

2018 Washington State Advanced Registered Nurse Practitioner Survey Data Report



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Louise Kaplan, PhD, ARNP, FNP-BC, FAANP, FAAN
Principal Investigator
Justin Gill, MS, ARNP, FNP-C, Yale University DNP Student
Co-Investigator

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Introduction

As of August 2018, there were 9030 licensed advanced registered nurse practitioners (ARNPs) in Washington State (T. Corrado, personal communication, August 29, 2018). ARNPs include nurse practitioners, nurse anesthetists, nurse midwives, psychiatric clinical nurse specialists, and clinical nurse specialists recognized in 2016. The first Washington State ARNP survey was conducted in 1985 by Dr. Marie Annette Brown in collaboration with the Washington State Nurses Association. Passage of schedule II-IV prescriptive authority in 2000 prompted Dr. Brown and Dr. Louise Kaplan to initiate a longitudinal study of the ARNP workforce and its transition to a new scope of practice. Surveys were conducted in 2001, 2003, 2006 and 2015 (Kaplan & Brown, 2004; Kaplan, Brown, Andrilla & Hart, 2006; Kaplan & Brown, 2008; Brown & Kaplan, 2015). Additionally, Susan Skillman and colleagues at the University of Washington Center for Health Workforce Studies have conducted a 2011-2012 Washington State workforce study which included ARNPs (Skillman, Fordyce, Yen, & Mounts, 2012).

In 2018, Washington State University and the Washington Center for Nursing sponsored a survey of Washington State ARNPs, the subject of this report. The purposes of the study were to:

1. Describe characteristics of the Washington State ARNP workforce.
2. Identify and describe characteristics of previous and current Washington State ARNP practice owners and independent contractors.
3. Analyze the ways in which reductions in reimbursement by Washington State health plans in 2013 and 2015 affected ARNP owned practices and independent contractors.

This report highlights data about workforce demographics, salaries, practice and information regarding past and present ARNP owned practices and independent contractors. The data may assist Washington ARNPs to improve their salaries, work environment, and job satisfaction. Results may also be used to predict and plan for the education, utilization and employment of Washington State ARNPs. Some aspects of the data will be compared to results of the 2015 Washington State ARNP survey.

Methods

Design

To address the purposes noted above, this study used a cross-sectional, mixed-mode (electronic and mail) exploratory survey to Washington State ARNPs. The Tailored Design Method (Dillman, Smyth, & Christian, 2009) informed the survey design and administration. The Washington State University Office of Research Assurances determined the study satisfied the criteria for Exempt Research at 45 CFR 46.101(b)(2).

Sample selection

The sampling frame was drawn from the Washington State Department of Health list of actively licensed Washington State ARNPs with addresses in Washington State only which was obtained through a public disclosure request. The list of 6,063 records included name, address, and email address information. Additionally, a search of the Secretary of State and Department of Revenue records for business owners and contractors resulted in lists with 222 unduplicated records for Nurse Practitioners, Nurse Midwives, and Nurse Anesthetists. After comparing the lists and removing duplicates as well as any that did not have any contact information, there were 6,222 records, of which 6188 had valid contact information.

Instrument development and refinement

A 51-item questionnaire was created by the researchers based on Kaplan and Brown's prior Washington State ARNP surveys. The researchers examined the Minimum Nurse Supply Dataset to assure the current study questionnaire reflected its content. Questions were also developed to obtain information from past and present ARNP practice owners and independent contractors. The questionnaire was reviewed by past and present Washington state ARNP practice owners and independent contractors representing nurse practitioners, nurse anesthetists and nurse midwives. The Executive Director of the Washington Center for Nursing, the Director of Reimbursement and Regulatory Affairs of the American Association of Nurse Practitioners (AANP) and the AANP Region X representative, who has licensure in both Oregon and Washington and expertise regarding ARNP regulatory and policy issues, also served as reviewers.

Procedures

The survey was administered online at a dedicated secured web site. The Social and Economic Sciences Research Center (SESRC) at Washington State University hosted the survey, collated responses, and cleaned data for analysis. Postcard mailings and e-mail messages were used to contact the sample with paper questionnaires mailed to business owners (Table 1).

Contact	Date	Number sent
Introduction postcard	5/29/2018	6188
Introductory email	6/5/2018	5509
First reminder email	6/11/2018	5081
First paper questionnaire*	6/18/2018	209
Second reminder email	6/22/2018	4733
Replacement questionnaire*	7/6/2018	189
Final reminder email	7/6/2018	4538
*Practice owner list only		

An incentive to complete the questionnaire was offered with each invitation to participate. This incentive was the opportunity to enter a drawing for ten \$50 Amazon gift cards. In addition to study contacts, several professional ARNP associations sent messages to members to encourage participation. This included ARNPs United of Washington State, the American Association of Nurse Practitioners, Washington Association of Nurse Anesthetists, and American Association of Nurse Midwives Washington Chapter. Of the 6,188 ARNPs who received a contact to participate, 1,235 completed the questionnaire for a response rate of 20.7%.

Descriptive statistics were used to analyze study purpose one and describe characteristics of the Washington State ARNP workforce. The respondents were also grouped into primary and specialty care, and urban and rural location to compare characteristics. For purposes two and three, respondents who were prior or current practice owners or independent contractors were grouped accordingly and characteristics of each group were identified and compared. Analysis was also conducted to understand how reductions in reimbursement by Washington State private health plans in 2013 and 2015 affected ARNP owned practices and independent contractors.

Key Findings from the 2018 ARNP Survey
<ul style="list-style-type: none"> • ARNPs are predominately white (88%) females (86%) with an average age of 48 years • Almost all ARNPs (98%) have a graduate degree (master’s or doctorate) • Family nurse practitioners represent the largest group (47.8%) of ARNPs • The top two locations of practice are a healthcare office/clinic owned by a health care system or organization (30.5%) or independent/privately owned practice (19.6%) • Ten percent of ARNPs own a practice alone or with others • Less than half (41%) of respondents provide primary care while 15% work in rural areas • The average portion of time worked in providing direct patient care was 60% • Two-thirds (68%) were moderately or very satisfied with their current position • An average gross income for an ARNP who works full time is \$128,529 • Only one-third (33%) of respondents prescribe for patients with chronic noncancer pain • The top two reasons prior practice owners and independent contractors closed their practice were reduced reimbursement (29%) and inability to compete with large health systems (20. %)

- Current practice owners and independent contractors reported the top three effects on their practice from reduced private health plan reimbursement were decreases to revenue (35.4%), financial viability (28.8%), and practice owners'/contractors' salaries (26.1%).

Results

Demographics

All respondents completed the initial section of the questionnaire with demographic and background data (Table 2). The sample was of practicing ARNPs was predominantly female (86%), with an average age of 48, white (88%).

Table 2 Demographics

	Percent	Number
Gender		
Male	13.4%	172
Female	86.4%	1108
Other	0.2%	2
Average Age 48 and range of 25-85		
Race/Ethnicity		
White	88%	1132
African American	1.6%	20
Asian	6.2%	80
Pacific Islander	0.7%	9
Native American/ American Indian	1.4%	18
Multi-racial	2%	26
Other race/ethnicity	1%	13
Hispanic	2.9%	37

Only 2% did **not** have a graduate degree (master's or doctorate); 6% did **not** have a graduate degree as initial ARNP preparation while 8% completed a DNP for initial ARNP preparation. With implementation of DNP programs in Washington and across the nation, 13% of respondents reported a DNP compared to 3.6% a PhD as the highest level of education completed. Just over half (54%) completed their initial ARNP education in Washington State (Table 3).

Table 3 Location of Initial ARNP Education

Educational program	Washington	Oregon	Idaho	Other	Total
DNP	83	3	0	18	104
Master's	541	31	3	458	1,033
Post-master's	52	1	0	20	73
Certificate	9	1	0	44	54
On-the-job training	1	0	0	1	2
Other	9	1	0	8	18
Total	695	37	3	549	1,284

The majority of respondents (78%) were nurse practitioners (NPs), 7.2% nurse anesthetists, 5.2% nurse midwives, and 0.4% clinical nurse specialists. The largest group of NPs were certified as family nurse practitioners (FNPs), 48%, with 12.7% a psych/mental health NP or clinical nurse specialist (CNS), and 11.1% certified as adult/gerontological primary care NPs (see Table 4).

Table 4 Areas of Certification

Area of Certification	Percent	Number
Family nurse practitioner	47.8%	613
Acute care	1.7%	22
Acute care pediatrics	0.5%	6
Adult-gero acute care	1%	13
Adult	6.4%	82
Adult-gero primary care	4.5%	58
Adult psych/mental health CNS	1.9%	24
Adult psych/mental health NP	2.4%	31
Child-adolescent psych/mental health CNS	0.9%	11
Gerontological	0.2%	3
Pediatric primary care	5.6%	72
Psych/mental health NP	7.5%	96
Neonatal	1.8%	23
Nurse anesthetist	7.4%	95
Nurse midwife	5.5%	70
School/College Health NP	0.2%	3
Women's health care	3.4%	43
Other	4.8%	62

There was a wide range of years of experience from new graduates with no experience to one respondent with 45 years in practice; the average was 11.8 years. Retirement looms for many respondents with 16% planning to retire within 5 years and 28% within 10 years.

Clinical practice

Almost all respondents (95%) were practicing clinically as ARNPs. Those not in clinical practice did not complete the subsequent section of the questionnaire related to clinical practice. Area of certification did not always directly correlate with area of clinical practice. For example, 67.8% reported a certification in a primary care area of practice (family, adult-gerontology, pediatrics, women’s health) however 37% indicated working in primary care. Of the 48% who reported certification as FNPs, only 22% reported working in family practice.

Location of practice

The most common locations for employment were either an office/clinic owned by a health care system or organization (30.5%), and 19.6% in an office setting either an independent/private office practice (10%), or physician (9.6%) owned practice (Table 5). Fifteen percent reported working in a rural area. Primary care, inclusive of family, pediatric, adult/gero primary care and women’s health care, was provided by 41% of respondents.

Table 5 Five Most Frequent Locations of Practice

	Percent	Number
Office or clinic owned by health care system or organization	30.5%	359
ARNP (10%) and Physician (9.6%) independent/private office practice	19.6%	231
Hospital (in-patient, OR, obstetrics, and other excluding ED)	18.6%	219
Community health center/federally qualified health center	8%	94
Psychiatric/mental health center/clinic	3.4%	40

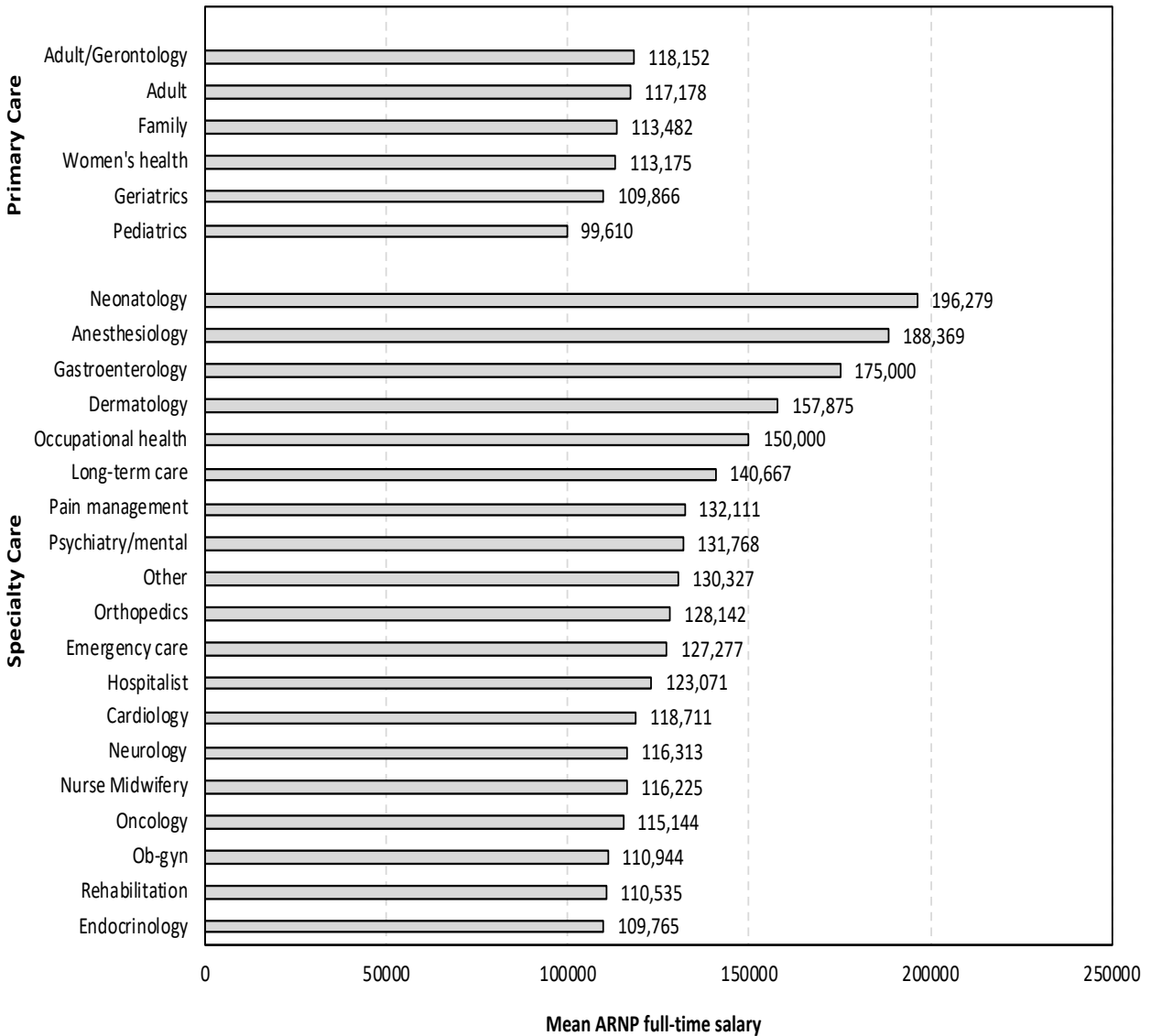
Income

Over two-thirds (68.8%) of respondents reported being salaried with 25% reporting hourly compensation. Respondents could select all types of compensation that applied and many additionally reported compensation that was production-based, RVU based, a percentage of billing and other forms. Of those who reported their actual income for the prior (2017) calendar year, 71% indicated it was for a full-time salary. Among the full-time salaried individuals, the average income for ARNPs employed full-time was \$128,529. Eighteen percent (n=145) full-time ARNPs reported a salary less than or equal to \$100,000 while 82% (n=661) full-time ARNPs reported a salary greater than \$100,000. Certified nurse anesthetists (CRNA) had the highest average salary and clinical nurse specialists (CNS) had the lowest (Table 6). There was a wide range of average salaries based on primary versus specialty care with ARNPs working in anesthesiology having the highest average income of \$188,369 and ARNPs working in pediatrics reported the lowest income of \$99,610 (figure 1)

Table 6 Average Income by Role

Role as an ARNP	Number	Average Income
CRNA	65	191,169
CNS	4	103,625
NP	666	123,194
CNM	40	115,413
Other/Missing	31	131,947
Total	806	128,529

Figure 1 Average Income by Primary and Specialty Care



Clinical practice

Respondents were asked to estimate the percent of time in a typical week that was spent in a variety of clinical practice activities. While considerable variability existed across practice roles and settings, the largest average percent of clinical time was spent in direct patient care (60%) followed by documentation of care (20%); prescription refills (3%), follow-up on labs, diagnostic exams (6%); responding to patient e-mail and phone requests (5%); and professional activities (4%). These data suggest that these ARNPs spend approximately one third of their time

in essential patient care related activities (e.g. test results, follow-up) that are not generally interpreted to be face-to-face connections with patients.

Satisfaction with their current position was high; one-third (32.9%) were very satisfied and another one-third (34.8%) were moderately satisfied. Only 11.1% were very or moderately dissatisfied with their current position.

Participants were provided the statement: “The state is developing new rules for the prescribing of opioids for chronic noncancer pain.” They were then asked if they were prescribing opioids for people with chronic noncancer pain to which only one-third (33%) responded affirmatively. Among respondents not prescribing opioids for chronic noncancer pain, 82.4% indicated prescribing opioids for noncancer pain did not apply to their practice (Table 7).

Table 7 ARNPS Not Prescribing for Chronic Noncancer Pain by Role

	NOT PRESCRIBING	PRESCRIBING	MISSING	TOTAL
CRNA	74	2	17	93
CNS	4	1	0	5
NP	479	121	400	1,000
CNM	43	8	16	67
Other/Missing	32	3	86	121

Analysis of responses by areas of practice also revealed ARNPs practicing in anesthesiology, psych/mental health, and pediatrics as indicating most often prescribing for noncancer pain did not apply to them (see Table 8).

Table 8 ARNPs Not Prescribing for Chronic Noncancer Pain by Area of Practice

	NOT PRESCRIBING	PRESCRIBING	MISSING	TOTAL
Primary care				
Family	47	52	158	257
Adult	20	4	31	55
Geriatric	0	1	14	15
Pediatric	45	6	6	57
Adult/Gerontology	8	2	32	42
Women's health	32	4	14	50
Specialty care				
Anesthesiology	75	2	16	93
Cardiology	26	1	13	40
Dermatology	12	0	0	12
Emergency care	21	10	11	42
Endocrine	15	3	1	19
Gastroenterology	12	2	2	16
Hospitalist	4	1	11	16
Long-term care	2	0	6	8
Nurse Midwifery	24	6	10	40
Neonatology	15	2	4	21
Neurology	4	1	4	9
Ob-gyn	9	2	0	11
Oncology	29	3	2	34
Orthopedics	0	2	7	9
Pain management	1	2	7	10
Psychiatry/mental	123	11	7	141
Rehabilitation	0	0	3	3
Research	1	0	0	1
Occupational health	2	0	2	4
Other	97	18	50	165
Missing	8	0	108	116

Asked to select all that applied, other reasons for not prescribing opioids included a practice policy prohibited prescribing opioids for chronic noncancer pain (26.6%); concern about the state's rules about prescribing opioids(14.9%); and insufficient knowledge about opioid prescribing (20.7%). Only 6.3% (n=72) of respondents had a waiver to prescribe buprenorphine/naloxone for opioid use disorder. Among this group, 63.9% (n=46) actually prescribed the medication.

Past practice ownership and independent contractor work

The survey ascertained prior and current practice ownership and work as an independent contractor. Prior practice ownership and work as an independent contractor in the prior five years was reported by 2.2% (n=25) and 4.6% (n=53) respectively, for a total of 6.8%. Current practice ownership and work as an independent contractor was reported by 10.3% (n=118) and 7.4% (n=85) of respondents. Table 9 displays practice ownership and work as an independent contractor by ARNP role.

Table 9 Practice Ownership/Independent Contractor by Role

Role	Practice now closed	Was a contractor	Currently owns practice	Currently contractor	Never owner or contractor	Missing
CRNA	0%	6%	8%	25%	54%	6%
CNS	0%	0%	0%	0%	100%	0%
NP	2%	4%	10%	5%	72%	7%
CNM	4%	1%	3%	0%	88%	3%
Other	2%	3%	10%	7%	26%	52%

Past practice owners and independent contractors were asked why they closed the practice or stopped work as a contractor (Table 10). The most common reason was reduced revenue (42%, n=29). Two-thirds had accepted patients with Medicare (64%) and Medicaid (66.3%) coverage. Over one-third were unable to estimate how many patients they had served. Among those who could estimate, each practice/independent contractor served on average 1000 patients although reporting included non-numeric data and some reports of patients seen each day rendering this number unreliable.

Table 10 Reasons for Closing a Practice or Stop Working as Independent Contractor

	Number	Percent
Revenue reduced	29	42%
Could not compete with large health systems	15	22.7%
Retired	14	19.7%
Decreased patient volume	12	18.2%
Employees left for better paying jobs elsewhere	8	12.7%
Sold to a large health system	7	10.8%
Could not sell practice	6	9.2%
Contract work decreased	4	6.6%
Unable to recruit clinicians	4	6.3%

Current practice owners and independent contractors

Among current practice owners, 84.5% (n=116) owned their practice alone, another 16.4% (n=18) owned with another ARNP while some (n=15, 13.8%) owned with physicians, physicians and ARNPs, or others. Most (79.9%) ARNP owned practices and independent contractors were in urban/suburban areas. Just over half have one ARNP employee (54%) and just over one-quarter (27%) have no other ARNP employee with few employing other health professional clinicians. Two-thirds (63%) have no other employees with 16% having one employee. Over three-quarters (n=94, 80.3%) were unable to estimate how many patients their practice or work as a contractor served. The three top billing arrangements were use of the ARNP's national provider identification (NPI) number (59.7%), billing with a clinic/facility NPI (14.4%), and no billing with cash only (8.5%).

Respondents were asked to select from a list of 19 major private health plans with which they contract. Three-quarters contracted with Premera Blue Cross (77.3%) and Regence Blue Shield (74.6%). Table 11 summarizes the top ten companies with which the respondents

contracted. More than half of respondents (57.2%) accepted patients covered by Medicare; 45.3% accepted Medicaid Managed Care; and 35.3% accepted Medicaid Fee for Service.

Table 11 Top Ten Private Health Plans and ARNP Contracting

Health Plan	Number	Percent
Premera Blue Cross	133	77.3%
Regence Blue Shield	126	74.6%
First Choice	109	66.9%
Aetna	106	63.5%
Lifewise Health Plan of Washington	101	61.9%
UnitedHealthcare	100	61%
Cigna	83	53.9%
Tricare	76	48.7%
Regence BlueCross BlueShield of Oregon	77	47.8%
Kaiser Foundation Health Plan of Washington	71	45.2%

In 2013, Premera reduced its reimbursement for ARNPs from 100% of the physician fee schedule to 85%. In 2015, Regence reduced its reimbursement for ARNPs from 95% of the physician fee schedule to 85%. Practice owners and independent contractors were asked how this affected various aspects of their practice and work. For most questions, one-third or more responded they did not know how it affected their practice. Over one-third (35.4%) reported a reduction in revenue and over one-quarter (28.6%) reported a reduction in financial viability (Table 12).

Table 12 Effect of Reduction in Reimbursement by Premera and Regence

	Stayed the same	Reduced	Increased	Don't know	Not applicable
Hours open	57.7%	3.2%	1.3%	37.8%	
Panel size	46.3%	5.6%	5%	43.1%	
Salaries of employees	41.2%	9.2%	1.3%	48.4%	
Practice owner/contractor salaries	30.3%	26.1%	0%	43.6%	
Financial viability	30%	28.8%	1.2%	40%	
Revenue	28.6%	35.4%	0%	36%	
Medicaid patients	25%	7.8%	1.6%	37%	37% never accepted
Medicare patients	24.5%	9.6%	1.1%	26.1%	31.9% never accepted

Discussion

The results of the 2015 and 2018 ARNP surveys are not directly comparable as the populations and samples differ. Nonetheless, it is interesting to note the demographics are similar with a slightly less white sample (92% compared to 88%) and a slightly lower average age (50.5 years and 48 years) in 2015 to 2018 respectively. Family nurse practitioners are still the largest group of ARNPs and the top two practice locations of an office owned by a health system, or an ARNP or physician, are comparable to the 2015 survey. ARNP practice ownership/independent contractor status is also comparable with 11% in 2015 and 10% in 2018. A smaller percentage of respondents provide primary care with 35% in 2015 and 41% in 2018 however the average amount of time spent in direct patient care is almost the same (61% versus 60%) and in both surveys, two-thirds were moderately or very satisfied with their current position. The average full-time income has increased by nearly \$20,000 from \$108,581 to \$128,369.

The American Association of Colleges of Nursing adopted a position statement in 2004 recommending the DNP as the degree to prepare graduates for the highest level of nursing practice (American Association of Colleges of Nursing, 2004). At the time, some ARNPs and policy makers raised concerns this would affect the number of ARNPs overall. Data from the Washington State Nursing Care Quality Assurance Commission indicate the number of licensees is rising steadily. In September 2008, there were 4635 licensees with 7939 in May 2018 (Stubbs & Skillman, 2018), a 58% increase. Using August 2018 commission data (T. Corrado, personal communication, August 29, 2018) indicating 9030 licensees, there has been an increase of 97% since 2008. With 54% of respondents completing their education in Washington State, part of the increase in the number of licensees may be explained by people receiving their initial education through a distance education program outside the state and through licensure by endorsement. Stubbs and Skillman's 2018 report indicates 75% of licensees have Washington addresses however, commission data does not reveal who works in the state. The results of this 2018 survey included 8.8% of respondents whose initial ARNP education was through a DNP program which also suggests nurses embrace the DNP as entry into practice.

It remains important for programs leading to licensure as an ARNP to recruit from populations which reflect the diversity of the state. For example, United States Census Bureau 2017 data indicates Washington State is 79.5% white alone compared to 88% of the sample; 4.2% African- American compared to 1.6% for the sample; 8.9% Asian compared to 6.2% for the sample; and 1.9% Alaska Native/American Indian compared to 1.4% for the sample (United States Census Bureau, 2017).

While the largest number of respondents are certified as NPs with a primary care focus, almost half are not practicing in primary care. This is an important area for educators to

consider. How can programs dedicated to educating NPs for primary care select students who share that commitment? Admission questions are an initial screen, however, additional strategies to promote embracing primary care practice are recommended. Only 15% (n=185) of respondents worked in rural areas while 16% of the state's residents in 2010 (approximately 1 million people) lived in rural areas (Washington State Department of Health, 2017). Initiatives to encourage educators and employers to promote rural practice are also warranted.

A change in the state's opioid rules for chronic noncancer pain will become effective for ARNPs in late 2018. More information is needed to understand why practices have adopted a policy to prohibit prescribing opioids for chronic noncancer pain, how to overcome concerns about the state's rules about prescribing opioids, and how best to assure ARNPs have sufficient knowledge about opioid prescribing. Efforts to curtail opioid prescribing should be balanced by the need to assure people who legitimately receive opioids for chronic noncancer pain have access. It also seems important to assure underserved and vulnerable populations are not disproportionately affected when providers self-limit opioid prescribing. Efforts to promote ARNP prescribing of buprenorphine/naloxone for opioid use disorder should also be encouraged.

There are few prior studies that examined the impact of reimbursement on advanced nursing practice. A study by Hanson-Turton et al. (2013) received responses from 144 health maintenance organization (HMO) plans, inquiring about their reimbursement practices for NPs. Of these plans, 27% reimbursed at less than the physician fee schedule, and 46% indicated that their reimbursement rates varied. Incident-to billing and payment for shared services add another layer of complexity, because some private insurers follow guidelines similar to or altered from Medicare guidelines (Barney, Nicoletti, & Savarise, 2014). The proprietary nature of private insurance reimbursement rates, along with incident-to billing, add additional barriers for

adequate data collection. This survey obtained data from individual ARNPs, as opposed to payers.

It is evident ARNP practice owners and independent contractors have been affected by reductions in reimbursement by health plans with reductions in revenue, financial stability and their own incomes. It is discouraging, however, that on average one-third did not know how certain elements of their practice were affected. This data will be combined with other data to create strong arguments for legislation to require the ARNPs be paid the same as physicians when providing the same service. Initiatives to promote better business skills may assist practice owners and contractors with having readily available information to demonstrate the effect of reimbursement on the viability of a practice/contractor and access to care. Informing policymakers of the contributions by practice owners/independent contractors to the care of people covered by Medicare and Medicaid may assist in promoting support for same pay for the same service legislation. The ARNPs most significantly affected by reduced reimbursement are those who own their own practice or work as contractors. The reduction in reimbursement did not reduce premiums to covered beneficiaries who use ARNPs for their care. The health plans themselves benefit financially.

Recommendations

Private policymakers such as health systems and credentialing bodies should allow NPs to practice to the full extent of their education and ability. For example, Kaiser does not always allow ARNPs to carry full patient primary care panels and instead require them to provide urgent care and other services (N. Lawton, personal communication, September 11, 2018). Rather than reduce reimbursement to ARNPs, particularly those who own practices or work as independent contractors, health plans should restore reimbursement to 100% of the physician fee schedule to

contribute to access to care across the state and particularly in rural areas. This could be done voluntarily rather than have ARNPs mount a legislative initiative.

ARNPs who own practices or work as contractors are encouraged to keep detailed records to allow for longitudinal evaluation of the effect of changes in reimbursement. Seminars or online curriculum spearheaded by the Washington Center for Nursing or continuing education providers are recommended.

Funding needs to be allocated by the state to collect additional data about ARNPs at the time of licensure and renewal to have a longitudinal, consistent set of data from which to make workforce decisions. The Washington Center for Nursing may also want to create partnerships with other professional associations to develop a deeper understanding of the demand for ARNPs and use demand to assist educational programs to offer programs to meet patient care needs and to guide future students to ARNP programs with high demand.

References

- American Association of Colleges of Nursing. (2004). AACN position statement on the practice doctorate in nursing. Available at <https://www.aacnnursing.org/DNP/Position-Statement> .
- Barney, L., Nicoletti, B., & Savarise, M. (2014). Billing for services performed by nonphysician providers. *Bulletin of the American College of Surgeons*. Retrieved from: http://bulletin.facs.org/2014/05/billing-for-services-performed-by-nonphysician-practitioners/#.WhHp_Gdryso
- Brown, M.A., & Kaplan, L. (2015). 2015 Washington state advanced registered nurse practitioner survey data report. Washington State Nurses Association and Washington Center for Nursing. December.

- Dillman, D.A., Smyth, J.D., & Christian, L.M. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method (4rd Edition)*. New York: Wiley.
- Hansen-Turton, T. (2013). Are managed care organizations in the United States impeding the delivery of primary care by nurse practitioners? A 2012 update on managed care organization credentialing and reimbursement practices. *Population Health Management, 16*, 306; 306-309; 309. doi: 10.1089/pop.2012.0107
- Kaplan, L. & Brown, M.A. (2004). Prescriptive authority and barriers to NP practice. *The Nurse Practitioner, 29*(3): 28-35
- Kaplan, L. Brown, M.A., Andrilla, H., & Hart, L.G. (2006). Barriers to autonomous practice. *The Nurse Practitioner, 31*(1): 57-63.
- Kaplan, L., Brown, M.A., & Andrilla, C.H., & Hart, L.G. (2009). Rural urban practice patterns of nurse practitioners in Washington State. *Journal for Nurse Practitioners, 5*(3): 169-175.
- Skillman, S.M., Fordyce, M.A., Yen, W., Mounts, T. (2012). Washington state primary care provider survey, 2011-2012: Summary of findings.
- Stubbs, B.A., & Skillman, S.M. (2018). DOH Washington state data snapshot – advanced registered nurse practitioners (ARNPs). University of Washington Center for Health Workforce Studies.
- United States Census Bureau. (2017) Washington state quick facts. Available at <https://www.census.gov/quickfacts/wa>.
- Washington State Department of Health. (2017). Office of community health systems series on rural-urban disparities. Available at <https://www.doh.wa.gov/Portals/1/Documents/Pubs/346090.pdf>.