



Oregon Center for
N U R S I N G

The State of Public Health Nursing: An Enumeration and Demographic Profile of Public Health Nurses in Oregon

The nursing workforce in hospital and long-term care settings has received much attention from researchers, so the size and characteristics of the registered nurses (RN) practicing in these settings are well understood (Buerhaus & Needleman, 2000; Buerhaus, Donelan, Ulrich, Desroches, & Dittus, 2007; McGilton, et al., 2016). In contrast, RNs practicing in local public health departments are difficult to assess and characterize due to unclear practice boundaries, diverse employment settings, and a lack of clear standards for data collection practices (Sumaya, 2012; Beck, Boulton, & Coronado, 2014).

Efforts to count and characterize the public health nursing workforce have been met with issues regarding enumeration methods, differences in the definition of a public health worker (Beck, Boulton, & Coronado, 2014), and sporadic reporting which has made direct comparisons across studies difficult (Merrill, Btoush, Gupta, & Gebbie, 2003). Additionally, many U.S. government efforts to enumerate the public health workforce have focused on the entirety of the national public health workforce, not just public health nurses (Merrill, et al., 2003). Given these constraints, it is hardly surprising so little is known about the local public health department nursing workforce.

Due to this lack of information about the nursing workforce practicing in local public health departments, the Oregon Health Authority (OHA) contracted with the Oregon Center for Nursing (OCN) to conduct a study on the public health nursing workforce across Oregon. The purpose of this study was to count the nursing workforce practicing in local public health departments, and gather demographic, licensure, and educational information to allow a characterization of this lesser known group. This study represents a first step towards increasing knowledge about this vital workforce in the state, and these data may also provide the foundation for a workforce capacity assessment to evaluate potential expansion of public health programs, notably the maternal and child health home visitation programs. The development of recruitment and retention strategies to maintain and potentially enhance the public health nursing workforce in Oregon may also be possible.

Methods

Two surveys were fielded to assess the public health nursing workforce across Oregon. The first survey (LHO Survey) was directed at local public health officials in each of Oregon's 32 local public health departments. This LHO Survey focused on the accounting of nurses who work in public health, and how nursing staff were allocated across public health program within each department. LHOs were instructed to exclude nursing staff who provide direct patient care, such as through a clinic or primary care office. Only those nurses who work in the public health

section/division were to be included in the count. The LHO Survey was in the field between September 17, 2021 and October 20, 2021 and was sent to each local health official directly.

The second survey was directed to nurses practicing in local public health departments. The Public Health (PH) Nurse Survey asked about demographic, education, and licensure information. The PH Nurse Survey was in the field between October 25, 2021 and November 24, 2021, and was a non-random, targeted, convenience sample survey distributed to nurses practicing in local public health departments by the local health officials (LHO) and representatives serving on the Access to Preventive Services Committee and the Communicable Disease Committee of the Council of Local Health Officials (CLHO).

To protect the confidentiality of nurses responding to the survey, all analyses were conducted at a regional level (Table 1). The public health region structure is based on Oregon Health Authority’s regional designation for public health emergency response (OHA, 2020). For the purposes of this report, Regions 2, 3, and 5 were collapsed to form the West Coastal Region; Regions 6 and 7 were collapsed to form the Central Oregon regions. The Portland Metro region is comprised of Region 1 and the East Oregon region is comprised of Region 9.

Table 1: Public Health Regions

Region	Local Public Health Departments
Central Oregon	Crook, Deschutes, Grant, Harney, Hood River, Jefferson, Klamath, Lake, North Central, Wheeler
East Oregon	Baker, Malheur, Morrow, Umatilla, Union
Portland Metro	Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
West Coastal	Benton, Coos, Douglas, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Polk, Yamhill

Note: North Central Public Health covers Gilliam, Sherman, and Wasco counties.

Note: Curry and Wallowa public health services are administrated by the Oregon Health Authority.

Results

LHO Survey

Twenty-seven (84.4%) of the 32 local public health departments responded to the LHO Survey. Data from the OHA public health department directories were used to estimate the number of public health nurses for four non-responding local public health departments and data was unavailable for one department. With the inclusion of data from OHA’s public health department directories, data were available for 31 of 32 (96.9%) local public health departments. Thus, data presented below were estimates for the number of nurses practicing in local public health.

Analyses indicate there were about 342 nurses currently practicing at local public health departments (see Table 2). Of these, 272 (80%) were identified as staff nurses and 70 (20%) served in managerial or supervisory capacities. Additionally, almost 90 percent of nurses practicing in local public health departments were employees of the department.

Table 2: Enumeration of Public Nurses

Region	Total Number of PH Nurses	Number of Staff Nurses	Number of Nurses in Managerial Role	Percent of Nurses Who Are Employees
Central Oregon	64	49	15	98.2%
East Oregon	21	16	5	100.0%
Portland Metro	145	124	21	77.5%
West Coastal	112	83	29	97.7%
State of Oregon	342	272	70	88.6%

The allocation of staff nurse FTEs across public health regions (Table 3) showed significant resources being allocated to Maternal & Child Health (M&CH) Home Visitation programs, communicable disease surveillance, and other public health programs. Reproductive health and immunization programs were also supported by nursing staff resources.

Table 3: Allocation of Nursing Staff FTEs by Public Health Programs

Staff Nurses	Central Oregon	East Oregon	Portland Metro	West Coastal	State of Oregon
Communicable Disease	14.1%	18.6%	20.0%	22.0%	19.5%
Reproductive Health	12.4%	32.9%	3.1%	4.7%	8.0%
M&CH Home Visitation	37.2%	18.3%	24.6%	57.0%	39.5%
Immunization	12.7%	15.2%	1.5%	9.5%	8.1%
PH Emergency Prep.	1.4%	0.6%	0.0%	0.0%	0.3%
WIC	0.2%	0.0%	0.0%	0.0%	0.0%
Other PH Programs	21.9%	14.3%	50.8%	6.8%	24.5%

The examination of FTEs for nurses serving in managerial or supervisory roles (Table 4) also showed significant resource allocation to Maternal & Child Health Home Visitation programs, communicable disease surveillance, other public health programs, and administration.

Table 4: Allocation of Nurse Managers/Supervisors FTEs by Public Health Programs

Nurse Manager/Supervisors	Central Oregon	East Oregon	Portland Metro	West Coastal	State of Oregon
Administrator	28.9%	22.2%	15.4%	6.6%	14.4%
Communicable Disease	27.3%	2.2%	20.0%	18.6%	19.5%
Reproductive Health	23.0%	4.4%	0.0%	10.0%	10.2%
M&CH Home Visitation	18.4%	44.4%	23.1%	34.2%	29.2%
Immunization	1.6%	4.4%	3.1%	10.0%	6.3%
PH Emergency Prep.	0.0%	0.0%	0.0%	0.0%	0.0%
WIC	0.8%	0.0%	0.0%	4.0%	2.2%
Other PH Programs	0.0%	22.2%	38.5%	16.6%	18.2%

Public Health Nurse Survey

In response to the PH Nurse Survey, OCN received a total of 157 completed surveys. Of these, 148 were completed by public health nurses, while the remaining nine surveys were completed by non-nursing staff. For the purposes of this report, only surveys completed by public health nurses were included in the following analyses. The response rate was 43 percent, and except for East Oregon, the regional response rates were very similar (Table 5). The comparability of the response rates across the three regions, which closely matched the overall response rate, reduced concerns about regional biases (i.e., the responses from one region having undue influence on the overall results of the survey analyses). The higher than expected response rate observed for East Oregon should have little influence on the overall results as it represented the region with the fewest responses.

Table 5: PH Nurse Survey Responses and Response Rate

	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
No. of Completed Surveys	27	13	59	49	148
No. of PH Nurses (Table 2)	64	21	145	112	342
Response Rate	42%	62%	41%	44%	43%

When asked about gender identity, more than 90 percent of public health nurses identified as female, while only four percent identified as male (Table 6). Women were slightly more prevalent among the public health nursing workforce, as about 85 percent of licensed RNs in Oregon identify as female, while a little more than 12 percent identify as male (OCN, 2020).

Table 6: Gender Identity of Public Health Nurses

Gender	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Decline to answer	0.0%	0.0%	1.9%	6.8%	4.2%
Female	100.0%	92.3%	92.3%	90.9%	91.7%
Male	0.0%	7.7%	5.8%	2.3%	4.2%

When asked about racial/ethnic identity, about 76 percent of public health nurses identified as being white, but this varied across regions (Table 7). In the Portland Metro region about 68 percent identified as white, while over 90 percent of public health nurses in Central Oregon and East Oregon regions identified as such. Among licensed RNs in Oregon, about 77 percent identified as white (OCN, 2020). Public health nurses who identified as Hispanic/Latino/a/x, and black and African American were slightly over-represented in the public health nursing workforce. Of the licensed RNs in Oregon, about four percent identified as Hispanic/Latino/a/x and a little more than one percent identified as black and African American. Racial/ethnic diversity was greatest in the Portland Metro region.

Table 7: Racial/Ethnic Identity of public Health Nurses

Race/Ethnicity	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Hispanic and Latino/a/x	4.5%	7.7%	9.5%	11.8%	9.4%
White	90.9%	92.3%	68.3%	76.5%	76.5%
American Indian and Alaska Native	0.0%	0.0%	1.6%	2.0%	1.3%
Black and African American	0.0%	0.0%	11.1%	3.9%	6.0%
Asian	0.0%	0.0%	6.3%	0.0%	2.7%
Don't know / Unknown	0.0%	0.0%	1.6%	0.0%	0.7%
Don't want to answer / Decline	4.5%	0.0%	1.6%	5.9%	3.4%

The distribution by age and the average age of public health nurses showed the age distribution among public health nurses was very similar across regions (Table 8). Public health nurses in the Central Oregon and West Coastal regions were slightly older, with an average age of 47 and 46 years, respectively. Those in the East Oregon or Portland Metro regions were slightly younger (43 years in both regions) than those in the other two regions. As a comparison, the average age of a licensed RN in Oregon was 47 years (OCN, 2020).

Table 8: Age Distribution of Public Health Nurses

Age	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
<25	0.0%	0.0%	2.0%	2.3%	1.5%
25-34	18.2%	30.8%	23.5%	13.6%	20.0%
35-44	31.8%	23.1%	31.4%	34.1%	31.5%
45-54	9.1%	23.1%	19.6%	22.7%	19.2%
55-64	36.4%	15.4%	23.5%	27.3%	26.2%
65+	4.5%	7.7%	0.0%	0.0%	1.5%
Average Age	47	43	43	46	45

An examination of responses about when respondents received their initial nursing license showed public health nurses obtained their initial Oregon nursing license an average of 12 years ago (Table 9). About a third of public health nurses received their initial nursing license in another U.S. state, and received it about 17 years ago. A little less than 60 percent of public health nurses practicing in the Portland Metro region obtained their initial license in Oregon, while only about 77 percent of public health nurses practicing in the Central Oregon region obtained their initial nursing in Oregon.

Table 9: Years Since Initial Nursing Licensure

Initial Nursing License	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Years Since Initial Oregon Licensure	15.3	13.9	11.5	11.4	12.4
Years Since Initial License in Other State	29.2	26.8	11.9	17.2	16.9
Percent of PH Nurses w/ Initial License Outside of Oregon	22.7%	30.8%	41.2%	29.5%	33.1%

On average, a public health nurse in Oregon had practiced in public health for about nine years (Table 10). Public health nurses in the Central Oregon region had practiced in public health for almost 12 years, on average, while those in the East Oregon region had practiced in public health, on average, for a little over six years. Public health nurses had practiced in their current position for an average of five years, and the time in their current position is similar across the regions.

Table 10: Years Practicing in Public Health and in Current Position

	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Years Practicing in Public Health	11.7	6.3	9.4	7.8	8.9
Years in Current Position	5.5	4.3	5.3	4.7	5.0

About 24 percent of public health nurses reported they served in a managerial or supervisory role within their public health departments (Table 11). This was slightly more than the 20 percent identified by the LHOs in the enumeration survey (see Table 2). This finding suggested nurses serving in these roles were slightly more likely to complete the survey. However, because the discrepancy between the two measures was small, it is unlikely a bias towards manager/supervisory staff was present in the results.

Table 11: Public Health Nurses Serving Managerial/Supervisory Roles

Manager/Supervisor	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
No	63.6%	76.9%	80.8%	75.0%	75.6%
Yes	36.4%	23.1%	19.2%	25.0%	24.4%

Public health nurses across Oregon were paid about \$6,422 per month (Table 12). In the Portland Metro region, practicing public health nurses were paid about nine percent more, while those practicing in the East Oregon Region were paid markedly less. Nurses practicing in local public health departments in the Central Oregon and the West Coastal regions reported pay parity with the average public health nurse monthly salary. However, when compared to the average monthly salary for all practicing RNs in Oregon, public health nurses were paid considerably less. According to the Oregon Employment Department, the average monthly salary for a practicing RN in Oregon was about \$8,183 per month. Nurses practicing in public health made about 21 percent less than the average practicing RN. However, some of this variability was due to underlying regional differences in wages. For example, RNs practicing in the eastern part of the state tended to make about 15 percent less (the average RN wage in eastern Oregon was about \$6,986 per month) than the statewide average wage for an RN (OED, 2021). Despite these regional differences, public health nurses were paid less than the average practicing RN in the state. For an overall comparison, the average wage for RNs by OED region is presented in Appendix A. Please note, the regions shown in Appendix A were compiled by OED and differ from the regional designations used in this report and were developed by OHA.

Table 12: Average Monthly Salary of Public Health Nurses

	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Average Monthly Salary / PH Nurse	\$6,163	\$5,261	\$6,993	\$6,248	\$6,422
% Difference / Statewide PH Nurse	-4.0%	-18.1%	8.9%	-2.7%	
Month Salary of All RNs (OED)*					\$8,183
% Diff w/ All Practicing RNs	-24.7%	-35.7%	-14.5%	-23.6%	-21.5%

*Note: Average Monthly salary for all practicing RNs from the Oregon Employment Department for 2021.

When asked about their highest level of nursing education, about 71 percent of public health nurses reported holding a baccalaureate degree in nursing (Table 13). The regions varied considerably with about 88 percent of public health nurses practicing in the Portland Metro region holding a BSN, and about half of public health nurses in East Oregon. For RNs in all practice settings across Oregon, about 54 percent hold a BSN (OCN, 2020). About 18 percent of public nurses reported an ADN as their highest level of nursing education, compared to 33 percent of RNs in all practice settings. Proportionally more public health nurses in the Central Oregon and East Oregon regions held an ADN. While the seven percent of public health nurses holding a master’s degree statewide seemed encouraging, it may be an artifact of response bias as it was based on very few respondents in the smaller regions (i.e., not the Portland Metro region).

Table 13: Highest Level of Nursing Education Among Public Health Nurses

Nursing Education	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Associate degree (ADN)	36.4%	30.8%	5.8%	18.2%	17.6%
Baccalaureate degree (BSN)	50.0%	53.8%	88.5%	65.9%	71.0%
Diploma	0.0%	0.0%	1.9%	0.0%	0.8%
Master’s degree	9.1%	15.4%	1.9%	9.1%	6.9%
Vocational/Practical certificate	0.0%	0.0%	1.9%	0.0%	0.8%
Other	4.5%	0.0%	0.0%	6.8%	3.1%

When asked about their highest level of non-nursing education, about half reported no non-nursing education. Of all respondents, 31 percent reported a non-nursing baccalaureate degree, 10 percent reported a non-nursing master’s degree, and nine percent reported a non-nursing associate degree (Table 14). Responses varied by regions with almost 60 percent of public health nurses in the Portland Metro region and 25 percent in the East Oregon region reporting a non-nursing degree. There was little consensus in the field of study for the non-nursing degree, with

six respondents reporting they had earned a Master’s of Public Health (MPH) and five reported earning a baccalaureate degree in psychology. All other fields of study had fewer than three respondents who indicated they had studied in that field.

Table 14: Highest Level of Non-Nursing Education Among Public Health Nurses

Non-Nursing Education	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
Associate degree	10.0%	8.3%	5.8%	14.0%	9.4%
Baccalaureate degree	15.0%	16.7%	40.4%	32.6%	31.5%
Master’s degree	10.0%	0.0%	13.5%	9.3%	10.2%
Not Applicable	65.0%	75.0%	40.4%	44.2%	48.8%

According to the responses from the PH Nurse Survey, about 68 percent of public health nurses spoke only English (Table 15), and about 23 percent spoke Spanish. The Portland Metro region was the most linguistically diverse, with the Central Oregon and East Oregon regions being the least. Spanish was the most common non-English language spoken by public health nurses across the state, with Portuguese and Russian much less prevalent. Of the other language options within the survey, one or fewer respondents indicated they spoke that language. Because of the very small numbers, those languages are not included.

Table 15: Languages Spoken by Public Health Nurses

Language	Central Oregon	East Oregon	Portland Metro	West Coastal	Statewide
English only	85.0%	81.8%	52.6%	76.7%	67.9%
Spanish	15.0%	18.2%	29.8%	18.6%	22.9%
Portuguese	0.0%	0.0%	3.5%	2.3%	2.3%
Russian	0.0%	0.0%	3.5%	0.0%	1.5%

Discussion and Conclusions

These data represent the first step in the development of a comprehensive picture of the public health nursing workforce in Oregon. They provide the best estimate of the number of RNs practicing in local public health department. Additionally, data collected from the PH Nurse Survey provide a reasonable look at the demographic characteristics of the nursing workforce in local public health departments.

While the enumeration of public health nurses and their demographic characteristics profile can increase our knowledge of this practice setting, these data were not without their limitations.

These results represented a single, initial snapshot of the state of public health nursing in Oregon. Alone, they cannot predict future employment or practice trends of this workforce. Nor, can they predict the long-range outlook for public health nurses, especially considering the ongoing COVID-19 pandemic.

The second limitation related to the collection of data during the fourth, and most severe surge of the SAR-CoV-2 virus in Oregon (OHA, 2021). The surveys were sent during September through November 2021 to an overwhelmed public health workforce. While, the response rate was reasonable and checks for response bias failed to uncover any overt bias in the responses, these data represented a workforce amid a crisis and may not be representative of the workforce during more normal times.

Despite these limitations, the results from this study shed some light on the state of public health nursing in Oregon, and the study findings can be used as the basis for an assessment of the capacity of local public health departments to expand public health programs, like the maternal and child health home visitation program. These data can also be used by state public health officials to illustrate the state of public health nursing in Oregon to state leadership. While these data did not provide the entire story on public health nursing, they can point out the direction for further research and program development to improve the state of public health nursing in Oregon.

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Appendix A

Wage Information for Registered Nurses by OED Region -- 2021

OED Region	OED Wages		Percent of Statewide Wage	Counties Included in OED Regions
	Annual	Monthly		
East Cascades	\$92,824	\$7,735	94.5%	Crook, Deschutes, Gilliam, Hood River, Jefferson, Klamath, Lake, Sherman, Wasco, Wheeler
Eastern Oregon	\$83,842	\$6,987	85.4%	Baker, Grant, Harney, Malheur, Morrow, Umatilla, Union, Wallowa
Lane	\$99,017	\$8,251	100.8%	Lane
Mid-Valley	\$95,257	\$7,938	97.0%	Linn, Marion, Polk, Yamhill
Northwest Oregon	\$96,149	\$8,012	97.9%	Benton, Clatsop, Columbia, Lincoln, Tillamook
Portland Tri-County	\$101,515	\$8,460	103.4%	Clackamas, Multnomah, Washington
Rogue Valley	\$94,535	\$7,878	96.3%	Jackson, Josephine
Southwestern Oregon	\$91,426	\$7,619	93.1%	Coos, Curry, Douglas
State of Oregon	\$98,192	\$8,183		

Note: Represents average annual and monthly wage for registered nurses (SOC Code 29-1141)

Source: Oregon Employment Department, 2021 Oregon Wage Information
<https://www.qualityinfo.org/documents/10182/91911/Oregon+Wage+Information?version=1.15>

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