An Analysis of Oregon's Behavioral Health Workforce:

ASSESSING THE CAPACITY OF LICENSED AND UNLICENSED PROVIDERS TO MEET POPULATION NEEDS

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Executive Summary

Oregon is progressive in its multifaceted approach towards achieving population health and wellbeing, leading the nation in its collection and application of data to provide comprehensive behavioral health (BH) services across the state. In the pursuit of providing a more robust, accessible, and effective delivery of integrated BH services, the Oregon Health Authority convened *The Behavioral Health Collaborative* in 2016. A key recommendation of the Collaborative was to conduct a workforce assessment to gain a deeper and more contextual understanding of the BH workforce with specific attention to the unlicensed providers in the workforce.

The purpose of this assessment is to describe the nature and distribution of the licensed and unlicensed BH workforce in Oregon as it relates to population BH needs in order to identify insufficiencies or maldistributions of providers that limit optimal BH care delivery.

The quest to achieve an integrated health care system that provides an array of tailored and comprehensive BH services which are strategically located, financially accessible, and effective in achieving wellness, requires the fortitude to evaluate a highly complex system.

Workforce is a single piece in a networked system that has historically allowed negative unintended consequences to fall first and hardest on the most vulnerable populations. Patients in need of BH services are one such community that is vulnerable to insufficient care delivery when BH conditions have comorbid predictors of negative health outcomes, such as low socioeconomic status, lower levels of education, or racial and ethnic minority status. The judicious pursuit of equity is essential for informing health system transformation. The accessibility of appropriate workforce, beyond geographic proximity, is a central keystone to providing equitable health care to communities across the state. This analysis examines workforce with a unique approach to understand the quantity and distribution of the workforce, provider characteristics, and their capacity as it relates to regionally specific population needs. Unlike previous workforce analyses, this report includes an examination of the unlicensed providers, bringing light to an often overlooked but critical component of a workforce seeking to provide full spectrum, integrated, and patient-centered BH services.

This assessment utilized multiple secondary data sources, and primary survey data identified through stakeholder engagement in order to merge relevant data for analysis. It was augmented by national and state-specific statistics in order to present a detailed and regionally specific assessment to assist Oregon's decision makers in their future BH policies and workforce investments.

The licensed BH workforce (licensed providers and prescribers) provides 50-70% of their potential capacity in direct patient care hours, or Full Time Equivalent (FTE), when evaluated collectively. Licensed providers and licensed prescribers are a highly stable workforce: the majority of providers report no plans to change their clinical hours and less than 3% of providers plan to retire in the near future. The vast majority of the licensed prescribers and licensed providers are working in outpatient clinical settings, and about one in five

licensed prescribers works from a hospital-based setting. BH nurse practitioners have more variation in concentration across regions, providing care in counties where there are no psychiatrists.

Unlicensed providers are a highly varied group of providers that are comprised of trainees, baccalaureate and master's level counselors, trained addiction specialists, traditional health workers, and community support personnel. Due to the inconsistency of the available data sets and the highly variable nature of the providers within the unlicensed category, it is difficult to assign overarching conclusions to this segment of the BH workforce. Preliminary findings indicate that approximately 72% of unlicensed survey respondents provide addiction-based services, while approximately 28% of the respondents focus their services in psychotherapy-based care. Unlicensed providers are highly concentrated in the northeastern counties of the state where there are fewer licensed providers to give psychotherapy-based treatment. The unlicensed provider workforce is highly subject to turn over as 22% of providers have a plan to leave their agency or retire. This segment of the workforce has just as many providers focused on upward mobility, with 23% reporting plans to advance within their field and many are in concurrent educational and training programs. There is a strong segment of the unlicensed workforce that is actively contributing to integrated BH services in primary care settings who note their active role in coordinating care plans for shared patients.

Among all segments of Oregon's BH workforce there is an under representation of minority populations. When compared with the racial and ethnic demographics of the Oregon general population there is a disproportionate under representation of Hispanic providers from all segments of the BH workforce. The unlicensed providers are the most racially and ethnically diverse segment of the BH workforce as compared to licensed providers and licensed prescribers. This bright spot should be recognized and supported to overcome potential cultural barriers by having a provider that looks like them, in the hope of providing more accessible BH services and achieving more equitable patient outcomes.

Oregon's population reports higher rates of mental health conditions including serious mental illness and serious thought of suicide when compared with national rates and the rates of its neighboring western states. Oregon youth report concerning levels of serious MH conditions with rates of serious thought of suicide that double (6th grade) and triple (11th grade) the rates of adults in Oregon. It is unclear whether higher prevalence rates reflect a more advanced BH system that is enabled to diagnose and treat patients with BH conditions when compared to other states. There is little regional variation among MH conditions within the state. Oregon reports higher rates of utilization of MH services as compared to the nation and neighboring states. Reported substance use disorders demonstrate some regional variation, with marijuana, cocaine, and alcohol use disorder reported at significantly higher rates in the relatively population dense Multnomah region.

When relating the regional BH provider supply to regional population needs, reported hours of patient care (FTE) is used to accurately estimate the relationship. Because the Provider-to-Needs Ratio (PNR) utilizes the distribution of BH conditions within the population rather than general population rates, variations in population density are controlled for in these ratios. There are over-concentrations of licensed providers and licensed prescribers in Multnomah region when related to all BH conditions in this assessment. Surprisingly, with the exception of the Multnomah region, licensed prescribers are relatively evenly distributed to the regional need for all BH conditions evaluated in this report. Licensed providers, in contrast, experience more maldistributions and regional variability, with the Eastern region consistently understaffed as compared to other regions. Incentives to alleviate the Eastern regional shortage of licensed providers should be considered to address this disparity.

School based health centers (SBHCs) prove to be an important site of integrated BH care that reaches a vulnerable population with effectively located services that are readily available when students seek help. These facilities could be utilized more efficiently to broaden the reach of the BH workforce staffing SBHCs. The true licensure status of these providers is unclear, and further assessment is needed to better understand the utility of licensed versus unlicensed staff in this non-traditional healthcare setting.

As a whole, Oregon benefits from an expansive BH workforce that stems from diverse training backgrounds and is poised to provide effective integrated and comprehensive services when these providers are appropriately utilized in the context of strong primary care, supportive staff, and transitional or community-based services. Oregon's advanced data collection system allows for a contextual assessment to better understand the characteristics of the workforce that go beyond geographic proximity and are necessary to provide truly accessible BH care.

Immediate application of this study is underway. Findings from this workforce analysis are informing a behavioral health workforce recruitment and retention plan for Oregon. Additionally, competencies for licensed behavioral health providers working in integrated ambulatory settings are being developed with input from stakeholders across the state. Both are key steps to increasing access to quality behavioral health care and meeting the behavioral health needs in Oregon.

Background

Prioritization of behavioral health (BH) service delivery in Oregon has inspired state leaders to undertake several initiatives to better understand the current state of BH services and the adjustments necessary to improve their effectiveness. Efforts in Oregon to promote integrated BH services within primary care settings led to the Oregon Health Authority (OHA) and the Farley Health Policy Center (FHPC) partnering in 2016 to hold the Behavioral Health Collaborative. This extensive stakeholder engagement process produced final recommendations aimed to modernize Oregon's BH system. A key recommendation from the Collaborative was to conduct a behavioral health workforce analysis to quantify and understand the licensed and unlicensed BH providers currently serving the population of Oregon.[1]

The BH workforce is just one factor in a complex health care delivery system which is ultimately meant to help individuals and communities live healthier, happier, and more productive lives. However, it is essential for states to understand their workforce supply in order to address both perceived and real insufficiencies in BH service delivery and utilization. BH providers cover a vast array of services and are comprised of a wide variety of disciplines, including highly qualified licensed and unlicensed providers. Traditional workforce assessments are often based on mandatory licensure reporting or professional pipeline graduation rates. These data sources in isolation do not provide the sub-state geographic context, nor account for the varying amount of direct patient care practiced by individuals, making traditional workforce assessments handicapped to provide the necessary context to fully understand where or why shortages occur.[2] The specificity this assessment provides will allow the leaders of Oregon to develop targeted policies that can address specific shortages and maldistributions to ultimately improve access to BH services where they are most needed.

Rationale

This report aims to describe the type and distribution of licensed and unlicensed BH providers in Oregon and to identify specific gaps in alignment with population needs in order to inform statewide investments and policies to augment BH workforce capacity and efficiency in the state. Addressing *whole person health* requires an understanding of team-based care outside of the traditional healthcare system. As such, the largely unknown role that unlicensed BH providers contribute to the fabric of available services must be evaluated and understood as state leaders search for efficient solutions to BH shortages. As states consider where to invest limited resources aimed to increase the availability of BH services via workforce development, a complete and contextualized understanding of their current workforce is necessary.

In order to achieve this, the BH workforce of Oregon was first defined by assembling the most current available data sources from the state. Appropriate secondary data sources were then used to describe the geographic distribution of the workforce, identify licensure status, and describe personal and patient demographics, work type, clinical location, patient load, and capacity.

This report outlines the findings as they relate to the counts and distribution of providers, their descriptive features, the rate of behavioral health conditions across the state, and how the distribution of providers relates to the needs of the Oregon population through a provider to prevalence ratio, or PNR. Case evaluations on providers working with medication assisted treatment and school-based health centers serve as examples of how various BH providers impact specific needs for the state. This report concludes with a discussion that considers the factors that impact the efficiency and effectiveness of the BH workforce across the state. Specific recommendations for policies to encourage growth and retention of the BH workforce will follow in a separate report authored by the FHPC.

Challenges among Workforce Analyses

Workforce analyses have traditionally suffered from the use of largely static data sources that become less accurate as time passes and providers change clinical sites, or as individuals and families relocate.[3] Workforce analyses that rely on traditional methodology have also been challenged by incomplete datasets which inaccurately describe the workforce or their potential capacity.[4] In the absence of timely primary data surveillance, researchers primarily rely on state-collected certification or licensure databases as a proxy for enumerating providers. To date, no workforce analyses have established or utilized a verified methodology to quantify the unlicensed workforce.

The challenges in attempting to assess the BH provider population relates to the diversity of this workforce. In the vacuum of state monitored licensure, it could be tempting to quantify the unlicensed workforce through claims data; however, these providers experience a variety of billing allowances and restrictions depending on their clinical role. Practice location is also an insufficient tool to quantify unlicensed providers as some are based in clinical settings, while others provide primary peer support in the community or in non-traditional settings such as schools and correctional facilities. In Oregon, unlicensed providers employed by BH agencies are reported to the state through the clinical site certification process. (For complete list of provider types and credentials see Appendix A). Although individual identifiers are not always provided, those clinical sites routinely supply the state with the number and type of providers employed at that BH site.

It is with these challenges in mind that we acknowledge the limitations of unlicensed workforce estimates; however, projections in good faith are put forward through the collation of survey, registry, and clinical certification data sources (methodological details available in Appendix B).

Methods

Descriptive secondary data analyses were conducted using various existing data sources provided by Oregon Health Authority (OHA), the Mental Health and Addiction Certification Board of Oregon (MHACBO), and other publicly available sources to describe the population of the licensed and unlicensed behavioral health workforce currently in practice in Oregon. All data shared by stakeholder partners are presented in de-identified form and aggregated at the county or regional level.

Licensed provider data was primarily provided from OHA's Health Care Workforce Reporting Program (HWRP), which collaborates with health profession licensing boards, collecting provider data during the licensing renewal process. For the purposes of this report, data from the Oregon Medical Board, the Oregon State Board of Nursing, the Board of Licensed Social Workers, the Board of Licensed Professional Counselors and Therapists, and the Board of Psychology were collected and provided to FHPC as available from the HWRP online surveys previously established and maintained with each board. The HWRP was created in 2009 as directed by Oregon Revised Statute 676.410 and obtains information on licensees from 17 health licensing boards as of 2018. For more information on the HWRP, please refer to www.oregon.gov/oha/HPA/ANALYTICS/Pages/Health-Care-Workforce-Reporting. aspx . HWRP data available to the FHPC consists of five files from different licensing boards containing information about licensed providers in Oregon, each of which has varying years of collection. Recertifying providers were required to complete a survey asking questions about demographics (e.g., age, race, and ethnicity), employment status, education, language spoken. For up to two different work settings, providers were asked about their specialty, hours worked, percent of time devoted to different activities (including patient care, teaching, research, and management) and other questions about their current position(s). The survey was not administered to providers certifying for the first time. To calculate the number of active practicing BH providers in Oregon and FTEs, methodology was derived from an OHA report entitled "Oregon's Health Care Workforce Reporting Program" with adaptations for the purposes of this report.[5] The basic approach is to use information available from recertifying providers to characterize all providers—recertifying and certifying (see Appendix C).

Unlicensed provider data were provided from MHACBO Behavioral Health Survey, a collaboratively developed survey of 1,302 behavioral health providers implemented in 2018. The survey was e-mailed to 4,400 potential respondents. The response rate was 29.5% (1,302). Eighty-six percent of respondents completed the general survey and 82.0% completed the additional role-related questions. The FHPC and behavioral health organizations active in Oregon collaborated with MHACBO to write the survey. The study questions were designed to elicit information on demographics, distribution, capacity, wages/benefits, future plans, caseloads, and other practice characteristics. For more information on the survey and to reference MHACBO's own reports, please refer to mhacbo.org/en/forms-info/reports (see Appendices A and B).

Regional prevalence of BH disorders was estimated using the Substance Abuse and Mental Health Services Administration's (SAMHSA) National Survey on Drug Use and Health (NSDUH), as well as the Oregon Student Wellness Survey (SWS) for child and youth prevalence. Each of these surveys is limited by the nature of self-reported data. Therefore, prevalence rates are widely accepted to be underestimated given the pervasive stigma associated with BH conditions and requisite insight by survey participants (see Appendix B).

National Plan and Provider Enumeration System (NPPES) data, frequently utilized in national workforce analyses, were not used for this analysis due to limitations in geographic specificity and insufficient accuracy compared to data sources referenced above, which are state-mandated, primary data collections. National Provider Identifier (NPI) numbers that are obtained and recorded in NPPES when providers begin billing electronically for services rendered are used for the entirety of their career, posing additional analytic limitations.[2] Provider geographic information is not required to be updated and therefore does not capture practice location variations that occur within or across state borders throughout an individual's career.[2]

Adolescent & School Health Unit of the Public Health Division of OHA provided utilization data that includes information on BH providers who serve school-based health centers. These data sources were used to identify licensure status, describe personal and patient demographics, work type, clinical location, patient load, and capacity, and describe the geographic distribution of the workforce among school-based health centers.

All provider type survey information was self-reported, and individuals could designate multiple roles. Specific definitions of Qualified Mental Health Professional (QMHP) and Qualified Mental Health Associate (QMHA) and detailed Provider Type categorizations can be found in Appendix A. Unlike other provider types, which indicate an individual's credentials or specific licensure, QMHP and QMHA are role designations which are utilized for clinical site licensure rather than individual provider licensure. Data related to an individual's "Provider Role," a clinical designation within the context of a clinic's healthcare team, was not included in the analysis to avoid duplicate information and to avoid confusion of licensure type. Educational credentials listed in "Provider Type" and non-QMHP/QMHA designated provider types were used for this analysis. For the purposes of provider frequencies, individuals who dually identified an educational credential that is categorized as "licensed prescriber," "licensed provider," or "unlicensed provider," as defined in Appendix A, as well as any secondary credential which qualified as "unknown status" were counted as the primarily identified provider type. This preferential selection of provider type did introduce some selection bias about provider type frequencies.

Descriptive statistics were conducted on demographic and baseline characteristics of provider types, frequency, and percentage for categorical variables and mean and standard deviation for continuous variables. All analyses were conducted in SAS 9.4 (SAS Instituted, Cary, NC)[6] and Stata 14.[7]

Behavioral Health Workforce

Defining Provider Types

In order to organize the extensive field of BH providers we categorized individuals into three basic groups of provider types: licensed prescribers, licensed providers, and unlicensed providers. Individuals who did not fit into the three groups were considered "unknown."

Licensed prescribers include individuals who provide prescription-based treatment for BH conditions. This generally includes physicians (MDs and DOs), and advanced practice providers (PAs, NPs, and CNSs). Licensed providers include individuals who administer psychotherapy-based services for BH conditions licensed by the Board of Psychologists, Board of Social Workers, and Board of Counselors and Therapists. This group also includes pre-licensees in training who will ultimately advance to licensed provider status. Unlicensed providers are comprised of a diverse group of individuals that focus on counseling-based and supportive services. They often specialize in addiction or mental health, and a smaller segment of the unlicensed workforce provide services that address both. Some unlicensed providers are baccalaureate-level professionals while others have more advanced degrees. A large segment of the unlicensed provider workforce is made up by certified addiction counselors and traditional health workers (THW). Further descriptions of the clinical role of each provider type are provided in their respective sections below (see Appendices A and B).

BH providers' credentials were supplied in MHACBO Survey responses and from School Based Health Center data. Although the organizations have extensive overlap in provider type definitions, there are some differences among providers listed as "unknown" (for complete list of the provider types organized by licensure status, see Appendix A; for definitions of provider acronyms, see Appendix A).

Workforce Assessment Key Findings

LICENSED PRESCRIBERS

- Total of 1,186 prescribers for the state who provide 874 FTEs, indicating that the true licensed prescriber "supply" is much smaller than it appears.

- There is an uneven distribution in gender among psychiatrists (mostly male) and psychiatric advanced practice providers (mostly female).

- Prescribers as a whole identify as approximately 80% white, and 89% non-Hispanic with significant underrepresentation of Hispanic prescribers at only 5% in comparison with 13% of Oregon's general population.

- The prescriber workforce is highly stable and reports being satisfied. A range of 68-81% of prescribers report working full time, and the majority of prescribers (~80% of physicians and 90% of PAs) plan to keep clinical hours the same, while 11% of NPs plan to reduce their clinical hours, and 7% plan to increase in the immediate future. Two percent of MDs and NPs plan to retire in the immediate future.

- 10-30% of all prescribers work primarily in hospitals; PAs have the highest percentage of their workforce present in hospitals (33%), NPs have the least (10%).

- 50-60% of all prescribers are in outpatient, community-based care of some kind (private and health system clinics).

- Nurse Practitioners are filling gaps where psychiatrists are not yet going, geographically as well as across sites of care.

LICENSED PROVIDERS

- 8,567 licensed providers active in Oregon provide 4,838 FTE, indicating that the true licensed provider "supply" is much smaller than it appears.

- Eastern Oregon (region 6) has fewer licensed providers per population as compared to other regions in the state.

- 10% of licensed providers work in more than one setting in order to achieve adequate caseloads, which may account for the low reported provider rates in rural counties.

- Licensed providers are overwhelmingly female, 60-88% depending on specific professional grouping, and self-identify racially as mostly white (75-88%).

- Hispanic licensed providers are significantly under-represented among professional groups, from 1.2-5.6% as compared to the Oregon population (13%), with the largest representation of Hispanic licensed providers stem from pre-licensed clinical social worker associates at 9.6%

- Licensed providers are a stable workforce, with about 70-80% indicating they plan to maintain current work hours and 4-13% plan to increase their clinical hours, while only 1-3% plan to reduce available clinical hours; 1-3% plan to retire in the immediate future.

- Licensed providers are distributed across a variety of settings, with 48% based in private, outpatient clinics. LCSWs practice across a greater variety of clinical settings followed closely by LPCs. Relatively small percentages of licensed providers work in crisis hotlines, emergency rooms, and Indian Health Services.

UNLICENSED PROVIDERS

- Survey responses are likely reflective of MH agencies' unlicensed staff; however, these responses cannot be used to make broad generalizations of this workforce until more complete registries are developed.

- 1,025 MHACBO survey respondents report 903 FTEs.

- The distribution of unlicensed providers to population density is highest in north eastern counties, regions that have relatively lower distributions of licensed prescribers and licensed providers.

- Currently working Oregon there are 2,666 BH-specialized THWs, a subset of unlicensed providers. Ten percent of this workforce provides youth- and family-focused services.

- Unlicensed providers as a whole are largely allocated to addiction specific services (75% SUD, 25% MH) according to MHACBO survey results. These proportions may change as unlicensed provider registries become more complete in the near future.

- The majority of unlicensed providers identify as white (75%), with 5% of all unlicensed providers that identify as ethnically Hispanic. Unlicensed providers are slightly more racially and ethnically diverse than other BH workforce with 20% self-identifying as "other" race/ ethnicity.

- Unlicensed providers are highly motivated, with 23% planning to advance in their field in the immediate future, and many providers working while enrolled in post-secondary educational programs. There is the potential for significant turn-over as approximately 20% of providers plan to leave the field or retire.

Who Else Contributes to the Complete BH Workforce?

It should be clearly understood that the majority of behavioral health care is shouldered by primary care physicians, physician assistants (PA), and nurse practitioners (NP) in primary care settings, and therefore the complete BH workforce reaches far beyond the quantified workforce described in this report. Primary care's extensive role in delivering BH services has been well documented through prescription tracking as well as claims data. Roughly one in five patients seen in primary care clinics present for a BH condition.[8] It is the large volume of BH conditions treated in primary care settings that inspired the integrated BH care delivery model we see expanding across health delivery systems today.[9] Oregon benefits from a robust primary care workforce and integrated BH delivery system which contributes significantly to optimize the health of its population. Oregon is also unique in its utilization of naturopathic physicians who are licensed by the state and have prescriptive authorities, providing an important contribution to the fabric of BH workforce across the state.[10] Although this report only evaluates the specialized BH workforce, integrated BH provided in primary care and from other generalist providers must be recognized.

Licensed Prescribers

Licensed prescribers generally include psychiatrists (MDs and DOs) and advanced practice providers (PAs, NPs, and CNSs) from training backgrounds which exclusively apply to BH conditions such as psychiatry and addiction medicine. Licensed prescribers are a vital component to BH service delivery, providing prescription-based treatment for BH conditions including antipsychotics, antidepressants and anxiolytics, as well as medication assisted therapy (MAT) for substance use disorders such as opioid addiction. These therapies are foundational to the treatment of severe mental illness and other BH conditions. Licensed prescribers also have a consultative component to their practice, providing content expertise and medication regimen recommendations to primary care physicians and care coordination teams caring for complex BH patients. This critical resource is also in short supply, current Health Resources and Services Administration estimates indicate that 77% of US counties report a severe shortage of psychiatrists from 2017, and 55% of counties in the continental US do not have any psychiatrists.

Distribution of Licensed Prescribers Across Oregon

Among licensed prescribers (CNSs, NPs, MDs, DOs, and PAs), Oregon has an estimated total of 1,521 individual providers of whom 1,327 are estimated to be actively practicing in Oregon. There is a total of 886 patient care FTEs for these providers across the state, indicating a significant difference between the total number of active prescribers and their number of clinical hours of practice. This finding highlights the need for specificity in number of direct patient care hours when evaluating workforce supply and potential capacity. When comparing the licensed prescriber workforce of Oregon to the nation, Oregon has a larger proportion of the licensed prescriber workforce represented by NPs, 40% in Oregon versus 26% nationally. Conversely, there is a smaller proportion of physician trained licensed prescribers, 56% versus 71% nationally.

There is a notable difference across regions in the supply per capita of licensed prescribers, with more prescribers per population in western than eastern regions (Figure 1). In more detailed analyses not shown here, the counties of Baker, Crook, Gilliam, Grant, Harney, Lake, Morrow, and Sherman collectively have an estimated population of 76,000 people but no psychiatrists provide care in them. Except for Sherman and Gilliam counties, which have no licensed prescribers, these counties only have psychiatric advanced practice providers, mainly psychiatric NPs. These communities are supported by psychiatric advanced practice providers, largely shouldered by psychiatric NPs, with the exception of Sherman and Gilliam counties, which have no licensed prescribers.

Table 1. Estimations of Active Licensed Prescribers Practicing in Oregon and FTE Calculations

	Mean Hours Worked	% Direct Patient Care	Providers licensed in OR	Active Practice Rate	Number Practicing in OR	FTE (Hours Only)	Direct Patient Care FTE
All Licensed Prescribers	**36.1**	**77%**	**1,521**	**87.50%**	**1,327**	**1,022**	**886**
Psychiatrists							
MD	36.6	75%	763	91.8%	700	575	461
DO	40.7	77%	59	84.3%	50	42	37
Physician Assistants (MH Specialty)	33.4	81%	26	91.3%	24	18	14
Nurse Practitioners (MH Specialty)	35.1	81%	647	82.5%	534	376	362
Clinical Nurse Specialists (MH Specialty)	33.6	64%	26	72.0%	19	11	11

Abbreviations: FTE, Full Time Equivalent; OR, Oregon, MD, Medical Doctor; DO, Doctor of Osteopathy; MH, Mental Health.

Note: The number of licensed prescribers is based on estimates of the number of newly certifying providers who specialize in psychiatry/ mental health (see Appendix C for a description of our methods). Active Practice rate refers to the percent of all licensed providers who are actively practicing (excluded those who are retired or not employed). FTE (hours refers to an estimate of the number of FTE's statewide based on solely on hours worked with one FTE equal to 40 hours; Direct Patient Care FTE takes into account both hours worked and percent of time devoted to direct patient care.

Source: FHPC analysis of Health Care Workforce Reporting Program, Board License Renewal Survey; Oregon Medical Board Licensure Renewal Data, 2016-2017; Oregon State Board of Nursing Licensure Renewal Data, 2015-2018

Figure 1. Geographic Distribution of Active Licensed Prescriber FTE by County

Source: FHPC Analysis of Health Care Workforce Reporting Program, Board Licensed Renewal Survey

Oregon Medical Board Licensure Renewal Data, 2016-2017

Oregon State Board of Nursing Licensure Renewal Data, 2015-2018

Demographic Characteristics of Licensed Prescribers

While psychiatrists are mainly male (58% for MDs and 53% for DOs), 82% of NPs specializing in mental health are female. The majority of licensed prescribers are non-Hispanic whites (83.2%); while 13.1% of Oregon's population is Hispanic or Latino, just 3.4% of licensed prescribers are Hispanic or Latino." This noteworthy difference decreases minority community's ability to be seen by a prescriber who looks like them, a characteristic demonstrated in qualitative studies to improve patient comfort and trust in their therapeutic relationship (Table 2).

Table 2. Demographic Characteristics of Licensed Behavioral Health Prescribers Active in Oregon

	Oregon	All Licensed Prescribers		MD		DO		NP	
Observations	4,190,713	1,186		638		43		466	
Age - Mean (SD)		53.4	(12.8)	54.8	(12.7)	47.2	(12.6)	52.2	(12.5)
Gender - N %									
Male	49.6%	482	41.1%	370	58.0%	23	53.5%	82	18.1%
Female	50.4%	690	58.9%	268	42.0%	20	46.5%	370	81.9%
Race/Ethnicity - N %									
Hispanic or Latino	13.1%	38	3.4%	25	4.2%	1	2.5%	11	2.6%
American Indian or Alaska Native	1.8%	4	0.4%	1	0.2%	0	0.0%	3	0.7%
Asian	4.7%	76	6.9%	62	10.4%	3	7.5%	10	2.3%
Black or African American	2.2%	13	1.2%	8	1.3%	0	0.0%	4	0.9%
White	87.1%	917	83.2%	481	81.0%	34	85.0%	371	86.1%
Other race	0.4%	12	1.1%	7	1.2%	0	0.0%	5	1.2%
More than one race	3.8%	27	2.5%	5	0.8%	2	5.0%	17	3.9%

Abbreviations: MD, Medical Doctor; DO, Doctor of Osteopathy; NP, Nurse Practitioners

Note: Results for clinical nurse specialists (CNS) and physician assistants (PA) are not shown, they are included in the counts for licensed prescribers. Counts and percentages are based on valid responses to questions about gender and race/ethnicity.

Source: FHPC analysis of Health Care Workforce Reporting Program, Board Licensure Renewal Survey; Oregon Medical Board Licensure Renewal Data, 2016-2017; Oregon State Board of Nursing Licensure Renewal Data, 2015-2018

Source: US Census Bureau, 2017

Current and Future Capacity of Licensed Prescribers

When looking to the immediate future, the licensed prescribers pool projects to be a highly stable component of the BH workforce. The majority of all prescribers indicate satisfaction in their current workload and do not plan to change clinical hours. Eighty-three percent of MD and 77% of DO psychiatrists plan to maintain their current hours of practice. Nine percent of DO psychiatrists plan to increase their clinical hours. Almost all PAs (90%) plan to maintain their clinical hours as they are, and the remaining 9% plan to increase in the near future. The greatest source of planned change in practice comes from NPs, with 11% planning to reduce clinical hours, and 7% planning to increase in the immediate future. Very few, if any, individuals plan to move out of Oregon or change careers, and only 2% of MD psychiatrists and NPs report planning to retire in the immediate future, indicating constancy among licensed prescribers in their current patterns of practice.

Data show that psychiatrists are primarily conducting patient care from the outpatient setting, either in private practice or other outpatient clinics. Only 22-24% of psychiatrists are providing care from hospital-based inpatient settings (Table 4), supporting the notion that BH service delivery should be focused in the community, where patients are living. Community-based BH care promotes patients' continued completion of daily activities of normal life, attending to their work, and benefitting from the support of family and friends. Details of alternative clinical sites among physician prescribers are not available currently; however, more information about settings is available from the Board of Nursing. While the majority of NPs and CNSs (almost 70%) work in clinic/office settings or hospitals, 9% of NPs report working in public/community health, 4% in correctional facilities, 2% in military or VA facilities, 2% in primary care, and 1% in community or school-based health centers.

Table 3. Current and Future Capacity of Active Licensees in Oregon

	Oregon Medical Board			Board of Nursing	
	MD	DO	PA	NP	CNS
Employment Status - N %					
Employed in the field	407 63.8%	33 76.7%	19 90.5%	277 62%	6 75%
Self-employed in the field	222 34.8%	9 20.9%	2 9.5%	157 35.1%	1 12.5%
Volunteer	3 0.5%	0 0.0%	0 0.0%		
Other	6 0.9%	1 2.3%	0 0.0%	13 2.9%	1 12.5%
Future Plans - N %					
Maintain practice hours as is	533 83.7%	34 77.3%	20 90.9%	288 64.4%	7 87.5%
Reduce practice hours	48 7.5%	1 2.3%	0 0.0%	50 11.2%	1 12.5%
Increase practice hours	19 3.0%	4 9.10%	2 9.10%	33 7.4%	0 0.0%
Move to another practice location in Oregon	10 1.6%	3 6.80%	0 0.0%	31 6.9%	0 0.0%
Move to practice out of state	4 0.6%	1 2.30%	0 0.0%	6 1.3%	0 0.0%
Leave the practice of the occupation				3 0.7%	0 0.0%
Move to Oregon to practice in the field	1 0.2%	0 0.0%	0 0.0%	1 0.2%	0 0.0%
Retire	15 2.4%	0 0.0%	0 0.0%	9 2.0%	0 0.0%
Other	7 1.1%	1 2.30%	0 0.0%	26 5.8%	0 0.0%

Source: FHPC analysis of Health Care Workforce Reporting Program, Board License Renewal Survey; Oregon Medical Board Licensure Renewal Data, 2016-2017; Oregon State Board of Nursing Licensure Renewal Data, 2015-2018.

Table 4. Reported Primary Settings of Active Licensed Prescribers

	MD		DO		NP	
Observations - N %	**638**		**43**		**466**	
Private Practice	190	29.8%	8	18.6%		
Clinic (OMB)	232	36.4%	21	48.8%		
Office/Clinic (BON)					275	59.0%
Hospital	156	24.5%	10	23.3%	48	10.3%
Other	60	9.4%	4	9.3%	32	6.9%
Private Duty					1	0.2%
Primary Care					11	2.4%
Ambulatory Urgent/Emergency					1	0.2%
Skilled Nursing Facility/Long Term Care					2	0.4%
Residential Care Facility					6	1.3%
Home Health/Hospice					1	0.2%
Community/School-Based Health Center					7	1.5%
Public/Community Health					41	8.8%
Military or VA health facility					10	2.1%
Correctional facility					17	3.6%
Educational or Research Institution					8	1.7%
Drug/Alcohol Center					4	0.9%
Insurance Claims/Benefits					1	0.2%
Locum tenens/Traveler/Temp Agency					1	0.2%

Abbreviations: MD, Doctor of Medicine; DO, Doctor of Osteopathy; NP, Nurse Practitioner.

Note: Results for clinical nurse specialists (CNS) and physician assistants (PA) are not shown. The setting choices available differ across the Oregon Medical Board of Medicine (MD and DO) and Board of Nursing (NP), unavailable choices are grayed out. Only information from first work setting was used in this analysis.

Source: FHPC Analysis of Healthcare Workforce Reporting Program Data; Board of Nursing, Oregon Medical Board; Oregon Medical Board Licensure Renewal Data, 2016-2017; Oregon State Board of Nursing Licensure Renewal Data, 2015-2018.

Licensed Providers

This group of providers includes individuals who administer counseling-based services for BH conditions. These providers may also use other modalities of individual or group-based therapy which stem from formal educational backgrounds which are certified by an accrediting body. Licensed providers are an adaptable component of the BH workforce and provide care in a variety of settings. They are an essential component to integrated primary care clinics, care coordination teams, as well as non-traditional sites of care including schools and correctional facilities.

Distribution of Licensed Providers

There are 11,059 licensed providers within the state of Oregon, of which 8,567 are estimated to be in active practice in Oregon, providing 4,838 direct patient care FTEs. Among the largest segments of the licensed provider workforce (psychologists, LCSWs, and LPCs), mean hours worked were similar across professions, ranging from 30.6 hours for LMFTs to 39.1 for CSWAs. This noted discrepancy between total number of licenses and number of patient care FTEs is mirrored by licensed prescribers (section above) indicating accessible psychotherapy services administered by licensed providers may be in greater shortage than previously considered.

When evaluating the distribution of licensed providers, controlling for population density (Figure 2), Multnomah county, in which the center of the Portland metro-area is based, is the most densely populated county of the state. Multnomah county also has the largest proportion of licensed providers relative to the population. These rates account for population density, indicating the maldistribution and overconcentration of providers in Multnomah county. No licensed providers indicated their primary sites of clinical care were in Gilliam and Sherman County. It is possible that licensed providers may have a secondary site of care within these sparsely populated counties, which is common in rural regions and often necessary to provide an adequate caseload for a single provider.

Table 5. Estimations of Active Licensed Providers Practicing in Oregon and FTE Calculations

	Mean Hours Worked	Percent Direct Patient Care	Providers licensed in OR	Active Practice Rate	Number Practicing in OR	FTE (Hours Only)	Direct Patient Care FTE
All Licensed Providers N %	**34.0**	**63%**	**10,766**	**88.5%**	**9,521**	**6,157**	**4,838**
Psychologists	34.3	63%	1,804	90.3%	1,629	1,147	836
LCSW	34.5	62%	4,215	87.4%	3,684	2,412	1,884
CSWA	39.1	64%	908	94.4%	857	480	522
LPC	32.5	63%	2,976	87.9%	2,616	1,688	1,250
LMFT	30.6	65%	768	84.4%	648	372	301
LPCLMFT	31.3	71%	95	91.4%	87	59	45

Abbreviations: LCSW, Licensed Clinical Social Worker; CSWA, Certified Social Worker Associate; LPC, Licensed Professional Counselor; LMFT, Licensed Marriage and Family Therapist

Note: Active Practice rate refers to the percent of all licensed providers who are actively practicing (excluded those who are retired or not employed). FTE (hours refers to an estimate of the number of FTE's statewide based on solely on hours worked with one FTE equal to 40 hours; Direct Patient Care FTE takes into account both hours worked, and percent of time devoted to direct patient care (see Appendix C for a description of these calculations). CSWAs were the only available pre-license trainees available for analysis at the time of this report.

Source: FHPC Analysis of Healthcare Workforce Reporting Program Data; Board of Psychologists, Board of Social Workers, Board of Counselors and Therapists; Oregon Board of Licensed Professional Counselors and Therapists (2017-2018); Oregon Board of Licensed Clinical Social Workers (2016-2018); Oregon Board of Psychology (2016-2018).

Figure 2. Geographic Distribution of Active Licensed Provider FTE by County
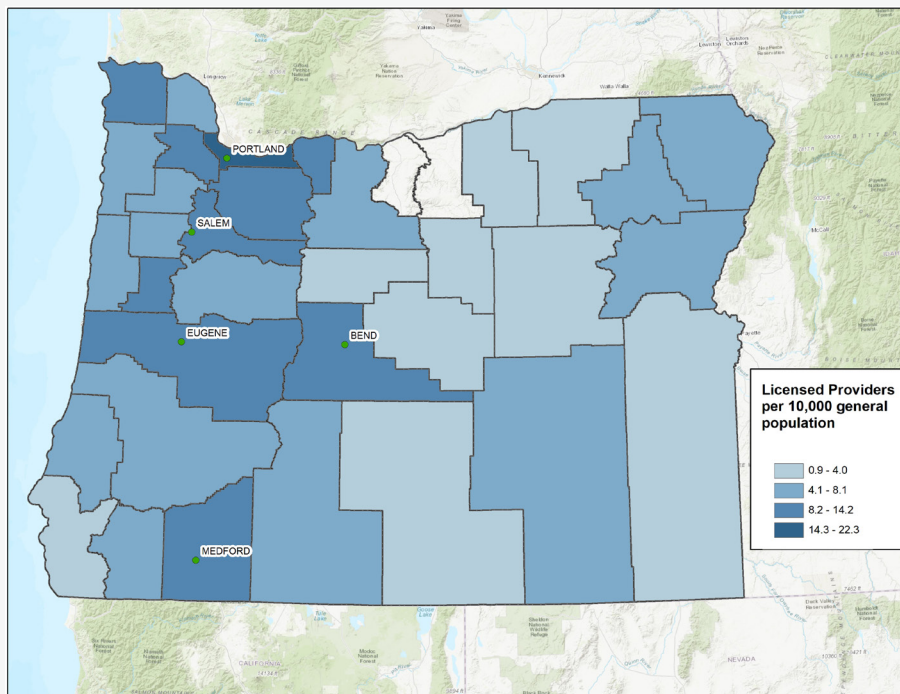
Source: FHPC Analysis of Health Care Workforce Reporting Program, Board Licensed Renewal Survey

Oregon Board of Licensed Professional Counselors and Therapists, 2017-2018

Oregon Board of Licensed Clinical Social Workers, 2016-2018

Oregon Board of Psychology, 2016-2018

Demographic Characteristics of Licensed Providers

Oregon's licensed providers are largely represented by female providers and report an average age in the early 50s. Almost all licensed provider profession groups report approximately 90% of their workforce to be non-Hispanic White, while 75% of Oregonians report non-Hispanic White ethnicity according to the US Census Bureau. There is a significant underrepresentation of Hispanic and Latino licensed providers (3%) when compared to the general population of Oregon which reports 13% Hispanic and Latino.

Table 6. Demographic Characteristics of Licensed Behavioral Health Providers Active in Oregon

	Oregon	ALL LICENSED												
		All Providers		Psychologists		LCSW		CSWA		LPC		LMFT		LPCLMFT	
Observations	4,190,713	8,425		1,549		3,245		539		2,419		588		85	
Age - Mean (SD)		50.9	(12.8)	52.8	(13.1)	51.6	(12.3)	39.2	(9.4)	51.0	(12.4)	51.3	(13.8)	54.0	(13.4)
Gender - N %															
Male	49.6%	1961	23.8%	595	38.8%	611	19.2%	81	15.5)	516	22.0%	133	23.3%	25	30.1%
Female	50.4%	6272	76.2%	939	61.2%	2566	80.8%	442	84.5)	1830	78.0%	437	76.7%	58	69.9%
Race/Ethnicity - N %															
Hispanic or Latino	13.1%	311	4.0%	53	3.7%	107	3.5%	52	10.5%	83	3.7%	15	2.8%	1	1.4%
American Indian or Alaska Native	1.8%	36	0.5%	1	0.1%	22	0.7%	2	0.4%	9	0.4%	2	0.4%	0	0.0%
Asian	4.7%	167	2.1%	55	3.8%	52	1.7%	15	3.0%	34	1.5%	10	1.9%	1	1.4%
Black or African American	2.2%	91	1.2%	9	0.6%	38	1.3%	18	3.6%	23	1.0%	2	0.4%	1	1.4%
White	87.1%	6819	87.4%	1271	87.8%	2665	88.0%	372	75.0%	1972	88.7%	469	88.2%	70	95.9%
Other race	0.4%	89	1.1%	13	0.9%	30	1.0%	10	2.0%	28	1.3%	8	1.5%	0	0.0%
More than one race	3.8%	176	2.3%	25	1.7%	70	2.3%	21	4.2%	43	1.9%	17	3.2%	0	0.0%

Abbreviations: LCSW, Licensed Clinical Social Worker, CSWA; Certified Social Worker Associate; LPC, Licensed Professional Counselor; LMFT, Licensed Marriage and Family Therapist

Note: Counts and percentages are based on valid responses to questions about gender and race/ethnicity. CSWAs were the only available pre-license trainees available for analysis at the time of this report.

Source: FHPC Analysis of Healthcare Workforce Reporting Program Data; Board of Psychologists, Board of Social Workers, Board of Counselors and Therapists; Oregon Board of Licensed Professional Counselors and Therapists (2017-2018); Oregon Board of Licensed Clinical Social Workers (2016-2018); Oregon Board of Psychology (2016-2018).

Current and Future Capacity of Licensed Providers

More than half of licensed providers are conducting counseling-based services in the private, outpatient, clinical setting. These settings primarily offer traditional 50-minute individual sessions with some exceptions for couple and family-based care. Because CSWAs are providing counseling services while actively completing their training, their clinical distribution trends appear quite different from other licensed providers. CSWAs are anticipated to change clinical locations in the immediate future when training is complete, and they enter the workforce pool of LCSWs. Fully licensed LCSWs report the smallest percentage of their workforce based in the private outpatient setting (35%) and have the greatest distribution across non-traditional clinical settings, followed closely by LPCs. There are very few licensed providers who identify their primary site of care at crisis hotlines, Indian Health Services clinical sites, or emergency rooms.

Similar to licensed prescribers, licensed providers report an overall highly stable workforce. At least 71% of each licensed provider profession reports plans to maintain current practice hours. Within profession types, the percentage who report plans to increase practice hours ranges from 4.7% of LPLCs to 13.3% LMFTs. Similar percentages report wanting to reduce practice hours (3.2% of CWSAs to 11.8% of LPLCs), ultimately balancing out shifts in practice hours. Few licensed providers plan to retire in the immediate future, with 3% or fewer reporting this intention across all licensed provider professions.

Table 7. Reported Primary Settings of Active Licensed Providers from the Oregon Boards of Psychology, Social Work and Counselors and Therapists

	Psychologists		LCSW		CWSA		LPC		LMFT		LPCLMFT	
Observations	**1,549**		**3,245**		**539**		**2,419**		**588**		**85**	
	N	%	N	%	N	%	N	%	N	%	N	%
Private outpatient practice/clinic	979	63.2%	1,163	35.8%	68	12.6%	1,360	56.2%	392	66.7%	62	72.9%
Hospital: Inpatient	69	4.5%	288	8.9%	71	13.2%	36	1.5%	4	0.7%	1	1.2%
Hospital: Outpatient	-	0.0%	272	8.4%	35	6.5%	67	2.8%	17	2.9%	3	3.5%
Hospital: Emergency Dept	2	0.1%	-	0.0%	-	0.0%	29	1.2%	3	0.5%	-	0.0%
Urgent Care Clinic	-	0.0%	-	0.0%	-	0.0%	2	0.1%	-	0.0%	-	0.0%
Skilled Nursing Facility/Long Term Care	-	0.0%	6	0.2%	1	0.2%	3	0.1%	-	0.0%	1	1.2%
Home Health/Hospice	-	0.0%	209	6.4%	57	10.6%	13	0.5%	1	0.2%	-	0.0%
Community/School-Based Health Center	57	3.7%	271	8.4%	127	23.6%	258	10.7%	46	7.8%	4	4.7%
K-12 School	13	0.8%	-	0.0%	-	0.0%	61	2.5%	11	1.9%	1	1.2%
Indian Health Services or tribal clinic	-	0.0%	-	0.0%	--	0.0%	9	0.4%	1	0.2%	1	1.2%
Policy/Planning/Regulatory/ Licensing Agency	-	0.0%	26	0.8%	1	0.2%	7	0.3%	1	0.2%	-	0.0%
Military or VA health facility	49	3.2%	133	4.1%	7	1.3%	7	0.3%	-	0.0%	-	0.0%
Public Health Department	13	0.8%	75	2.3%	12	2.2%	66	2.7%	6	1.0%	-	0.0%
Correctional facility	14	0.9%	-	0.0%	-	0.0%	47	1.9%	5	0.9%	-	0.0%
Educational or Research Institution	147	9.5%	128	3.9%	10	1.9%	72	3.0%	12	2.0%	1	1.2%
Inpatient Rehab Facility	6	0.4%	38	1.2%	7	1.3%	31	1.3%	10	1.7%	1	1.2%
Crisis Line	-	0.0%	-	0.0%	-	0.0%	28	1.2%	1	0.2%	-	0.0%
Occupational Health	6	0.4%	4	0.1%	-	0.0%	2	0.1%	-	0.0%	-	0.0%
Insurance Claims/Benefits	-	0.0%	-	0.0%	-	0.0%	26	1.1%	11	1.9%	-	0.0%
Locum tenens/Traveler/Temp Agency	-	0.0%	-	0.0%	-	0.0%	1	0.0%	-	0.0%	-	0.0%
Phone or online	-	0.0%	-	0.0%	-	0.0%	21	0.9%	5	0.9%	1	1.2%
Other	194	12.5%	632	19.5%	143	26.5%	273	11.3%	62	10.5%	9	10.6%

Abbreviations: LCSW, Licensed Clinical Social Worker, CSWA, Certified Social Worker Associate; LPC, Licensed Professional Counselor; LMFT, Licensed Marriage and Family Therapist

Note: Only information from the first setting was used in this analysis. CSWAs were the only pre-license trainees available for analysis at the time of this report.

Source: FHPC Analysis of Healthcare Workforce Reporting Program Data; Board of Psychologists, Board of Social Workers, Board of Counselors and Therapists; Oregon Board of Licensed Professional Counselors and Therapists (2017-2018); Oregon Board of Licensed Clinical Social Workers (2016-2018); Oregon Board of Psychology (2016-2018).

Table 8. Current Employment Type and Future Plans of Active Licensed Providers in Oregon

	Psychologists		CSWA		LCSW		LMFT		LPC		LPCLMFT	
Employment Status - N %												
Employed in the field	720	46.5%	533	98.9%	2289	70.5%	285	48.5%	1274	52.7%	29	34.1%
Other	34	2.2%	3	0.6%	65	2.0%	8	1.4%	58	2.4%	1	1.2%
Self-employed in the field	788	50.9%	2	0.4%	873	26.9%	294	50.0%	1078	44.6%	55	64.7%
Volunteer	7	0.5%	1	0.2%	18	0.6%	1	0.2%	9	0.4%	0	0.0%
Future Plans - N %												
Increase practice hrs	126	8.1%	52	9.6%	207	6.4%	78	13.3%	266	11.0%	4	4.7%
Leave the practice of the occupation			0	0.0%	10	0.3%	5	0.9%	11	0.5%	0	0.0%
Maintain practice hrs as is	1136	73.3%	409	75.9%	2433	75.0%	417	70.9%	1717	71.0%	64	75.3%
Move to Oregon to practice in the field	1	0.1%	0	0.0%	1	0.0%	23	3.9%	123	5.1%	4	4.7%
Move to another practice location in Oregon	65	4.2%	47	8.7%	145	4.5%						
Move to practice out of state	12	0.8%	3	0.6%	33	1.0%	7	1.2%	23	1.0%	0	0.0%
Other	31	2.0%	10	1.9%	89	2.7%	10	1.7%	65	2.7%	1	1.2%
Reduce practice hrs	140	9.0%	17	3.2%	228	7.0%	40	6.8%	152	6.3%	10	11.8%
Retire	38	2.5%	1	0.2%	99	3.1%	8	1.4%	62	2.6%	2	2.4%

Abbreviations: LCSW, Licensed Clinical Social Worker, CSWA, Certified Social Worker Associate; LPC, Licensed Professional Counselor; LMFT, Licensed Marriage and Family Therapist

Source: FHPC Analysis of Healthcare Workforce Reporting Program Data; Board of Psychologists, Board of Social Workers, Board of Counselors and Therapists; Oregon Board of Licensed Professional Counselors and Therapists (2017-2018); Oregon Board of Licensed Clinical Social Workers (2016-2018); Oregon Board of Psychology (2016-2018).

Unlicensed Providers

Unlicensed providers are unique in the BH workforce with a range of education levels and highly varied clinical roles. Some are baccalaureate level professionals who provide supportive and educational services, while others are graduate level or may be enrolled in career advancing training programs for MH counseling. A large segment of the unlicensed provider workforce is made up of highly trained addiction counselors, certified by the state, while others provide supportive services as traditional health workers (THW) and lay community members who have completed job-specific training. Unlicensed support peers have long been known to be effective in the addiction treatment realm, less in known about their value in the treatment of other BH conditions. The merits of unlicensed providers include (but are not limited to) the relatively low cost of their care, and their role in non-traditional clinical sites and their contribution to communities with reduced access to BH services.

Distribution of Unlicensed Providers

Information about unlicensed providers is sparse and only partially captured in survey data and state registries (Figure 3). As such, it is not yet possible to accurately report their total quantity, distribution, and FTEs for the state. An important effort to remedy this problem is a 2018 survey fielded by the Mental Health and Addiction Certification Board of Oregon (MHACBO) (for details on the MHACBO survey see Appendix B).

Among unlicensed MHACBO respondents, there are 1,025 individuals providing 903 FTEs, making unlicensed providers the segment of the BH workforce whose total workforce count most closely reflects actual patient care hours. Among MHACBO survey respondents, 739 (72%) are classified as in roles directly related to addiction treatment, while 286 (28%) were classified as mental health providers.

Unlicensed providers appear to have a different distribution patterns than those found for either licensed prescribers or licensed providers. The county-level map shows more unlicensed providers per 10,000 population in northeastern Oregon (Figure 3). When looking at regions as a whole (Figure 4), there is a significantly larger prominence of unlicensed mental health providers in the Eastern region when compared to Multnomah (4.2 per 10,000 compared to 2.4). Portland suburbs and Central regions of Oregon are areas that are underrepresented among unlicensed providers when compared with the rest of the state.

Table 9. Hours Worked and FTE Counts of Unlicensed Providers, by Occupational Role

	Number	Mean Hours	Mean FTE	Total FTE
All Providers	**1,025**	**36.7**	**0.92**	**903**
Occupational Role				
Addiction Counselor	445	36.9	0.92	395
Addiction Peer	175	36.3	0.91	153
Addiction Supervisor	108	37.9	0.95	97
CGAC	11	36.4	0.91	8
CPS	27	35.6	0.89	24
MH Peer	52	33.9	0.85	43
MH Supervisor	25	37.4	0.94	22
QMHA	85	35.9	0.90	75
QMHP	97	38.0	0.95	85

Source: FHPC analysis of 2018 MHACBO survey

Figure 3. Geographic Distribution of All Unlicensed Provider FTE by County
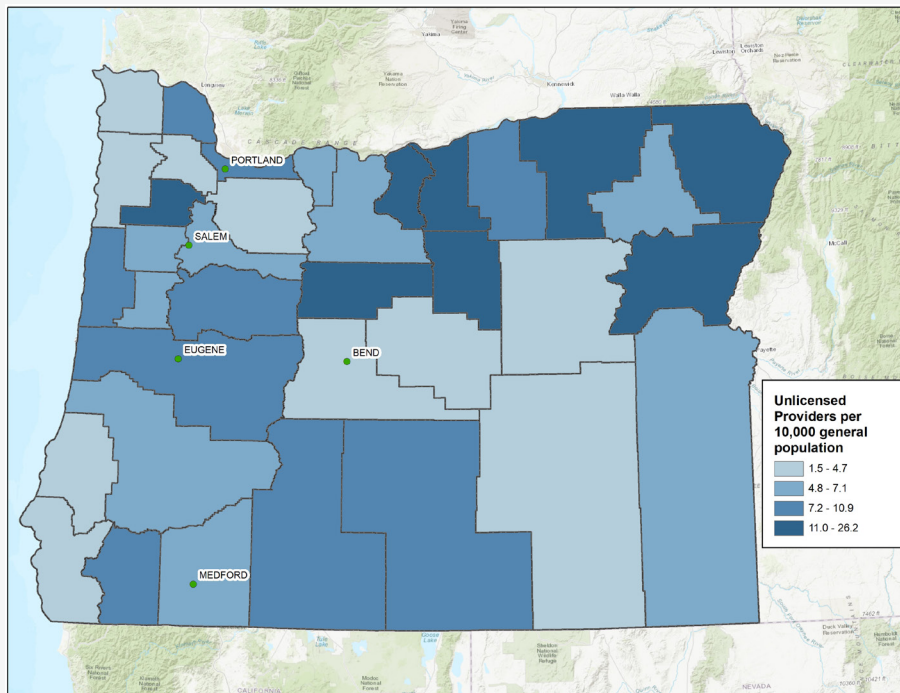
Source: FHPC Analysis of 2018 MHABO Survey

Figure 4. Distribution of Unlicensed Providers per 10,000 Population, by Region and Type

Note: Provider counts are weighed using inverse of survey response rate. Population counts are from the 2017 Portland State University, Population Research Center
Source: FHPC analysis of 2018 MHACBO Survey.
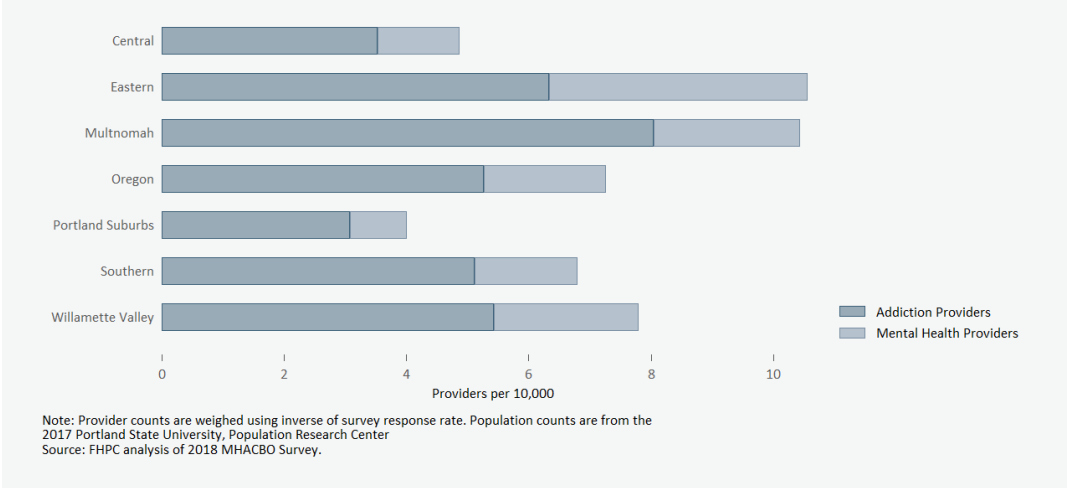
Distribution of Unlicensed Traditional Health Workers

THWs are a subset of unlicensed providers who primarily provide services through peer support, community-based services, and as patient navigators. These individuals do not provide formal assessment and psychotherapy-based services; however, they may develop longitudinal relationships with BH patients and provide supplemental care to the evidence-based practices used by licensed providers and prescribers in community-based settings. Examples of their services include the following four major types of recovery support services: (1) peer mentoring or coaching, (2) recovery resource connecting, (3) facilitating and leading recovery groups, and (4) building community. These providers are included in the unlicensed provider results; however, additional THW-specific information is provided below. Although there are THWs working across multiple medical fields, the results reported relate to THWs with a BH specialty.

Based on data from 2018, Oregon enjoys a BH THW workforce of 2,666 individuals. The majority of BH THWs focus their work on SUD relative to MH care. The vast majority (91%) of Peer Support Specialists and Peer Wellness Specialists currently work with adult populations (i.e., people 18+ years of age). Only nine percent of BH THWs work in youth and family supportive services, contributing to primary and secondary prevention to promote upstream and cost-efficient care delivery.

Table 10: Prevalence of Peer Support Specialists and Peer Wellness Specialist Certification

	CERTIFICATION TYPE					
	Peer Support Specialist (PSS)		Peer Wellness Specialist (PWS)		Total	
Adult Addictions	1630	64%	11	9%	1641	62%
Adult Mental Health	654	26%	108	86%	762	29%
Family Support	141	6%	5	4%	146	5%
Youth Support	116	5%	1	1%	117	4%
Total	**2541**	**95%**	**125**	**5%**	**2666**	**100%**

Source: FHPC analysis of 2018 Traditional Health Worker Registry

Figure 5. Percent of Traditional Health Workers Registered by County
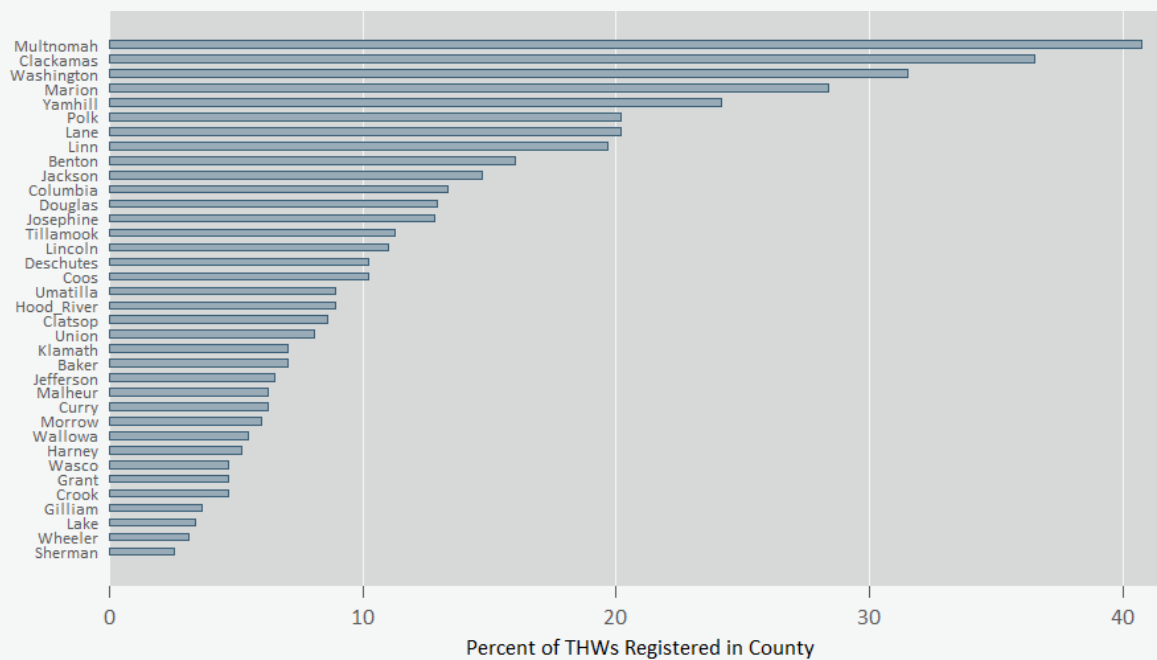
Note: THWs can register in more than one county.
Source: FHPC analysis of 2018 Traditional Health Worker Registry. 2018

According to county registration data (Figure 5), Clackamas, Multnomah, and Washington counties have highest proportion of THW registered to provide care (~30%-40%). In contrast, counties with the lowest percentage of the THW workforce registered to provide care are primarily located in Eastern and Central regions. These results do not reflect the proportion of clinical time spent in one county over another; however, they do provide a window into the general trends in geographic location of practice at the county level for THWs.

Demographic Characteristics of Unlicensed Providers

Unlicensed MHACBO survey respondents are on average in their mid to late 40s, and a majority are female (67%). Racially and ethnically, unlicensed providers are the workforce that most closely resembles the general population when compared to licensed providers (72% versus 87% non-Hispanic white, respectively). This is particularly true for addiction peers among whom 10.1% are Black and 8.3% are Hispanic (Table 11).

The unlicensed segment of the BH workforce is an advancing workforce with attention to upward mobility in their field through continuing education. When looking at the combined BH workforce surveyed by MHACBO who are currently enrolled in a degree program, 38.4% responded that they are in a master's program, while 31.0% are actively enrolled in receiving an associate degree.

Table 11. Demographic Characteristics of Unlicensed Providers

	All Addiction Providers		Addiction Counselors		Addiction Peer		Addiction Supervisor	
Number of Providers	**739**		**445**		**175**		**108**	
Age, Mean (SD)	47.7	(11.7)	47.6	(11.9)	45.2	(10.9)	52.2	(11)
Gender, N %								
Female	435	61.4%	264	61.5%	109	64.1%	57	56.4%
Male	274	38.6%	165	38.5%	61	35.9%	44	43.6%
Race/Ethnicity, N %								
Asian	5	0.7%	2	0.5%	1	0.6%	2	2%
Black	38	5.5%	20	4.8%	17	10.1%	1	1%
Hispanic	47	6.8%	26	6.3%	14	8.3%	6	5.9%
Mixed	47	7%	31	7.7%	7	4.4%	7	7.2%
Native American	30	4.3%	20	4.8%	7	4.2%	3	3%
White	501	72.4%	304	73.4%	112	66.7%	78	77.2%
Other Race	2	0.3%	1	0.2%	1	0.6%	0	0%
Level of Schooling, N %								
High School/GED	123	17.1%	35	8%	75	44.4%	12	11.7%
Associates Degree/Some college	275	38.2%	177	40.3%	70	41.4%	27	26.2%
Bachelors Degree	215	29.9%	158	36%	17	10.1%	35	34%
Masters Degree	99	13.8%	65	14.8%	6	3.6%	26	25.2%
Doctoral Degree	8	1.1%	4	0.9%	1	0.6%	3	2.9%
	All Mental Health Providers		**MH Peer**		**QMHA**		**QMHP**	
Providers (N)	**286**		**52**		**85**		**97**	
Age, Mean (SD)	44.5	(13.2)	48	(14.4)	41.6	(12.4)	43.9	(13.3)
Gender, N %								
Female	193	71.7%	37	75.5%	56	70%	64	70.3%
Male	76	28.3%	12	24.5%	24	30%	27	29.7%
Race/Ethnicity, N %								
Asian	4	1.5%	0	0%	0	0%	2	2.2%
Black	7	2.7%	3	6.3%	1	1.4%	3	3.3%
Hispanic	12	4.6%	1	2.1%	4	5.5%	6	6.6%
Mixed	25	10.2%	4	10.3%	12	16%	6	6.9%
Native American	9	3.4%	2	4.2%	4	5.5%	1	1.1%
White	187	71.6%	28	58.3%	54	74%	68	74.7%
Other Race	2	0.7%	1	1.9%	0	0%	1	1%
Level of Schooling, N %								
High School/GED	24	8.6%	16	30.8%	3	3.6%	1	1.1%
Associates Degree/Some college	51	18.2%	21	40.4%	23	27.4%	1	1.1%
Bachelors Degree	77	27.5%	9	17.3%	48	57.1%	3	3.2%
Masters Degree	123	43.9%	4	7.7%	10	11.9%	88	93.6%
Doctoral Degree	5	1.8%	2	3.8%	0	0%	1	1.1%

Abbreviations: SD, Standard Deviation; GED, General Equivalency Diploma.

Note: Missing responses are excluded. Results for Certified Gambling Addiction Counselors and Certified Professional Counselors are not shown.

Source: FHPC analysis of 2018 MHACBO Survey

Current and Future Capacity of Unlicensed Providers

More than half of unlicensed providers indicate they either want to stay in their current position or seek advancement in their current agency. Despite these findings, unlicensed providers report the highest potential field turnover among the BH workforce with 20% of unlicensed addiction providers and 23 % of unlicensed MH providers indicating their intention to leave the field or retire.

This segment of the workforce is one of the most mobile, working in 2-4 clinical locations on average; an average of 10% work for multiple agencies. On average all unlicensed provider types indicate there should be a smaller caseload, which may contribute to the higher rate of turnover in this segment of the BH workforce.

About half (51%) of unlicensed addiction providers and 62% of unlicensed mental health providers indicate they work closely with primary care providers. Even higher percentages indicate that they develop patient care plans with primary care providers.

Table 12. Capacity and Future Plans of Unlicensed Providers

	All Addiction Providers		Addiction Counselors		Addiction Peer		Addiction Supervisor	
Number of Providers	**486**		**300**		**96**		**82**	
Actual Caseload, Mean (SD)	26.8	(19.4)	29.7	(20.5)	19.4	(14.4)	27.2	(19.5)
Expected Caseload, Mean (SD)	22.6	(15.5)	24.2	(15.7)	15.3	(9.5)	25.8	(19.1)
Work Locations, Mean (SD)	1.8	(2)	1.7	(2.1)	2	(1.6)	1.9	(2.1)
Multiple Agencies, N %	63	8.9%	29	6.8%	21	12.4%	10	9.8%
Relationship With PC Providers								
Work Closely	321	51.3%	208	55.5%	56	38.4%	52	54.2%
Develop Patient Care Plans Together	486	77.8%	300	80.2%	96	65.3%	82	86.3%
Future Plans, N %								
Stay with current position	232	33.1%	137	32.2%	52	31.5%	36	35.3%
Seek Advancement in current agency	242	34.5%	144	33.9%	64	38.8%	32	31.4%
Move to another agency	87	12.4%	59	13.9%	22	13.3%	6	5.9%
Stay in BH but different field	65	9.3%	43	10.1%	18	10.9%	4	3.9%
Leave BH work	29	4.1%	19	4.5%	4	2.4%	6	5.9%
Retire	46	6.6%	23	5.4%	5	3%	18	17.6%
	All Mental Health Providers		MH Peer		QMHA		QMHP	
Number of Providers	286		52		85		97	
Actual Caseload, Mean (SD)	30.7	(20.4)	24.7	(17.5)	23.8	(16.6)	38.8	(22.5)
Expected Caseload, Mean (SD)	25.3	(16.2)	18.9	(10.5)	21.1	(15.7)	31.9	(17)
Work Locations, Mean (SD)	2.4	(3.4)	3	(5.5)	2	(1.9)	2	(2.3)
Multiple Agencies, N (%)	28	10.1%	7	13.7%	8	9.5	7	7.4%
Relationship With PC Providers								
Work Closely	148	62.2%	24	54.5%	44	60.3%	61	70.9%
Develop Patient Care Plans Together	182	75.5%	31	70.5%	54	74%	74	85.1%
Future Plans								
Stay with current position	103	38.1%	17	34%	32	38.6%	35	39.3%
Seek Advancement in current agency	68	25.2%	15	30%	23	27.7%	18	20.2%
Move to another agency	35	13%	10	20%	8	9.6%	15	16.9%
Stay in BH but different field	33	12.2%	8	16%	8	9.6%	12	13.5%
Leave BH work	22	8.1%	0	0%	11	13.3%	5	5.6%
Retire	9	3.3%	0	0%	1	1.2%	4	4.5%

Abbreviations: MH, Mental Health; BH, Behavioral Health, QMHA, Qualified Mental Health Associate; QMHP, Qualified Mental Health Professional.

Notes: Results for Certified Peer Specialists and Mental Health Supervisors are not shown.

Source: FHPC analysis of 2018 MHACBO Survey

Unlicensed providers who participated in the MHACBO survey work in a wide range of settings from hospitals to residential programs, schools and faith-based settings (Table 13). Among all unlicensed addiction providers, outpatient addiction treatment programs were the most common setting (45.6%) followed by residential addiction treatment (17.9%). About 8% of addiction providers work in prisons, demonstrating the role of unlicensed provider in settings other than traditional health care. Among unlicensed mental health providers, about one-third (32.5%) work in outpatient mental health centers and 14% work in outpatient addiction treatment programs. A relatively small number work in primary care clinics (4.9%). Given the case study of school-based health centers, it is noteworthy that 5.9% of the mental health providers work in schools.

Table 13. Work Settings of Unlicensed Providers

	All Addiction Providers		All Mental Health Providers	
Number of Providers	739		286	
Detox Withdrawal Management Program	36	4.9%	5	1.7%
Freestanding Peer Program	60	8.1%	22	7.7%
Outpatient Addiction Treatment Program	337	45.6%	39	13.6%
Medication Assisted Treatment Outpatient	70	9.5%	7	2.4%
Residential Addiction Treatment	132	17.9%	14	4.9%
Sober Housing	47	6.4%	4	1.4%
Co-occurring Outpatient Program	47	6.4%	35	12.2%
Co-occurring Residential Program	26	3.5%	12	4.2%
Outpatient Mental Health Center	25	3.4%	93	32.5%
MH Group Home Residential Facility	8	1.1%	26	9.1%
Psychiatric Hospital	4	0.5%	9	3.1%
Hospital	10	1.4%	7	2.4%
Corrections Prison	62	8.4%	15	5.2%
Child Welfare	38	5.1%	7	2.4%
Individual or Group Private Practice	8	1.1%	7	2.4%
Other Social Service Agency	28	3.8%	23	8%
Schools K12	14	1.9%	17	5.9%
College University	3	0.4%	4	1.4%
Primary Care Clinic or Federally	14	1.9%	14	4.9%
Faith based setting	9	1.2%	4	1.4%

Note: Respondents who did not complete this section of the survey are not shown. Providers can work in more than one type of setting.

*Source: FHPC analysis of 2018 MHACBO Survey*

Case Evaluation: Behavioral Health Workforce Providing Medication Assisted Treatment (MAT)

The epidemic of opioid use disorder has defined a new urgency for treatment and management among BH conditions. Buprenorphine is one of three FDA approved MATs for opioid use disorder and is often preferred due to fewer clinical risks and higher compliance. Understanding the quantity and distribution and type of individuals certified to offer MAT provides another perspective into the BH licensed prescriber workforce active in Oregon.

The highest concentration of buprenorphine certified providers is in Multnomah county with an average of 2.5 providers per 10,000 population (Figure 11). The neighboring suburbs of Portland, however, host the lowest concentration of providers. The majority of buprenorphine certified prescribers in all regions of Oregon are MDs, followed by Nurse Practitioners.

Data reported here include primary care providers who are certified to prescribe buprenorphine, as well as psychiatrists.

Figure 6. Providers Certified to Provide Buprenorphine Treatment in Oregon, by Region
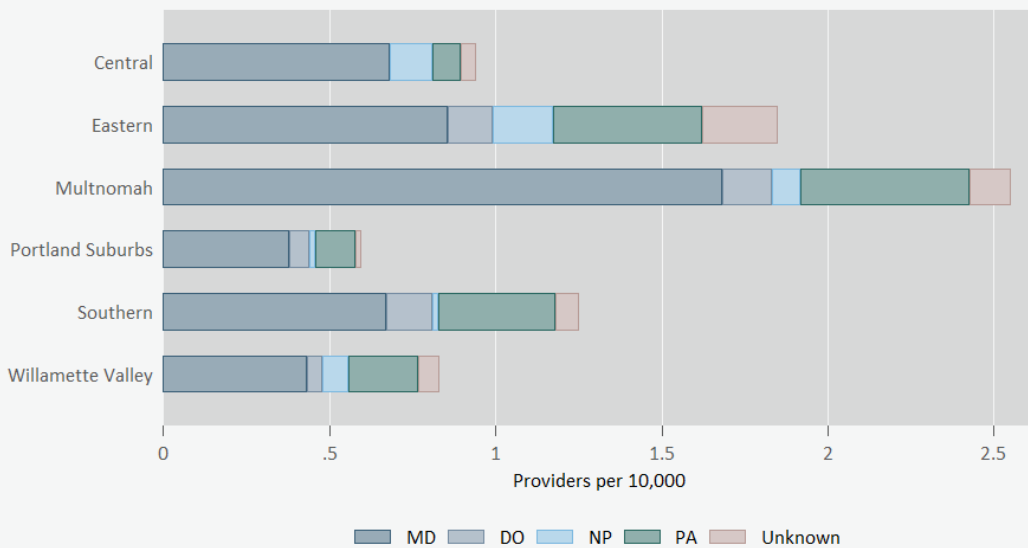
Note: Given that participation in SAMHSA's Buprenorphine Treatment Practitioner Locator is not mandatory, not all providers with a DEA waiver to prescribe Buprenorphine are included.
Source: FHPC analysis of Buprenorphine Treatment Practitioner Locator data, retrieved 1/4/2019, from https://www.samhsa.gov/medication-assisted-treatment/physician-program-data/treatment-physician-locator

Among those surveyed by MHACBO, all types of unlicensed and non-prescribing providers currently work with clients who are receiving medication-assisted treatment (Figure 7). Among these survey respondents, 50-72% of unlicensed providers and 55% of licensed providers report having clients that are on MAT therapy. This proximity of unlicensed providers to MAT clients demonstrates the reach of all unlicensed provider types, not limited to the expected addiction counselors, further strengthening the case for optimizing care coordination and team based-care among the licensed prescribing workforce (including primary care providers), non-prescribing and unlicensed providers. As more information is collected on MAT, a more complete and accurate understanding of the contribution that licensed and unlicensed providers have on MAT will be gained.

Figure 7. Behavioral Health Workforce Working with MAT Clients by Occupational Role
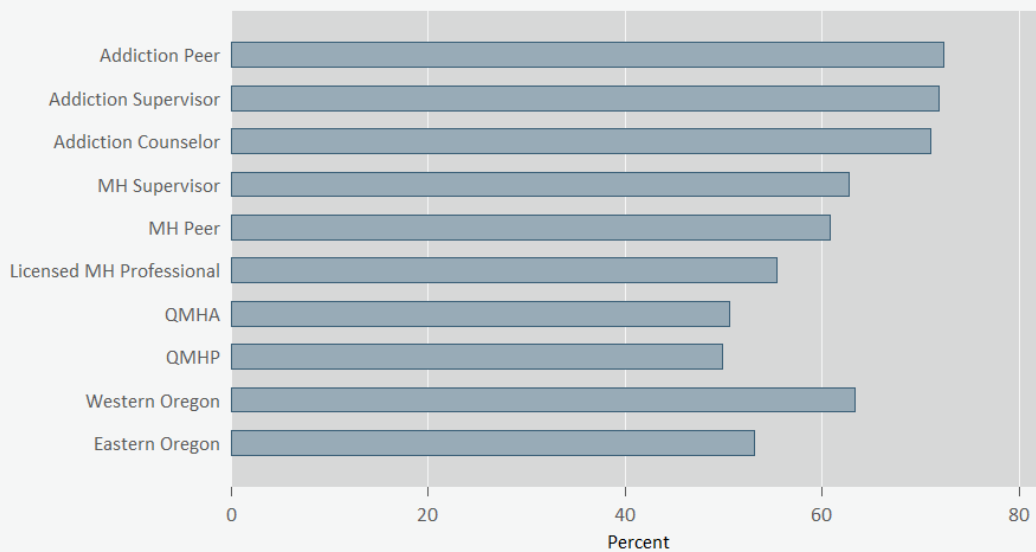
Abbreviations: MH, Mental Health; QMHA, Qualified Mental Health Associate; QMHP, Qualified Mental Health Professional.
Note: This data includes licensed providers.
Source: MHACBO Report on Medication Assisted Treatment (Section 1, summarized by Andrew Mendenhall)
https://mhacbo.org/media/filer_public/2d/21/2d212cf5-d7bb-455a-bdfb-13a684ec7c6a/survey2018section1mat.pdf

Case Evaluation: School Based Health Centers

Non-traditional sites of care are increasingly recognized for their potential to meet population needs with greater convenience and improved ability to delivery BH services where and when they are needed. School based health centers (SBHCs) provide a robust system with an integrated BH workforce comprised of both licensed and unlicensed providers. They exemplify the modification of traditional BH care in order to meet the needs of a unique population. For more information on Oregon SBHCs, please visit healthoregon.org/sbhc

During the 2017-18 school year (July 1 – June 30), there were 77 certified SBHCs in Oregon distributed across 25 counties and 49 school districts. SBHCs provide a range of physical, behavioral, and dental health care to patients, and all SBHCs are staffed by at least one BH provider, although not all are full-time. The data below reflects only their BH clients and visits between July 1, 2017 and June 30, 2018. The data obtained from OHA includes two centers, located in Madras High School and Powers High School that did not report any provider or mental health patient data. Therefore, these centers were dropped entirely from the main analysis.

The SBHC data were matched with two different databases: a) the Oregon Department of Education (ODE) roster of schools in 2017-2018 (n=1,459) and 2) NCES 2015-2016 data (n=1,249) (the publicly latest available). All of the schools in NCES data were found in the ODE data. After removing duplicates and atypical schools (e.g., those administered by the Youth Corrections Education Program, early learning centers, and virtual schools), there were a total of 1,262 schools (603 elementary schools, 312 middle schools or combined grades K-8, and 347 high schools or combined MS/HS or K-12).

This school profile data provides additional information about SBHC schools and allows for a comparison of schools with and without a center. The ODE data were used to classify schools as elementary, middle or high school as well as the number of students. The NCES data were used to determine the number of students eligible for free lunch.

In several school districts, the SBHC provided care to elementary, middle, and high school students. Information from these schools were combined to create total number of students as well as an average number of students eligible for free lunch.

As shown in Table 14, schools with a SBHC tended to be larger than those without one, especially across high schools. Elementary and middle schools with a SBHC had a substantially higher percent of students eligible for free lunches, but only a small difference in free lunch eligibility existed among high schools.

**Table 14. Characteristics of Schools With and Without SBHCs, by School Type**

	All Schools		Elementary School		Middle School		High School	
	SBHC	No SBHC	SBHC	No SBHC	SBHC	No SBHC	SBHC	No SBHC
Number of Schools	78 (6.2%)	1175 (93.8%)	12 (2.0%)	587 (98.0%)	11 (3.6%)	297 (96.4%)	55 (15.9%)	291 (84.1%)
Average number of students	781	432	460	392	468	460	913	486
Percent on Free Lunch	49%	47%	68%	49%	63%	44%	42%	44%

Note: The number of SBHCs (n=78) includes one center that has staffing information, but not information on mental health patients. After combining schools covered by SBHCs serving multiple schools, the total count of schools used in this analysis is 1,253.

Source: FHPC analysis of 2017-2018 School-Based Health Center Data.

Behavioral health providers from SBHCs were categorized as licensed provider, unlicensed provider, and unknown. For details on provider type categorizations, see Appendix A. There was regional variation in the extent to which schools have SBHCs (Figure 8). Most SBHCs are located in high schools; however, most regions (5 of 6) have at least one middle school SBHC and 4 of 6 regions have an elementary school SBHC. In the Central and Multnomah regions, about one-fourth of all high schools have SBHCs; in the Willamette Valley and Eastern regions, 11% and 13% respectively have SBHCs.

Figure 8. Percent of Oregon Schools with a School-Based Health Center, by Region and School Type
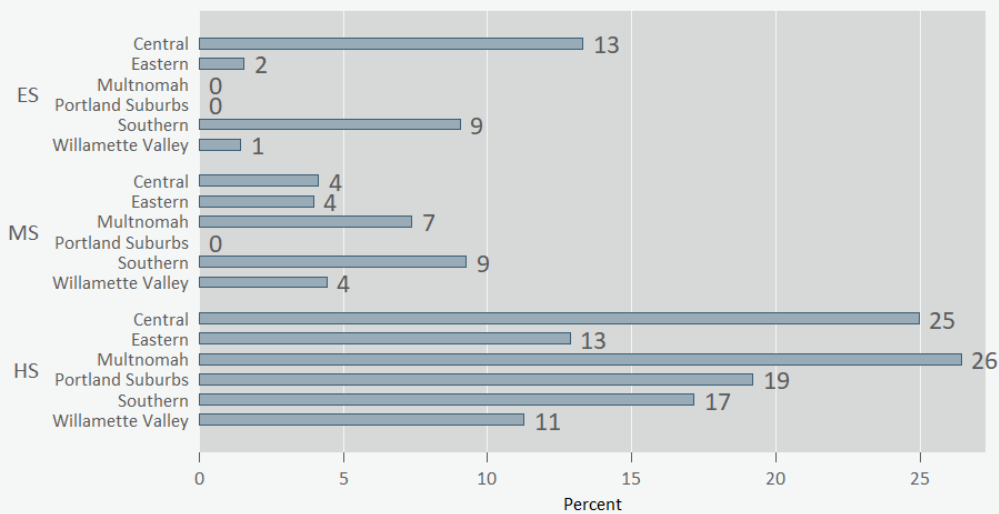
ES: Elementary School, MS: Middle School or combination of ES and MD; HS: High School or combination of MS/HS or all grades.
Note: Information about all Oregon schools in 2017-2018 was obtained from the Oregon Department of Education. There are six SBHCs that cover more than one school; each of these schools are included in the calculation of the reported percentages.

Source: FHPC analysis of 2017-2018 School-Based Health Center Data

A total of 119 behavioral health providers worked in the SBHCs in the 2017-2018 academic year: 48 centers had just one provider, 21 had two providers, 6 had three providers and 3 had four providers (Table 15). Many of these providers, however, worked less than full time; across all SBHCs the total FTEs was 67.8. An average of 1.5 providers spent time at each SBHC, the average actual FTE was 0.9 and varied from 0.7 in Willamette Valley to 1.1 in the Portland suburbs. Across all SBHCs, there were 36 licensed providers and 23 unlicensed providers; licensure status was unknown for 59 providers. Licensure varies considerably across region, with no licensed providers and 6 unlicensed providers in the Central region SBHCs to 11 licensed providers and 2 unlicensed providers in the Willamette region. Due to the nature of current reporting for provider types among SBHCs there is a large proportion of providers whose licensure status is unknown. The Oregon SBHC State Program Office is changing how SBHCs will self-report provider licensure status, which will lead to more complete information in the future.

Table 15. Characteristics of Providers in School-Based Health Center, by Region

	SBHCs (N)	Providers (N)	FTE	FTE per SBHC	Licensure Status		
					Licensed	Unlicensed	Unknown
All Regions	77	119	67.8	0.9	36	23	59
Central	7	9	6.4	0.9	0	6	3
Eastern	9	15	8.1	0.9	3	4	8
Multnomah	13	21	11.1	0.9	8	11	2
Portland Suburbs	10	17	10.8	1.1	4	0	13
Southern	21	29	18.9	0.9	10	0	18
Willamette Valley	17	28	12.4	0.7	11	2	15

Abbreviations: FTE, Full Time Equivalent

Note: See Appendix B for classification of provider licensure status.

Source: FHPC analysis of 2017-2018 School-Based Health Center Data.

Across Oregon, SBHCs had a total of 67.8 FTEs, and 36,199 mental health visits were utilized by 5,271 students between the ages of 5 and 21 in the 2017-18 academic year (Table 16). The total enrollment in schools with SBHC was 61,556 students. Each patient had an average of 6.9 mental health visits. Within SBHCs as a whole, an FTE provider has an average of 534 visits. There were approximately 908 enrolled students (regardless if they had an MH visit) per FTE indicating a capacity for larger "panel sizes" among BH providers at SBHCs.

There are substantial differences in these rates across regions. Compared with SBHCs in other regions, those in Multnomah have fewer MH visits per patient and MH visits per FTE. SBHCs in the Portland Suburbs region, by contrast, have the highest average number of MH visits (615.7), and those in the Southern region have the most visits per FTE (757.0/FTE). Statewide, about 8.6% of enrolled students had a MH visits in schools with an SBHC, ranging from a low of 5.8% in Multnomah to 10.5% in the Eastern and Willamette regions.

Table 16. Mental Health Utilization of School-Based Health Centers, by Region

	FTE	MH Visits (Age 5-21)	MH Patients (Age 5-21)	Student Enrollment
All Regions	67.8	36,199	5,271	61,556
Central	6.4	3,750	568	5,472
Eastern	8.1	3,435	526	5,007
Multnomah	11.1	4,528	858	14,747
Portland Suburbs	10.8	6,626	1,068	14,436
Southern	18.9	10,778	1,196	11,868
Willamette Valley	12.4	7,082	1,055	10,026

	Rate of visits per patient (Ages 5-21)	Visits per FTE (Ages 5-21)	Enrolled Students per FTE	Percent of Enrolled Students who are MH Patients
All Regions	6.9	534.1	908.2	8.6%
Central	6.6	583.7	851.7	10.4%
Eastern	6.5	423.1	616.7	10.5%
Multnomah	5.3	407.0	1325.6	5.8%
Portland Suburbs	6.2	615.7	1341.3	7.4%
Southern	9.0	569.1	626.7	10.1%
Willamette Valley	6.7	570.6	807.7	10.5%

Abbreviations: MH, Mental Health; FTE, Full-Time Equivalent.

Note: This analysis is restricted to MH patients between the ages of 5 and 21 years. Student enrollment data is from the Oregon Department of Education.

Source: FHPC analysis of 2017-2018 School-Based Health Center Data.

Oregon's Need: Distribution of BH Conditions

Behavioral Health Needs Key Findings

ADULTS

- There is a higher percentage of adults with MH conditions in Oregon's population when compared to the nation and compared to its neighboring western states, with very little variation among sub-state regions of Oregon.

- Oregon has a higher rate of the population that receives BH services when compared to the nation and neighboring states, and similarly very little variation across sub-state regions with regards to mental health service utilization.

- Oregonians report has higher rates of alcohol abuse when compared to the nation and neighboring western states.

- The highest marijuana and cocaine use is in Multnomah region, possibly due to access and higher socioeconomic stability.

YOUTH

- The prevalence of MH conditions increase as children age.

- Oregon youth report double and triple the rate of "serious thoughts of suicide" when compared with the rates of Oregon adults.

- 30% of 11th grade students report feeling sad or hopeless.

- Students in the Southern region have the highest rates of reported psychological distress, highest rates among all grades for feelings of sadness or hopelessness as well as suicidal ideation and attempts.

- There is more variation in regional and grade level trends with relation to SUD when compared to MH conditions.

- Binge drinking is most commonly reported in 8th and 11th grade students from Central and Southern regions while marijuana use is most common in Multnomah and Portland Suburbs.

Estimating the Demand

When conducting workforce gap analyses, a general approach is to estimate the workforce's capacity against the population demand or need for services. This "demand" may be estimated by proxy through service utilization data, billing diagnosis codes, disease prevalence estimates or some combination of these. Utilization data are not considered ideal due to the selection bias for individuals who obtained care. This bias implies that individuals who did not seek treatment, either voluntarily, or due to perceptual or logistical barriers, or have yet undiagnosed conditions are not included.

This analysis estimates the population "demand" through self-report to the National Survey for Drugs Use and Health (NSDUH). (For regional definitions by county, see Appendix A; For NSDUH survey methods, see Appendix B.)

Figure 9. Regional Definitions of Oregon
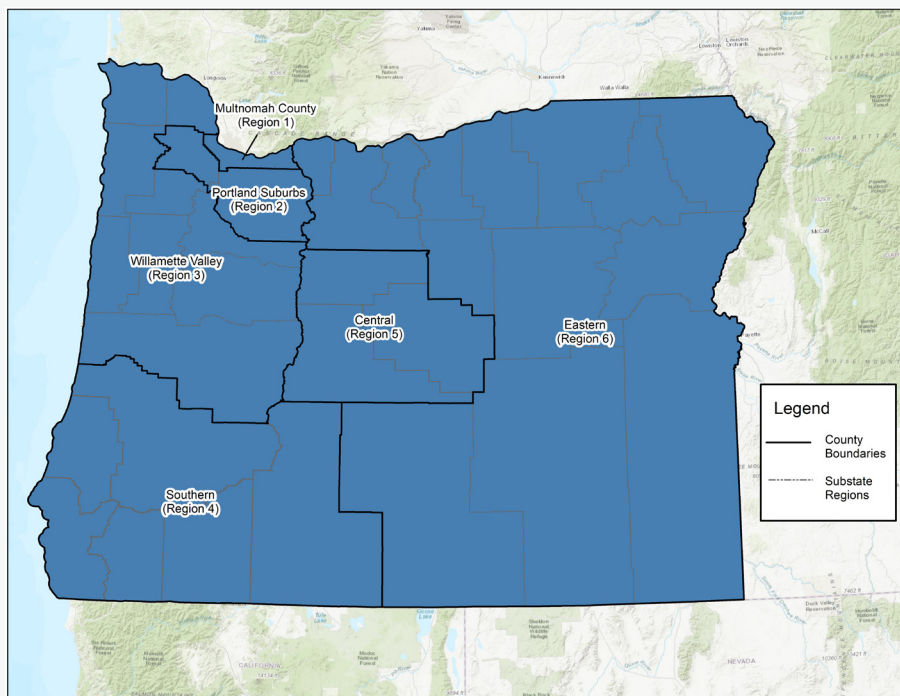
Source: National Survey of Drug Use and Health, Sub-state definitions; for county definitions by region see Appendix A

Adult Mental Health Conditions

Oregon's population has a higher rate of any mental illness when compared to the nation or to its neighboring western states (23% compared to 18% nationally). In kind, Oregon's population also reports a higher rate of individuals receiving mental health services (18% compared to 14.5% nationally). When assessing rates of serious mental illness and serious thought of suicide, Oregon also reports higher rates than the nation and its neighboring states. Prevalence of mental illnesses and obtaining mental health services are relatively similar across regions in Oregon with Multnomah and Willamette Valley having the highest rates across all categories (any mental illness, serious mental illness, serious thought of suicide, and mental health service).

It should also be noted that Oregon's higher rates of MH condition prevalence as compared to the U.S. average may actually reflect the service delivery system's capacity to remove barriers, offer appropriate assessments, and therefore more accurately identify true need, as compared to other BH systems across the U.S. Higher rates may also be attributed to the relatively high insurance coverage across the state with 7% uninsured.

Table 17. Average Percentages of Select Mental Health Indicators in the Past Year among US Adults, by State and Region

	Any Mental Illness	Serious Mental Illness	Serious Thought of Suicide	Received Mental health Services in the Past Year
	N % (SD)	N % (SD)	N % (SD)	N % (SD)
Nation-wide	18.1% (17.8 - 18.4)	4.1% (4.0 - 4.3)	4.0% (3.9 - 4.1)	14.5% (14.2 - 14.7)
Western US	18.6% (18.1 - 19.2)	4.1% (3.8 - 4.4)	4.3% (4.0 - 4.6)	13.3% (12.8 - 13.8)
Oregon	23.1% (21.3 - 25.1)	5.1% (4.3 - 6.0)	4.7% (3.9 - 5.5)	18.1% (16.4 - 19.9)
Region Name				
Multnomah County	25.5% (22.2 - 29.2)	5.6% (5.3 - 7.2)	5.0% (3.9 - 6.4)	19.7% (16.9 - 22.8)
Portland Suburbs	20.4% (17.8 - 23.4)	4.5% (3.4 - 5.8)	4.1% (3.2 - 5.3)	17.9% (15.4 - 20.8)
Willamette Valley	24.6% (21.6 - 27.9)	5.6% (4.4 - 7.1)	5.1% (4.0 - 6.4)	18.2% (15.7 - 21.0)
Southern	22.7% (19.4 - 26.3)	4.7% (3.5 - 6.2)	4.5% (3.4 - 5.9)	16.6% (14.0 - 19.6)
Central	21.0% (17.3 - 25.3)	4.7% (3.5 - 6.4)	4.5% (3.3 - 5.9)	17.7% (14.5 - 21.3)
Eastern	20.9% (17.3 - 25.0)	4.7% (3.4 - 6.3)	4.2% (3.2 - 5.6)	16.4% (13.5 - 19.8)

Note: Mental Health Categories were defined by DSM IV definitions, See Appendix A.

Source: FHPC Analysis of National Survey on Drug Use and Health data, 2017

Adult Substance Use and Substance Use Disorder

In the last 10 years, Oregon has ranked among the top 10 states with the highest rates of illicit and prescription drug use among adolescents, young adults, and adults across a multitude of substances. Most recent data show significantly higher rates of alcohol use disorder across the state's population when compared to the US as a whole and when compared to other western states. Marijuana use is reported to be highest in Multnomah county likely reflecting higher availability through recreational and medical retail. Similarly, cocaine is reported to have highest use in Multnomah county, potentially reflecting higher socioeconomic status of the population and availability. Heroin use is reported with very little variability and is likely highly under reported.

Table 18. Percent Substance Use and Use Disorder in the Past Year Among Individuals Aged 12 or Older, by US Region, State, and Sub-State Regions

	Marijuana Use in the Past Year	Alcohol Use Disorder in the Past Year	Cocaine Use in the Past Year	Heroin Use in the Past Year
	N % (SD)	N % (SD)	N % (SD)	N % (SD)
Nation	13.6% (13.3 - 13.8)	6.0% (5.8 - 6.1)	1.8% (0.7 - 1.9)	0.3% (0.3 - 0.4)
Western US	16.2% (15.6 - 16.8)	6.3% (6.0 - 6.6)	2.2% (2.1 - 2.4)	0.3% (0.2 - 0.4)
Oregon	21.4% (19.7 - 23.2)	7.1% (6.1 - 8.2)	2.5% (2.0 - 3.1)	0.4% (0.3 - 0.7)
Region				
Multnomah County	28.6% (25.1 - 32.4)	7.6% (5.9 - 9.7)	4.3% (3.1 - 5.9)	0.5% (0.2 - 0.9)
Portland Suburbs	18.7% (16.1 - 21.6)	6.6% (5.3 - 8.3)	2.0% (1.4 - 2.9)	0.4% (0.2 - 0.7)
Willamette Valley	20.9% (18.3 - 23.7)	7.3% (5.9 - 9.1)	2.2% (1.6 - 3.2)	0.5% (0.3 - 0.9)
Southern	19.2% (16.1 - 22.7)	7.1% (5.3 - 9.3)	1.9% (1.2 - 3.0)	0.4% (0.2 - 0.8)
Central	18.8% (14.5 - 24.0)	7.0% (5.0 - 9.7)	2.0% (1.2 - 3.5)	0.4% (0.2 - 0.7)
Eastern	19.0% (15.2 - 23.4)	6.5% (4.8 - 8.7)	2.3% (1.3 - 3.8)	0.5% (0.3 - 1.0)

Note: Mental Health Categories were defined by DSM IV definitions, see Appendix A. Heroin use includes all forms of intake and does not include rates of use for other opioids or narcotic prescriptions.

Source: FHPC Analysis of National Survey on Drug Use and Health data, 2017

Youth Mental Health Conditions

The Student Wellness Survey includes a five item Mental Health Inventory (MHI-5) to measure psychological distress.[1] For each of the MHI-5 items, non-response rates were about 4-6%, with slightly higher rates for 6th graders. About 9% did not complete all 5 items necessary to calculate the composite MHI-5 score (and the psychological distress indicator). State-level scores show that MHI-5 scores increase with grade level, from 12% in 6th graders to 14% in 11th graders (Table 19). This increase holds across all MH questions. About 6% of 6th grader students experienced psychological distress in the past 30 days (with scores 21 or higher out of a possible 30) compared to 14% of 11th grade students.

Nineteen percent of Oregon's 6th grade students report feeling sad and hopeless for two weeks or more, rising to 31% in the 11th grade. When evaluating rates of serious suicidal ideation, worrisome results demonstrate almost double and triple the rates reported from Oregon adults. A total of 10% of 6th grade students, and 18% of 11th grade students have seriously considered suicide versus 5% of Oregonian adults. In 2015, approximately 1,400 children in 6th grade actually attempted suicide, and collectively 5,018 children reported an attempted suicide between 6th and 11th grade, the most accurate predictor of suicide completion.

There is some degree of variation among MH measures across sub-state regions (Table 20). The Southern region has the highest percentages of students in 8th and 11th grades with feelings of sadness and hopelessness as well as suicide ideation and attempted suicides.

Table 19. Youth Mental Health Indicators

	Range	6th Grade Percent (95% CI)	8th Grade Percent (95% CI)	11th Grade Percent (95% CI)
Mental Health Inventory Scale (MHI-5)				
During the past 30 days, how much of the time have you …				
been a happy person?	1-6	2.4	2.7	2.9
been a very nervous person?	1-6	2.8	3.0	3.2
felt calm and peaceful?	1-6	2.9	3.2	3.4
felt downhearted and blue?	1-6	2.2	2.5	2.7
you felt so down in the dumps that nothing could cheer you up?	1-6	1.8	2.1	2.2
MHI-5 score (Sum of 5 item scores)	**5-30**	**12.0**	**13.5**	**14.4**
Psychological Distress (MHI-5 >= 21)	0-1	5.9%	11.4%	13.9%

Note: For each question, respondents had six possible choices: None of the time, A little of the time, Some of them time, A good bit of the time, Most of the time, All of the time. Each answer was scored from 1 to 6 such that higher scores indicated poorer mental health. Adding together the five scores, mental health scores range from 6 to 30. Student with overall scores of 21 or higher were classified as having psychological distress.

Source: Oregon Student Wellness Survey, 2016

	Range	6th Grade Percent (95% CI)	8th Grade Percent (95% CI)	11th Grade Percent (95% CI)
Depression and Suicide Ideation				
During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped some of your usual activities?	0-1	18.6%	25.6%	31.2%
During the past 12 months, did you ever seriously consider attempting suicide?	0-1	10.3%	17.5%	18.0%
During the past 12 months, how many times did you actually attempt suicide?	0-1	6.7%	10.1%	8.4%
Total Students		**20,435**	**22,364**	**16,566**

Note: Answers to the last question were recoded from a count of attempts to whether or not they had any attempts in the past 12 months

Table 20. Prevalence of Mental Health Problems, by Grade and Region

	6th Grade Percent (95% CI)		8th Grade Percent (95% CI)		11th Grade Percent (95% CI)	
Percent Psychological Distress in Past 30 Days						
Multnomah	5.30%	(4.5 - 6.1)	10.30%	(9.3 - 11.3)	12.60%	(11.4 - 13.9)
Portland Suburbs	5.90%	(5.3 - 6.5)	10.10%	(9.4 - 10.9)	14.90%	(13.9 - 15.9)
Willamette Valley	6.40%	(5.8 - 6.9)	12.00%	(11.2 - 12.7)	13.70%	(12.8 - 14.6)
Southern	6.10%	(5.0 - 7.1)	12.60%	(11.3 - 13.9)	15.40%	(13.8 - 16.9)
Central	5.00%	(3.6 - 6.5)	12.00%	(10.1 - 13.9)	11.90%	(7.9 - 15.8)
Eastern	5.80%	(4.5 - 7.0)	13.30%	(11.6 - 15.0)	12.10%	(10.3 - 13.9)
Percent Sad or Hopeless in Past 12 Months						
Multnomah	18.50%	(17.0 - 19.9)	24.70%	(23.2 - 26.1)	28.80%	(27.1 - 30.5)
Portland Suburbs	16.40%	(15.5 - 17.4)	22.10%	(21.1 - 23.1)	30.60%	(29.4 - 31.9)
Willamette Valley	20.20%	(19.3 - 21.1)	26.70%	(25.7 - 27.7)	32.50%	(31.2 - 33.8)
Southern	20.10%	(18.3 - 21.8)	29.90%	(28.1 - 31.7)	35.20%	(33.2 - 37.3)
Central	14.20%	(11.9 - 16.5)	24.50%	(21.9 - 27.0)	27.30%	(21.8 - 32.8)
Eastern	19.40%	(17.3 - 21.5)	28.50%	(26.2 - 30.7)	27.60%	(25.2 - 30.0)
Percent Seriously Considered Attempting Suicide in Past 12 Months						
Multnomah	10.20%	(9.1 - 11.3)	15.80%	(14.6 - 17.1)	16.10%	(14.7 - 17.5)
Portland Suburbs	9.20%	(8.5 - 10.0)	15.00%	(14.1 - 15.9)	17.00%	(15.9 - 18.0)
Willamette Valley	11.30%	(10.6 - 12.1)	18.60%	(17.7 - 19.5)	19.10%	(18.0 - 20.2)
Southern	10.50%	(9.2 - 11.9)	20.30%	(18.7 - 21.9)	20.40%	(18.6 - 22.1)
Central	8.50%	(6.7 - 10.3)	17.50%	(15.2 - 19.7)	16.60%	(12.0 - 21.2)
Eastern	11.30%	(9.6 - 13.0)	19.70%	(17.7 - 21.7)	16.50%	(14.5 - 18.5)
Percent Attempted Suicide in Past 12 Months						
Multnomah	6.90%	(5.9 - 7.8)	9.10%	(8.1 - 10.1)	6.90%	(5.9 - 7.8)
Portland Suburbs	6.00%	(5.4 - 6.7)	8.10%	(7.4 - 8.7)	7.40%	(6.6 - 8.1)
Willamette Valley	7.20%	(6.6 - 7.8)	10.80%	(10.1 - 11.6)	9.50%	(8.7 - 10.4)
Southern	6.20%	(5.1 - 7.3)	13.00%	(11.7 - 14.4)	10.00%	(8.7 - 11.3)
Central	4.70%	(3.3 - 6.1)	8.70%	(7.0 - 10.4)	7.40%	(4.1 - 10.7)
Eastern	8.70%	(7.1 - 10.2)	11.90%	(10.2 - 13.5)	7.80%	(6.3 - 9.3)

Source: Oregon Student Wellness Survey, 2016

Youth Substance Use and Substance Use Disorder

Use of different substances—alcohol, marijuana and illicit drugs—vary across grade and region (Table 21). Very low usage rates among 6th graders make some estimates unreliable. For 8th and 11th graders, binge drinking is reported in highest prevalence in the Central and Southern regions, while marijuana is reported at higher rates in the Multnomah and Portland suburbs among 11th graders. Marijuana regional-use patterns follow adult patterns likely due to the higher concentration of available marijuana products in urban areas where dispensaries are more likely to be located. Thirty-day illicit drug use is below 5% among 11th graders across all regions with reported rates from Eastern region significantly lower than Portland suburbs, Southern & Willamette Valley regions. Similar to adult SUD, given the associated stigma with substance abuse, especially among preadolescents and young adults where legal implication may be considered by the survey respondent, it is highly likely that all patterns of use are under reported.

Table 21. Prevalence of Substance Use, by Grade and Region

	6th Grade Percent (95% CI)		8th Grade Percent (95% CI)		11th Grade Percent (95% CI)	
Any Binge Drinking in Past 30 Days						
Multnomah	1.4	(0.9-1.9)	5.8	(5.0-6.6)	15.1	(13.7-16.5)
Portland Suburbs	0.9	(0.7-1.2)	4.3	(3.8-4.8)	15.7	(14.7-16.8)
Willamette Valley	1.3	(1.0-1.6)	7.2	(6.6-7.8)	16.0	(15.0-17.1)
Southern	1.1	(0.6-1.5)	7.8	(6.7-8.9)	18.8	(17.1-20.5)
Central	1.5	(0.7-2.4)	8.6	(6.9-10.3)	24.0	(18.6-29.4)
Eastern	2.6	(1.7-3.5)	7.2	(5.9-8.6)	16.0	(13.9-18.0)
Any Marijuana Use in Past 30 Days						
Multnomah	2.8	(2.2-3.4)	11.2	(10.1-12.3)	25.7	(24.0-27.4)
Portland Suburbs	1.4	(1.1-1.7)	6.9	(6.2-7.5)	24.1	(22.9-25.4)
Willamette Valley	2.8	(2.4-3.2)	10.9	(10.2-11.6)	22.2	(21.0-23.3)
Southern	1.8	(1.1-2.4)	11.7	(10.3-13.0)	23.7	(21.9-25.6)
Central	1.7	(0.8-2.5)	10.3	(8.4-12.1)	18.3	(13.4-23.2)
Eastern	2.7	(1.8-3.6)	9.9	(8.4-11.4)	16.8	(14.8-18.9)
Any Use of Illicit Drugs (excluding Marijuana) in Past 30 Days						
Multnomah	1.3	(0.9-1.8)	1.9	(1.4-2.3)	3.5	(2.8-4.1)
Portland Suburbs	0.7	(0.5-0.9)	1.8	(1.5-2.2)	3.7	(3.2-4.2)
Willamette Valley	1.3	(1.0-1.5)	3.1	(2.7-3.5)	4.2	(3.6-4.7)
Southern	0.8	(0.4-1.1)	2.3	(1.7-2.9)	4.0	(3.2-4.9)
Central	1.0	(0.4-1.7)	3.6	(2.5-4.7)	3.6	(1.3-5.8)
Eastern	1.3	(0.7-1.8)	2.9	(2.1-3.8)	2.2	(1.4-3.0)

Source: Oregon Student Wellness Survey, 2016

Relationship of Workforce Capacity to Need: Provider to Need Ratio

PNR KEY FINDINGS

- PNRs provides a more specific estimate of supply against demand to indicate regional maldistribution with more accuracy.

- An estimated 886 licensed prescriber FTEs and 4,837 licensed providers FTE are potentially available in Oregon to provide care to more than 861,000 adults with any mental illness.

- Just 91 licensed addiction prescribers and 422 licensed addiction providers are available to care for a quarter-million Oregonians over the age of 12 with an alcohol use disorder.

- Multnomah experiences significant concentration of providers of all types, with almost twice as many provider FTEs to the population need as every other region across all conditions.

- Licensed prescribers are more evenly distributed to regional needs across the state than licensed providers.

When evaluating workforce capacity, it is essential to account for the realities of provider accessibility as it relates to specific populations of need. This relationship can be measured through the use of provider-to-need ratios (PNR), which is based on direct patient care FTE. This analysis includes PNR results for BH conditions with broad application to the general population as reported by the NSDUH: any mental illness in past year among persons 18 years or older and alcohol use disorder in the past year.

The 'any mental illness' measure was used because it best represents the total need for mental health treatment. Narrower measures, such as serious mental illness, are a subset of any mental illness and many mental health providers do not work directly with patients with SMI. Other reported substance use, including marijuana and cocaine, do not necessarily imply that that the users need specific BH treatment due to their recreational use. By contrast, reported rates of heroin use could serve as a proxy for those needing treatment, however, the prevalence rate is low and treatment needs are highly specific, differing from those with more general SUD disorders. Recent regional estimates of 'any substance use disorder' are not available from the NSDUH and would have provided a more complete picture of the need for addiction treatment (see Appendix C for details on PNR calculations). At a state-level, an estimated 9.4% of Oregonians 12 years or older had any type of SUD disorder, which includes 7.5% with an alcohol disorder, 3.3% with an illicit drug disorder, and 0.7% with opioid use disorder.[18]

The available data does not permit a full assessment of the true addiction-specific workforce. A substantial number of persons with any mental illness or alcohol use disorder obtain treatment solely from primary care providers. Moreover, many mental health providers who are not addiction specialists provide care to persons with addiction treatment needs. In current practice, Oregon's licensing boards do not consistently collect data on specialization in addiction treatment or working in an addiction setting. Among providers licensed by the Oregon Board of Medicine, addiction specialists include those indicating a primary or secondary specialty in addiction medicine or addiction psychiatry. For social workers, addiction specialists include those with a primary or secondary specialty in "alcohol, tobacco, and other drugs." Finally, counselors and psychologists with specialization in "addiction and recovery" or "addiction and dependency" are included in the analysis. Social workers, counselors and psychologists working in an "inpatient rehab facility" are also included among addiction specialists.

PNRs below reflect licensed prescribers and providers. As the state unlicensed registry grows, PNRs for unlicensed BH providers can be calculated and are likely to provide more insight about their contribution to the state's BH service delivery system.

Table 22. Provider to Need Ratio, by Provider Type and Region

Any Mental Illness (Age 18+ Years)						
	Estimate of Population in Need			Licensed Mental Health Prescribers		Licensed Mental Health Providers	
	Population Age 18+	Estimated Prevalence	Population in Need	Direct Patient Care FTE	Rate per 10,000 in Need	Direct Patient Care FTE	Rate per 10,000 in Need
Oregon	3,145,775	23.1%	861,428	886	10.3	4,837	56.2
Multnomah	624,897	25.5%	185,583	334	18.0	1,793	96.6
Portland Suburbs	740,418	20.4%	182,201	158	8.7	962	52.8
Willamette Valley	975,494	24.6%	284,419	230	8.1	1,236	43.5
Southern	446,386	22.7%	117,920	94	7.9	446	37.8
Central	166,669	21.0%	41,694	34	8.2	258	61.8
Eastern	191,911	20.9%	48,426	36	7.4	143	29.5
Alcohol Use Disorder in the Past Year (Age 12+)						
	Estimate of Population in Need			Licensed Addiction Prescribers		Licensed Addiction Providers	
	Population Age 12+	Estimated Prevalence	Population in Need	Direct Patient Care FTE	Rate per 10,000 in Need	Direct Patient Care FTE	Rate per 10,000 in Need
Oregon	3,724,488	7.1%	264,925	91	3.4	422	15.9
Multnomah	726,626	7.6%	55,275	34	6.1	143	25.9
Portland Suburbs	892,069	6.6%	59,128	19	3.1	88	14.8
Willamette Valley	1,155,858	7.3%	84,892	23	2.7	99	11.6
Southern	520,245	7.1%	36,735	10	2.7	44	11.9
Central	198,403	7.0%	13,862	3	1.9	33	24.0
Eastern	231,287	6.4%	14,917	4	2.6	15	10.1

Abbreviations: FTE, Full Time Equivalent

Note: Population figures, by age, are from Portland State University Population Research Center (population under 12 were inferred from estimates of the population under 18). See Appendix C for estimates of the number of addiction specialists.

Source: FHPC analysis of National Survey on Drug Use and Health data, 2014-2016, and Oregon Healthcare Workforce Reporting Program Data.

Figure 10. Provider to Need Ratio by Provider and Region

Any Mental Illness in the Past Year

Licensed Prescribers

Region	Prescribers per 10,000
Oregon	10
Multnomah	18
Portland Suburbs	9
Willamette Valley	8
Southern	8
Central	8
Eastern	7

Licensed Providers

Region	Providers per 10,000
Oregon	56
Multnomah	97
Portland Suburbs	53
Willamette Valley	43
Southern	38
Central	62
Eastern	29

Alcohol Use Disorder in the Past Year

Licensed Prescribers

Region	Prescribers per 10,000
Oregon	3
Multnomah	6
Portland Suburbs	3
Willamette Valley	3
Southern	3
Central	2
Eastern	3

Licensed Providers

Region	Providers per 10,000
Oregon	16
Multnomah	26
Portland Suburbs	15
Willamette Valley	12
Southern	12
Central	24
Eastern	10

Note: This analysis combines regional information about the incidence of mental health conditions from the NSDUH, with the supply of licensed prescribers and providers.
Source: FHPC analysis of 2014-2016 NSDUH and Oregon Licensure Data.

The NSDUH prevalence rates can be expressed in terms of the number of Oregonians who may need care. For instance, the prevalence of 'any mental illness' for adults 18 or older is 23.1%. There were about 3.1 million adults, so the estimated number with any mental illness is approximately 861,000 (see Table 22). For those in need of mental health treatment, there were an estimated 886 licensed mental health prescriber FTEs (10.3 FTEs per 10,000) and 4,837 licensed mental health provider FTEs (56.2 FTEs per 10,000).

While the prevalence of 'any mental illness' is highest in Multnomah region, Multnomah also has more licensed prescribers and providers, so its 'any mental illness' PNRs are almost double the state average. Outside of Multnomah, there is little variation in 'any mental illness' PNRs for licensed prescribers, ranging from 7.4 FTE per 10,000 in the Eastern region to 8.7 FTE per 10,000 in the Portland Suburbs region. There is more variability in the licensed provider PNRs across regions other than Multnomah, ranging from 61.8 per 10,000 in the Central region to 29.5 per 10,000 in the Eastern region.

The statewide prevalence of alcohol use disorder is substantially lower than that of 'any mental illness' (23.1% vs. 7.1%). However, the supply of addiction specialists is also low--an estimated 91 addiction prescriber FTEs and 422 addiction provider FTEs who could potentially provide care to about 265,000 Oregonians over the age of 12 with an alcohol use disorder. Put differently, for every 10,000 persons needing alcohol use disorder treatment there are just 19.3 FTEs for addiction specialty care (3.4 licensed prescribers and 15.9 licensed providers). PNRs are again highest in Multnomah but with considerable regional variation in licensed addiction providers rates, from 10.1 FTEs per 10,000 in the Eastern region to 24.0 FTEs per 10,000 in the Central region.

Discussion

OHA has made thoughtful steps to adjust and implement programs to address BH workforce needs. It should not be overlooked that without the advanced data collection system already in place this evaluation would not have been possible. This evaluation of Oregon's BH workforce was intended to more accurately describe and detail the current workforce to ultimately inform focused policies to build a more accessible BH system.

In consideration of next steps to be taken by state leaders to deliver a more equitable and effective BH care system, reflections can be organized into 4 domains: *geographic distribution, practice setting, provider types,* and *patient characteristics*.

Geographic Distribution: shortages and maldistributions

Oregon is reflective of the nation as a whole, in that the BH workforce insufficiencies result from both provider shortages and their maldistribution. This report illuminates the significant difference between provider counts and direct patient care FTEs indicating potentially greater functional shortages of BH providers than previously thought. These shortages are most notable with respect to licensed prescribers and especially among licensed providers who are delivering only half of their potential work hours in direct patient care.

When these FTEs are distributed across counties and population density is controlled for, specific maldistributions are evident. Licensed prescribers and licensed providers demonstrate a significant maldistribution to Multnomah county, the state's most densely populated county and the center of the Portland-metro area, ranked within the top ten most desirable cities to live. This maldistribution is even more evident when controlling for the population's BH need through the PNR. There are approximately twice as many licensed prescribers in Multnomah as compared to any other region of the state for all measures of MH conditions according to their PNR. Similar markers of maldistribution can be seen among licensed providers; however, in northeastern counties where there are the fewest licensed providers, unlicensed providers appear to have their largest presence per population. These findings are preliminary, and in order to have a more accurate understanding of the geographic relationship of licensed providers to unlicensed providers, completion of the state's unlicensed BH provider registry must take place. State leaders and stakeholders may consider mandatory registration of unlicensed providers and its appropriateness for this segment of the workforce.

Over-concentration of BH providers in urban areas leads to unintended inefficiencies and obstructs the optimization of valuable and limited provider resources.[11] Federal efforts to address geographic disparities include the National Health Service Corps, originally intended to address insufficient access to primary care and dental services. Expansion of their loan repayment program in recent years to include behavioral health specialties encourage the equitable redistribution of the BH workforce to meet the growing needs of the population.[12] These federal efforts made way for Oregon's Healthcare Provider Incentives Program

(HCPIP), approved by the 2017 Oregon Legislature and administered through OHA with partnership from the Oregon Office of Rural Health. This program provides state funding for insurance subsidies, provider incentives, loan repayment, and loan forgiveness to promote the redistribution and retention of specific workforce for underserved communities. Currently, of the 43 loan repayment awardees, 10 are behavioral health providers.

Telehealth services are another tool in a multifaceted approach to reducing some of the workforce shortages and maldistributions across states. While telehealth and its application for delivering behavioral health services is relatively, new, there are several studies that demonstrate the successes of telehealth including a study that has shown positive patient outcomes when applying cognitive behavioral therapy treatment modalities with sustained improvements two months after the completion of treatment.[13]

This report provides an alternative angle on a known challenge of maldistributions and shortages through the mapping of direct patient care FTEs at the county level as well as the application of the PNR to aid in central planning efforts. Further recommendations on effective strategies such as the HCPIP, telehealth, and other interventions to improve geographic maldistributions and shortages are noted in the Recruitment and Retention of BH Workforce report from the FHPC.

Practice Setting

The contextual lens of provider's practice setting is essential information to determine sufficiency of the workforce. Across a system, comprehensive care requires the provision of essential behavioral health services by appropriate providers across a multitude of settings.

Currently, the majority of licensed prescribers and providers are practicing in clinic and outpatient settings. The outpatient clinical setting should be of particular focus when considering how to maximize the BH workforce. Outpatient specialty MH centers are saturated with patients from all levels of acuity, leading to excessive wait times that impact a patient's willingness to return for care. In order to improve the efficiency of the highly specialized workforce staffed in specialty MH clinics, the most complex patients with serious mental illness and those with more complicated medication regimens should be prioritized for this setting. Patients with mild to moderate BH conditions may be treated other lower-acuity settings such as integrated primary care clinics and school-based settings. After patients' MH condition have stabilized or improved, services may be provided at the unlicensed provider or peer specialist level of care rather than continuing to follow up with licensed providers for long periods of time. This consideration when determining how to best utilize the outpatient BH specialty clinical site will improve efficiency across the system.

Innovations to redesign healthcare delivery within traditional and healthcare settings and to increase access through non-traditional sites are underway to better serve patients' needs. School based health centers are one such avenue for increasing access to behavioral health services for youth; integrating behavioral health providers into school-based health centers promotes preventive behavioral health, early identification of behavioral health

conditions, and behavioral health treatment. Promotion of whole health in schools should include universal prevention during the youngest grades in order to promote healthier downstream communities.

The integrated behavioral health model is grounded in the principle of meeting patients where they are, encouraging improved access to services. Oregon is poised to maximize their delivery of BH services given the maturity of their integrated BH system as well as their distribution of licensed and unlicensed providers across a variety of non-traditional clinical sites. Schools, correctional facilities, places of work, libraries, and community centers may be just a few locations where access to BH services outside of a health care center is appropriate. As Oregon continues to evaluate the workforce, a progressive understanding of the proportion of the workforce staffing non-traditional clinical sites is necessary to optimize population access to BH services. Areas for future focus include provider growth in emergency rooms, crisis hotlines, and Indian Health Services.

Provider Type

Shortages exist at every tier of the behavioral health service industry. The variety of provider types required to deliver comprehensive and effective behavioral health services has been explored in this report. Despite some overlap in the clinical role providers play, the prescribers, licensed providers, and unlicensed workforce work in concert to comprehensively address patients' needs and move toward more healthy and productive states. This dynamic teamwork is especially necessary to effectively care for the most severe patient conditions.[14]

Unlicensed providers represent a workforce with diverse educational backgrounds, ambitions, and clinical roles. They also play an important role in providing promotion, prevention, early intervention and recovery services when working in the context of a team. Many evidence-based prevention programs share similar components (parent skills training, parent education, motivational interviewing, and school-based curricula) and can take place within clinical settings or in the community. Often, application of evidence-based prevention programs by unlicensed providers are implemented with a curriculum or training by the program developer/institution, and/or under the supervision of a licensed provider.[15] Currently there are only 10% of the THW workforce that are focused on youth and family BH support. Shifts in the percent of THWs providing adult based services to refocus on youth and families may provide an effective delivery of preventative care for downstream community health. Secondary preventive services through screening services are also an appropriate use of the unlicensed workforce that can support multiple levels of the healthcare system and across multiple settings including schools, work places, and community gathering places. Peer support services, a segment of the unlicensed workforce, requires significantly less resource investment relative to graduate level practitioners and could be utilized more extensively to broaden the accessibility of BH services especially in community-based settings. Given the evidence that demonstrates the positive impact peer support specialists can provide to BH patients,[16] this branch of the BH workforce should be optimized across sectors and expanded beyond SUD treatment modalities that can support and maximize the therapeutic impact of the more limited supply of graduate and doctoral level BH providers.

Survey results indicate that the unlicensed provider workforce are highly motivated, with 30% focused on career advancement and a large segment concurrently enrolled in education and training programs. A better understanding of the long-term professional development goals of the unlicensed workforce could inform workforce projections when evaluating the BH provider supply in otherwise poorly resourced regions of the state.

Educational Pipeline. According to the Association of Psychology Postdoctoral and Internship Centers, between 2011 and 2016, national match rates for professionals in clinical psychology increased by 15%. These trainees are a significant segment of the unlicensed workforce, providing counseling services throughout their educational training. Most of these trainees will transition into the licensed provider workforce of Oregon, as the majority of graduates continue to work within 100 miles of their graduate training programs.[17] Oregon has three institutions that train psychology post-doctoral interns and PhD level clinicians and psychologists. In 2016, there were a total of 93 newly matched trainees, up 52% from 2011.[18] Programs such as the Healthcare Provider Incentives Program are essential to continue to grow and retain the pipeline of BH providers being educated and trained in the state. This report included the contribution of Clinical Social Work Associate pre-licensees in licensed provider FTE distribution across the state; however, data for other clinical trainees were not available. In future workforce analyses, a more thorough representation of the clinical FTE provided by all pre-licensees should be present in the context of the licensed provider workforce.

It will be important to consider future practice models as state leaders attempt to maximize the potential of the up and coming workforce. As practices continue to encourage colocation and integration of BH services within primary care settings, specific training for team-based care is required for this model of service delivery. Training is not only necessary to prepare graduates for brief interventions and contributions to care coordination teams, it also requires their exposure in training to the dynamic and fast-paced environment of a community-based primary care setting. Future adjustments to BH training programs should consider preparing the workforce for integrated and non-clinical settings to improve access to BH services needed by community members.

Aligning Provider-Patient Characteristics and Needs

As Oregon leaders work to grow the state's supply of BH providers, effort should be made to align and develop a workforce that is optimized to care for the populations at greatest need. Findings from this report indicate Oregon's pediatric population is especially at risk. Thirty percent of Oregon's adolescent population report feeling sad or hopeless. More concerning, Oregon youth report double and triple the rates of suicidal ideation as the adult population in all regions of the state. The pediatric population has long been overlooked and under-served. As early as 1980, the Graduate Medical Education National Advisory Council (GMENAC) recognized the deficient number of pediatric and adolescent psychiatrists.[11] Within ten years of the GMENAC report, the Council on Graduate Medical Education tripled the estimated number of child and adolescent psychiatrists needed to 30,000 nationally.[19] The shortage of pediatric and adolescent psychiatrists remains persistent in all states.

Attributes that designate "provider type" reach beyond educational background or clinical role. Provider characteristics such as age, gender, and racial/ethnic background influence the patient-provider relationship. This report identifies specific demographic discrepancies between the BH workforce and their patients, most notable among Hispanic providers of all types. Ethnic and racial representation among healthcare providers is a consistent goal among workforce experts to promote patient comfort increasing patient's likelihood to engage in longitudinal care with effective outcomes. Incentives to promote language, racial, and ethnic concordance with patient demographics could be a specific target in the near future in order to deliver equitable and culturally sensitive care for all communities in the state. Oregon's nine Native American Tribes offer ample opportunity to meet a specific population in need of proportionate services. In order to best identify the provider types and characteristics necessary to optimize accessible BH services to Oregon's Tribe Nations, a tailored analysis that includes a highly developed qualitative evaluation should be considered.

To maximize limited resources, systems to promote matching of provider types to severity of MH condition allows individuals to work at their full scope of practice. This requires systems and processes to encourage the most highly trained segments of the workforce to focus individualized care on the most complex patients and provide consultative services to primary care in order to maximize effectiveness of this specialized and limited resource.

Limitations

Rates of MH service utilization were estimated based on NSDUH self-reported survey findings and do not represent claims data. Utilization data have limited value when evaluating disease prevalence as they only report information on individuals who have linked to a medical system, have the functional capacity to make and remember appointments, and have the ability to transport to their locations of care in order to obtain services.

It is broadly accepted that self-reported rates of any mental illness and serious mental illness are underestimations due to several factors. These include but are not limited to stigma and other perceptual barriers; logistical difficulties related to access such as scheduling, transportation, and long wait lists; and lack of insight of the symptomatic impact on functioning, as higher functioning individuals are more likely to be pursuing treatment services. Individuals with MH conditions yet to receive a diagnosis or have yet to acknowledge or realize their conditions impact on their functioning are highly unlikely to utilize MH treatment services.

Survey response rate for unlicensed providers was 30%. Additionally, maps of unlicensed providers are based on the geographic distribution of survey respondents and not all unlicensed providers, which may have introduced non-response bias. Confidence intervals are wide and sometimes overlapping due to small sample sizes when evaluating providers and disease prevalence on a county and regional basis. Although there may be results which are not statistically significant due to large confidence intervals, they are clinically significant and reported as such. Additional limitations may include bias in sampling methodology, recall bias, or other barriers to access not addressed in design of survey questions.

Note again that this assessment only includes BH workforce and does not account for the behavioral health care provided by primary care physicians.

Strengths and Opportunities for Data Collection

The workforce analysis performed was enabled by the array of data that Oregon uniquely collects and shares. A similar replication of these methods may be challenging in other states due to more limited data availability.

Strengths to available data sources include the following:

- Unified surveys between many licensing boards allow for merging of data sets along specific variables

- Clinical details are collected that include FTE of providers, direct patient care hours, multiple clinical locations, and specific clinical settings to better understand the distribution and capacity of providers with more accuracy

- Ability for licensed providers to indicate specialty selection allows for workforce that is not traditionally included in analyses to be recognized, specifically with regard to supportive nursing and ancillary staff

To continue improving data collection for behavioral health care delivery and integration of care, other suggestions include:

- Consider transitioning the unlicensed provider registry to mandatory reporting

- Align variables (where appropriate) from MHACBO survey with licensure board survey variables for direct comparisons between Licensed and Unlicensed Providers

- Evaluate utility of MHACBO survey questions if unlicensed workforce is surveyed annually or biennially; consider where survey can be reduced in length to focus objectives and desired surveillance over time

- Apply sampling methodology for MHACBO survey that allows for evaluation of non-response bias

- Consider the collection of survey data, parallel to Healthcare Workforce Reporting Program, for all pre-license trainees; currently data is limited to CSWAs

- Consider the impact of Licensure and billing regulations on BH service delivery, hiring practices, and utilization in future work

- Consider removal of QMHP title, as it is not indicative of licensure status or educational credentials; it is a clinical role designation utilized in the certification process of clinical sites, however, is a nonspecific term that promotes misinformation when evaluating the workforce

Conclusions

This exploration of behavioral health workforce data provides further insight to the licensed and unlicensed providers in Oregon. These findings can be used to inform decision making related to factors that influence the supply and distribution of behavioral health providers across the state and point to opportunities for improved service delivery through redistribution and strategies to overcome policy or systemic barriers preventing members of the workforce from practicing at their full scope of care.

The state of Oregon has already taken thoughtful steps to adjust and implement programs to address BH workforce needs. It is this pursuit to deliver equitable and effective BH care that motivated state leadership to conduct this evaluation. Oregon has high needs for BH services paired with maldistributions and shortages of BH providers, not unlike the rest of the country. Oregon is also poised to meet the challenge, as it is a state with more insight, innovation, and initiative than many others. This workforce analysis provides Oregon with descriptive workforce data which is more expansive, specific, and complete than other states.

Specific regions and populations are disproportionately affected by BH shortages across the state. Efforts to build the rates of minority providers in BH services should be taken to better meet the needs and reflect the population of Oregon. The pediatric population is at especially high risk and rural regions demonstrate impressive insufficiencies demonstrated by provider number, FTE, and PNR. These shortages are notable across settings, traditional, as well as community-based settings.

In order to improve the efficiency of the currently available BH workforce, team-based care must be optimized with sufficient communication and data sharing tools across specialties. BH providers of all types must have processes and incentives in place to encourage working at the top of their license and appropriate matching of patient severity to provider type. Efforts such as HCPIP to incentivize workforce redistribution to rural areas should be sustained. Other key areas for expansion include therapeutic interventions in SBHCs and preventative services for youth and families through schools as well as THW support peers. Promote BH prevention and resiliency with BH in elementary and middle schools where currently there is scarce treatment and possibly no prevention

Immediate application of this work is underway. Findings from this workforce analysis are informing a behavioral health workforce recruitment and retention plan for Oregon. Additionally, competencies for licensed behavioral health providers working in integrated ambulatory settings are being developed with input from stakeholders across the state. Both are key steps to increasing access to quality behavioral health care and meeting the behavioral health needs in Oregon.

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Appendix A: Definitions

Behavioral Health (BH): That which pertains to mental health (MH) conditions, substance use disorders, life stressors, and behaviors which impact an individual's overall health and wellbeing.

Licensed Prescribers: Healthcare providers who provide clinical care of BH conditions with prescribing authority, generally consisting of medical doctors (MD), doctors of osteopathy (DO), nurse practitioners (NP), and physician assistants (PA). This workforce analysis focuses on the licensed prescribers from training backgrounds which exclusively apply to BH conditions such as psychiatry and addiction medicine. Although acknowledged as a foundational component of behavioral health care delivery, primary care providers were excluded for the purposes of this study.

Licensed Providers: Healthcare providers who address BH conditions primarily by means of counseling or other modalities of individual and group therapy which stem from a formal educational background certified by an accrediting body, licensed by the state.

Unlicensed Providers: Healthcare providers who address BH conditions primarily by means of counseling and peer support services, which are not licensed by the state. This is a diverse segment of the workforce which may include individuals with professional organizations that issue professional certification, however without state licensure. This workforce may also include trainees of licensed professions, who are not yet licensed however are providing clinical care through their educational programs. This workforce also includes community health workers and lay support staff who may not require formal training.

Qualified Mental Health Associate (QMHA): Clinical designation of an unlicensed MH provider who meets minimum education or relevant experience requirements (either a bachelor's degree in behavioral sciences field; or a combination of at least three years of relevant work, education, training, or experience) and demonstrates a set of competencies. A QMHA delivers services under the direct supervision of a Qualified Mental Health Professional (QMHP).

Qualified Mental Health Professional (QMHP): Clinical designation of a MH provider who may be licensed or unlicensed by the state, responsible for the clinical supervision of QMHAs. Licensed QMHPs may draw from a variety of graduate level credentials who are licensed by their respective professional boards. Unlicensed QMHPs are graduate level providers who cannot obtain licensure due to their educational degree type, or individuals who are nearing the end of their career who do not desire licensure.

MHACBO Survey Provider Types:

Licensed Prescriber

DO- Doctor of Osteopathy

MD-Medical Doctor

NP-Nurse Practitioner

PA-Physician Assistant

Licensed Provider

LCSW-Licensed Clinical Social Worker

LMFT-Licensed Marriage Family Therapist

LMSW-Licensed Master Social Work

LPC-Licensed Professional Counselor

OT-Occupational Therapist

Ph. D/Psy. D- Licensed Psychologist

RN/LPN-Nurse

Unlicensed Provider

CADC I, II, III-Certified Alcohol Drug Counselor

CGAC I, II, III-Certified Gambling Addiction Counselor

CGRM-PSS-Certified Gambling Peer Mentor

CPS- Certified Prevention Specialist

CRM-PSS-Certified Recovery Mentor

CSWA-Certified Social Work Associate

NCAC/MAC-National Addiction Counselor Certification

PRC-PSS-Advanced Peer Recovery Counselor

PSS- Peer Support Specialist

PWS-Peer Wellness Specialist

RBSW-Registered Bachelor Social Work

SBHC Provider Types:

Licensed Prescribers

DO

MD

NP

PA

Licensed Providers

Alcohol & Drug Counselor- LPC

LCSW

LCSW, LPC

LCSW, QMHA

LCSW-QMHP

LCSW, Alcohol & Drug Counselor

LMFT

LPC

LPC-Alcohol & Drug Counselor

Licensed Marriage and Family Therapist

Licensed Professional Counselor-QMHP

MFT, QMHP

MS, LPC, QMHP

QMHP-LCSW

QMHP-LPC

QMPH-LPC, NCC

QMHP-Counselor, LCSW

Therapist, LPC

Unlicensed Providers

CADC III

MA, LPC Intern, QMHP

Master of Arts-Behavioral Health Specialist

Masters MH Sp-Non Licensed QMHP

Mental Health, CSWA

QMHA

QMHP-Mental Health, CSWA

QMHP-non-licensed

Unknown Status

Addiction Counselor

Behavioral Health

Behavioral Health Provider

MH

MH, MA

MS, QMHP

MSW

MSW, QMHP

QMHP

QMHP-MH

QMHP-MHS2

QMHP MSW

QMHP-Counselor

QMHP-Master of Arts

QMHP-Mental Health

QMHP-Social Worker

QMHP-Therapist

Substance Abuse Specialist-Social Worker

Substance Abuse Specialist-Social Worker, Alcohol & Drug Counselor

Therapist

Traditional Health Workers (THWs): Unlicensed BH providers who work under the direction of a licensed health provider to provide physical and behavioral health services to help individuals in their community. These individuals must meet qualification criteria adopted by the authority under ORS 414.665. There are five THW types:

1. **Doula or Birth Doula** - A birth companion who provides personal, nonmedical support to women and families throughout a woman's pregnancy, childbirth, and post-partum experience

2. **Community Health Worker (CHW)** – A public health worker who is a trusted member of and/or has an unusually close understanding of the community served and work to assists members of the community to improve their health and to increase the capacity of the community to meet the health care needs of its residents

3. **Peer Support Specialist (PSS)** – An individual who is a current or former consumer of mental health treatment or an individual who is in recovery from an addiction disorder who provides supportive services to another individual who is current or former consumer of mental health or addiction treatment and shares a similar life experience with the PSS (i.e., addiction, mental health condition, family member of an individual with mental health condition or overcoming addition, or young adult)

4. **Peer Wellness Specialist (PWS)** – An individual who is responsible for assessing mental health and substance use disorder service and support needs of a member of a coordinated care organization through community outreach, assisting members with access to available services and resources, addressing barriers to services, and providing education and information about available resources for individuals with mental health or substance use disorders in order to reduce stigma and discrimination toward consumers of mental health and substance use disorder services and to assist the member in creating and maintaining recovery, health, and wellness. A PWS may work with adults or youth who are current or former consumers of mental health or addiction treatment or are family members of such individuals.

5. **Personal Health Navigator (PHN)** – An individual who provides information, assistance, tools and support to enable a patient to make the best health care decisions

NSDUH Diagnosis definitions based on DSM-IV:

Any mental illness (AMI): having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, as assessed by the Mental Health Surveillance Study (MHSS) Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders (MHSS-SCID), which is based on the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). For details, see Section B of the "2015-2016 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at SAMHSA.gov

Serious mental illness (SMI): having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder, as assessed by the Mental Health Surveillance Study (MHSS) Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Research Version—Axis I Disorders (MHSS-SCID), which is based on the 4th edition of the Diagnostic and Statistical Manual

of Mental Disorders (DSM-IV). SMI includes individuals with diagnoses resulting in serious functional impairment. For details, see Section B of the "2015-2016 NSDUH: Guide to State Tables and Summary of Small Area Estimation Methodology" at SAMHSA.gov

Serious thoughts of suicide: Respondents were asked, "At any time in the past 12 months, did you seriously think about trying to kill yourself?" on the National Survey on Drug Use and Health. If they answered "Yes," they were categorized as having serious thoughts of suicide in the past year.

Mental Health Services: having received inpatient treatment/counseling or outpatient treatment/counseling or having used prescription medication for problems with emotions, nerves, or mental health. Respondents were not to include treatment for drug or alcohol use.

Geographic Regions:

Geographic regions for this workforce analysis adopted state regions as defined by the National Survey of Drug Use and Health (NSDUH), which are also used by the Substance Abuse and Mental Health Services Administration federal agency.

Region1	Region 2	Region 3	Region 4	Region 5	Region 6
"Multnomah County"	"Portland Suburbs"	"Willamette Valley"	"Southern"	"Central"	"Eastern"
Multnomah	Clackamas	Benton	Coos	Crook	Baker
	Washington	Clatsop	Curry	Deschutes	Gilliam
		Columbia	Douglas	Jefferson	Grant
		Lane	Jackson		Harney
		Lincoln	Josephine		Hood River
		Linn	Klamath		Lake
		Marion			Malheur
		Polk			Morrow
		Tillamook			Sherman
		Yamhill			Umatilla
					Union
					Wallowa
					Wasco
					Wheeler

NOTE: The sub-state regions defined here were provided by the state's Addictions and Mental Health Services Division, Oregon Department of Human Services, and are defined in terms of the state's 36 counties (as defined from the 2010 decennial census).

United States, West Region - Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming; as defined by the US Census.

Oregon's Health Care Workforce Reporting Program (HWRP)

The Health Care Workforce Reporting Program (HWRP) collects health care workforce data from the state's 17 professional licensing boards through their licensure renewal process. The program was created to collect this information with the purpose to understand Oregon's health care workforce, to inform public and private workforce investments, and to inform policy recommendations in regard to Oregon's health care work force through the following activities:

1 Program administration - collaboration with professional health licensing boards to plan and implement survey collection tools

2 Data collection and quality control – coordinate survey integration into licensure renewal system and ensure survey completion for licensees

3 Data processing – perform annual verification of licensure data and maintain a biannual workforce database containing all licensee data

4 Reporting – utilize data for analyses and produce reports on health care workforce program evaluation

Data from the following licensing boards on the corresponding licensed types were used in the analysis outlined in this report:

- **Oregon Medical Board (OMB)** – doctor of medicine (MD), doctor of osteopathy (DO), medical doctor/volunteer/emeritus (MDVE), and physician assistants (PA)

- **Oregon State Board of Nursing (OSBN) -** nurse practitioner (NP), clinical nurse specialist (CNS),

- **Oregon Board of Licensed Professional Counselors and Therapists (OBLPCT)** - licensed marriage and family therapist (LMFT) and licensed professional counselor (LPC)

- **Oregon Board of Licensed Clinical Social Workers (BLSW) -** licensed clinical social worker (LCSW) and clinical social worker associate (CSWA)

- **Oregon Board of Psychology (OBOP)** - active psychology associate (APA) and active psychologist (APSY)

Appendix B: Data Sources

Board License Renewal Surveys

Health Care Workforce Reporting Program, Oregon Health Authority

The HWRP survey is exhaustive of all currently licensed BH providers in the state. Licensing boards require mandatory completion of survey to obtain license renewal with 100% response rate. As it is administered upon license renewal, this dataset does not include providers in their first year of licensure. Limitation to this data set includes variation in frequency of license renewal, as some boards require annual renewal while others require renewal biennially.

Oregon Medical Board Licensure Renewal Data, 2016-2017

Data set contains 19,747 active (as of February 1, 2018) licensees. Surveys were completed between April 1, 2016, and December 31, 2017, for one- and two-year licenses. 95% of licensees had complete survey data. Active licensees who did not complete survey were primarily new licensees or postgraduate licensees (n=1,389). County was determined based on zip code and/or city. Practice data (hours, time distribution, setting, location, etc.) were only collected if setting is other than "None." Psychiatry was defined selecting any of the following specialties: child psychiatry, psychiatry, geriatric psychiatry, forensic psychiatry, child and adolescent psychiatry, or psychoanalysis.

Oregon State Board of Nursing Licensure Renewal Data, 2015-2018 *

Data set contains 83,492 active (as of January 29, 2018) licensees. Surveys were completed between November 1, 2015, and January 29, 2018, with 70,570 licensees having complete survey data. Patient-payer mix questions are only answered by nurse practitioners before January 4, 2018, and by nurse practitioners, clinical nurse specialists, and certified registered nurse anesthetists after that. Psychiatric NP were defined by either selecting "Psychiatry/ Mental Health" as a primary or secondary specialty, or if it satisfied the "NP advanced specialty flag."

Oregon Board of Licensed Professional Counselors and Therapists, 2017-2018 *

Data set contains 3,839 active (as of January 16, 2018) licensees. Surveys were completed between November 1, 2017, and January 16, 2018, with 3,541 licensees having complete survey data.

Oregon Board of Licensed Clinical Social Workers, 2016-2018 *

Data set contains 5,416 active (as of August 23, 2018) licensees. Surveys were completed between July 1, 2016, and August 22, 2018, with 4,499 licensees having complete data.

Oregon Board of Psychology, 2016-2018 *

Data set contains 1,804 active (as of August 16, 2018) licensees. Surveys were completed between June 20, 2016, and July 31, 2017, with 1,715 licensees having complete survey data.

* Active licensees who did not complete survey were primarily new licensees. Licensees may hold clinical and non-clinical license. License type indicates clinical license held. County was determined based on zip code and/or city. Practice data (hours, time distribution, setting, location, etc.) was only collected if employment status is "Employed in the field," "Self-employed in the field," "Volunteer," or "Other" AND if licensee currently works or intends to work in Oregon.

Mental Health & Addiction Certification Board of Oregon Survey, 2018

Mental Health and Addiction Counseling Board of Oregon

The MHACBO survey was distributed for the first time in 2018 and was intended to capture descriptive information on the unlicensed behavioral health workforce caring for substance use disorders in the state of Oregon.

The survey was emailed to 4,400 CADC's/applicants (QMHA's/P's), CRM's, CGAC's, CPS, state approved addiction treatment program directors, and state approved mental health program directors. The survey was also distributed through AOCMHP, the Association of Oregon Community Mental Health Programs, and OPERA the Oregon Prevention Education and Recovery Association. Announcements through Constant Contact bulk email, and SMS text messaging encouraging participation were disseminated statewide.

Responses were obtained from 1,306 individuals. Assuming that the sampled universe was providers was 4,400, the response rate was 29.6%. Of the 1306 respondents, 8 did not answer the question about their occupational role. Given the emphasis in this section on unlicensed providers we excluded 273 providers who indicted they were licensed physicians, psychologists, certified social work associates, licensed clinical social workers, licensed marriage and family therapists and licensed professional counselors. After this restriction, the final sample size was 1025, with about 86% completing the entire general survey. For more information visit:

https://mhacbo.org/media/filer_public/2d/21/2d212cf5-d7bb-455a-bdfb-13a684ec7c6a/survey2018section1mat.pdf

Licensure and Certification Status, by Occupational Role of MHACBO Survey Respondents

	Licensed	Unlicensed	
		Certification	No Certification
All Providers	273	945	80
Occupational Role			
Addiction Counselor	23	402	43
Addiction Peer	3	166	9
Addiction Supervisor	21	99	9
CGAC	4	9	2
CPS	0	22	5
MH Peer	0	48	4
MH Supervisor	40	22	3
QMHA	2	83	2
QMHP	180	94	3

School-Based Health Center Data, Academic Year 2017-2018

Adolescent and School Health Unit, Public Health Division, Oregon Health Authority

SBHC data are collected by the school-based health center State Program Office annually on an academic calendar. Data are generated through their provider Operational Profile and SBHC encounter data. Data analyzed and presented in this report are from July 1, 2017-June 30, 2018.

The Oregon Department of Education (ODE) roster data and the National Center for Education Statistics (NCES) data were used to match with the SBHC data. For more information of ODE roster data, see oregon.gov. NCES is the primary federal entity for collecting and analyzing data related to education. For more details, see nces.ed.gov.

National Survey on Drug Use and Health, 2014-2016

Substance Abuse and Mental Health Services Administration

The NSDUH survey is administered annually to estimate MH and SUD disorders among individuals 12 years and older. Results are provided every 2 years at the national, state, and sub-state levels. This workforce analysis used sub-state regional survey results for Oregon from 2014-2016. Regional estimates utilize "small area estimation" methodology which draws on the data collected from the NSDUH survey as well as county and subcounty level census data from the state. NSDUH is administered in all 50 states with an incentive for respondents and utilizes computer-assisted self-interviewing aimed to provide a more confidential experience for survey respondents in hopes to reduce stigma and more honest self-reported answers.

Oregon Student Wellness Survey, 2016

Adolescent and School Unit, Division of Public Health, Oregon Health Authority

The Oregon Student Wellness Survey (SWS) is an anonymous survey of students in grades 6, 8 and 11 to assess school climate, youth development, and behavioral health of Oregon youth. SWS is conducted bi-annually starting in 2010. This analysis is based on data collected in the spring of 2016. Data from the 2018 survey was not available at the time of this analysis. The SWS was sponsored by OHA and administered by International Survey Associates (ISA). All public and charter schools in Oregon could participate in the survey. The survey includes more than 200 different measures and "was designed to assess a wide range of topics that included school climate, positive youth development, mental health, physical health, substance use, problem gambling, fighting and other problem behaviors."

The methodology used in the SWS is a census recruitment for all Oregon public schools with students in grades six, eighth and eleventh. All School District superintendents are contacted for recruitment and can participate using an opt-in method with a choice to administer online or paper-and-pencil. Once superintendents agree to participate, schools are encouraged to survey all eligible students, but large schools may opt to survey a sample of their youth. Paper surveys or instructions for online surveys are provided to school district coordinators by ISA. Schools administer the survey and return all paper surveys or inform ISA upon completion of online surveys.

According to the OHA 2016 statewide report available online, the initial data set consisted of 63, 543 surveys collected from 35 counties, 116 public school districts and 414 schools (https://oregon.pridesurveys.com/dl.php?pdf=Oregon_SWS_Statewide_Report_2016. pdf&type=region). After excluding records with invalid grade values, ages out of sync with grade level and unrealistic or inconsistent responses, the dataset used for this report consisted of 57,742 surveys. The data obtained by the FHPC from OHA consisted of slightly higher 59,365 surveys. For the items used for this report, missing values range from 5-6% (and higher for composite scores based on adding items together, see below). See sample sizes in Table below.

Sample Sizes by Grade and Region, 2016 Student Wellness Survey

Region	6th Grade	8th Grade	11th Grade	All Grades
Central	895	1,084	253	2,232
Eastern	1,348	1,541	1,306	4,195
Multnomah	2,832	3,309	2,690	8,831
Portland Suburbs	6,020	6,544	5,043	17,607
Southern	1,967	2,467	2,081	6,515
Willamette Valley	7,373	7,419	5,193	19,985
Oregon	20,435	22,364	16,566	59,365

Given variation in participation by schools and response rates within participating schools, the SWS data includes weights to create state and regional estimates. The weighting scheme is similar to that used in Oregon Healthy Teens Survey and is based on statewide enrollment numbers. These weights were calculated at the county-level for each grade level. That is, all records for students within a county and in the same have the same weight. All analyses presented below use these sample weights. Results are summarized by region using the NSDUH regions used throughout this report.

The SWS includes a five-item Mental Health Inventory (MHI-5) to measure psychological distress[1] asking all students the following questions:

- During the past 30 days, how much of the time have you been a happy person?

- During the past 30 days, how much of the time have you been a very nervous person?

- During the past 30 days, how much of the time have you felt calm and peaceful?

- During the past 30 days, how much of the time have you felt downhearted and blue?

- During the past 30 days, how much of the time have you felt so down in the dumps that nothing could cheer you up?

For each question, respondents had six possible choices: None of the time, A little of the time, Some of them time, A good bit of the time, Most of the time, All of the time. Each answer was scored from 1 to 6 such that higher scores indicated poorer mental health. Adding together the five scores, mental health scores range from 6 to 30. Student with overall scores of 21 or higher were classified as having psychological distress.

Three additional mental health related questions were also examined. While the MHI-5 questions refer to the past 30 days, each question is based on the past year:

- During the past 12 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped some of your usual activities?

- During the past 12 months, did you ever seriously consider attempting suicide?

- During the past 12 months, how many times did you actually attempt suicide?

Answers to the last question were recoded from a count of attempts to whether or not they had any attempts in the past 12 months.

For the substance use questions, both questions were recoded such that any use was coded as 1 and no use was coded as zero. Respondents were also asked a series of questions about use of specific illicit drugs in the previous 30 days, including cocaine (including powder, crack and freebase), Ecstasy, heroin or other opiates, LSD, methamphetamines, and steroids (without a prescription). Responses to these questions were combined to create an indicator variable equal to 1 if any use of illicit drugs and 0 if not.

Traditional Health Worker State Registry, 2018

Oregon Home Care Commission, Department of Human Services

The purpose of the Traditional Health Worker (THW) program is to help THWs in Oregon become trained and certified to meet current standards, diversify the health care workforce, provide high-quality and culturally competent care, and to promote health equity. THWs include community health workers, personal health navigators, peer wellness specialists, peer support specialists and birth doulas not otherwise regulated or certified by the state of Oregon. The THW registry is maintained by the Oregon Health Authority. For more information on the registry, please

The U.S. Health Workforce Chartbook Data Sources:

American Community Survey (ACS), 2008 – 2010

U.S. Census Bureau

The ACS is an annual household survey that provides self-reported data including demographic information on individuals working in the health occupations. Data from ACS was used to provide the estimated number of individuals within each selected health occupation by workforce setting and demographics.

Integrated Postsecondary Education Systems (IPEDS), 2010

The National Center for Education Statistics, U.S. Department of Education

IPEDS provides enrollment and graduation data on an annual basis for all institutions that receive or apply for federal funds. The number of post-secondary degrees and certificates awarded, by degree type, is presented for occupations for which there is a specific educational pathway into the occupation. No data are reported for those occupations without a distinct educational pathway. The IPEDS data were used to estimate the number of students who, upon graduation, may be entering the occupation for the first time.

Occupational Outlook Handbook, 2015 Edition

Bureau of Labor Statistics, U.S. Department of Labor

The Occupational Outlook Handbook provided the descriptions of the educational and training requirements for the various occupations. Psychologists were defined as individuals having a sub-specialty in psychology, general development and child psychology, clinical psychology, counseling psychology, school psychology, clinical child psychology, gero-psychology, health/medical psychology, or applied behavioral analysis and with either a master's or doctoral degree. Social workers were defined as individuals having a sub-specialty in social work, youth services/administration, clinical/medical social work, or other social work, and with either a bachelor's or master's degree. Counselors were defined as individuals having a sub-specialty in substance abuse/addiction counseling, marriage and family therapy/counseling, clinical pastoral counseling/patient counseling, psychoanalysis and psychotherapy, mental health counseling/counselor, or vocational rehabilitation counseling/counselor and with either a bachelor's or master's degree.

Appendix C. Behavioral Health Workforce Calculations Methodology

While the OHA outlines a method to calculate the number of FTEs in the *entire* health care workforce, this report is focused on the *behavioral* health workforce. There are no issues with applying OHA's methodology for certain professions such as psychologists or social workers, where all providers are presumed to be behavioral health providers. However, for nurses, nurse practitioners, physicians and physician assistants, by contrast, we need to restrict counts to those indicating a behavioral health specialty. The problem is that there is no specialty information for newly certified providers who did not complete the survey.

For providers newly certified by the Board of Nursing (CNS, CNA, LPN, RN and NP), it is possible to use the percentage of certifying providers with a behavioral health specialty to estimate the number of newly certifying behavioral health providers. For instance, there were 47,619 recertifying RNs of which 4.4% were classified as a behavioral health provider. Assuming the same percent of certifying RNs are *behavioral* health providers, an estimated 2,422 of all RNs are behavioral health providers.

Estimating Total Number of Mental Health Providers in Oregon Medical and Nursing Board Data

	All Licensees	Recertifying	Distribution	Certifying	Recertifying MH	Percent MH	Estimated Number of MH Providers
Oregon Medical Board							
MD	14,774	13,735	74.8%	1,039	709	5.2%	763
DO	1,376	1,279	7.0%	97	55	4.3%	59
PA	1,981	1,842	10.0%	139	24	1.3%	26
Other	1,616	1,502	8.2%	114	1	0.1%	1
Total	**19,747**	**18,358**	**100%**	**1,389**	**789**		**849**
Oregon Board of Nursing							
CNS	193	183	5.0%	10	25	13.7%	26
NP	3,992	3,484	95.0%	508	565	16.2%	647
Total	**4,185**	**3,667**	**100.0%**	**518**	**590**		**674**

Note: The reported total number of Licensees and the number of recertifying providers by license type are actual counts from OMB data; the specific counts by license type of all licensees and certifying licensees are estimated based on the distribution across license type for recertifying licensees. The estimated number of MH providers by license type is the product of all licensees by the percent of recertifying providers classified as mental health providers (Percent MH).

The issue is more complicated in the OMB data because both specialty and license type is missing. Thus, it is first necessary to estimate the number of new MDs, DOs and physician assistants. Among recertifying providers licensed by OMB, 75% were MDs, 7% were Dos, and 10% were physician assistants. The remainder include other types of providers licensed by OMB, mainly acupuncturists and podiatrists, who with one exception are not providing mental health care. Assuming that this distribution holds for newly certifying providers, the license type of certifying providers can be estimated. Using the same approach used for Board of Nursing certifying providers, these estimates are used to calculate the number of certifying MDs, DOs and physician assistants who are mental health providers. For instance, while 695 recertifying MDs are mental health providers, we estimate than an additional 53 of the recertifying MDs are mental health providers.

Calculating FTEs

Using the approach outlined in the OHA methodological report, to calculate FTEs it is first necessary to calculate the percentage of recertifying providers active in Oregon. Active licensees include those who 1) identified their employment status as "employed in the field," "self-employed in the field," "volunteer," or "other" (excluding retired and unemployed providers and those working in another field) and 2) reported a practice location in Oregon. The OHA approach uses only information from the primary practice location, the following analysis also uses information from the secondary practice location. After determining the percent of each type of certifying providers active in Oregon, the number of providers active in Oregon is the product of this rate and the total number of licensed providers

   Active practice rate = % survey takers who are active in OR (of those with known work location and practice status)

   *Number practicing in OR (Estimated) = Total number licensed in OR * Active practice rate*

For psychologists, for example, there are 1,804 licensees of which 1715 answered the survey. For this subset, 1,675 were active and 1,549 were active in Oregon. Their active practice rate is then 90.3% (=1,549 OR active/1,715 survey respondents). Using this rate and the total number of licensed psychologists, we estimate that there were 1,629 psychologists (=1804*0.903) active in Oregon.

The next step is to calculate a statewide average of hours worked in patient care in up to two settings. For each provider, this is equal to the sum across settings of the products of the number of hours times the percent of time spend in patient care. For example, if a provider worked 20 hours and spend 50 percent of their time in direct patient care in one setting and 20 hours entirely (100%) in direct patient care, then their total number of hours in direct patient care is 30 hours (20*50%) + (20*100%). An FTE is equal to hours worked in patient care divided by 40 hours; FTEs were capped at 1, so providers working more 40 hours in patient care are treated as if they were 1 FTE.

The number of Direct Patient Care FTEs statewide for each license type is equal to the product of the estimated number practicing in OR (defined above) and the statewide FTE rate:

*Patient care FTE (Estimated) = Number practicing in OR (Estimated) * Average Patient Care FTE*

Continuing with psychologists, their average Patient Care FTE is equal to 0.51 and the estimate total Patient Care FTEs in Oregon is 836 (=1,629*0.51).

County Patient Care FTEs

The final step is to calculate county patient care FTE. Unlike the OHA method based on primary setting, information from both settings was used to account for providers working in two different counties. Specifically, for providers working in two setting their Direct Patient Care FTE was allocated based on the percent of their Direct Patient hours were spend in each setting. In the above example, a provider who worked 20 hours in two different setting with 50% direct patient care in one setting and 100% in the other, the total FTE of .75 (30/40) is allocated as .25 in the first setting and .50 in the second setting.

For each license type, the total Direct Patient Care FTE of each providers in a county was summed and then determined the percent of all observed direct patient statewide that was provided in each county. For each county the estimated number of patient care FTEs is:

County patient care FTE (Estimated) =

*Direct patient care FTE (Estimated statewide) * % observed direct patient care FTE in county*

Calculating PNR

To calculate a Provider-to-Need Ratio (PNR), the prevalence refers to the population size for each measure and providers are those who could potentially provide treatment. As above, providers are classified as either licensed prescribers or licensed providers; licensed providers are further classified as either psychiatrists or advanced practice providers (physician assistants, nurse practitioners and clinical nurse specialists). If possible, the provider counts are expressed as direct patient care FTEs. The PNR is expressed as provider per 10,000 persons:

$$PNR_{tc} = \left(\frac{Providers_t}{Need_c} \right) * 10{,}000$$

where *t* is provider type and *c* refers to a particular condition. So in the case of "any mental illness" the statewide PNR for licensed providers, the PNR is equal to 10.3 per 10,000 (=[886 patient care prescriber [FTEs/861,000 adults with any mental illness]*10,000). The particular value of the PNR is to take into account the prevalence of mental health problems across regions and rule out the possibility that regional variations in the supply of providers per population is due to regional differences in the population in need.