Minnesota’s Advanced Practice Registered Nurse Workforce

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Office of Rural Health and Primary Care
The Minnesota Department of Health collects information on the licensed health care workforce per state laws (Minnesota Statute 144.051-0.052, 144.1485). Data are collected during the license renewal process in coordination with state health licensing boards and used to inform healthcare workforce policy discussions, and planning and designing health workforce programs, such as Minnesota’s loan forgiveness program.

Advanced Practice Registered Nurses (APRNs) are an important segment of the health care workforce, delivering primary and specialty care. APRNs are a subset of Registered Nurses (RNs) who have advanced their education by earning a master’s, post-master’s, or doctorate in a specific role and population focus to become licensed as Certified Nurse Practitioners (CNPs), Clinical Nurse Specialists (CNSs), Certified Nurse Midwives (CNMs) and/or Certified Registered Nurse Anesthetists (CRNAs). In 2015, the Minnesota Legislature enacted legislation providing full practice authority to APRNs allowing them to practice independently without supervision by a physician.

There were 8,849 APRNs actively licensed in Minnesota as of May 2019. Of those, 6,014 listed a practice address in Minnesota, 1,218 were employed outside Minnesota, and another 1,617 listed no practice address and could not be assigned to a geographic location.

Of the 8,849 actively licensed APRNs, 6,217 responded to the 2017-2018 MDH questionnaire resulting in a 70 percent response rate. Based on the survey responses, one percent reported not working as APRNs, but continue to maintain active licenses as RNs, making them still part of the Minnesota health care workforce. See more about our data and methodology.
• As of May 2019, there were 8,849 actively licensed APRNs in Minnesota (see slide 6), the majority of whom work in the Twin Cities region (slide 25).

• Most APRNs are certified as CNPs comprising 66 percent of the workforce followed by CRNAs at 24 percent, CNSs at 6 percent and CNMs at 4 percent.

• After APRNs were granted the authority to practice independently in Minnesota in 2015, the number of licensed APRNs shot up from 6,100 previously reported in 2014 to 8,849 as of 2019, a 31 percent increase.

• APRNs are younger overall (slide 6) with more than half the practitioners under the age of 45 and most planning to practice for at least another ten years (slide 15).

• Rising numbers of newly licensed APRNs entering the field places them in a position to partially fill the gap left by retiring physicians. In 2015, almost a quarter of physicians reported plans to leave the field in the next five years.

• Growing numbers of APRNs entering the field have increased the supply of new APRNs, but there are still big differences in the geographic distribution of APRNs across the state (slide 24). The majority of APRNs remain concentrated in the Twin Cities Metro area and the southeast region, most likely drawn to both the larger hospital systems and the Mayo Clinic.
Demographics
Sex and Age

- The median age of APRNs is 44. As a group, APRNs are younger than Minnesota physicians (median age, 50), but older than the state’s health workforce overall (41 years).

- Health care providers are predominantly female, and this is true for APRNs as well. Approximately 85 percent of all Minnesota APRNs are female. (data not shown)

- Overall, there are more male APRNs (15 percent) compared to the rest of the nurse workforce. Only seven percent of Licensed Practical Nurses and nine percent of RNs are male. The larger percentage of men in the APRN workforce is mostly due to the 41 percent of CRNAs who are male. (data not shown)

- The growing share of younger APRNs entering the field is good news for Minnesota as more physicians retire and delivery models rely on team-based care including Physician Assistants and APRNs.

Source: Minnesota Board of Nursing, May 2019. Analysis done by MDH. Percentages are based on all 8,849 Minnesota licensed APRNs who provided valid birth dates to the licensing board.
The majority (91 percent) of APRNs indicated they were white, followed by Black/African American/African and Asian.
Not unlike other health care providers, a majority of APRNs only speak English in their practice. The second most commonly spoken language was Spanish. The remaining three percent of APRNs who spoke other languages reported speaking French, Swahili, Russian, Vietnamese, Hmong, Somali or some other language with their patients.

Some of more frequently spoken languages listed as “other” were German, Hindi, Tagalog (Filipino), Wolof (West Africa).

Source: MDH APRN Workforce Questionnaire, 2017-2018. Respondents could select as many languages as applicable, but were instructed not to include languages spoken only through an interpreter. The chart is based on 5,153 valid survey responses.
Education
APRNs were asked about the type of degree or credential they first obtained to practice as a nurse. Unlike other health professionals with advanced professional degrees, an associate or bachelor’s degree in nursing can serve as a career ladder for many seeking to become an APRN.

Most APRNs reported earning a bachelor’s degree (67 percent) qualifying them for their first nursing license, while another 28 percent earned an associate degree or other type of certificate such as a hospital diploma.

Among APRNs who reported earning a bachelor’s degree, 99 percent also reported the bachelor’s degree was in nursing.
Historically, the completion of a diploma, certificate, or bachelor’s degree was required of APRNs to practice (see previous slide). The advanced educational credentials such as master’s and doctorates have become the standard for entry to practice as an APRN. APRNs today must have a master’s degree for licensure in Minnesota.

Ninety-five percent of Minnesota’s APRNs have a master’s degree or higher. More APRNs (15 percent) reported obtaining a professional or doctorate degree (up from 3 percent in 2014).

Most APRNs earned their highest degree in Minnesota (61 percent), followed by the border states of North Dakota at 7 percent, Wisconsin at 6 percent, South Dakota at 3 percent, Iowa at 2 percent (data not shown).
In 2017, Minnesota produced **281 new graduates** across all the APRN programs, a slight drop from the previous year. State schools have experienced a gradual decline in the number of graduates over several years compared to private institutions.

As noted before, registered nurses who train to become APRNs have an expanded scope of practice in at least one of four recognized advanced nursing practice roles: Nurse Anesthetist, Nurse Midwife, Clinical Nurse Specialist and Nurse Practitioner.
Employment
The median work week for APRNs was 40 hours, and more than half of APRNs worked between 31 and 40 hours per week. Moreover, 28 percent of APRNs reported working 41+ hours in a typical week.

An estimated 97 percent of licensed APRNs reported on the MDH questionnaire that they were “working in a paid or unpaid position related to [their] license.” This indicates that the vast majority of the APRN workforce is working in the field. (data not shown).

In addition, APRNs spent the majority of their time caring for patients. Eighty-eight percent reported that they spent more than half of their time providing direct patient care. This is another indication that APRNs are being fully utilized professionally (data not shown).

Source: MDH APRN Workforce Questionnaire, 2017-2018. Percentages are based on 5,625 valid responses.
When asked about future plans, 70 percent of APRNs said they were planning to practice more than 10 years. This is up from 64 percent reported in 2014 and is indicative of the growing number of APRNs entering the profession. Sixty-seven percent of APRNs under the age of 45 were planning to practice for more than 10 years. (data not shown).

Fourteen percent of APRNs indicated that they planned to leave the field within five years. Of those planning to leave, the vast majority (88 percent) said they planned to retire. Only 4 percent of this sub-group (or 34 APRNs) planned to leave the field due to burnout or dissatisfaction, while 2 percent said they planned to pursue a different career, and another 2 percent planned to leave to pursue training to advance in their current or a related profession. The remaining 4 percent reported leaving due to family or other personal reasons.
At Work
Specialties

- The questionnaire asked APRNs to identify all the medical specialties they practiced. As shown above, Adult/Family Health and Anesthesiology were the most commonly reported specialties among APRNs, with 24 percent identifying each area as their specialty.
- Among APRNs who reported anesthesiology as their specialty, 99 percent were CRNAs.
- The largest share of APRNs reported they had another specialty not included in the selection list. Based on open-ended responses, APRNs’ most common “other” specialties were family medicine or family practice, wound care, urgent care, nurse midwifery and palliative care.

Source: MDH APRNs Workforce Questionnaire, 2017-2018. Respondents could select as many specialties as applicable; therefore, totals may not sum to 100 percent. Percentages are based on 7,842 valid responses.
Primary Work Settings

- APRNs were asked to identify their primary work setting. Most APRNs described working in either a clinic or hospital setting (86 percent).

- When APRNs were asked about the number of physical locations where they worked, 51 percent reported working in one location; 27 percent reported splitting their time across two locations, and another 22 percent said they worked at three or more different locations. (data not shown)

<table>
<thead>
<tr>
<th>Primary Setting</th>
<th>Share of APRNs Working in this Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic/Professional Office/Health Center/Ambulatory Care</td>
<td>48.0%</td>
</tr>
<tr>
<td>Hospital</td>
<td>37.8%</td>
</tr>
<tr>
<td>Academic (Teaching/Research)</td>
<td>7.0%</td>
</tr>
<tr>
<td>Long-Term Care Facility</td>
<td>2.1%</td>
</tr>
<tr>
<td>Community/Faith-Based Organization</td>
<td>1.0%</td>
</tr>
<tr>
<td>Home Health Care</td>
<td>0.5%</td>
</tr>
<tr>
<td>Public Health Agency</td>
<td>0.4%</td>
</tr>
<tr>
<td>School (Pre-K to 12)</td>
<td>0.3%</td>
</tr>
<tr>
<td>State, County or City Agency</td>
<td>0.3%</td>
</tr>
<tr>
<td>Correctional Facility</td>
<td>0.2%</td>
</tr>
<tr>
<td>Other</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

Source: MDH APRN Workforce Questionnaire, 2017-2018. Percentages are based on 5,077 valid responses. The survey includes questions on both the “primary” and “secondary” settings in which providers work. For the purposes of the analysis in this section, we present data only on the setting APRNs reported as their “primary” setting. An analysis of work settings indicates that the types of settings in which APRNs worked did not differ depending on whether they were primary or secondary.
Owning or Co-Owning a Private Practice

Source: MDH APRN Workforce Questionnaire, 2017-2018. Percentages are based on 201 valid responses with valid Minnesota business addresses reported during license renewal.

- Overall, 4.8 percent of APRNs reported owning or co-owning an individual or group private practice. (data not shown)
- Among APRNs who reported owning or co-owning an individual or group private practice, 25 percent were located in some part of rural Minnesota while the rest were located in Metropolitan areas (75 percent) with only 1 percent not reporting a practice location.
- Of the 25 percent of APRNs who reported owning or co-owning a private practice in some part of rural Minnesota, 55 percent were CRNAs, 37 percent were CNPs, 6 percent were CNMs, and 2 percent were CNSs. (data not shown)
- CRNAs were more likely to report owning or co-owning their own practice (56 percent), followed by CNPs at 33 percent, CNS at 8 percent and CNMs at 3 percent. (data not shown)
The 2017-2018 questionnaire included items about the use of both electronic health records (EHRs) and dedicated telemedicine equipment. Among APRNs who reported seeing patients, the results showed a majority of APRNs use EHRs “all the time” (88 percent).

When asked how often telemedicine is used to deliver patient care, most APRNs reported not using telemedicine equipment in their practice (71 percent).
Teamwork

“Which of the following work or educational experiences best prepared you to work in a multidisciplinary team when providing care?”

- Informal learning on the job: 46%
- Formal on-the-job training: 31%
- Formal educational coursework or training: 14%
- Continuing education/professional development: 7%
- None: 2%
- Does not apply to my job: 0%

- Health care providers increasingly work in multidisciplinary teams, prompting educators and health policymakers to ask how best to train providers to communicate and coordinate across professions. In 2016, MDH added a question to the workforce survey about multidisciplinary teamwork. As shown above, 77 percent of APRNs reported that learning on the job (either informal or formal) best prepared them to work in multidisciplinary teams.

Source: MDH APRNs Workforce Questionnaire, 2017-2018. Percentages are based on 5,446 valid responses.
A question about the best way to prepare the health care workforce to provide “culturally competent” care was also added to the survey. As shown above, APRNs most commonly indicated that formal or informal learning on the job (63 percent) provided the best preparation for working with diverse groups of patients.

Source: MDH APRN Workforce Questionnaire, 2017-2018. Percentages are based on 5,446 valid responses.
Questions on career satisfaction in the past 12 months and overall were added in 2016. As shown above, the majority of APRNs reported being either “somewhat satisfied” or “very satisfied,” in the past 12 months and overall. Two-thirds of APRNs were more likely to report being very satisfied with their career overall compared to the last 12 months—a trend typical among other health care professionals for whom work satisfaction data is available. This is consistent with national findings which suggest that the increase in administrative work—such as dealing with billing, insurance, and electronic medical records—has dampened work satisfaction among health care providers.

Source: MDH APRN Workforce Questionnaire, 2017-2018. Percentages are based on 5,446 valid responses.
Geographic Distribution
Two ways to present geography

By state planning areas

For more information:
https://apps.deed.state.mn.us/assets/imi/areamap/plan.shtml

By rural-urban commuting regions (RUCAs)

For more information:
https://www.health.state.mn.us/data/workforce/method.html#ruca
Over half of all APRNs work in the 7-County Metro area, with another 19 percent in the Southeast region, likely reflecting the presence of the Mayo Clinic in Rochester, a large health care employer.

With the exception of the Northeast region, the Central, Northwest, and Southwest regions all have smaller percentages of APRNs relative to the population residing there, indicating there may be an unmet need for APRNs.

Source: Percentages are based on 6,325 valid Minnesota business addresses reported during license renewal at the MN Board of Nursing and geocoded by the Minnesota Department of Health. 2017 Population data are from MN State Demographer’s office. Details about Department of Employment and Economic Development’s Planning Regions can be found at https://apps.deed.state.mn.us/assets/lmi/areamap/plan.shtml
The chart below provides another view of the geographic distribution of APRNs, showing the share of the population for every one APRN in urban, large rural, small rural, and isolated rural areas. As shown, there were 277 people for every one APRN in urban areas of Minnesota, compared to almost 7 times that many in the most rural areas of the state. This pattern is typical of other health care professions, and reflects the relative inaccessibility of care in sparsely populated areas of Minnesota.
Methodology

The data in this report come from two sources:

• The **Minnesota Board of Nursing (MBN)** provides data on the entire population of Advanced Practice Registered Nurses (APRNs) who have active licenses in the state of Minnesota. MBN maintains this database and provides the data to the Minnesota Department of Health, Office of Rural Health and Primary Care (MDH ORHPC). This report uses data current as of Jan 2019. At that time, there were a total of 8,849 APRNs with active Minnesota licenses, approximately 68 percent of whom indicated that their primary business address was in Minnesota. MDH ORHPC analysts clean organize, clean, and geocode addresses that come from the board to identify practice locations (shown in Slides 24 and 25).

• The **2017-2018 MDH ORHPC APRN Questionnaire** collects additional demographic and workforce data from APRNs. MDH ORHPC administered the survey to all APRNs who renewed their Minnesota license in the calendar years of 2017-2018. A total of 6,217 responses to the workforce questionnaire were received; a response rate of 70.3 percent.

• See the ORHPC website for more details about the methodology (www.health.state.mn.us/data/workforce/method.html) of survey.
Visit our website at Reports on Workforce to learn more about the Minnesota health care workforce.

County-level data for this profession is available at MN Health Professions by County Data

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