Update (09/16/2022):  
[https://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SUBSTANCEUSE/OPIOIDS/Documents/monthly\\_opioid\\_overdose\\_related\\_data\\_report.pdf](https://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SUBSTANCEUSE/OPIOIDS/Documents/monthly_opioid_overdose_related_data_report.pdf)
- **Preterm Birth Rate:** Data for Oregon were accessed online at:  
<https://www.marchofdimes.org/peristats/reports/united-states> Data for the US were access at: <https://www.cdc.gov/nchs/data/vsrr/vsrr020.pdf>
- **Suicide data** come from the National Violent Death Reporting System (NVDRS). Data for Oregon were accessed online at:  
<https://www.oregon.gov/oha/ph/DiseasesConditions/InjuryFatalityData/Pages/nvdrs.aspx>
  - Number of people who died by suicide
- **TDaP vaccine** data come from Oregon Immunization program, accessed online at:

[https://public.tableau.com/app/profile/oregon.immunization.program/viz/RoutineImmunizationsDashboard/Dashboard\\_C](https://public.tableau.com/app/profile/oregon.immunization.program/viz/RoutineImmunizationsDashboard/Dashboard_C)

- **Unemployment** data come from State of Oregon Employment Department, accessed online at:

<https://www.qualityinfo.org/ed-uesti/?at=1&t1=4101000000~unemprate~y~2000~2022>

# Oregon, Statewide

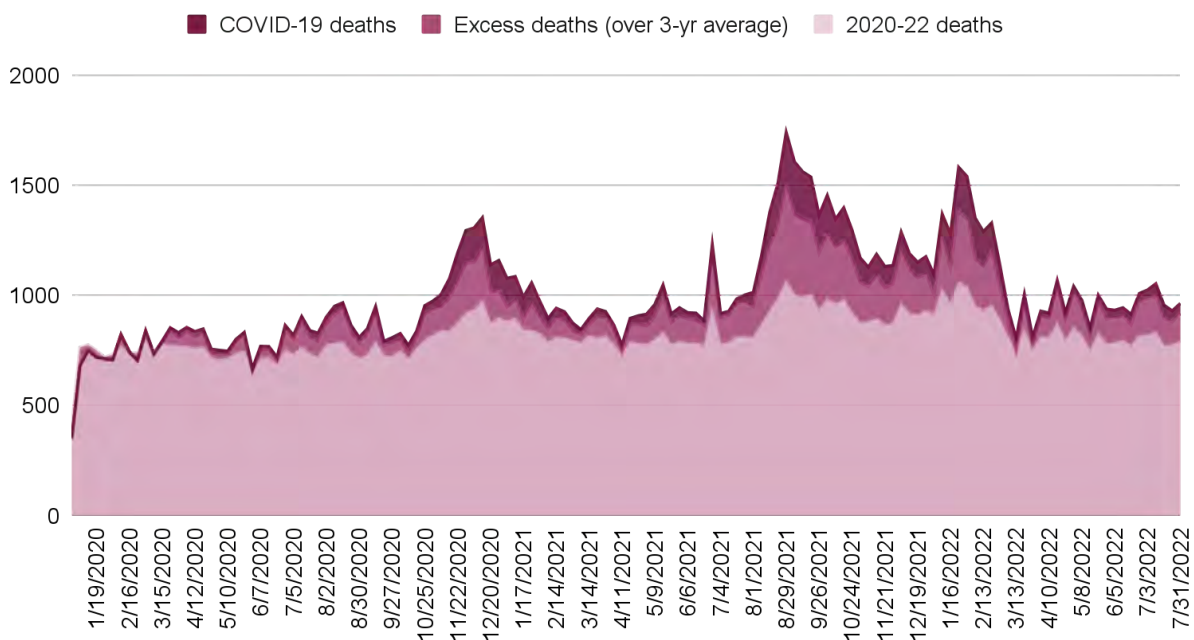
## Excess Deaths

### Estimates of Excess Deaths

Excess deaths are the difference in the observed number of deaths in a specific time period and the expected number of deaths within that same time period. Estimates of the number of excess deaths help provide additional information about the burden of the COVID-19 pandemic in relation to mortality trends. Figure 1 presents the estimated number of excess non-COVID-19 mortality, expected

Estimated non-COVID-19 mortality is presented in The number of non-COVID deaths in Oregon exceed projected expectations of deaths in the state, which could be due to numerous factors. This will be explored more in Report 2.

Figure 1: Excess deaths in Oregon over time

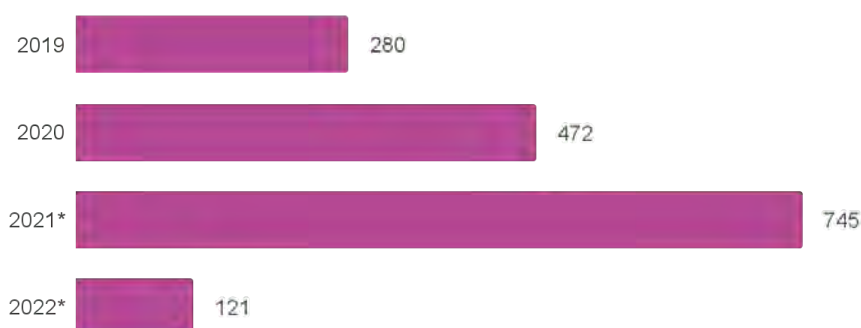


## Behavioral Health

### Oregon Opioid Overdose Deaths

Figure 2 is a column chart displaying the number of opioid overdose deaths in Oregon between 2019-2020. The number of opioid deaths has nearly doubled every year since 2019. Opioid overdose death trends seen in Oregon are slightly higher than that of the United States, where opioid overdose deaths have increased by approximately 30% each year since 2019.

Figure 2: Unintentional opioid overdose deaths in Oregon by year



\*As opioid deaths are dependent on mortality data, both 2021 and 2022 data are incomplete.

### Anxiety and Depression

The US Census Household Pulse survey was utilized to quickly collect data on how the ongoing pandemic was impacting people's lives. Phase 1 (April - July 2020) of the survey collected data and disseminated data every week. All later phases of the survey have used two-week collection and dissemination periods. The survey asked respondents to rank their symptoms of anxiety and depression in the past seven days; Figure 3 displays respondents who reported symptoms of anxiety or depressive disorder on more than half or nearly all of the past seven days during the pandemic. Figure 4 displays percent of adults with symptoms of anxiety, and Figure 5 displays adults with symptoms of depression.

Figure 3: Adults reporting symptoms of anxiety or depressive disorder during COVID-19 pandemic

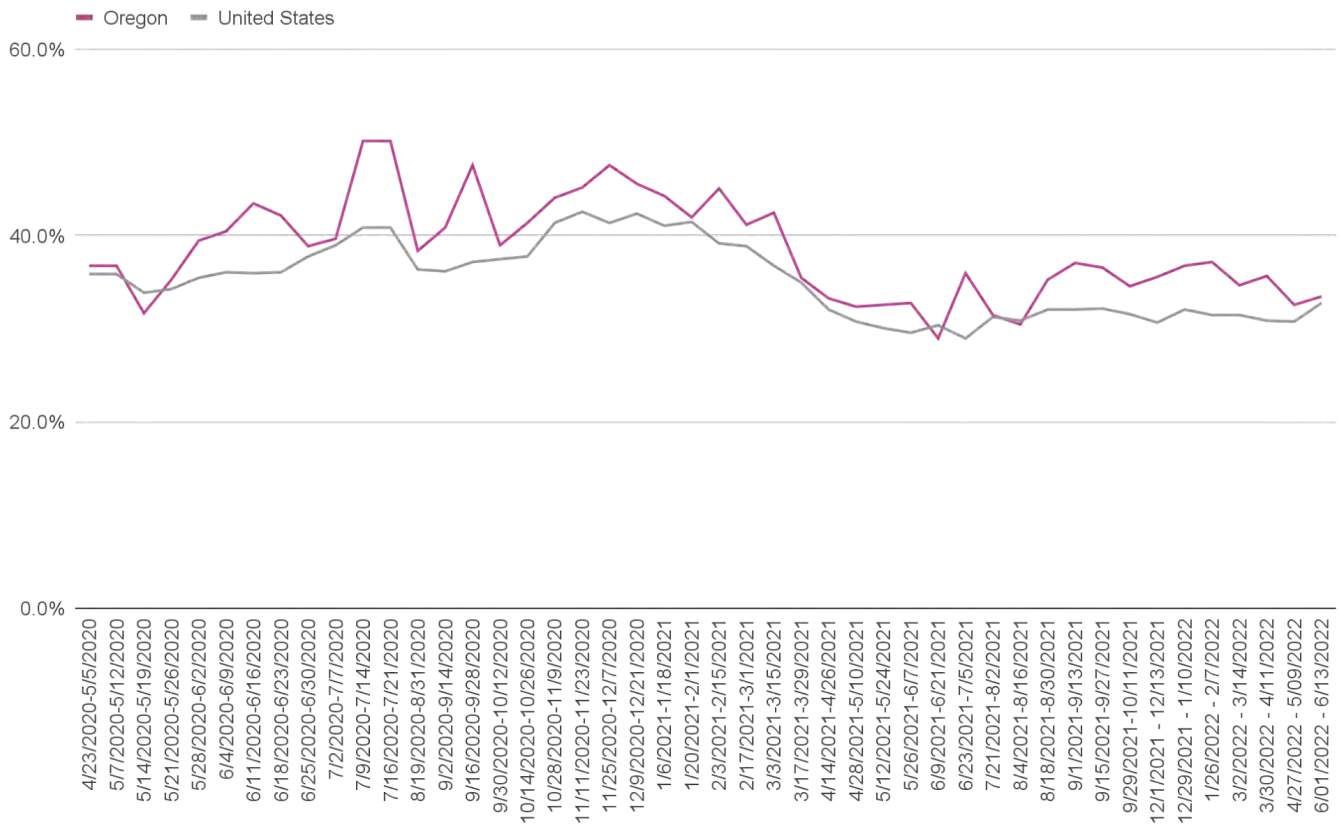


Figure 4: Percent of Oregonian's with symptoms of anxiety during COVID-19 pandemic

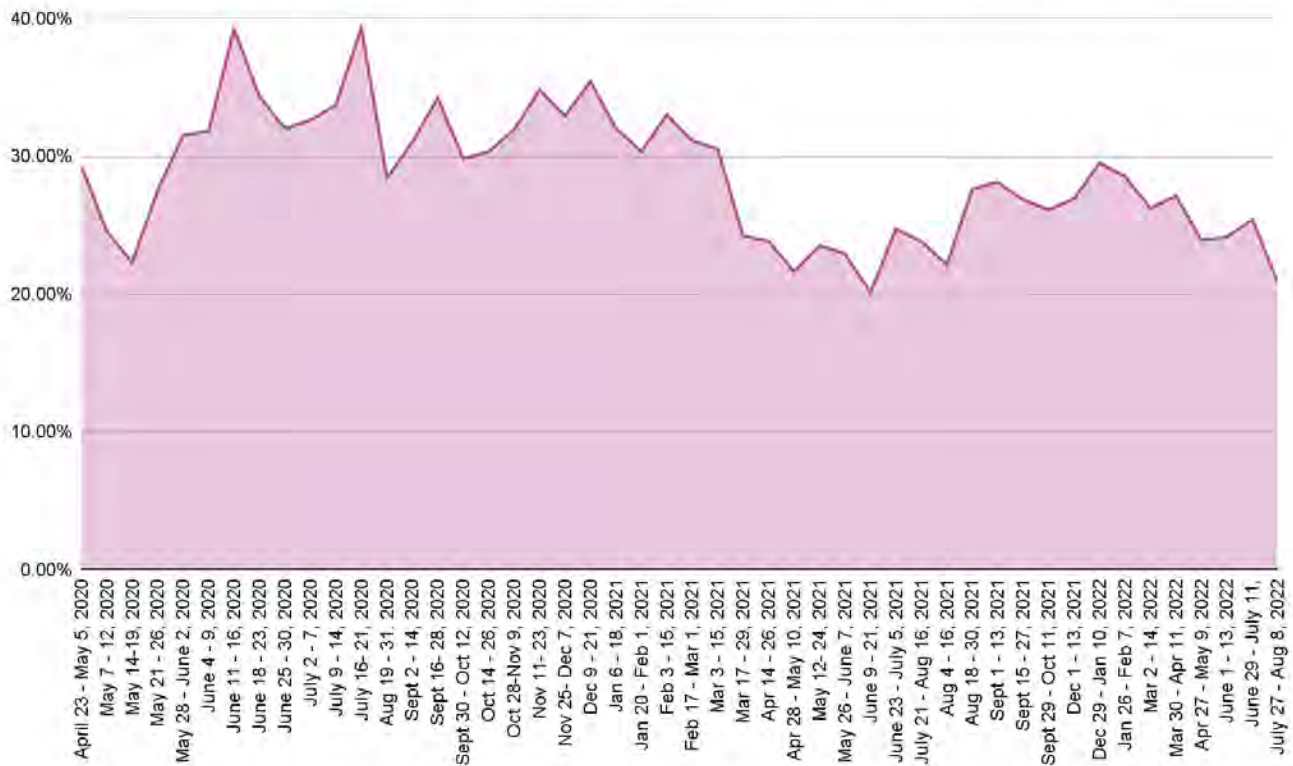
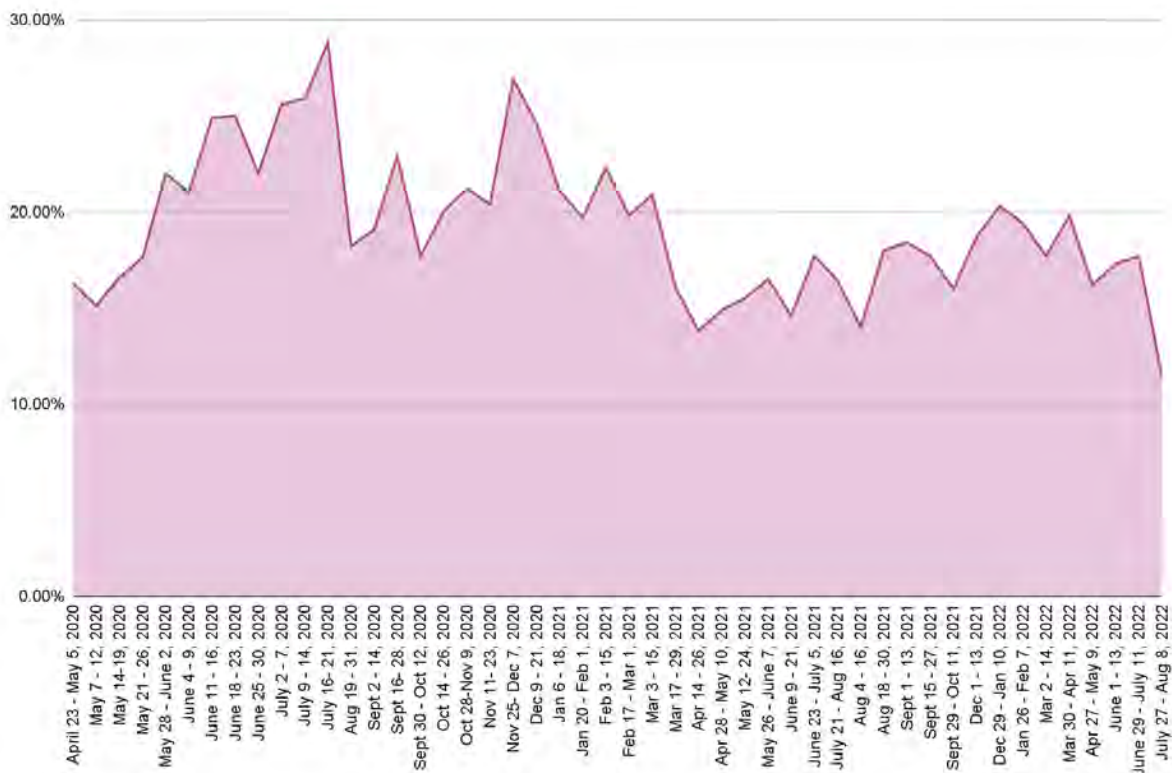


Figure 5: Percent of Oregonian's with symptoms of depressive disorder during COVID-19 pandemic



## Perinatal Health Outcomes

### Preterm birth rate

In 2020, 8.2 percent of Oregon live births were preterm, a slight decrease from 8.3 percent in 2019. This trend is similar to the United States. 2021 and 2022 data are not yet available.

Figure 6: Percent of live births that were preterm, Oregon and the US





## Suicide

### Suicides, Total

The yearly number of suicide deaths for the state of Oregon show no increase since 2019.

Instead, there appears to be a slight decrease in the number of suicides from 2019 to 2021.

Nationally, the US has seen modest declines in suicide rates since 2019.

Figure 7: Suicide deaths in Oregon by year

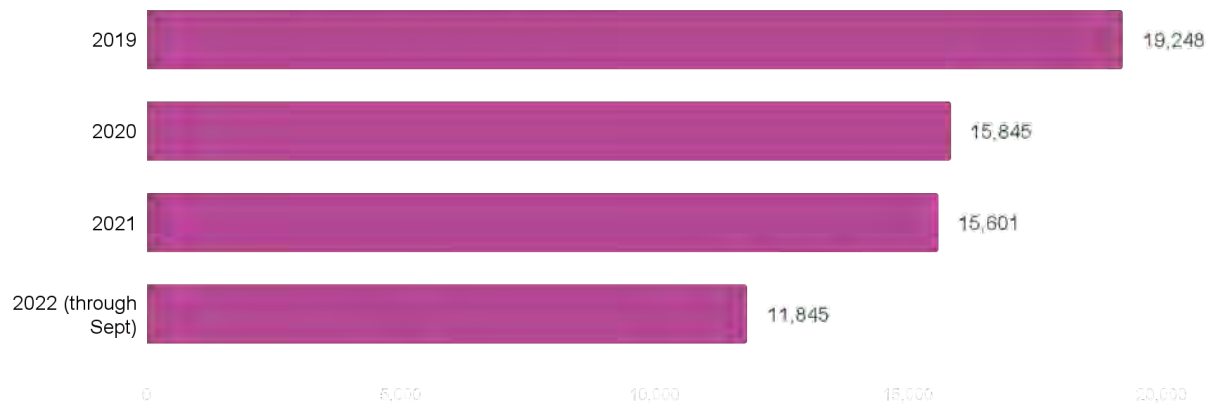


## Sexually Transmitted Diseases

### Chlamydia

Figure 8 displays the number of new chlamydia cases in Oregon each year between 2019 and 2022. There has been a drop in cases between 2019 and 2020, which could indicate a drop in people accessing services for sexually transmitted infections. The 2022 data are only through September, but if the monthly trend of approximately 1300 cases per month continues, 2022 will be similar to 2020 and 2021.

Figure 8: New chlamydia cases in Oregon by year



## HIV

Figure 9 displays the number of new HIV diagnoses in Oregon each year from 2019-2022. The numbers are relatively similar, although there was a drop in new cases between 2019 and 2022 which could indicate a drop in people accessing services for sexual transmitted infections. The 2022 data are only through September, there may be more new cases this year.

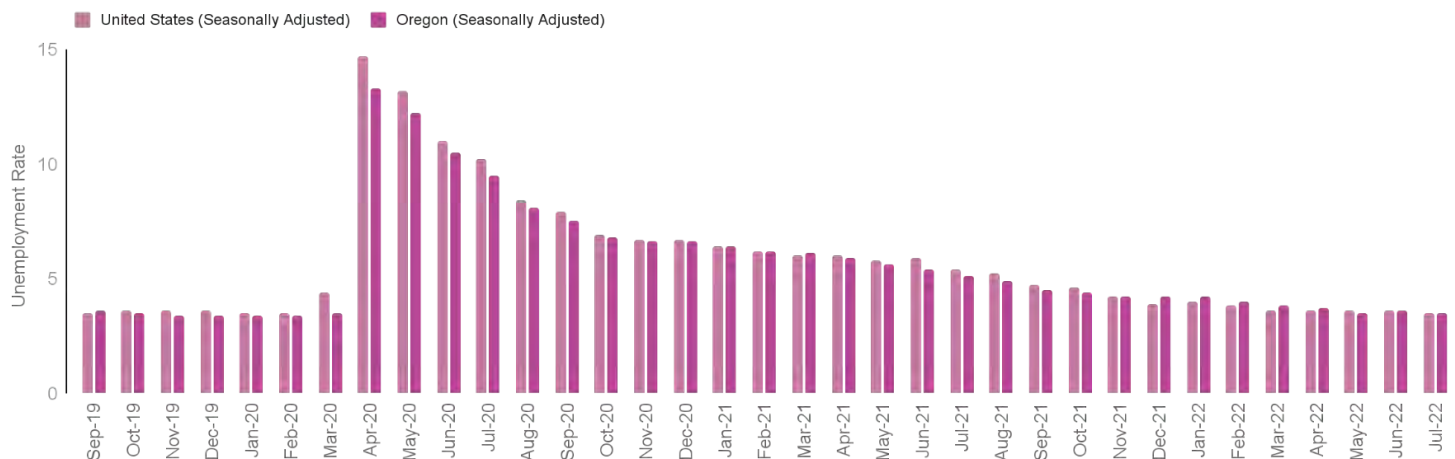
Figure 9: New HIV diagnoses in Oregon by year



## Unemployment

Figure 10 is a clustered column chart comparing the adjusted unemployment rates in Oregon and the United States. Overall, Oregon and the US unemployment trends are comparable. Although Oregon's unemployment rate had a sharp increase at the beginning of the pandemic (13.3), this rate was lower than the US unemployment rate of 14.7. Since this peak, unemployment rates in Oregon have gradually declined back to pre-pandemic levels, with Oregon's unemployment rate in July of 2022 being 3.5.

Figure 10: Oregon and United States unemployment rates by month



## Regular Immunizations

### Kindergartners with School-Required Vaccines

Figure 11 displays the percent of kindergartners in Oregon who have completed all school-required vaccines.

These data are reported by the Oregon Immunization Program and come from the Immunization Primary Review reports, collected annually in March. The percent of kindergartners vaccinated has stayed fairly consistent through the past few years.

Figure 11: Percent of kindergartners with complete school-required vaccines, Oregon, 2019-2022



### Women of Child-Bearing Age with Tdap Vaccine

Figure 12 displays the number of women of child-bearing age in Oregon who had received the Tdap vaccination as reported by the Oregon Immunization Program.

There has been a drop in the total number of women receiving the Tdap vaccine since 2019. Data for 2022 are only available through July 2022, so the number for 2022 is incomplete.

Figure 12: Tdap vaccines among women of childbearing age (18-45), 2019-2022 YTD

