Oregon Center for NURSING

Healthcare Workforce Evaluation Report Summary

Over the past decade, public debate and new policies about access to healthcare has focused on ensuring all residents have the ability to pay for quality care when needed. However, this is only one element of a complex puzzle. Ensuring a sufficient workforce is another important component to consider when working to provide adequate access to care.

Multiple studies have shown that an inadequate supply of healthcare workers decreases the ability to provide high quality healthcare, and increases the risk to patient safety. Higher patient loads are associated with higher hospital readmission rates, and in nursing homes, workforce shortages often result in increased mortality among those aged 85 and older.

Like other states, Oregon faces challenges to bolstering its healthcare workforce. The population of Oregon is aging, health care workers are retiring, and the expanded health care coverages means more patients seeking care. Employers, educators, and lawmakers are searching for solutions that will provide a high-quality workforce for the healthcare needs of all Oregonians in the future.

In early 2018, the Rural Medical Training Workgroup approached staff at the Oregon Center for Nursing (OCN) to conduct an evaluation of the nursing and allied healthcare workforce across Oregon as part of their efforts to determine the feasibility of locating a new school of allied health in Southern Oregon. This evaluation examined select healthcare occupations by region across Oregon, with geographic regions defined by the Oregon Employment Department (OED).

Healthcare occupations: Registered Nurse, Nurse Practitioner, Physical Therapist, Licensed Professional Counselor, Licensed Clinical Social Worker, Medical Clinical Laboratory Technologists, and Radiological Technologist.

Table 1 – Oregon Employment Department Regions

OED Region	Counties
East Cascades	Crook, Deschutes, Gilliam, Hood River, Jefferson, Klamath, Lake, Sherman, Wasco, Wheeler
Eastern Oregon	Baker, Grant, Harney, Malheur, Morrow, Umatilla, Union, Wallowa
Lane	Lane
Mid-Valley	Linn, Marion, Polk, Yamhill
Northwest Oregon	Benton, Clatsop, Columbia, Lincoln, Tillamook
Portland Tri-County	Clackamas, Multnomah, Washington
Rogue Valley	Jackson, Josephine
Southwestern Oregon	Coos, Curry, Douglas

This evaluation study examined three different components of the nursing and allied health workforce: current supply, future need, and educational opportunities and capacity.

Understanding these three factors is crucial to ensuring an adequate supply of well-trained healthcare professionals are present in each Oregon community.

Regarding registered nurses, the Rural Medical Training Workgroup requested this analysis focus on baccalaureate-level education for nurses as opposed to associate degree in nursing (ADN) education. Data from the OED does not report nursing workforce by level of education. Therefore, supply and need information do not explore the differences in education level for nurses. While this study focuses on baccalaureate nursing education programs, aggregated data from associate degree programs are included in the educational opportunity and capacity section of this report. These data were included to provide a comprehensive picture of nursing educational capacity from all of the nursing programs in Oregon.

Current Supply

To understand the future need for healthcare workers, it is necessary to first identify the current workforce across the state. Data from the 2017 Oregon Employment Projections report prepared by the OED was used to illustrate the current supply of nursing and allied health workers. Table 2 illustrates the number of healthcare workers by occupation in Oregon during 2014.

Table 2 – Statewide Supply of Healthcare Workers in 2017

Occupation	Number of Workers
Registered Nurse	37,353
Nurse Practitioner	1,762
Physical Therapist	3,052
Radiologic Technologists	2,254
Med/Clinical Laboratory Technologists	2,281
Mental Health Counselors	3,158
Mental Health/Substance Abuse Social Workers	2,304

The number of workers in each occupation across all OED regions were tabulated and normalized by dividing each count by the population of the region. This allows a direct comparison of the supply of each occupation across all OED regions. The use of population to healthcare provider ratios is commonly used by researchers to assess the relative density of the healthcare workforce as compared to the population it serves. The full supply table is available in Appendix A. The results, shown below in Table 3, highlight regions where the supply for each occupation shows at least a 20 percent deficit from the statewide supply.

Table 3 – Occupation Deficits by OED Region

Occupation	OED Regions with 20% Deficit
Registered Nurse	Eastern Oregon, Mid-Valley, Northwest Oregon, Southwestern Oregon
Nurse Practitioner	East Cascades, Mid-Valley
Physical Therapy	Mid-Valley
Radiologic Tech	Mid-Valley
Med Lab Tech	Eastern Oregon, Mid-Valley, Northwest Oregon, Southwestern Oregon
MH Counselors	Mid-Valley, Northwest Oregon, Rogue Valley
MHSA Social Worker	Eastern Oregon, Northwest Oregon

These data clearly show the current supply of healthcare occupations is not uniformly distributed across the state. For example, the Mid-Valley OED Region shows a healthcare workforce deficit for all occupations except MHSA Social Workers. While these data do not indicate whether a workforce shortage exists, it does show where fewer per capita healthcare workers are located. In this case, these data show some regions tend to have fewer healthcare workers, and in many cases, have fewer workers across multiple occupations.

The use of population per worker ratios tend to show where there are fewer healthcare workers. However, this ratio alone does not shed light on the nature of the deficit as many factors can influence the ratio, such as the presence of hospitals or other healthcare facilities that employ large numbers of healthcare workers.

Future Need

Two data sources were used to assess the future need of the nursing and allied healthcare workforce. These are the 2027 Oregon Employment Projections report and the 2014 Jobs Opening Survey, both prepared by the OED. The Employment Projections report shows the projected number of workers for each occupation by 2027, while the Job Openings Survey estimates the annual number of job openings for each occupation. These reports also project the number of workers needed due to growth in the occupation and the number due to attrition. For the purposes of this evaluation, most of the emphasis in this section of the evaluation will focus on the job openings survey. It is important here to clarify the distinction between need and demand. For purposes of this study, demand is used to describe the demand by employers for workers, while need is used to describe the societal need for an occupation to be present in the community.

Table 4 – Estimated and Projected Employment and Job Openings by Occupation (2017 – 2027)

Program	2017 Employment	2027 Employment	Total Openings	Openings Due to Growth	Openings Due to Attrition
Registered Nurse	37,353	43,600	26,635	6,247	20,388
Nurse Practitioner	1,762	2,376	1,608	614	994
Physical Therapist	3,052	3,885	2,222	833	1,389
Radiologic Tech.	2,254	2,551	1,517	297	1,220
Med/Cln Lab Tech	2,281	2,521	1,693	240	1,453
MH Counselor	3,158	3,715	4,068	557	3,511
MHSA Social Worker	2,304	2,684	2,861	380	2,481

The Job Openings Survey categorize each occupation based on the entry level of education needed for the occupation, as defined by the OED. These categories for each of the occupations examined in this report can be seen in Table 5.

Table 5 – Occupations by Entry Level Education Category

Education Category	Occupations
Graduate Degree	Nurse Practitioner, Physical Therapist, Mental Health Counselor, MHSA Social Worker
Bachelor's Degree	Registered Nurse, Med/Clinical Laboratory Technologist
Associate Degree	Radiologic Technologist

Note: Radiologic Technologist is a baccalaureate degree; this table simply reflects OED's categorization of this occupation.

Within each entry-level education category, the number of job openings were ranked against all occupations, including non-healthcare related occupations, so that a qualitative assessment can be made for each occupation within and across regions. The results of this analysis show registered nurses, physical therapists, and radiologic technologists consistently rank very high in the relative number of annual job openings. Additionally, medical clinical laboratory technologist openings ranked consistently low across all regions. Table 6 shows the number of regions where an occupation ranked in the top 10 for job openings. The full list of job openings and ranking can be found in Appendix B.

Table 6 – Number of Regions* with a Top 10 Ranking

Occupation	Number of Regions
Register Nurse	8
Nurse Practitioner	3
Physical Therapist	8
Radiologic Technologist	7
Med/Clinical Laboratory Technologist	0
Mental Health Counselor	4
MHSA Social Worker	3

*There are eight OED regions in the state.

Table 7 shows the median job opening rankings across all nine OED regions. As can be seen, many of the occupations included in this study have a median ranking that falls within the top 10 for all job openings. Taken together, these two lines of evidence strongly indicate that a high level of need exists for these occupations.

Table 7 – Median Job Opening Ranking

Occupation	Median Ranking
Register Nurse	1
Nurse Practitioner	11
Physical Therapist	4
Radiologic Technologist	7
Med/Clinical Laboratory Technologist	35
Mental Health Counselor	11
MHSA Social Worker	9

One surprising finding from this study is the high level of need for registered nurses despite an unprecedented increase in the number of nurses licensed in the state. There are currently more than 51,000 licensed registered nurses in Oregon, and it appears we are in a period of rapid growth of the nursing workforce. Between 2014 and 2016, the number of licensed registered nurses grew by a little more than nine percent, which is almost three times faster than population growth. In addition, there has been a rapid influx of out-of-state nurses applying for an Oregon nursing license. Beginning in 2013, most registered nurses applying for an Oregon nursing license have been from out-of-state. Almost 70 percent of all new licenses issued in 2015 were to nurses from outside Oregon. While not all nurses licensed in Oregon physically work in the state, the current rapid growth in the nursing field is somewhat counterintuitive to the reported need for nurses from employers.

Educational Opportunities and Capacity

The educational pipeline is considered to be the key element in ensuring an adequate, qualified workforce is present in the state or local community. If educational opportunities are limited, either by number of schools or limited enrollment, then it is very difficult to find enough workers to meet the need for those occupations. For this evaluation, three metrics were used to determine

an adequate educational pipeline for each occupation. The first metric used in the number of schools or programs within the state to meet the projected need. The second metric is the number of graduates from each program within the occupation, and third, the acceptance rate, which is the percent of applicants admitted into the school or program. Taken together and combined with other measures, such as the number of annual job openings, it is possible to assess whether adequate capacity exists in the current educational system to meet the need for allied healthcare occupations. The data used to illustrate educational capacity for all schools included in this evaluation can be found in Appendix C.

Table 8 – Number of Schools, Admission, and Applicants (2016-2017 Academic Year)

Program	Number of Schools	Number Admitted	Number of Applicants	Acceptance Rates
Registered Nurse*	23	1,740	7,876	22%
Nurse Practitioner	2	29	81	36%
Physical Therapist	2	94	1,645	6%
Radiologic Tech.	1	48	100	48%
Med/Cln Lab Tech	1	50	82	61%
MH Counselor	11	208	767	25%
MHSA Social Work	4	343	810	35%

*Note: Data from the 17 associate degree nursing programs in Oregon are included.

As can be seen in Table 8, applicants for many of the occupations being investigated have few choices of where to study. Four of the seven fields of study have only one or two schools available in Oregon and many are extremely competitive for admission. While this provides one way to look at the adequacy of the education system, it does not provide a gauge as to whether the schools are graduating enough potential healthcare workers to meet the need for those occupations. By examining the relationship between the number of graduate and the annual job openings, it can be determined if the current system is adequate to meet future need.

Table 9 clearly shows that for most occupations, there are not enough graduates each year to fill all projected job openings. The one exception is for nurse practitioners. Based on these statewide figures, it is apparent that Oregon's education system is not matriculating enough graduates to meet projected need alone. This would indicate that many jobs will not be filled and employers and the community must rely on other means to meet their need, either by migration from other states or the use of non-permanent workers.

Table 9 – Number of Annual Graduates and Job Openings

Occupation	Annual Graduates (2016-2017)	OED Estimated Annual Job Openings
Registered Nurse*	1,570	2,664
Nurse Practitioner	89	161
Physical Therapist	92	222
Radiologic Technologist	45	152
Med/Cln Laboratory Tech	47	169
MH Counselor	166	407
MHSA Social Worker	313	286

*Note: Data from the 17 associate degree nursing programs in Oregon are included.

However, this does not tell the whole story, as these data do not address the distribution of schools across the state. As can be seen in Table 10, most of the schools examined as part of this evaluation are in the Portland metro area, which can limit the likelihood of graduates moving to other parts of the state for employment. The lack of local educational capacity in many regions of the state may be a factor in the inability to find and retain allied healthcare workers.

Table 10 – Number of Schools by Location

Program	Number of Schools	Number in Portland Metro	Number in Willamette Valley	Number in Rest of State
Registered Nurse (BSN)	6	6	0	0
*OHSU		1	1	3
Nurse Practitioner	2	2	0	0
Physical Therapist	2	2	0	0
Radiologic Tech.	1	0	0	1
Med/Cln Lab Tech	1	1	0	0
MH Counselor	11	6	4	1
MHSA Social Worker	4	3	1	0

*Note: Only BSN program schools are included. OHSU has four satellite campuses; Ashland, Klamath Falls, La Grande, and Monmouth, plus the main campus in Portland. OHSU enrollment figures are aggregated across all campuses. (see Table 8)

Summary of Findings and Conclusions

The results of this analysis clearly show the current supply of healthcare workers is inadequate to provide critical access to healthcare in many of regions across Oregon. While these data do not directly address whether a statewide shortage of healthcare workers exist, it does point to a mal-distribution of workers within the state. That is, the current supply of healthcare professionals is not uniformly spread across the state, and many regions show a deficit of qualified workers.

Projections of future industry growth and current job openings strongly suggest there is a need for more healthcare workers. For each occupation examined, the OED projects continued job growth, and reports healthcare as one of the fastest growing industries. Additionally, most of the occupations included in this study have relatively more job openings. When the number of job openings is directly compared with openings from all other occupations, healthcare ranked high in most regions. The need for certain healthcare professionals is most acute for registered nurses, physical therapists, and radiologic technologists. Thus, these two lines of evidence suggest a need exists for more healthcare workers, but more importantly, that the level of need varies across regions and across occupations. These findings should also caution policy makers that rapid growth in the number of licensed healthcare workers, such as that currently seen with registered nurses, does not preclude the need for even more healthcare professions across Oregon

Ample educational opportunities are critical to ensuring an adequate supply of qualified healthcare workers. However, the data presented in this study indicate an opportunity to gain the required education to become a healthcare profession is not available to all Oregon residents. Few schools provide the necessary education for most of the studied healthcare occupations, and consequently, admission to these schools is very competitive. These data also show almost all programs examined are located within urban centers of the state. For example, of the two schools in Oregon that train physical therapists, both have acceptance rates of less than 10 percent and both schools are located with the Portland Metro area.

Lastly, but maybe most importantly, the schools are simply not graduating enough qualified healthcare workers to meet current and projected need. Based on the current supply, projected need, and a limited educational pipeline, Oregon's current educational capacity alone will not meet the need for healthcare workers regionally or across the state. Unless capacity can be increased, employers will need to rely on sources outside of the state, such as travelers or using other recruitment efforts, to fill the gap. The inability to meet this demonstrated need will affect everyone in the state seeking healthcare, but will likely have a larger impact on older residents and those who live in rural areas of Oregon.