Oregon Center for NURSING

Primary Care Workforce Crisis Looming in Oregon

Nurse Practitioners Vital to Filling the Gap, But Not Enough to Go Around

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Abstract:

It is well-established that the primary care needs of all Oregonians are outpacing the supply of medical professionals to meet those needs. Nurse practitioners (NPs) are educated and trained to provide primary care and there has been a dramatic growth in the number of NPs throughout the state. However, when we look deeper into what those NPs are actually doing with their skills, we discover that most NPs are not providing primary care, nor are they located in care settings where primary care is most accessible. Bottom line: Unless there is a focused effort to incentivize nurse practitioners to bring their skills and talents to primary care settings throughout the state, patients and communities are at high risk of being underserved in years to come. Given an aging population and fewer physicians practicing primary care, there is a crisis looming in our ability to meet the basic health care needs of all Oregonians.

Background:

A recent position paper by the American Association of Nurse Practitioners (AANP) states 89 percent of the nation's nurse practitioners (NP) are educated and prepared in primary care, and more than 75 percent of NPs are currently practicing in primary care settings (2019). When considering the several challenges to our health care system, such as the aging population, primary care physician shortages, rising healthcare costs, and an increasing demand for healthcare services, these statistics offer a ray of hope to those concerned about inadequate access to primary care across the country (Association of American Medical Colleges[AAMC], 2019; Buerhaus, 2018). However, as the distribution of the healthcare workforce tends to be maldistributed across states and local areas (Oregon Center for Nursing [OCN], 2019), this optimistic view may not hold in all parts of the country.

There is ample evidence of physician shortages in many counties across Oregon (Oregon Health Authority [OHA], 2016; Oregon Office of Rural Health [ORH], 2019), which could be offset by NPs. The aim of this study is to determine a reasonable estimate of the number of NPs providing primary care across Oregon. While the focus of this study is to estimate the capacity of Oregon's NP workforce to deliver primary care, this paper will also describe the nature of the current NP workforce and examine the geographic distribution of NPs providing primary care across the state. Taken together, these data provide policy makers and planners with insight into the ability and capacity of NPs to provide adequate primary care to all Oregonians.

Utilizing Oregon Nurse Practitioners in Primary Care

To fully understand how NPs can fill the primary care gap, it is necessary to understand what is meant by primary care and how and where NPs provide this care. Primary care is defined as health services covering a range of prevention, wellness, and treatment for common illnesses. Primary care providers often maintain long-term relationships with patients and will advise and treat a range of health issues. Primary care providers include physicians, physician assistants and NPs (Centers for Medicare and Medicaid Services, 2019).

NPs are advanced practice registered nurses who obtain a graduate education at the master's or doctoral level and have advanced clinical training beyond their preparation as a professional registered nurse. Advanced didactic and clinical coursework prepare the NP with specialized knowledge and clinical competency to practice in primary care, acute care, long-term care, and mental health settings (AANP, 2019; Buerhaus, 2018).

One of the primary challenges facing Oregon, like many other states, is a physician shortage, especially in primary care (OHA, 2016) and many researchers and policymakers indicate NPs practicing in primary care are poised to fill the physician shortage gap (Barnes, Richards, McHugh, & Martsolf, 2018; Buerhaus, 2018). This is especially true for a state like Oregon, which is a "full practice" state (AANP, 2018).

Oregon, along with 22 other states are considered full practice states (AANP, 2018). In full practice states, state licensure laws permit NPs to evaluate patients; diagnose, order and interpret diagnostic tests; and initiate and manage treatments, including prescribing authority (AANP, 2018). In reduced or restricted practice states, state laws limit an NP's ability to engage in at least one element of an NP's practice and/or require career-long supervision from another provider, usually a physician, to provide patient care. Naylor and Kurtzman (2010) argued state laws limiting NP's scope of practice is the most significant barrier for keeping NPs from providing comprehensive primary care.

Compared to many other states, Oregon is well placed to utilize NPs in primary care for two reasons. First, Oregon's nursing regulations allow NPs to practice independently from physicians, so they can provide needed care in the absence of a physician within the community. Second, there is ample evidence of a lack of physicians in rural communities resulting in gaps of primary care coverage that could be filled by NPs.

The practice environment in Oregon suggests NPs should be able to fill the primary care gap across the state, especially in rural communities. While the AANP suggests 75 percent of practicing NPs nationwide are currently practicing in primary care, a recent survey of NPs across Oregon dispute their findings. Data from a survey of NPs conducted by the Nurse Practitioners of Oregon and OCN found about one third of practicing NPs focused on primary care, while another 22 percent provided a combination of primary and specialty care. Of those NPs providing both primary and specialty care, about 62 percent spent less than half of their time focusing on primary care.

Because of this, the question arises of whether NPs are filling the physician shortage gap. Despite rapid growth in the number of practicing NPs (OCN, 2019), it is unclear whether the capacity of Oregon's NP workforce is adequate to meet the needs of Oregonians seeking primary care. Spetz, Fraher, Li, and Bates (2015) suggest there are many approaches to determining the number of NP providing primary care services. They suggest considering practice setting and primary care specialty, along with the position of the NP, to determine who is most likely to actually provide primary care.

Characteristics of Nurse Practitioners

The number of nurse practitioners in Oregon has shown remarkable growth over an extended period. Growth rates began to rise in 2014 and continued through 2018 (Table 1). In 2018, there were more than 4,000 NPs licensed in Oregon and an estimated 3,200 NPs practicing in the state, with detailed practice data available for 3,013 practicing NPs. Since 2010, the average annual growth in the number of licensed NPs has grown by about 8.5 percent, while NPs practicing in the state grew by about seven percent each year. These high growth rates seem to bode well for NPs to play an expanded role in the provision of primary care as high growth rates could be interpreted as an increase in the capacity of NPs.

Table 1: Number of Licensed and Practicing Nurse Practitioners in Oregon

	2010	2012	2014	2016	2018
Licensed	2,277	2,438	2,794	3,467	4,013
Growth Rate	n/a	7.1%	14.6%	24.1%	15.7%
Practicing	1,950	2,150	2,400	2,900	3,200
Growth Rate	n/a	10.3%	11.6%	20.8%	10.3%

Source: OHA, Public Use Nursing Workforce Data File, 2010-18

Arguments presented by Buerhaus (2018) suggest most NPs, as an increasingly important provider of primary care, should practice in office or clinic settings. Analyses show that just under 60 percent of practicing NPs practiced in an office/clinic or a primary care setting, while 15 percent practiced in a hospital or ambulatory urgent care setting (Table 2). While this statistic may seem superfluous on the surface, it is important because if NPs are increasing capacity in primary care, they should be practicing in settings conducive to the provision of primary care (e.g., clinic or office settings).

Table 2: Common Practice Settings for Nurse Practitioners

PRACTICE SETTING	Count	Percent
Office/Clinic (BON)	1,588	52.7%
Hospital	444	14.7%
Primary Care	188	6.2%
Public Community Health	131	4.3%
Ambulatory Urgent/Emergency	66	2.2%
Educational or Research Institution	61	2.0%

Source: OHA, Public Use Nursing Workforce Data File, 2018

NPs, like registered nurses (RN), served in a wide variety of roles within the nursing profession. If NPs are to play a significant role in the provision of primary care, it would be expected that most NPs practice in that role. Indeed, data show 90 percent of practicing NPs functioned as nurse practitioners (Table 3). NPs did practice in other roles, but to a much lesser extent. Staff nurse and nurse educators were the most numerous of these other roles, but each accounted for less than five percent of the workforce.

TABLE 3: Positions of Nurse Practitioners in Oregon, 2018

POSITION	Count	Percent
Nurse Practitioner	2,710	89.9%
Staff Nurse	139	4.6%
Nurse Educator	66	2.2%
Nurse Manager/Supervisor	34	1.1%
Nurse Administrator	15	0.5%
Nurse Consultant	9	0.3%
Other	40	1.3%
Total Practicing NPs	**3,013**	

Source: OHA, Public Use Nursing Workforce Data File, 2018

Based on the data presented above, it would appear the Oregon's NP workforce is in a good position to expand the capacity in providing primary care to Oregonians who do not have reliable access to a physician. Yet, it appears NPs, like their physician counterparts, provide less primary care than expected and instead focus on specialized care. According to recent data on the practice patterns of physicians, only about 35 percent report practicing primary care (Oregon Health Authority, 2019). Results from the 2019 survey of nurse practitioners in Oregon show similar findings. About 35 percent of NPs' reported a practice dedicated to primary care and another 22 percent reported their practice was a combination of primary and specialty care. Of those who practice both primary and specialty care, about 62 percent spent less than half their time providing primary care (Nurse Practitioners of Oregon, 2019).

To understand the practice patterns of NPs in Oregon and to outline the capacity for primary care, the remaining analyses will focus on the NPs who practice as nurse practitioners to the exclusion of NPs who serve in other positions, such as educators or in administrators.

Estimate of NPs Providing Primary Care

Of those NPs who practice as nurse practitioners, about 43 percent (1,174 NPs) indicated their practice is heavily invested in providing primary care, while the remaining 57 percent (1,536 NPs) reported not being focused on primary care. NPs who focus on primary care are referred to as Primary Care Nurse Practitioners (PCNPs) and the remaining NPs who practice as nurse practitioners but do not focus on primary care are referred to as Non-Primary Care NPs (non-PCNPs).

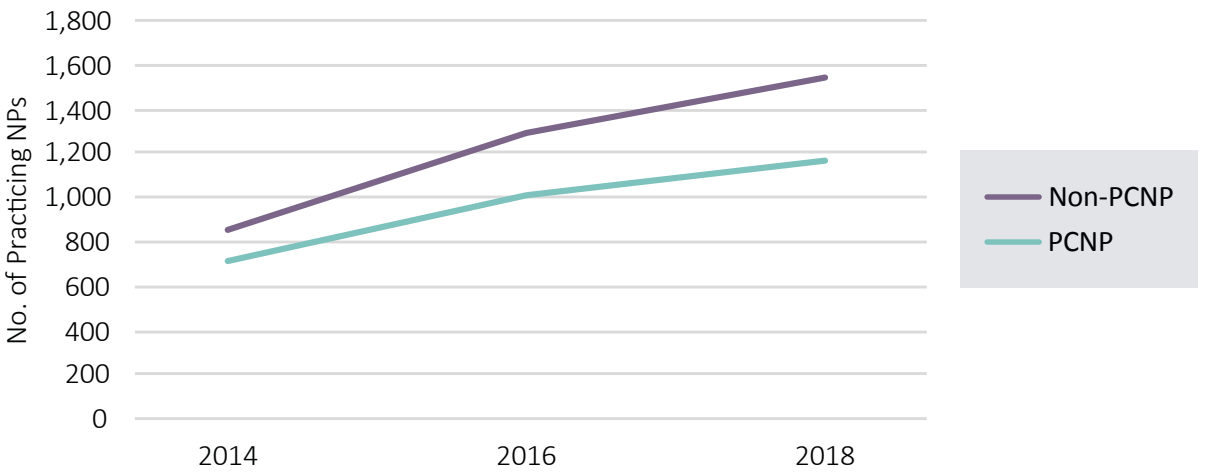
In 2018, there were 1,174 PCNPs with an average annual growth rate of 13 percent and 1,536 non-PCNPs with average annual growth of 16 percent (Table 4). In both 2016 and 2018, the number of non-PCNPs grew faster than PCNPs.

Table 4: Practicing NPs by Category, 2014 - 2018

	2014	2016	2018
PNCP	719	1,017	1,174
Non-PCNP	854	1,293	1,536

Source: OHA, Public Use Nursing Workforce Data File, 2014-2018

Figure 1: Practicing NPs by Specialization



Source: OHA, Public Use Nursing Workforce Data File, 2014-2018

As these findings relate to the increased capacity for primary care, the message is mixed. While it is evident that PCNPs grew in numbers, more NPs chose to focus on areas other than primary care and grew at a slightly higher rate (Figure 1). This means more NPs are providing specialized care and the proportion of PCNPs is declining over time.

While 43 percent of NPs practicing as a nurse practitioner indicated a focus in primary care (PCNPs), the remaining 57 percent provided specialty care (Table 4). This figure is consistent with figures from the 2019 survey of nurse practitioners in Oregon showing 35 percent provided only primary care with an additional 22 percent providing a combination of primary and specialty care (NPO, 2019).

Spetz et al. (2015) argue measuring the number of NPs providing primary care depends on the factors examined, suggesting practice setting and area of specialization should be considered to arrive at a realistic estimate of the number of NPs who provide primary care. The analyses to this point have relied only on licensing data where an NP self-identifies as providing primary care or not.

Additional analysis considering the reported practice setting of self-identified PCNPs and non-PCNPs yield interesting findings (Table 5). About 74 percent of PCNPs practiced in traditional primary care settings (e.g., office, clinic, or primary care settings). About 12 percent practiced in settings one would not be associated with primary care (e.g., hospitals or public health). While about 55 percent of non-PCNPs practiced in clinic or office settings, 28 percent practice in other settings.

Table 5: Practice Settings for PCNPs and non-PCNPs

	PCNPs		Non-PCNPs	
PRACTICE SETTING	Count	Percent	Count	Percent
Office/Clinic/Primary Care*	873	74.4%	851	55.4%
Public Community Health	58	4.9%	62	4.0%
Hospital	42	3.6%	286	18.6%
Skilled Nursing Facility/Long Term Care	30	2.6%	22	1.4%
Ambulatory Urgent/Emergency	7	0.6%	58	3.8%
All Other Settings	164	14.0%	257	16.7%

**Denotes primary care setting*

Source: OHA, Public Use Nursing Workforce Data File, 2018

Spetz et al. (2015) also suggest examining the area of specialization to estimate the number of PCNPs. The definition of who provides primary care becomes important to ensure the correct specializations are included and inappropriate specializations are excluded. The Oregon Health Authority (2019) defines primary care as being delivered by a physician specializing in family practice, general practice, geriatrics, pediatrics, adolescent medicine, or internal medicine. Spetz et al. (2015) generally agree with this definition, although they include settings focused on very limited populations, such as correctional institutions and schools. For this analysis, the OHA definition will be used.

Of the 1,174 practicing PCNPs, about 80 percent reported specialties fitting the definition of primary care, while only 12 percent of non-PCNPs reported a primary care specialization (Table 6). Almost 60 percent of PCNPs reported family practice as their practice specialty while eight percent reported pediatrics, seven percent selected internal medicine, and six percent reported geriatrics. In contrast, 25 percent of non-PCNPs reported psychiatry/mental health, 18 percent reported another specialty, and 16 percent reported obstetrics/gynecology/women's health as their practice specialty. Only 12 percent of non-PCNPs specialized in areas considered primary care (e.g., family medicine, pediatrics, internal medicine, or geriatrics).

Table 6: Practice Specialization for PCNPs and non-PCNPs

	PCNPs		Non-PCNPs	
SPECIALTY	Count	Percent	Count	Percent
Family Practice*	689	58.7%	57	3.7%
Psychiatry/Mental Health	24	2.0%	391	25.5%
Other	35	3.0%	284	18.5%
OB/GYN/Women's Health	59	5.0%	253	16.5%
Emergency/Urgent Care	28	2.4%	142	9.2%
Pediatrics*	93	7.9%	40	2.6%
Internal Medicine*	84	7.2%	44	2.9%
Geriatrics*	73	6.2%	36	2.3%
Oncology	3	0.3%	60	3.9%
Neonatology	9	0.8%	33	2.1%
Community-Based Care	23	2.0%	10	0.7%
Palliative Care	6	0.5%	27	1.8%
Orthopedics	2	0.2%	28	1.8%
Critical Care/ICU/CCU	2	0.2%	25	1.6%
Occupational Health	2	0.2%	21	1.4%
All Other Specialties	42	3.6%	85	5.5%

**Denotes primary care specialty*

Source: OHA, Public Use Nursing Workforce Data File, 2018

These findings support those of Spetz et al. (2015), showing that examination of practice setting and specialty reduce the number of PCNPs, providing a more realistic estimate of the number of NPs providing primary care in Oregon.

To generate the best estimate for the number of NPs providing primary care, the number of PCNPs working in an appropriate setting (e.g., office, clinic, or primary care setting) with an appropriate specialty (e.g., family practice, pediatrics, internal medicine, or geriatrics) was calculated (Table 7). This method yielded a total of 745 PCNPs, just 63 percent of self-identified PCNPs and only 25 percent of all practicing NPs (Table 8).

Table 7: Primary Care Specialty for PCNPs in Office/Clinic Settings

PRIMARY CARE SPECIALTY	Count	Percent
Family Practice	573	77%
Pediatrics	72	10%
Internal Medicine	70	9%
Geriatrics	30	4%
TOTAL	**745**	

Source: OHA, Public Use Nursing Workforce Data File, 2018

Table 8: Estimated Number of PCNPs by Adjustment Method

NP DEFINITION	Count	Percent of PCNPs	Percent of Known Practicing NPs
Known Practicing NPs	3,013	n/a	100%
Practicing in NP Position	2,710	n/a	90%
Primary Care Nurse Practitioner Role	1,174	100%	39%
Practice Specialty	939	80%	31%
Practice Setting	873	74%	29%
Setting & Specialty	745	63%	25%

Source: OHA, Public Use Nursing Workforce Data File, 2018

The main purpose of this study was to assess the capacity of Oregon NPs to provide primary care. To calculate a reasonable and valid estimate of the number of NPs who are providing primary care, data on practice settings, specialties, and practice position must be considered. With this figure in hand, and with the understanding of how it was calculated, the task of understanding the capacity of PCNPs to provide primary care can begin.

NP Capacity for Providing Primary Care

The analysis examining the capacity of PCNPs to deliver adequate primary care will focus on counts of PCNPs adjusted for setting and specialty at the county-level (Table 9). These figures illustrate the number of NPs and how the estimated number of PCNPs is affected by adjusting for practice setting, practice specialty, and both setting and specialty. As can be seen, the number of PCNPs was markedly lower than the number of NPs in most counties. Generally, the largest declines were observed in urban counties, likely because these counties had the greatest concentration of NPs providing specialty care. This strongly suggests that just examining the number of licensed or practicing NPs within a county may grossly overstate the capacity for primary care.

One measure for primary care capacity for Oregon counties is to examine population/provider ratios. This measure examines the per capita number of NPs or PCNPs for each county by adjusting for the population of the county (Table 10). For NPs, the county population/NP ratio showed 23 counties had fewer per capita NPs than the statewide ratio. Of these 23 counties, 13 were rural counties and 10 were urban. However, when examining the population/PCNP ratios, only 12 counties had fewer per capita PCNPs and nine of these were urban counties.

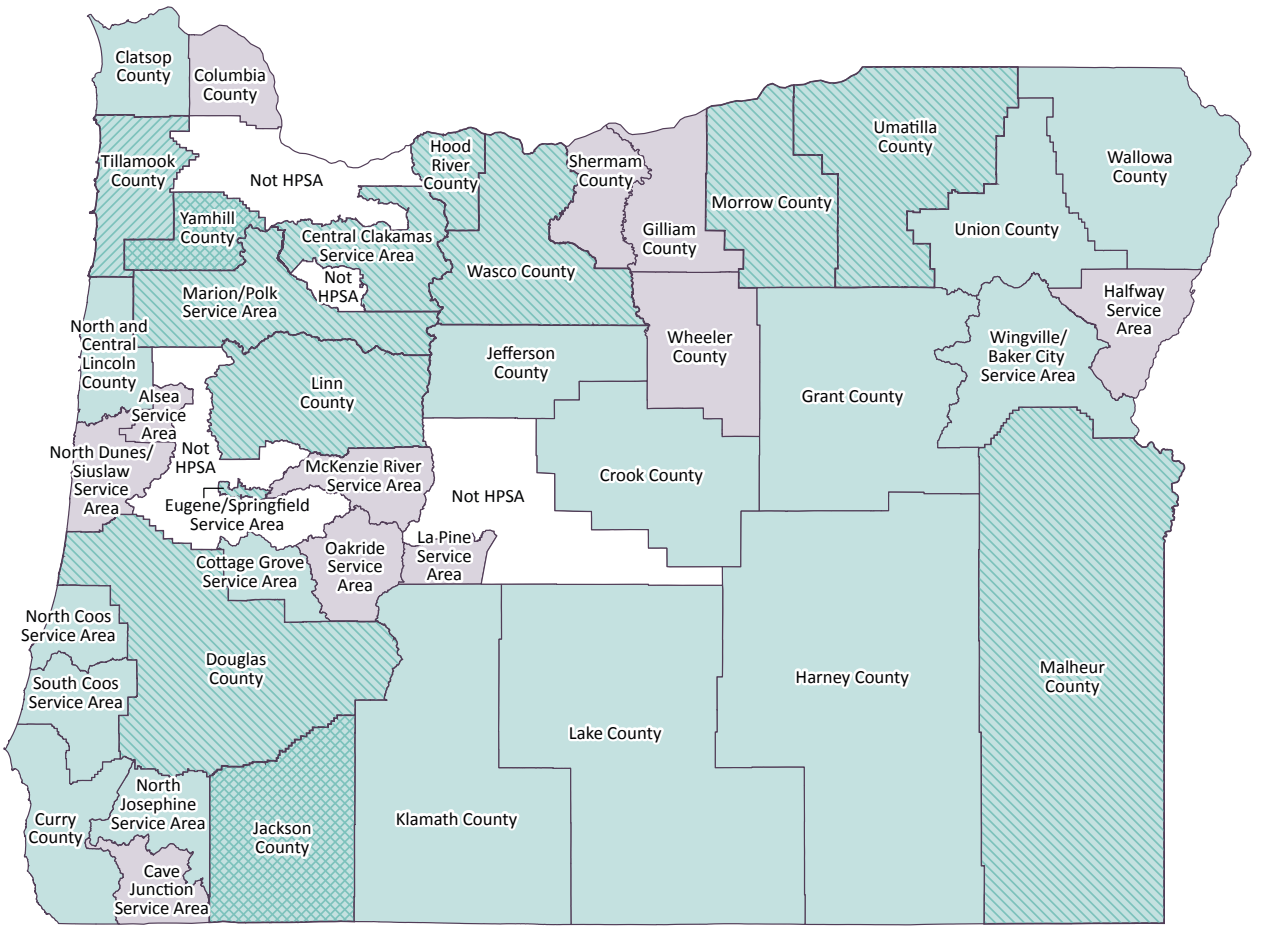
Interestingly, when looking at the per capita number of PCNPs, rural counties fared much better than urban counties. This suggests rural counties have somewhat better access to PCNPs than residents of urban counties. Buerhaus (2018) argued residents of rural counties would be more likely to receive primary care from a PCNP because the number of physicians, especially primary care physicians, practicing in rural areas has been steadily decreasing since the early 2000s, and PCNPs were more likely to practice in rural areas than primary care physicians. The findings from this analysis are consistent with the idea that PCNPs are more likely to practice in rural communities as most of the counties with fewer per capita PCNPs were urban.

Although there are numerically fewer PCNPs in rural counties, there were more PCNPs per capita when adjusted for population. While this analysis was silent on the question of whether there are enough PCNPs to provide needed primary care, it does suggest that rural counties have somewhat better access to primary care via PCNPs than residents of urban counties.

Attempts to address the key question of whether there are enough PCNPs to provide adequate care offer mixed results. Thus, many researchers use analytic methods examining the factors leading to workforce shortages and other barriers to accessing care. One such method involves examining Health Professional Shortage Areas (HPSA). A HPSA is a federal designation given to a geographic area based on certain criteria, such as populations within the area (e.g., low income or migrant and seasonal farmworkers), or certain facilities (e.g., Federally Qualified Health Centers or Rural Health Clinics), and lacks a sufficient healthcare workforce to provide healthcare. A HPSA designation provides access to federal resources to support the current workforce and to expand workforce capacity. These resources include access to loan repayment programs and increased funding for FQHCs and RHCs.

In this study, an examination of primary care HPSA designations in Oregon (FIGURE 2) was used to address the question of capacity for primary care. As can be seen, most of the state, with some exceptions in urban counties, is designated as a primary care HPSA. The broad answer to the question of primary care capacity is straightforward. There are simply not enough providers in most parts of the state to ensure access to necessary primary care. While this examination does not explicitly state the role PCNPs play in providing care in the areas, it does indicate there are not enough primary care providers, including PCNPs to serve the residents of those areas. Taken with findings showing the number of other providers (APPENDIX A), it is clear there are not enough PCNPs to positively impact the provision of primary care. According to OHA, about 35 percent of licensed physicians practice in specialties considered primary care. So, of the 14,013 licensed physicians, about 4,900 would be available to provide primary care across the state. Compare this to the 745 PCNPs who are available to provide primary care. This study clearly illustrates the need for additional PCNPs in almost all parts of the state.

FIGURE 2: Primary Care Health Profession Shortage Area Designations, 2017



Source: Oregon Health Authority Primary Care Office, 2017

Table 9: Number of NPs, PCNPs, and PCNPs in Appropriate Specialty and Setting

		PCNPS			
COUNTY	All NPs	PCNPs (Self-Identification)	Practice Specialty	Practice Setting	Setting & Specialty
Baker	5	1	1	0	0
Benton	61	29	20	24	16
Clackamas	194	74	59	45	40
Clatsop	38	17	14	16	13
Columbia	13	7	6	5	4
Coos	46	21	18	17	15
Crook	6	3	3	3	3
Curry	17	13	13	9	9
Deschutes	121	50	37	35	30
Douglas	83	48	41	35	31
Gilliam	2	2	2	1	1
Grant	4	3	3	3	3
Harney	6	5	4	5	4
Hood River	13	6	6	6	6
Jackson	221	103	75	88	68
Jefferson	7	2	2	2	2
Josephine	62	37	33	28	28
Klamath	40	19	16	15	12
Lake	3	3	3	3	3
Lane	205	94	80	72	62
Lincoln	24	13	11	11	10
Linn	26	14	13	13	13
Malheur	23	12	12	10	10
Marion	185	80	68	61	54
Morrow	4	3	3	3	3
Multnomah	905	261	196	173	141
Polk	32	18	15	14	14
Sherman	1	1	1	1	1
Tillamook	11	8	8	6	6
Umatilla	33	21	19	18	17
Union	33	14	10	11	9
Wallowa	7	5	5	5	5
Wasco	22	13	12	12	11
Washington	320	98	78	76	66
Wheeler	0	0	0	0	0
Yamhill	46	18	16	13	11
OREGON	**3,013**	**1,174**	**939**	**873**	**745**

Source: OHA, Public Use Nursing Workforce Data File, 2018

TABLE 10: Per Capita NP and Adjusted PCNP Counts by County (Population / Provider Ratios)

			Practicing NPs		Adjusted PCNPs	
	COUNTY	Population 2017	Head Count	Pop/NP Ratio	Head Count	Pop/PCNP Ratio
R	Baker	16,750	5	3,350	0	n/a
U*	Benton	92,575	61	1,518	16	5,786
U*	Clackamas	413,000	194	2,129	40	10,325
R	Clatsop	38,820	38	1,022	13	2,986
U*	Columbia	51,345	13	3,950	4	12,836
R	Coos	63,310	46	1,376	15	4,221
R	Crook	22,105	6	3,684	3	7,368
R	Curry	22,805	17	1,341	9	2,534
U*	Deschutes	182,930	121	1,512	30	6,098
R	Douglas	111,180	83	1,340	31	3,586
R	Gilliam	1,995	2	998	1	1,995
R	Grant	7,415	4	1,854	3	2,472
R	Harney	7,360	6	1,227	4	1,840
R	Hood River	25,145	13	1,934	6	4,191
U*	Jackson	216,900	221	981	68	3,190
R	Jefferson	23,190	7	3,313	2	11,595
U*	Josephine	85,650	62	1,381	28	3,059
R	Klamath	67,690	40	1,692	12	5,641
R	Lake	8,120	3	2,707	3	2,707
U*	Lane	370,600	205	1,808	62	5,977
R	Lincoln	47,960	24	1,998	10	4,796
U*	Linn	124,010	26	4,770	13	9,539
R	Malheur	31,845	23	1,385	10	3,185
U*	Marion	339,200	185	1,834	54	6,281
R	Morrow	11,890	4	2,973	3	3,963
U	Multnomah	803,000	905	887	141	5,695
U*	Polk	81,000	32	2,531	14	5,786
R	Sherman	1,800	1	1,800	1	1,800
R	Tillamook	26,175	11	2,380	6	4,363
R	Umatilla	80,500	33	2,439	17	4,735
R	Union	26,900	33	815	9	2,989
R	Wallowa	7,195	7	1,028	5	1,439
R	Wasco	27,100	22	1,232	11	2,464
U*	Washington	595,860	320	1,862	66	9,028
R	Wheeler	1,480	0	n/a	0	n/a
U*	Yamhill	106,300	46	2,311	11	9,664
	OREGON	**4,141,100**	**3,013**	**1,374**	**745**	**5,559**

U = Urban county; U* = Urban county with rural census tracts (RUCAs); R = Rural county

Source: OHA, Public Use Nursing Workforce Data File, 2018; PSU, Population Research Center, Certified Population Estimates, 2017

Conclusions

When considering the impact of the nurse practitioners in providing primary care in Oregon, policymakers may be tempted to rely on statistics that suggest 75 percent of the NP workforce is practicing in primary care. This is a gross overrepresentation and relying on a flawed estimated workforce could potentially leave patients and communities underserved. Careful analysis of multiple factors suggests only 25 percent of Oregon's NP workforce are practicing in primary care. It raises the all-important question, are 745 PCNPs enough to meet the primary care needs of all Oregonians? If not, how many PCNPs should there be to provide adequate primary care?

Because most of the state and all the rural areas are designated as primary care HPSAs, it is apparent there are not enough providers to adequately meet the need for primary care. However, because the HPSA designation accounts for all primary care providers, it is impossible to determine how many additional PCNPs are needed. This lack of clarity also affects other primary care providers (e.g., physicians and physician assistants), as the number needed of each profession is impossible to determine. As with the maldistribution of the nursing workforce (OCN, 2019), accounting for local conditions and circumstances are critically important in quantifying the need for additional primary care providers.

PCNPs can and do play a critical role in the delivery of primary care across the state. When taking into consideration the estimated 4,900 primary care physicians, PCNPs make up about 15 percent of the potential primary care workforce. While proportionally small, PCNPs often fill gaps in delivering primary care to residents where physicians are simply not present or where they are highly dispersed (Buerhaus, 2018).

These findings make clear that access to primary care must be improved in every area of the state and includes the need for additional primary care physicians and PCNPs. This study and previous research (OCN, 2019) indicate local environmental concerns must be considered to ensure enough PCNPs are available in areas where they are most needed.

Recommendations

1. To ensure all Oregonians, have access to primary care, community and state leaders should consider a few strategies to recruit and retain more PCNPs. Communities can examine avenues to create new or utilize existing incentive programs (e.g., student loan repayment programs or grants for PCNPs to establish a primary care practice) to attract additional PCNPs into their communities. Community leaders should also determine localized challenges when recruiting PCNPs, such as housing shortages and employment opportunities for the partners of PCNPs. Alternatively, primary care physician groups could be incentivized to include PCNPs into their existing practice, thereby increasing the capacity for primary care.

2. Additionally, the education system should be examined to increase the number of NPs graduating from schools in Oregon. Data suggest this is currently inadequate to meet the needs of the state, as more than 70 percent of the current NP workforce received their education in another state (NPO, 2019) and our current graduate programs are graduating less than 50 new NPs each year (OSBN, 2019). This is wholly inadequate to meet current demand for primary care and will not come close to meeting the anticipated future demand. If nothing is done to expand educational opportunities for potential PCNPs in Oregon, employers and communities must rely on PCNPs educated in other states. As previous OCN research has described, expanding education opportunities requires an increase in faculty, as well as an increase in clinical experiences and preceptors (OCN, 2017).

3. Lastly, community leaders and health officials should examine the reasons NPs choose to or choose not to focus on primary care. What are the underlying motivations for an NP to engage in primary care? What attracts them to rural communities? Is providing primary care an option for employed NPs? Why do NPs choose to work in non-primary care roles? What incentives might change their minds? Once these underlying reasons are understood, communities can use this knowledge to attract NPs to provide primary care in their communities.

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Appendix A of this report is available in the electronic version at **oregoncenterfornursing.org**

Appendix A: Number of Practicing NPs, PCNPs, Physicians, and Physician Assistants

COUNTY	Practicing NPs	Adjusted PCNPs	Physicians	Physician Assistants
Baker	5	0	66	8
Benton	61	16	364	53
Clackamas	194	40	1,157	117
Clatsop	38	13	119	12
Columbia	13	4	25	9
Coos	46	15	158	18
Crook	6	3	18	5
Curry	17	9	50	8
Deschutes	121	30	706	146
Douglas	83	31	249	39
Gilliam	2	1	0	2
Grant	4	3	14	0
Harney	6	4	15	2
Hood River	13	6	107	16
Jackson	221	68	756	110
Jefferson	7	2	26	8
Josephine	62	28	179	32
Klamath	40	12	166	24
Lake	3	3	14	3
Lane	205	62	1,108	176
Lincoln	24	10	80	26
Linn	26	13	200	40
Malheur	23	10	128	25
Marion	185	54	919	119
Morrow	4	3	6	4
Multnomah	905	141	4,884	523
Polk	32	14	69	17
Sherman	1	1	0	0
Tillamook	11	6	55	8
Umatilla	33	17	189	25
Union	33	9	62	3
Wallowa	7	5	19	2
Wasco	22	11	91	11
Washington	320	66	1,811	237
Wheeler	0	0	1	1
Yamhill	46	11	202	25
OREGON	**3,013**	**745**	**14,013**	**1,854**

Source: OHA, Public Use Nursing Workforce Data File, 2018; OHA, Oregon's Medical Workforce, 2019

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To view previous reports on the supply of nursing professionals in Oregon, please visit www.oregoncenterfornursing.org.

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