

The case for prioritizing people living with HIV for COVID-19 vaccination

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Testing for COVID among people living with HIV compared to the Total OR population as of February 1, 2021

Population	# in Population	PCR tests	Positive PCR tests	Total Cases	Test Positivity	Cases per 100k pop (95% CI)
OR	4.3 Million	3,162,750	187,912	142,416	5.9% (stable)	3,312 (3,295-3,329)
OR PLWH (Diagnosed)	7,834	NA	NA	283 (↑ ⁶⁰ cases from last month)	NA	3,613 (3,222-4,050)

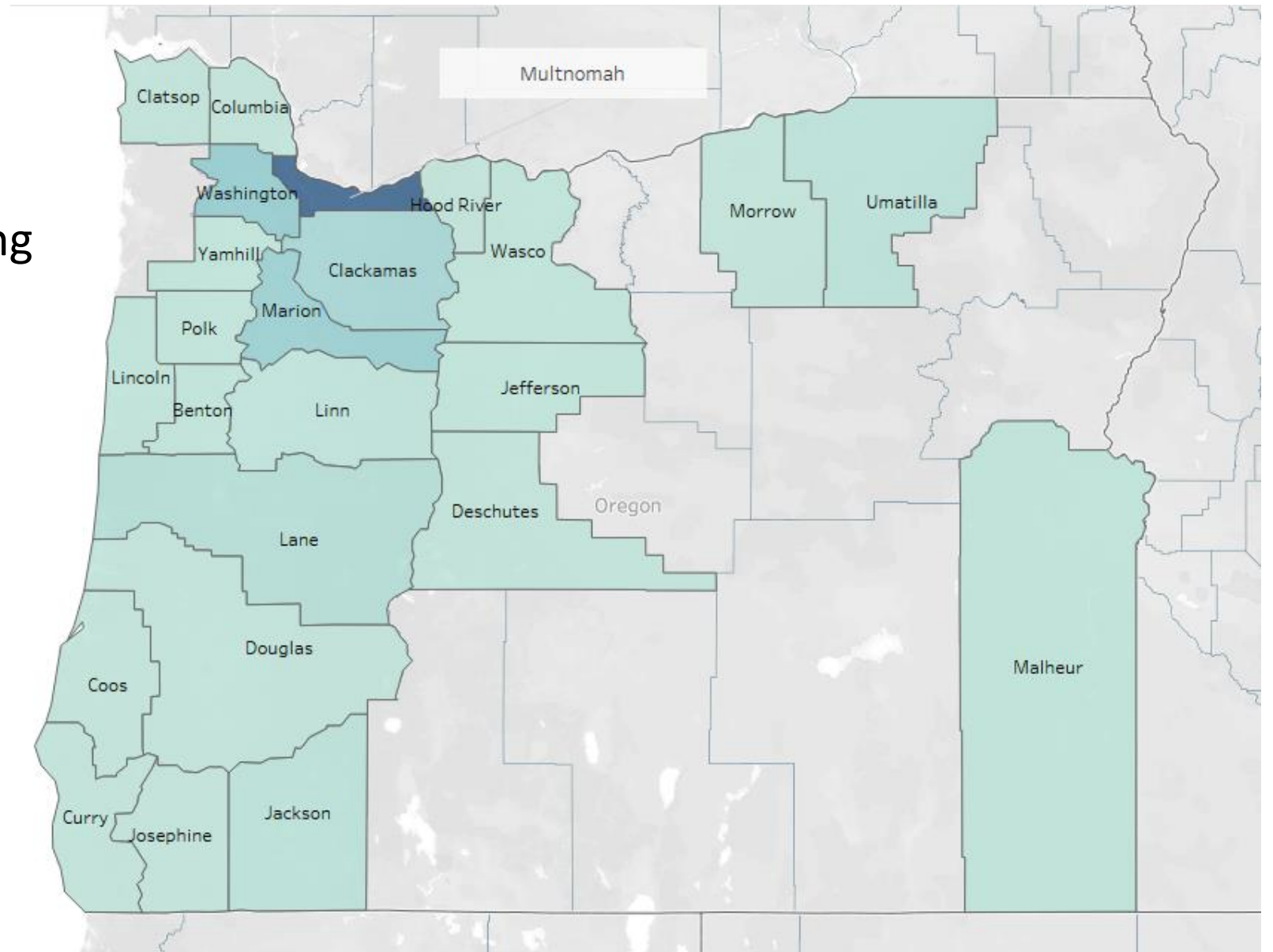
**Note: On 12/16/2020, OHA changed our test reporting methodology and will no longer report person-based test results but will report on test-based % positivity.

COVID-19 and people living with HIV in Oregon

- 7834 people living with HIV in Oregon
- 283 people living with HIV were diagnosed with COVID-19 as of 2/1/2021
 - 14 (5%) people had COVID-19 that required hospitalization
 - 2 (<1%) people died due to COVID-19

COVID-19 affects people living with HIV across Oregon

>80% of people living with HIV who were diagnosed with COVID lived in 4 counties



Key characteristics of people living with HIV diagnosed with COVID-19 in Oregon

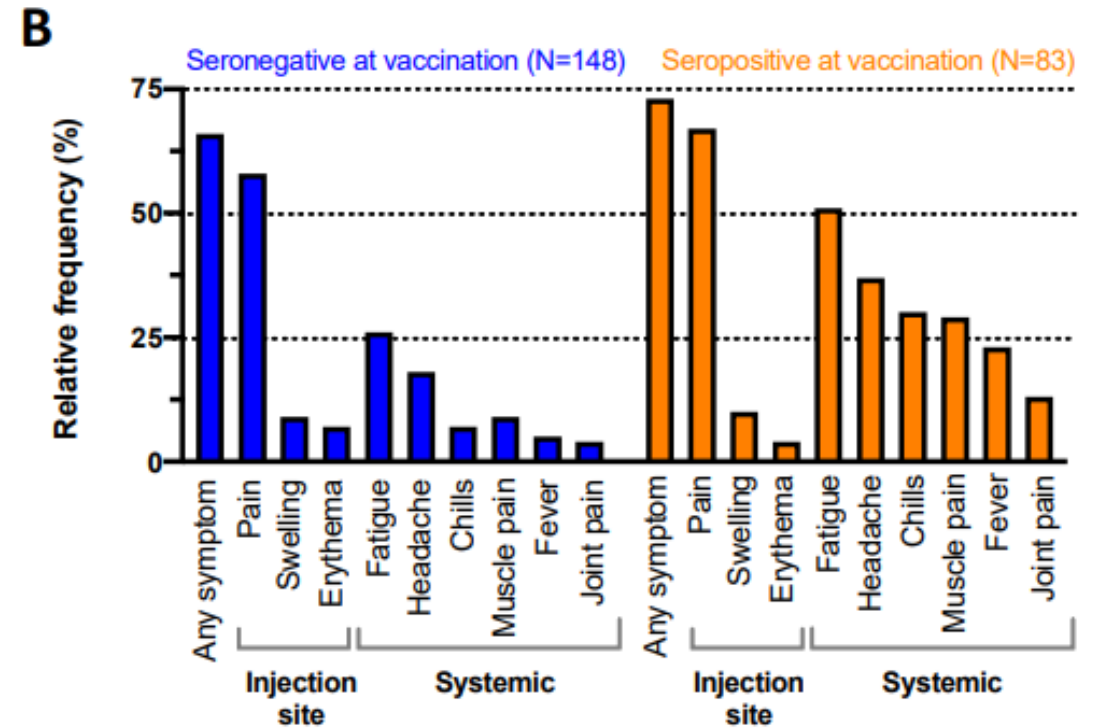
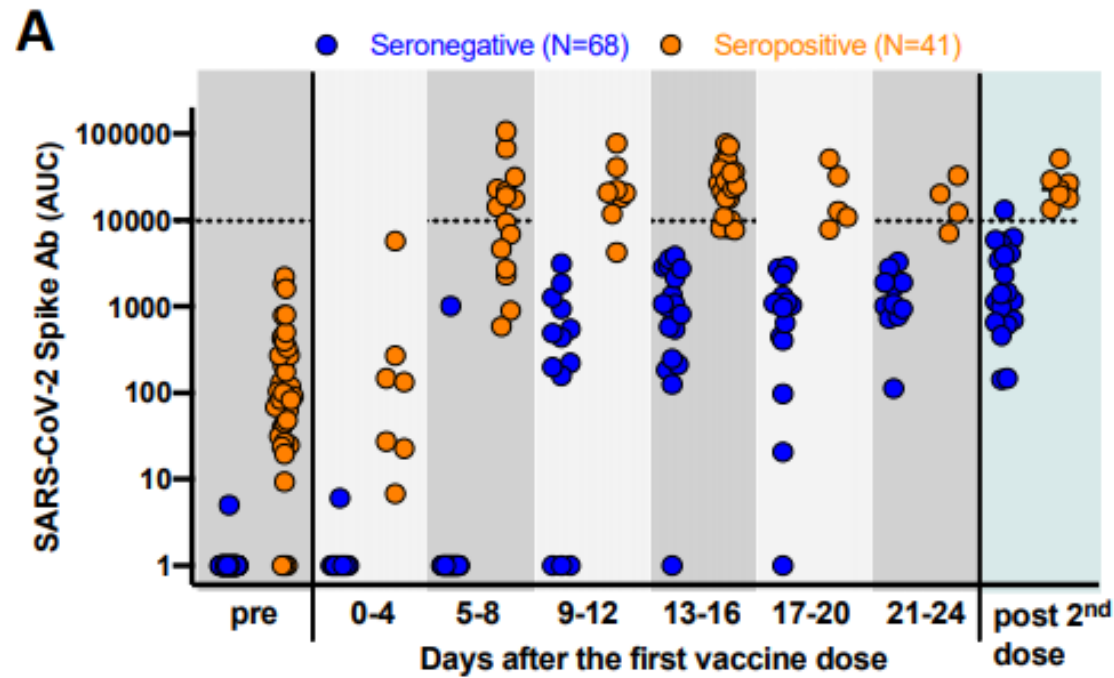
- COVID-19 has affected people from ages 18 to 89
- Black and Latin@ people living with HIV have been disproportionately affected by COVID-19
- Most people living with HIV diagnosed with COVID-19 have undetectable viral loads

Vaccine efficacy data

	Moderna	Pfizer-BioNTech	AstraZeneca*	Novavax	JNJ
	mRNA	mRNA	ChAdOx1	Purified protein antigen	Ad26 Single dose
Number of participants	30,000	40,000	17,200	15,000 UK 4,400 South Africa	44,000
Any symptomatic COVID-19	94%	95%	UK: 73% Brazil: 64%	UK: 89% South Africa: 60% only HIV-negative 49% including PLWH	US: 72% Latin America: 66% South Africa: 57%
Severe COVID-19	100%	89% after 1 st dose 75% after 2 nd dose	100%	100%	85% at 28 days 100% at 49 days

*These data are for a 4-week interval between doses. A longer dosing interval (12 weeks) may be more effective. Efficacy remained high after 12 weeks.

Immune response to mRNA vaccination may be stronger in people with a history of COVID-19



See the OHA Dashboard for monitoring for novel SARS-CoV-2 lineages

February 4, 2021 COVID-19 Variant Case Counts

Brazilian (P.1)

0

South African (B.1.351)

0

UK (B.1.17.)

4

Everyone in Phase 1, Groups 1,2,3 and 4 are currently eligible for the vaccine.

Group 1

- Hospital staff with frontline patient care responsibilities
- Urgent care
- Skilled nursing and memory care facility healthcare personnel (HCP) and residents
- Tribal health programs
- Emergency medical services (EMS) providers and other first responders
- All health care interpreters and traditional health workers in any setting within Phase 1a

Group 2

- Other long-term care facilities, including all paid and unpaid HCP, all staff and contractors, including residents who meet the age requirements of:
 - Residential care facilities
 - Adult foster care
 - Group homes for people with intellectual and developmental disabilities
 - Other similar congregate care sites
- Hospice programs
- Mobile crisis care and related services

- Individuals working in a correctional setting

Group 3

- HCPs in outpatient settings serving specific high-risk groups
- Day treatment services
- Non-emergency medical transport (NEMT)
- Paid or unpaid caregivers (including parents or foster parents) of medically fragile children or adults who live at home
- Adults and age-eligible children who have a medical condition or disability who receive services in their homes

Group 4

- All other outpatient HCPs
- Other HCP who provide direct service to people with I/DD and other high-risk populations.
- Other public health settings, such as HCP serving WIC, or CBO's with direct or indirect exposures

People eligible: **400,000** approximately

Phase 1B

Beyond Date TBD

Who's getting vaccinated in Oregon next

Group 1

- Childcare providers, early learning and K-12 educators and staff
Eligible January 25, 2021

Group 2

- People 80 and older
Eligible February 8, 2021

Group 3

- People 75 and older
Eligibility date to be determined

Group 4

- People 70 and older
Eligibility date to be determined

Group 5

- People 65 and older
Eligibility date to be determined

Educators:
105,000* approximately
People over 65:
795,000* approximately

Subsequent groups will be determined in coordination with the Vaccine Advisory Committee and shared on OHA's COVID-19 vaccine web page. These are examples of groups of people who may included:

- Critical workers in high-risk settings — workers who are in industries essential to the functioning of society and substantially higher risk of exposure
- People of all ages with underlying conditions that put them at moderately higher risk
- People in prisons, jails, detention centers, and similar facilities, and staff who work in such settings
- General population

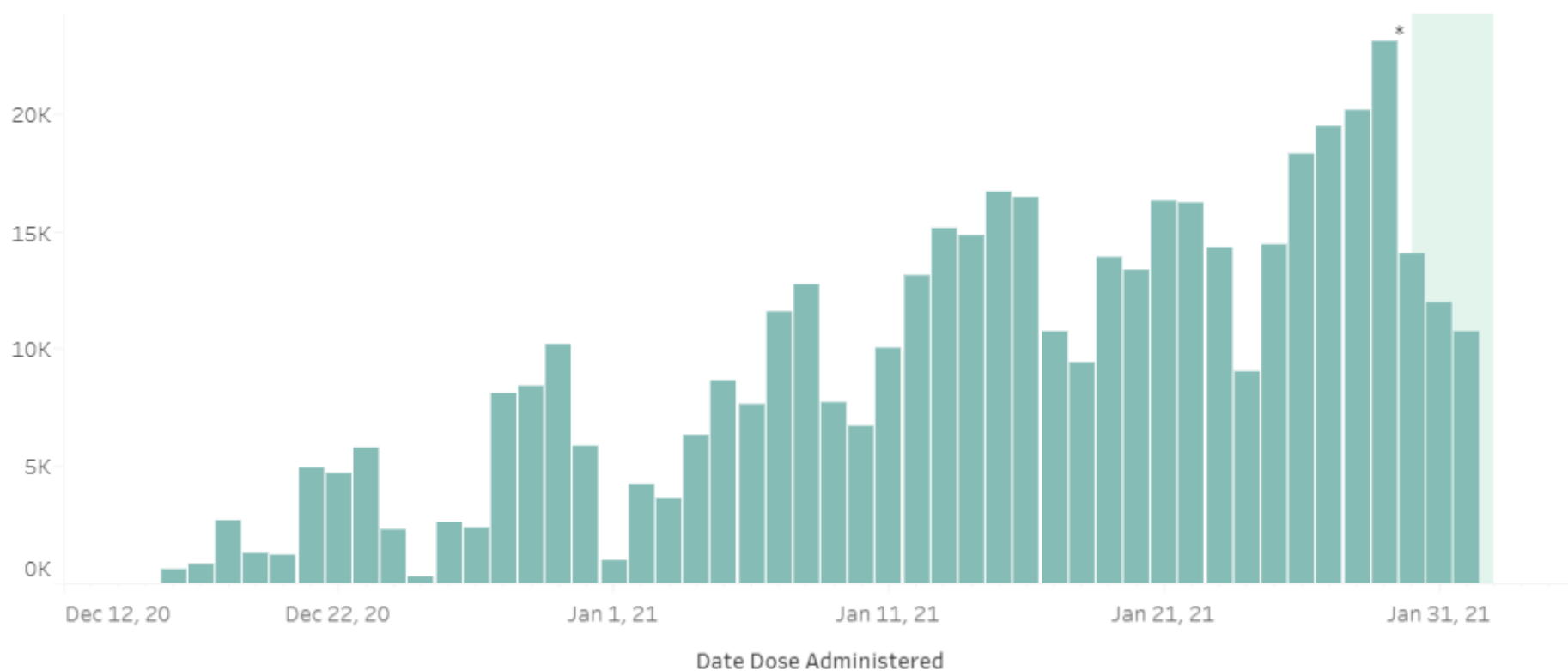


* Oregon's vaccine supply is limited. It is estimated to take 12-15 weeks to vaccinate groups 1-5 of Phase 1B.

Oregon's Vaccination Trend: Doses Administered by Day

This chart shows the total number of COVID-19 vaccine doses that have been given in Oregon.

*Doses administered during this time may not yet be reported.



Doses Administered

**The number of doses administered and people vaccinated may not match. Please see below for more detail.

454,244 Total Doses Administered

**People Vaccinated

273,494 Series In Progress

87,748 Fully Vaccinated

361,242 Total People

People Vaccinated by Demographic Group

These tables show the number of people who have received COVID-19 vaccine in Oregon by race, ethnicity, sex and age group.

RACE†

People with two or more races are counted in each of their racial groups.

American Indian / Alaska Native	7,226
Asian	15,176
Black	5,354
Native Hawaiian / Pacific Islander	2,807
White	261,855
Other Race	103,549
Unknown	53,412

ETHNICITY†

Hispanic	17,553
Not Hispanic	256,280
Unknown	87,409

SEX

Female	231,535
Male	126,919
Unknown	2,788

AGE GROUPS

16 to 19	3,797
20 to 29	44,583
30 to 39	67,387
40 to 49	67,772
50 to 59	62,162
60 to 69	53,599
70 to 79	35,254
80+	26,689

CDC categorizations of chronic conditions that increase vulnerability to severe COVID-19

At increased risk

- Cancer
- CKD
- COPD
- Down syndrome
- Heart disease
- Immune compromised from SOT
- Pregnancy
- Sickle cell disease
- Smoking
- DM2

Might be at increased risk

- Asthma
- CVD
- CF
- HTN
- HIV, BMT, immune deficiencies, steroids, biologics
- Neurologic disease
- Liver disease
- Pulmonary fibrosis
- Thalassemia
- DM1

** **severe disease** = hospitalization, ICU admission, mechanical ventilation, or death

Argument 1. PLWH are more vulnerable to severe COVID-19 than HIV-negative people

- New York State
- New York City
- US Registry Study
- South Africa
- Europe: Italy, Spain, Germany

New York State

Tesoriero *et al.* JAMA Network Open. 2021.

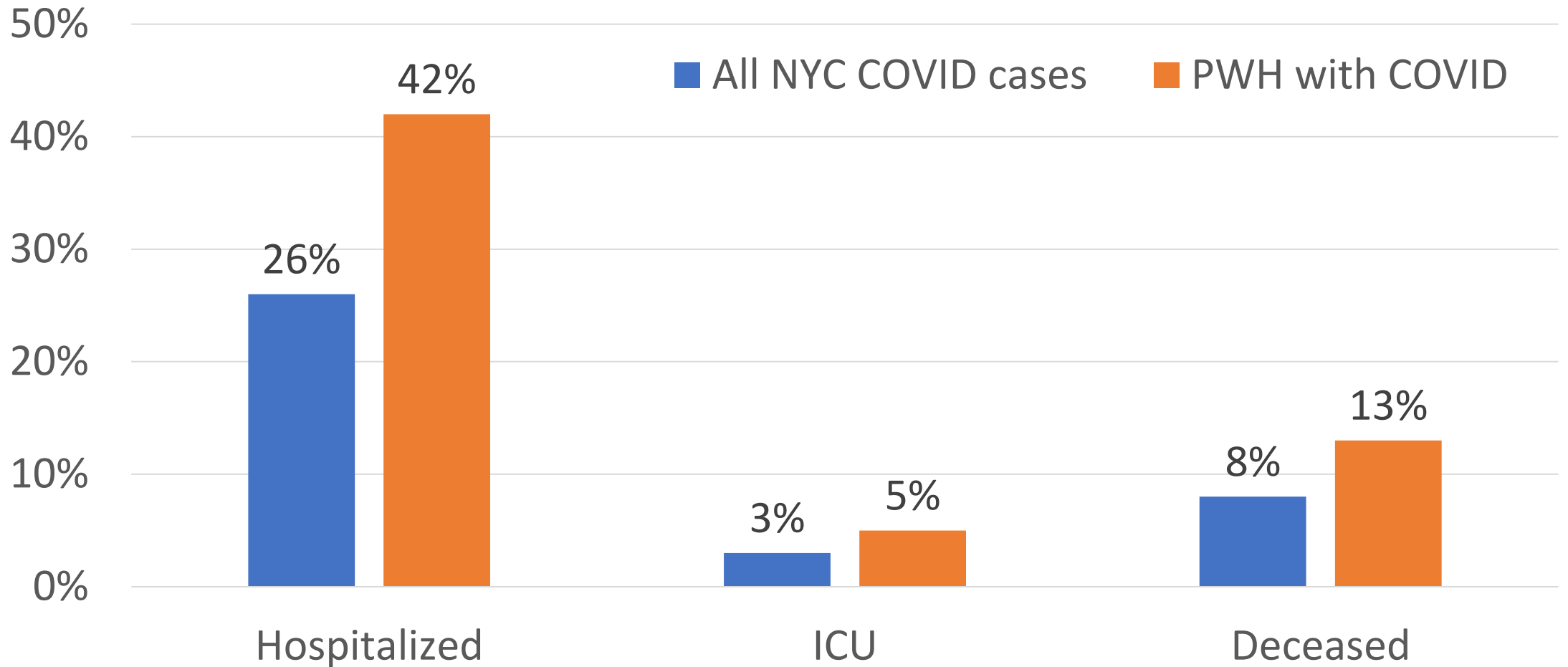
Outcome among people living with HIV	Compared to HIV-negative people
Risk of diagnosis	6% ↓
Risk of hospitalization	38% ↑
Risk of in-hospital death	23% ↑

As a result of these data, people living with HIV in NY will be eligible for vaccination on 2/15/2021.

New York City

Braunstein *et al.* CID. 2021.

Most who experienced these outcomes were virally suppressed



US Registry Study

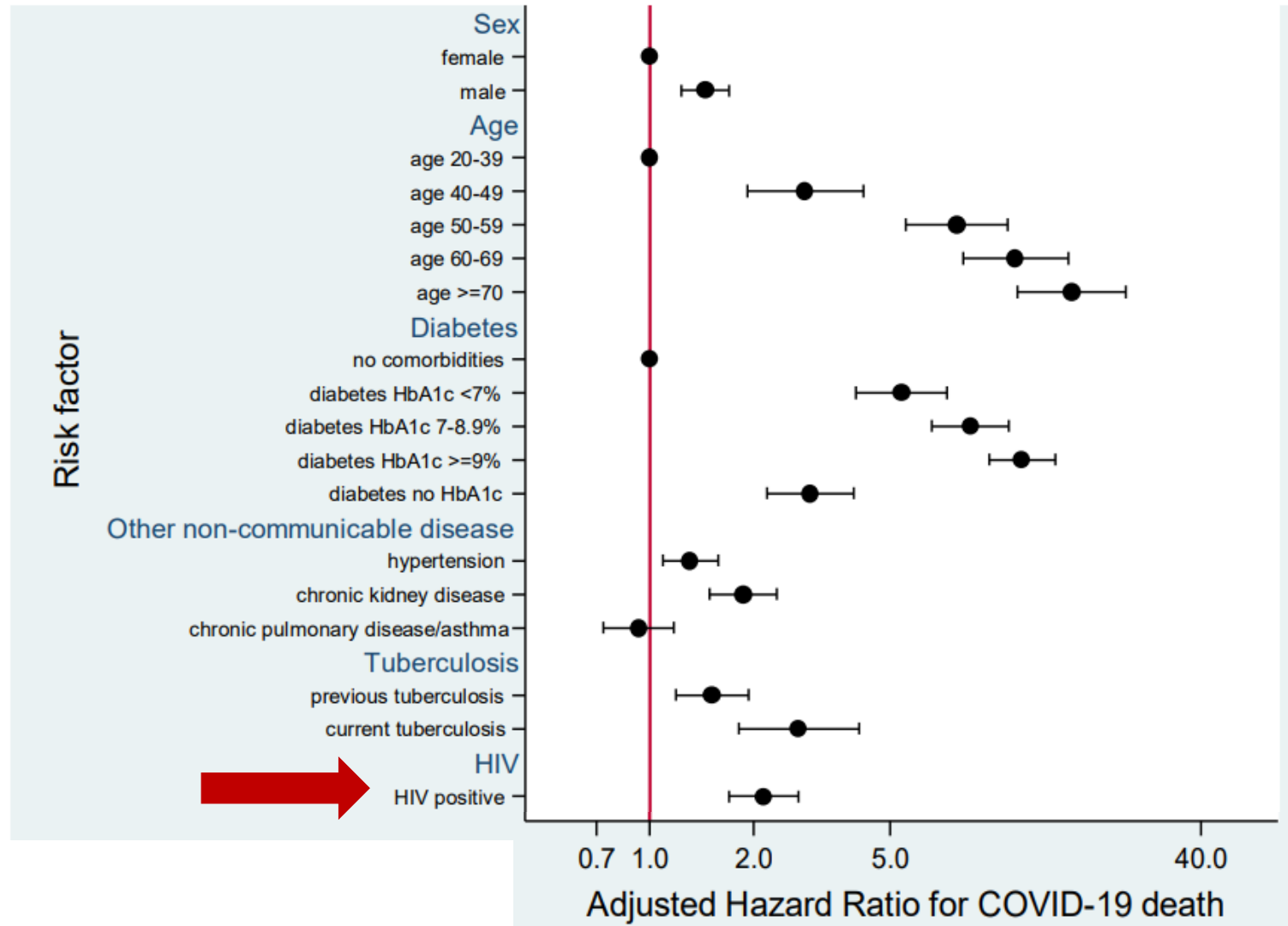
Dandachi *et al.* CID. 2020.

- 286 PLWH with COVID-19 from 36 institutions in the US and abroad
- 164 (58%) required hospitalization
- 111 (39%) had severe COVID-19
 - Admitted to ICU
 - Required mechanical ventilation
 - Died
- **Hospitalization** and **severe** COVID-19 were more likely among
 - Elder PLWH
 - Those with CD4 < 200 cells/uL
 - People with
 - Chronic kidney disease
 - Chronic lung disease
 - High blood pressure
 - 3 or more chronic conditions

South Africa

- Over 3 million active patients 20 years of age or older
- Western Cape Provincial Health Data Centre
- March 1, 2020 through June 9, 2020
- PLWH had a **2-fold** higher risk of death due to COVID-19

Overall, CD4 count and VL were not associated with death due to COVID; however, among hospitalized patients those with CD4 count < 200 cells/mL were more likely to die.

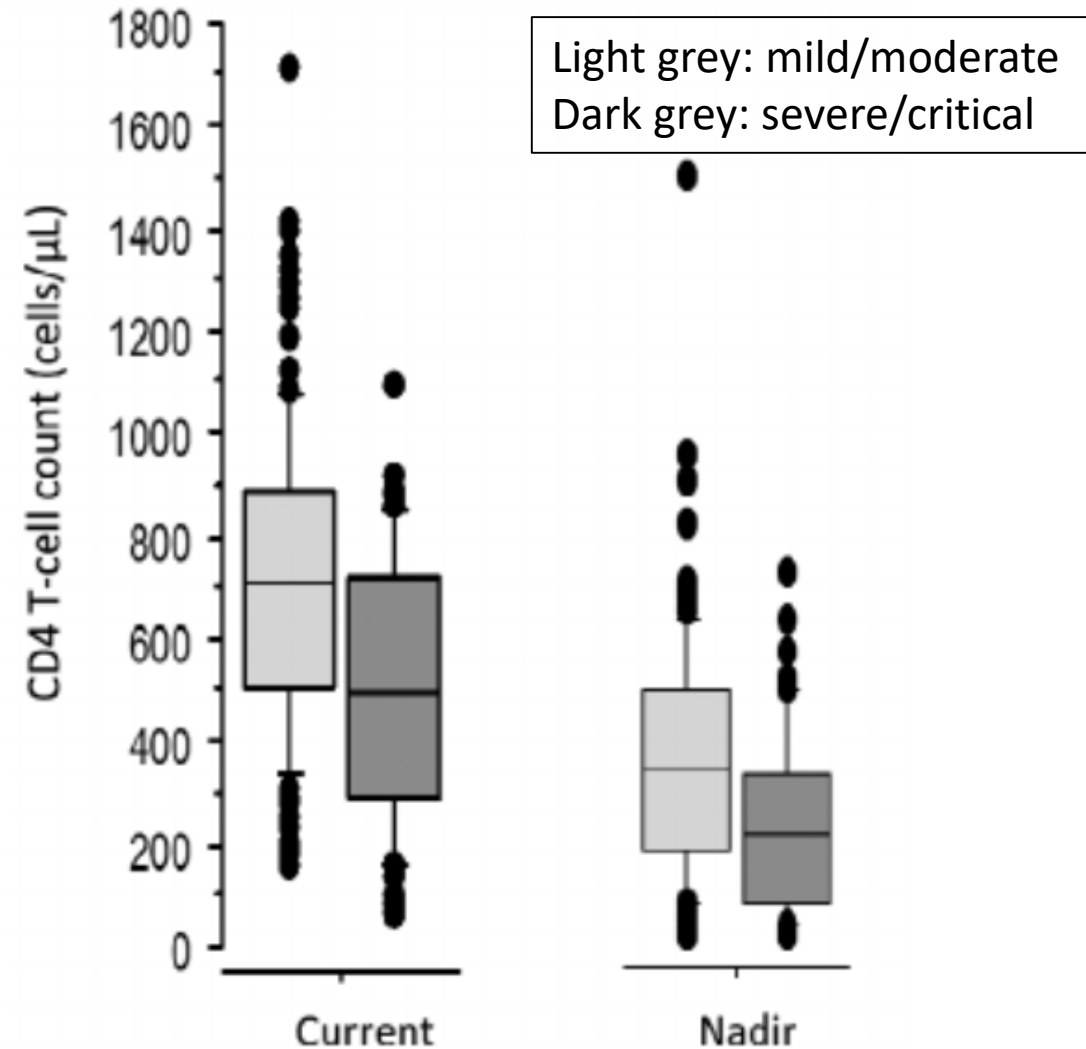


Europe

- Retrospective cohort study of 175 PLWH with COVID-19 enrolled by 12 June 2020
 - 74% were >50 years of age
 - 61% had ≥ 1 comorbidities
 - 18% had CD4 <350 cells/uL
 - 94% were undetectable
 - 58% on TDF/TAF
- Outcomes
 - 126 (72%) had mild/moderate disease
 - 49 (28%) had severe/critical disease
 - 7 (4%) died

Hoffmann *et al.* HIV Med. 2021.

CD4 count, current and nadir, by COVID-19 severity



Current CD4 < 350 cells/uL increased the odds of severe/critical COVID-19 by **2.8-fold**

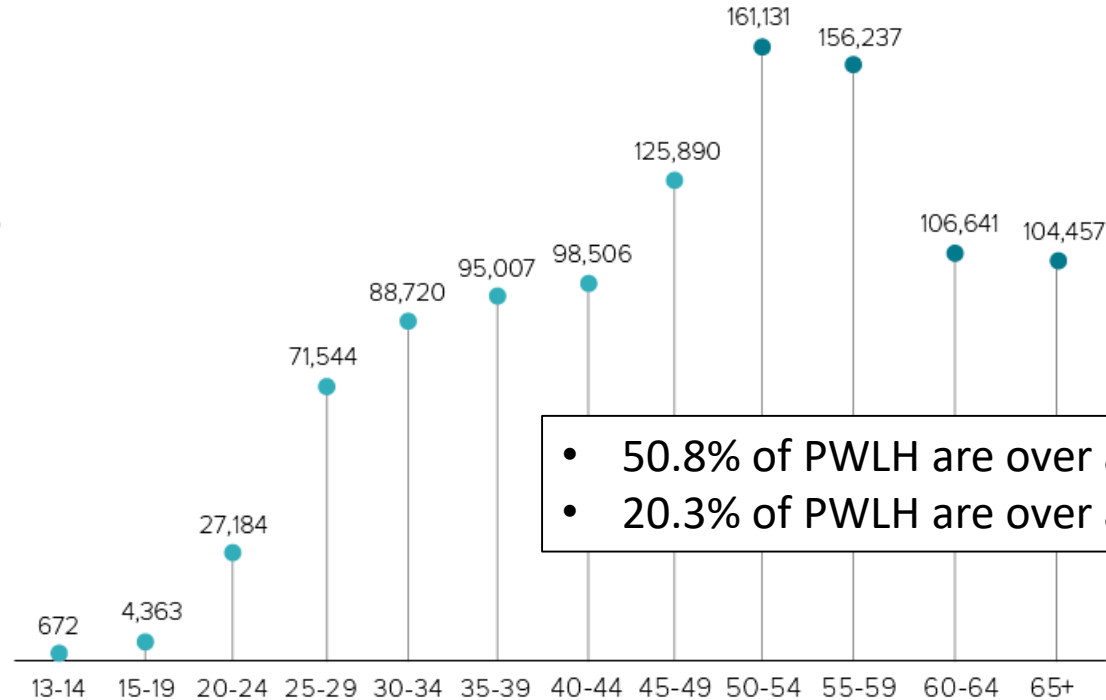
Argument 2. HIV has complex effects on the immune system that may increase vulnerability to severe COVID-19

- Immunosuppression
 - CD4 counts < 200 cells/uL associated with COVID-19 diagnosis, hospitalization, severe/critical COVID-19, and death
- Specific ARVs are not clearly protective
- More subtle, complex legacy of HIV on the immune system that may affect response to COVID-19

Argument 3. PLWH are aging.

Adults and Adolescents with Diagnosed HIV in the US and Dependent Areas by Age, 2018

Over half of people with diagnosed HIV were aged 50 and older.



- 50.8% of PWLH are over age 50
- 20.3% of PWLH are over age 60

Source: CDC. Diagnoses of HIV infection in the United States and dependent areas, 2018 (updated). *HIV Surveillance Report* 2020;31.

Table. Age-Specific Mortality Rates (per Million) for COVID-19 (March-October 2020) and Other Leading Causes of Death (March-October 2018)^a

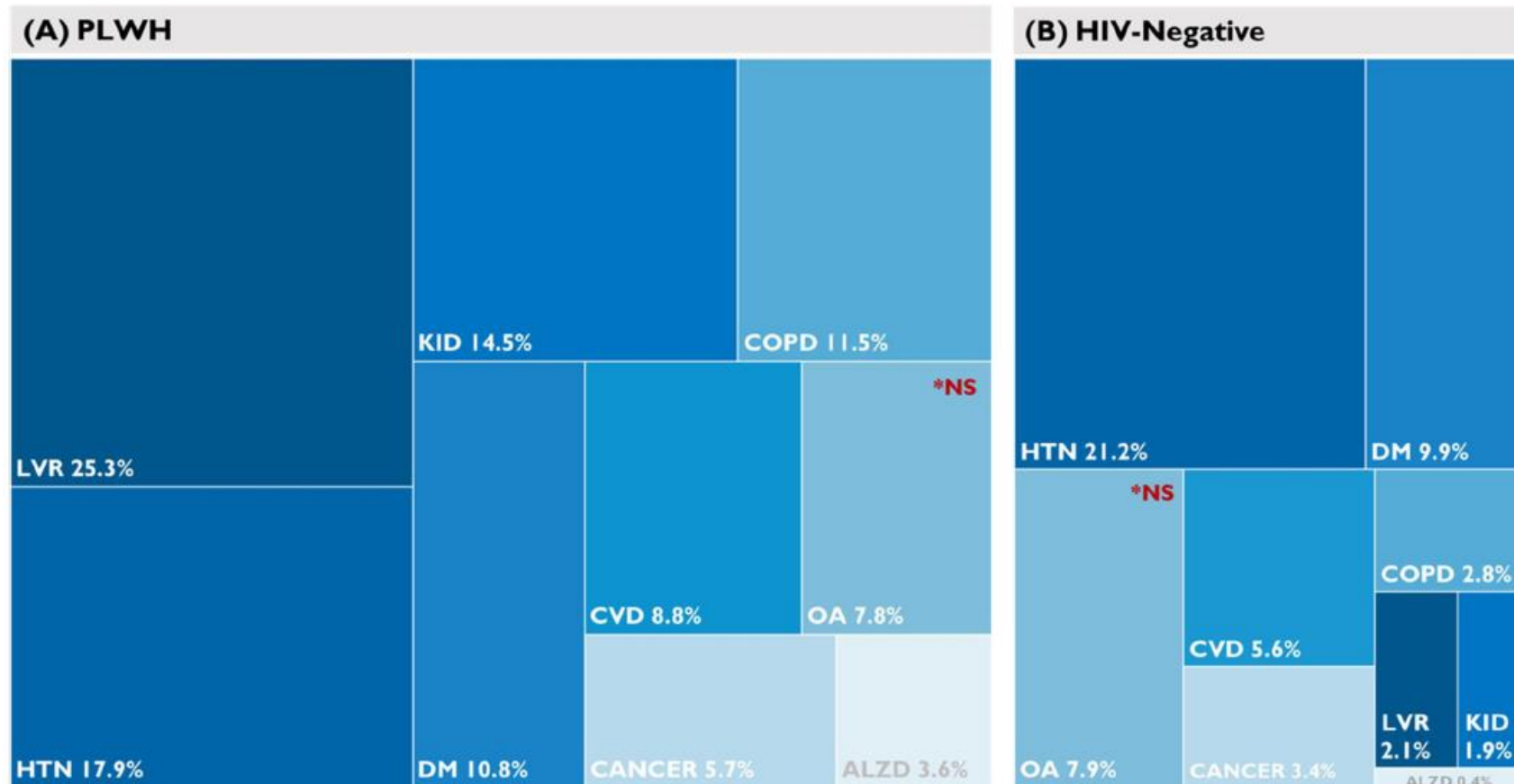
Age, y	Causes of death ^b										
	COVID-19	Heart disease	Malignant neoplasms	Chronic lower respiratory disease	Unintentional injuries	Intentional injuries	Leading causes of infant deaths				
					Transport accidents	Accidental drug overdoses	Suicide	Homicide	Birth defects	Short gestation	SUID
<1	7.4	51.6	8.6	2.9	15.5	1.6	0.0	46.7	773.7	682.2	603.4
1-4	1.0	4.8	13.1	2.0	17.5	0.3	0.0	15.6	15.9		
5-14	1.0	2.7	13.5	2.0	14.6	0.4	9.4	4.7	6.4		
15-24	9.9	13.8	20.9	2.8	108.3	66.1	97.0	72.1	5.5		
25-34	38.6	52.1	53.7	4.2	113.2	220.7	120.9	78.8	6.4		
35-44	109.9	169.1	172.0	10.1	93.8	234.0	128.1	54.7	7.2		
45-54	294.8	509.7	597.5	56.1	100.7	208.2	140.3	33.9	11.2		
55-64	683.3	1239.8	1802.4	285.8	105.0	161.2	139.8	23.7	17.8		
65-74	1574.6	2516.9	3702.0	809.9	99.2	50.8	114.1	15.7	13.4		
75-84	3832.4	6478.5	6845.7	2117.3	129.9	16.0	129.6	13.2	14.9		
≥85	10 699.7	24 530.2	10 442.4	4278.4	139.1	14.7	133.4	13.3	31.2		
Total	698.8	1287.7	1219.8	307.5	89.2	122.3	102.3	39.0	19.4		

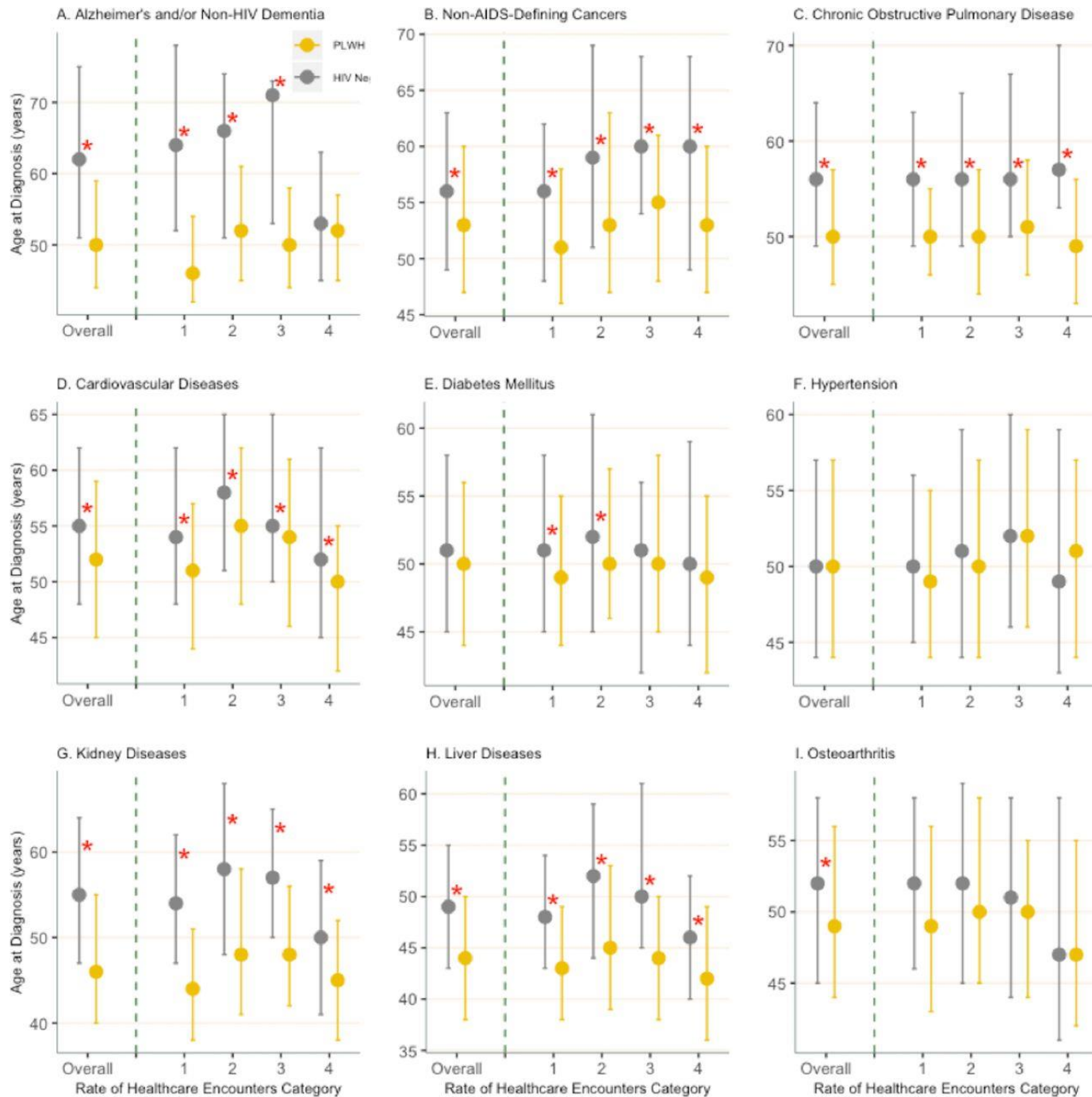
Abbreviations: COVID-19, coronavirus disease 2019; SUID, sudden unexpected infant death (including sudden infant death syndrome).

^a Table presents 8-month aggregate COVID-19 mortality rates during the period of March through October 2020⁵ and mortality rates for other causes during the period of March through October 2018,⁴ the most recent year for which detailed cause-of-death data are available.

^b Causes of death are defined by *International Statistical Classification of Diseases and Related Health Problems* codes for heart disease (I00-I09, I11, I13, I20-I51), malignant neoplasms (C00-C9), chronic lower respiratory disease (J40-J47), transport accidents (injuries) (V01-V99, Y85), accidental drug overdoses (X40-X44), suicide (*U03, X60-X84, Y87.0), homicide (*U01-*U02, X85-Y09, Y87.1), birth defects (Q00-Q99), short gestation (P05-P08), and sudden unexpected infant death (R95, R99, W75).

Argument 4. Co-morbidities that increase vulnerability to severe COVID are more common among PLWH compared to HIV-negative people

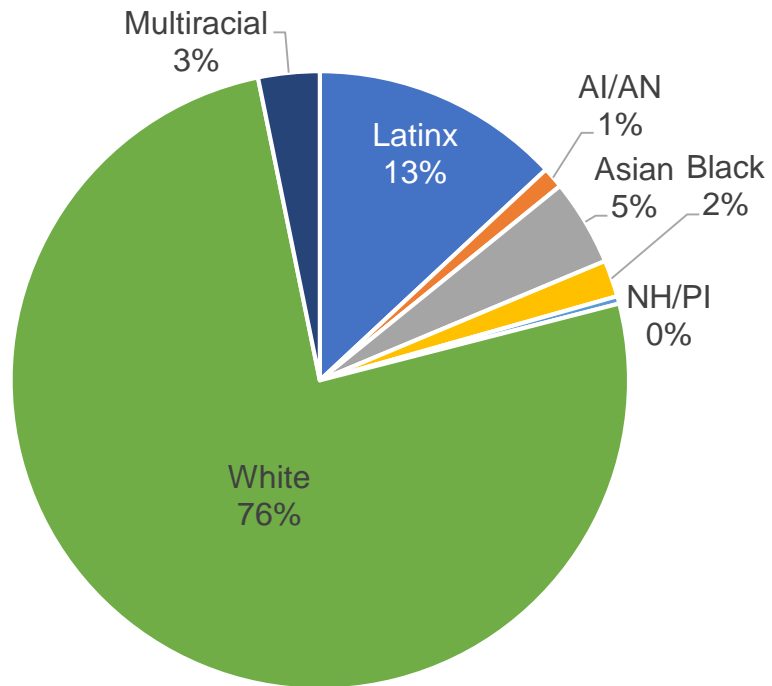




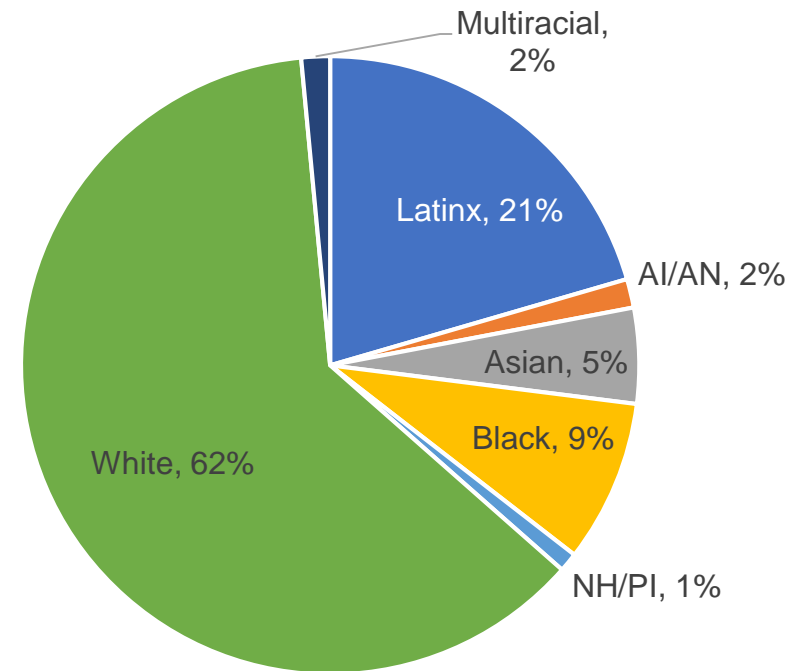
Comorbidities that increase the vulnerability to severe COVID present earlier among PLWH compared to HIV-negative people

Argument 5. Black and Latinx people are over-represented among PLWH

Oregon population by race/ethnicity

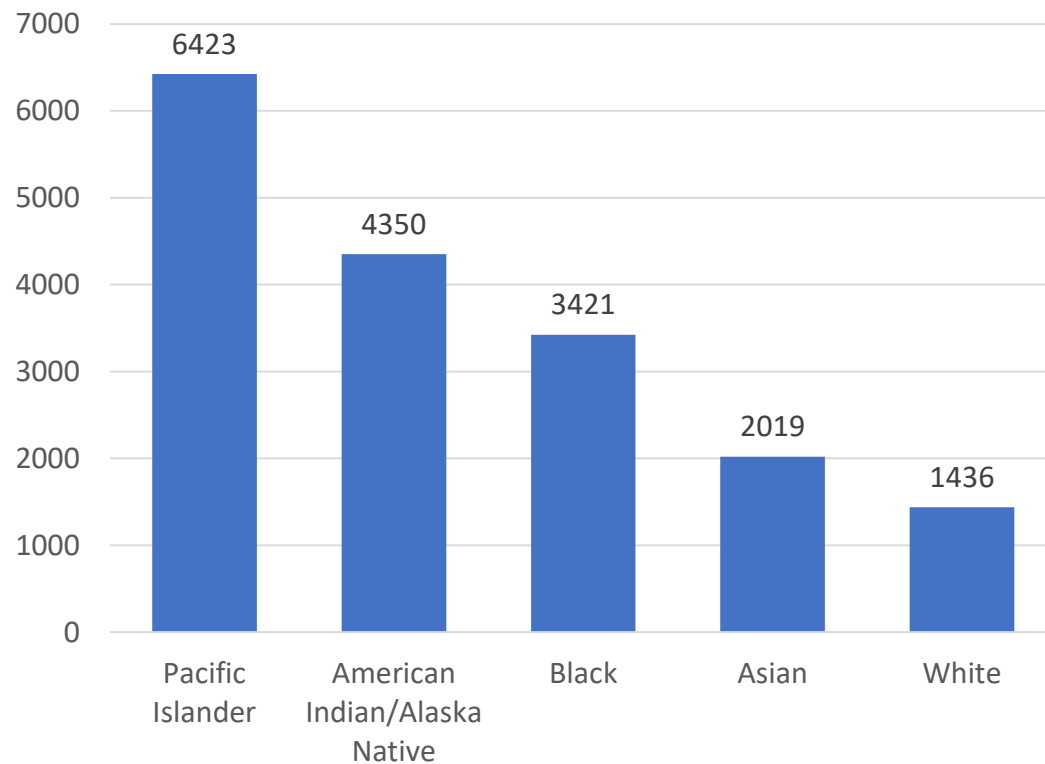


Proportion of HIV diagnoses by race/ethnicity

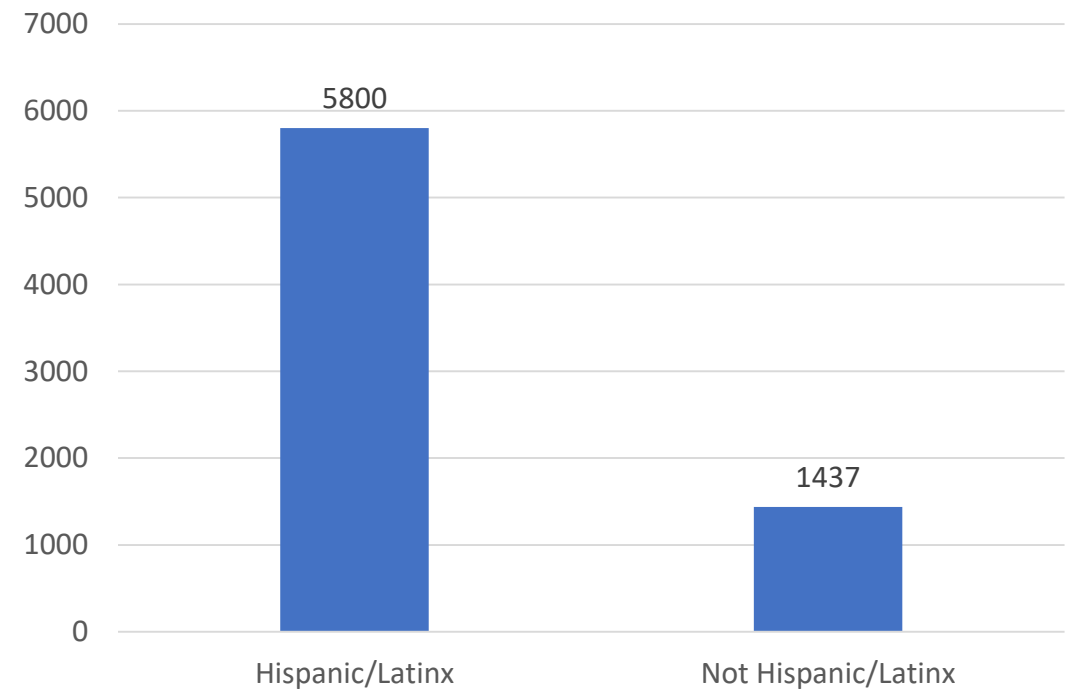


People of color experience the highest rates of SARS-CoV-2 infection

COVID-19 cases per 100K population by race, Oregon, as of 1/13/2021



COVID-19 cases per 100K population by ethnicity, Oregon, as of 1/13/2021



Argument 6. PLWH are more likely to be part of the LGBTQIA+ community

- Expert opinion that LGBTQ+ community has been hit hard by COVID-19; however, there is a paucity of SOGI data in relation to COVID-19
- Employment
 - Industries that have been disrupted by the pandemic leading to unemployment, poverty, food and housing insecurity
 - Alternatively, work in industries may increase risk of COVID-19 due to frequent, close contact with others, e.g., restaurants, food service, retail, grooming, wellness/fitness, sex work, education, healthcare, entertainment
- Housing
 - More likely to live with roommates
 - Those experiencing houselessness may be couch surfing, in cramped quarters, or in a shelter
- Incarceration
- Healthcare access
- Sexual health
- Violence

PLWH are made vulnerable to COVID-19 in complex, intersecting ways

- This vulnerability may be biological
- And, PLWH may be older and more likely to have comorbid conditions than HIV-negative people, and
 - Lower age cut-offs may be more appropriate for PLWH
- And, PLWH may experience racism, homophobia, transphobia, poverty, unemployment, housing instability, violence, lack of healthcare access, medical mistrust, and incarceration
- All of which increase the risk of severe COVID-19

PLWH should be prioritized for COVID-19 vaccination

- Benefit of preventing severe COVID-19 outweighs the risk of vaccination in the setting of a deadly pandemic
- Likely to be safe
 - Not a live vaccine
 - Will not interact with HIV-medications, gender-affirming medical therapy
 - Side effects and severe allergic reactions are not likely to be more frequent among PLWH than among HIV-negative people
- However, questions (that will only be answered after months to years) remain
 - Is the vaccine as effective among PLWH compared to HIV-negative people?
 - Is the vaccine effective at all CD4 counts?
 - Does immunity last as long among PLWH compared to HIV-negative people?
 - Will PLWH require additional booster doses?

Thank you!