Institute for Health Policy and Practice

University of New Hampshire
Advanced Nursing Education Workforce

# Investing in Primary Care: Advancing Nursing Education Workforce


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# Contents

## Summary

Primary health care faces significant workforce challenges, particularly in care for vulnerable populations and in underserved areas. The University of New Hampshire (UNH) Advanced Nursing Education Workforce (ANEW) program worked to increase the supply of primary care providers by developing innovative pathways to support registered nurses in becoming primary care nurse practitioners (NPs) with a participant commitment to serve a post-graduate period working in primary care in underserved areas. The ANEW program also used data from the NH Comprehensive Health Information System (NHCHIS), NH's all-payer claims database, to examine primary care provision in the state and identify primary care provider types and settings.

The benefits of primary care access for both individual and population health have been well documented. Access to primary care improves health care outcomes, lowers costs, and reduces health care disparities, yet primary care remains underfunded when compared to total health care costs. At the same time, primary care experiences significant workforce shortages at all levels, which have been exacerbated by the COVID-19 pandemic.

This issue brief outlines key findings and lessons learned from ANEW about the current supply and distribution of primary care providers in NH and how primary care supply can be augmented by supporting nurse practitioners, particularly those from rural or underserved areas or populations, in completing a master's level NP program and becoming licensed primary care providers.

Review of NH health professions and claims data showed that NPs have the highest number of providers practicing in rural communities; over the course of 2018-2021 percentage of total NP visits for Commercial, Medicaid, and Medicare increased in comparison to the percent of total visits for physicians, which decreased in the same time period.

In response to NH's primary care provider shortages, the ANEW program, in conjunction with the UNH Department of Nursing and funded by HRSA, provided tuition support and training for registered nurses to become NPs and practice in NH's rural and underserved primary care settings. Over the grant period, ANEW supported training for 47 nurses to become primary care NPs and eight NPs to achieved post-master's psychiatric NP certification. With tuition assistance of $1,077,500, 100% of graduates from the 2019-2022 cohort chose to work in either primary care, underserved, or rural settings. The ANEW program also coordinated efforts to better understand NP workforce challenges through a Project ECHO® program and established a Preceptor Committee to develop a better understanding of preceptor needs.

## Background

Access to primary care improves health care outcomes, lowers costs, and increases health care equity.[1] Despite the well-documented benefits, primary care remains underfunded when compared to total health care costs.[2] Nationally, primary care spending across commercial payers decreased from 4.88% in 2017 to 4.67% in 2019.[3] The number of primary care office visits is trending down despite an aging population and increasing chronic conditions.[4] While dollars attributed to primary care vary across the United States, all states within New England, except New Hampshire, have enacted or have pending legislation to address primary care investment.[5]

Investment in primary care impacts both patients and the workforce providing care to the community. With a changing primary care workforce, new and innovative workforce policies, and payment systems are required. Annually, the number of nurse practitioners (NPs) in the United States is projected to grow by 6.8%, physician assistants (PAs) by 4.3%, and physicians by 1.1%.[6] The shortage of primary care physicians (family medicine, general pediatrics, and geriatric medicine) is expected to be between 17,800 and 48,000 physicians by 2034.[7] The need for primary care providers is driven by multiple factors, including population growth, a 42.4% increase in those providers aged 65 and above, physician retirement, and increases in rural and under/uninsured population needs.[7] Fewer physicians practice in rural and underserved settings, and the shortage of primary care physicians in these settings is expected to continue.[8] If individuals who experience barriers accessing health care services (e.g., marginalized populations, rural communities, and individuals without health insurance) had the same health care use patterns and access to health care services as individuals with fewer barriers to care, an additional 180,400 providers would be needed today in primary care.[7] Data from the American Association of Nurse Practitioners (AANP) National NP Database (2021) and the 2020 AANP NP Sample Survey of 355,000 licensed nurse practitioners reported that 88% of NPs are certified in the area of primary care, and 70% of all practicing NPs deliver primary care.[9]

This policy brief provides a high-level snapshot of primary care workforce patterns in NH, given the changes in the primary care workforce, particularly those seen among physicians, and the increase in NPs. It also provides a summary of the programmatic outcomes from the Advanced Nursing Education Workforce (ANEW) program funded by the Health Resources and Services Administration (HRSA) and awarded to the University of New Hampshire (UNH) Department of Nursing (DON) and the Institute for Health Policy and Practice (IHPP), New Hampshire Citizens Health Initiative. Additionally, this policy brief discusses future policy implications and next steps.

## Primary Care Provider Landscape in New Hampshire

New Hampshire (NH) has a population of 1,355,244, residents with 37% living in rural areas.[10] Nine out of ten counties in NH have been designated as partial Health Professional Shortage Areas (HPSAs) for primary care by the Health Resources and Services Administration (HRSA).[11] As of May 2023, NH's rural counties have 15 Rural Health Clinics (RHCs) and 13 Critical Access Hospitals.[12] NH also has 11 Federally Qualified Health Centers (FQHCs) or look-alike locations.[13] Unfortunately, the number of rural hospitals throughout the United States have declined in the past decade.[14] While NH has not recently experienced such losses, 30% of all critical access hospitals (CAH) are currently at risk of closure and in NH 2 CAHs are considered at risk.[15] This would further exacerbate shortages of primary care access in rural communities throughout NH.

The 2022 report, *Giving Care: A Strategic Plan to Expand and Support New Hampshire's Health Care Workforce* states that NH has a "thin pipeline and barriers to post-secondary education and training: Too few potential workers have an interest in or adequate understanding of the range of roles available within health care. Investment in efforts to diversify the workforce, including outreach and marketing, have been insufficient. The high cost of education poses a barrier to entry and advancement in health care roles. Too few training and education opportunities exist." [16]

Data from the NH Health Professions Data Center (HPDC) at the Division of Public Health Services, Department of Health and Human Services was utilized to summarize practice patterns and workforce distribution for 2020.[17–19] In NH, a 25% decrease in the number of practicing primary care physicians is anticipated within five years, while reductions in Advanced Practice Registered Nurses (APRNs) and Physician Assistants (PAs) are only anticipated to be 16% and 18% reduction respectively.[17–19] Additionally, just under 50% of primary care APRNs have been in NH practice for less than 5 years, followed closely by PAs at over 46% and physicians at 27%.[17–19] Over 1,000 NPs renewed their licenses (active status) with the State of NH, and about 30% of those that renewed their license work in primary care settings.[17]Additionally, APRN, PA, and physician responses to the survey varied significantly when reporting connections to the State of NH, such as living or working in the state prior to becoming licensed in NH. [17–19] PAs reported the highest rate of connections (i.e., having lived in the state prior to receiving licensure) at 62%, followed closely by APRNs at 60%.[17,19] Physicians reported the fewest connections at less than 23%.[18]

On access and availability, APRNs have the highest number of primary care providers practicing in rural communities, at over 9%, followed very closely by physicians at over 4%, 4% of PAs practice in rural settings (Figure 1).[17–19] Average appointment wait times for new patients showed that PAs had the lowest at almost 9 days, followed by APRNs with just over 14 days, and physicians demonstrating the longest wait times of over 22 days (Figure 2).[17–19]

**Figure 1.** New Hampshire Outpatient Primary Care Provider Service Location by Rurality 2020[17–19]

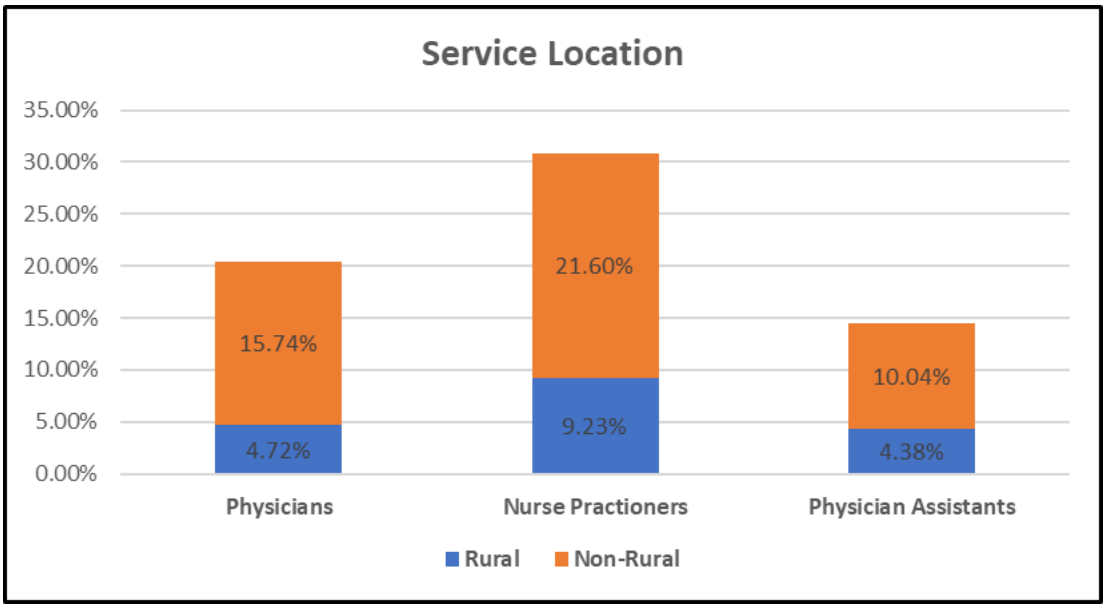
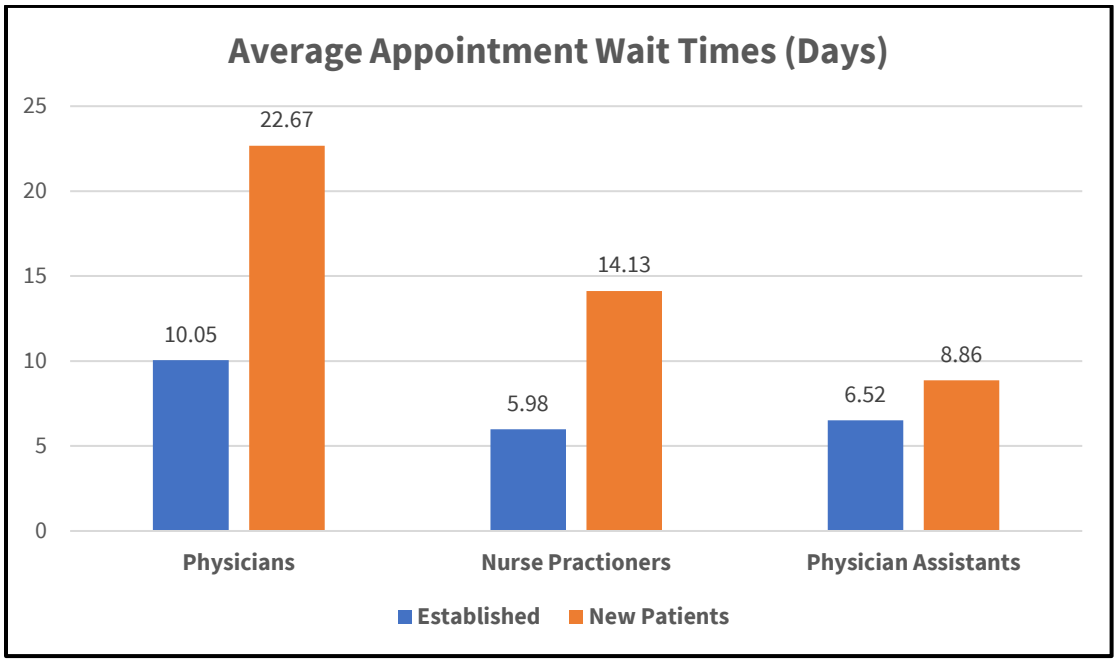



**Figure 2.** New Hampshire Outpatient Primary Care Provider Average Appointment Wait Times 2020[17–19]



## All Payer Claims Database Analysis of NH Primary Care Patterns

In addition to the data from the NH Health Professions Data Center (HPDC), changes in the NH primary care workforce were observed through the analysis of claims data. In a review of data from NHCHIS, NH's all payer claims database, initial analysis focused on two components, care provided by prescribing provider type and payer; and rural and non-rural health care distribution.

The following figures, showing primary care visit related data, were created using data from the All-Payer Claims Data Primary Care Workforce Dashboard developed by the Center for Health Analytics at the UNH Institute for Health Policy and Practice.[20]

### Claims Analysis Methods

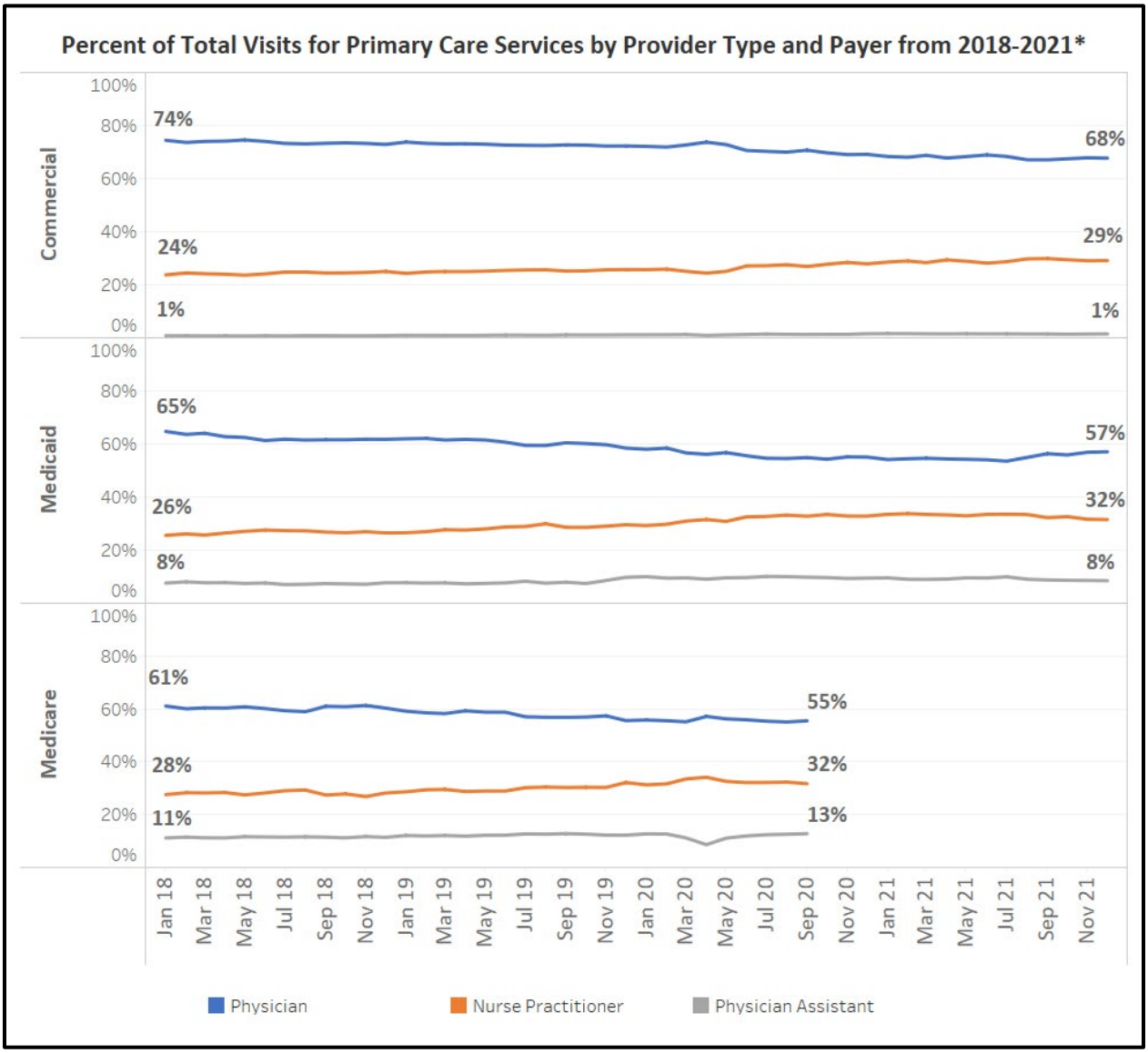
In the claims analysis, a patient visit is defined as all services billed on a singular day by one provider for one member. Since administrative claims do not include time of service, it is not possible to detect if multiple visits between a provider and a member for the same service occurred on the same day. Such scenarios are expected to be comparatively small in volume for primary care visits. Under NH state law, NH Commercial administrative claims cannot include identifiable information and thus cannot be linked to other datasets.[21] Therefore, the claims analysis was stratified by payer types (Commercial, Medicaid, and Medicare), and no assumption of exclusivity was made.

To determine a member's rurality, the zip code assigned to a member's enrollment file in the month and year of interest were mapped to HRSA's dataset of qualifying rural zip codes.[22] Any zip codes not included in HRSA's list were considered "non-rural." Member location instead of provider location was used for this analysis since provider data is self-reported and does not consistently reflect accurate and complete information.

### Claims Analysis Results

Figure 3 illustrates the rate of total visits for primary care by provider per payer with the percentage of total visits for physicians, NPs, and PAs, per payer. The period from January 2018 to December 2021 showed a decrease in the percent of total visits for physicians for Commercial, Medicaid, and Medicare, however, NPs percentage of total visits for Commercial, Medicaid, and Medicare increased (Figure 3). Additionally, PAs saw either a slight increase or no increase in the percentage of total visits for Commercial, Medicaid, and Medicare (Figure 3).

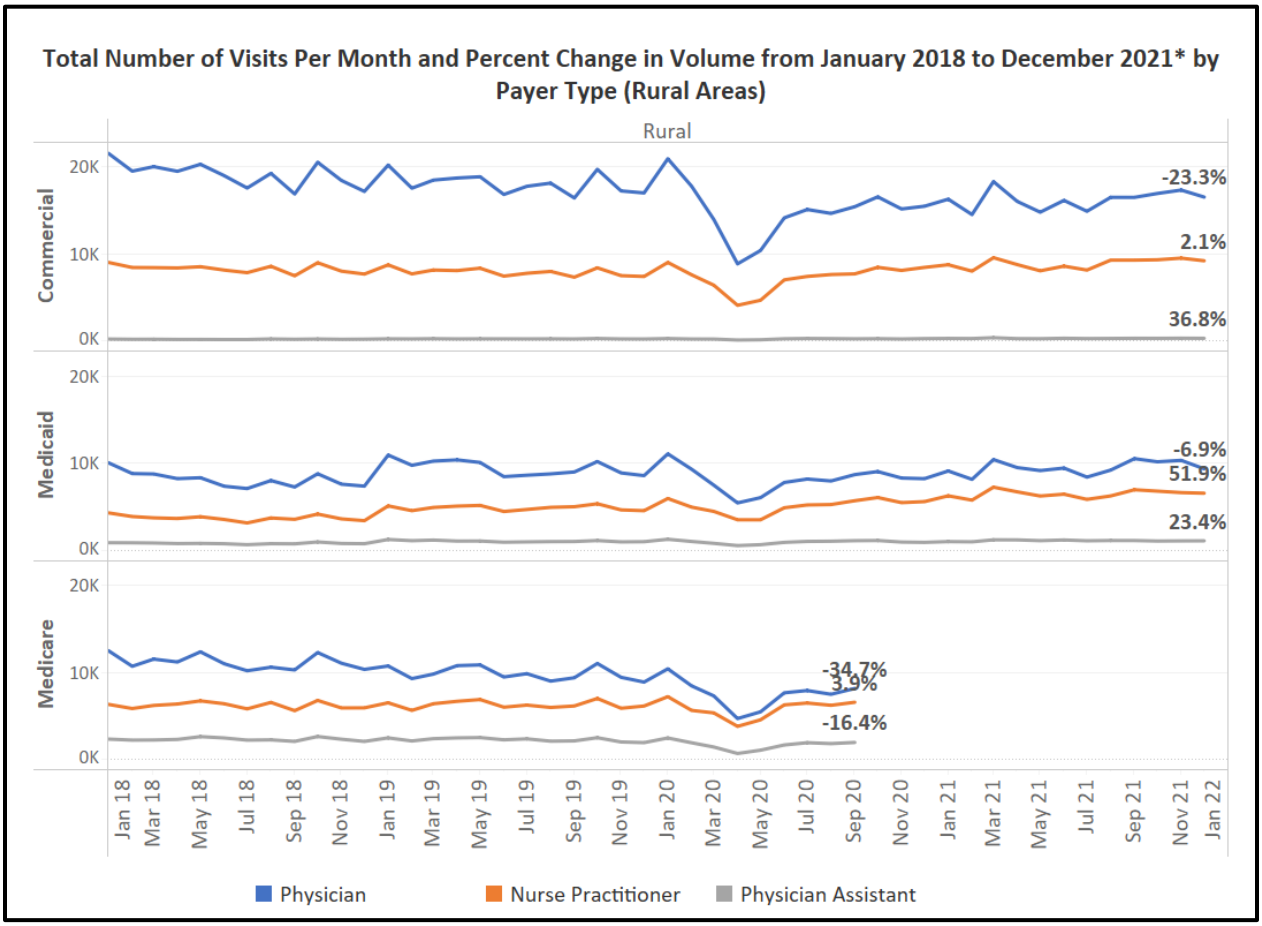
**Figure 3.** Percent of Total Visits for Primary Care by Provider and Payer[20]




**Medicare data was only available through September of 2020. **Not shown in graph: Clinic/Center, Other MD/DO, and Other Nursing which, in total, accounted for less than 5% of the primary care visits per payer.*

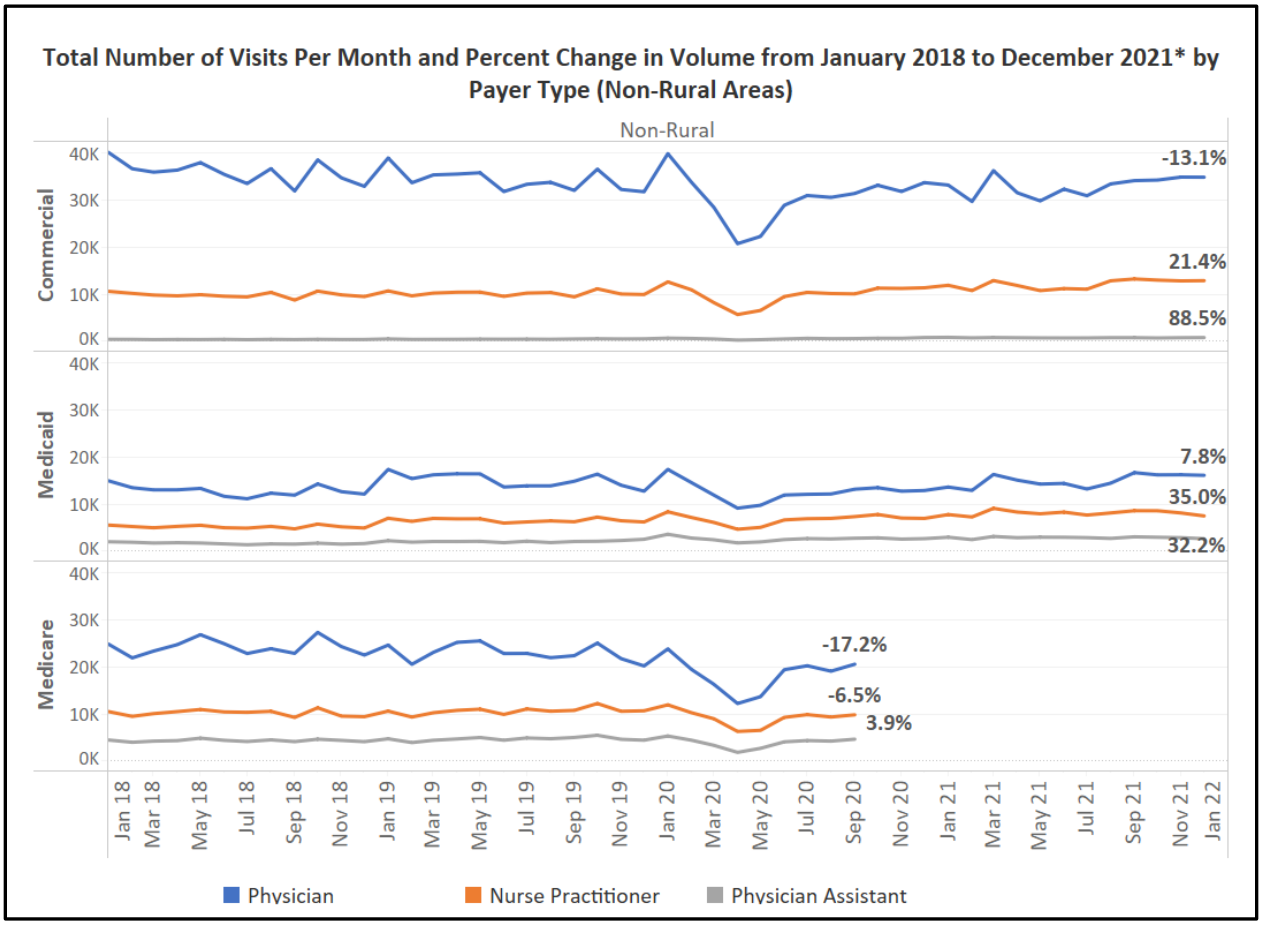
Figure 4 (rural) and Figure 5 (non -rural) show volume per provider type and the average number of primary care visits associated with each provider type per payer. With the exception of visits for non-rural Medicaid enrollees, the percentage of all visits has decreased for physicians in both rural and non-rural areas across all other payers from January 2018 to December 2021. NPs experienced a notable increase in volume for visits with Medicaid enrollees in both rural and non-rural regions. Regardless of rurality or payer type, NP volume has increased.

**Figure 4.** Total Number of Visits Per Month and Percent Change in Volume from January 2018 to December 2021* by Payer Type (Rural Areas)[20]




**Medicare data was only available through September of 2020.*

**Figure 5.** Total Number of Visits Per Month and Percent Change in Volume from January 2018 to December 2021* by Payer Type (Non-Rural Areas)[20]




**Medicare data was only available through September of 2020.*

## Investments in Advancing Nursing Education Workforce

The quality and availability of health care practice sites to support the education of the next generation of the workforce is imperative to meet the health care demands of the NH population. The education of providers requires engaged and committed organizations and preceptors willing to train students. Although a few sites across NH reported having multiple students in training to become primary care providers (e.g., MD, NP, and PA), this is not the norm. In fact, despite the patient demand for primary care and the decreasing number of providers, clinical sites reported being unable to accommodate students to assist with addressing the workforce needs or replacement of open positions. Competition across the state for placement sites is a concern. Some programs pay for clinical placement sites by raising tuition costs, and students have also paid out of pocket to placement agencies. This further exacerbates the inequities in health care workforce opportunities.

In response to the above mentioned primary care workforce challenges, UNH applied for and received a multi-year Health Resources and Services Administration (HRSA) grant. The goals of the Advanced Nursing Education Workforce (ANEW) project included:

- Tuition support and training for registered nurses who become NPs and practice in NH's rural and underserved primary care settings.
- Dissemination of best practices in substance use disorder and behavioral health treatment facilitated through modalities such as Project ECHO®, learning and sharing support, conference support, and dissemination of research.
- Support for precepting providers and practices.
- Monitor regional primary care trends and respond to the need through student placement and programing.

As part of ANEW, academic-clinical practice partnerships were formed with key rural and underserved primary care sites. Clinical practice sites committed to having ongoing family NP students at their practice and identified preceptor champions to participate in bi-directional learning through shared dissemination of best practices across academic and clinical settings, including through the Project ECHO® model.

### ANEW Activities

In collaboration with the Department of Nursing, the ANEW program provided tuition support and training for registered nurses to become NPs and practice in NH's rural and underserved primary care settings. Enrollment and student placement was impacted during the 2020-2021 period, as primary care practices limited clinical placements due to COVID-19. To mitigate this ANEW funds were used to purchase simulation equipment and invest in telehealth training for the community and students. In 2022, the ANEW program expanded and provided awards to post-master's psychiatric mental health nurse practitioner students training to practice in rural and underserved integrated primary care settings.

The ANEW program also coordinated efforts to better understand NP workforce challenges through a Project ECHO® program and a Preceptor Committee. The Preceptor ECHO® to Enhance Rotations (PEER) was launched in collaboration with Southern NH Area Health Education Center to develop a national learning community of preceptors, practice sites, and universities and colleges. The NH Preceptor Committee was launched in 2020 to gain a better understanding of preceptor needs and assist with the facilitation of change. Across both PEER and the NH Preceptor Committee the ANEW team recruited 13 subject matter experts working in the field to share best practices.

HRSA funds were not used to compensate preceptors directly. However, funds were provided to practices or NPs directly for professional development opportunities, participation in Project ECHO® as subject matter experts, or for obtaining clinical and telehealth equipment.

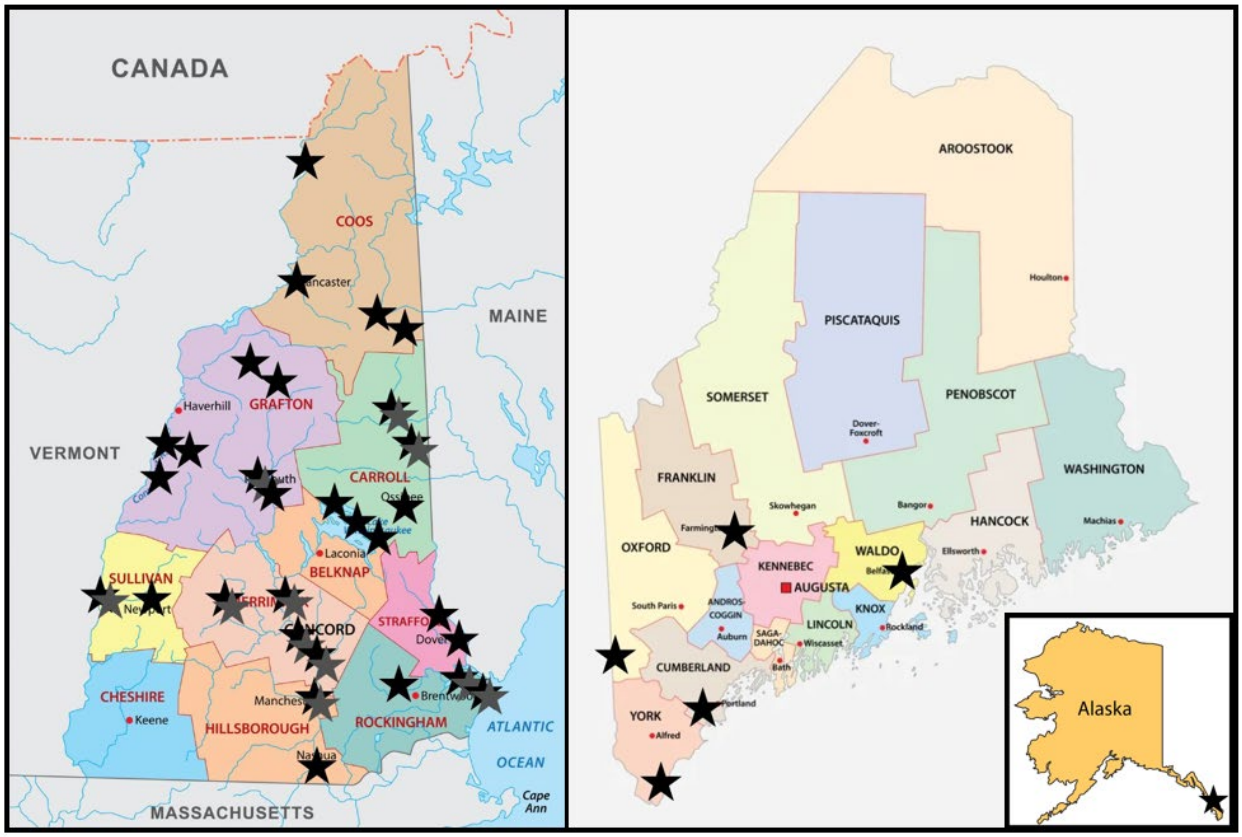
Preceptors and students were also provided professional learning opportunities, regionally and nationally.

## ANEW Results

An anticipated 55 students will have participated in the ANEW program, with an estimated 42 having completed their NP program as of this writing, with $1,077,500, in total award funds. Students in the ANEW program have completed over 109 clinical rotations in approximately 40 different organizations, working with over 70 preceptors throughout the four-year program (Figure 6).

In the three cohorts of PEER, more than 130 community providers and staff participated across 66 practices, 7 academic institutions, and 6 workforce organizations. The 13 subject matter experts came from diverse backgrounds and areas of expertise including but not limited to FNP students including NP Fellows, NPs in both practice and university settings, Physicians, Registered Nurses, Licensed Clinical Mental Health Counselors, Practice Managers, and other administrators.

**Figure 6.** ANEW Clinical Practice Sites



## Workforce Programming and Policy Implications

As the health care delivery system continues to evolve, innovative programmatic and policy solutions are needed to meet the demands of NH's population. Students, preceptors, and primary care practices are key stakeholders in workforce development and therefore workforce programming and policy must focus on providing them with support.

Limited opportunities for tuition support or living expenses exist for registered nurses (RNs) to return to school. The ANEW funds helped offset student costs; for many, however it was not enough. During COVID-19 many students changed enrollment status from full-time to part-time as a result of income changes and the demands placed upon nurses to return to acute care. The ability to have flexible programs and funding is paramount. Many of those that accessed tuition funding came from communities that were rural and underserved and upon graduation had received or were looking for permanent jobs within those settings. Of the graduates from 2019-2022, 100% chose to work in either primary care, underserved, or rural settings.

To combat workforce challenges, programming and policies must focus on health care financial investment in primary care, investing in students, and investing in NP continuing education. For example, incentivizing organizations that precept NP students could create more opportunities for clinical preceptor sites that both support the site and student. Additionally, continued support of RNs to become NPs through traineeship awards will help continue to grow the workforce to expand into rural and underserved communities.

Research is needed to understand how to optimize billing and collect information on how primary care is rendered and by what provider type. Incident-to Medicare billing practices, a mechanism that allows services to be rendered by one provider and billed under a physician's National Provider Identifier (NPI), impact our understanding of advanced practice providers contributions to primary care. When incident-to billing is utilized, care is attributed to the physician even if it has been provided by a PA or NP.[23] Medicare will reimburse at 100% of the service fee when it is billed under a physician but only 85% under a PA or NP.[23]

Preceptor support and development is vital to maintain the primary care workforce. The availability of student placement sites is limited by the number of available preceptors. Most preceptors voluntarily assume the responsibility associated with overseeing a student.[24] Often the preceptor is required to meet the same productivity demands of colleagues who do not precept any students.[24] NP students can be precepted by NPs, MDs, DOs, and PAs. The need for placements outweighs available preceptors in NH as students compete for placement. A new market has developed where students pay for profit companies to access placement sites. In a state like NH, this will further limit access to clinical sites to those with the means to pay for a placement. Further, clinical sites will not have the benefit of a diverse student pool. Opportunities for preceptor development and cross-collaboration between

integrated primary care teams and other disciplines provides education and training opportunities for current NPs and preceptors.

## Study Data Limitations

The information obtained from the NH DHHS APRN Workforce Data report recognizes that the collection of current active licensing data is difficult to obtain due to the fact that APRN licenses are converted to inactive if not renewed by their expiration date, and APRNs are only aware of a lapse in licensing once it becomes inactive.[17] The data collected during license renewal is self-reported.[17]

While the NH All-Payer Claims Database includes a majority of individuals in NH, the data is ultimately limited only to those covered by either private or public insurance with policies based in NH and does not account for NH's uninsured population and those with private policies based outside of NH. The commercial claims data is limited to payers with over 10,000 covered lives (approximately 80% of the available data). Additionally, due to the 2016 Supreme Court ruling, *Gobeille v. Liberty Mutual Insurance Co.*, self-insured employers are no longer legally obligated to submit their claims to the All-Payer Claims Database.[25] Both the commercial and NH Medicaid populations were limited to those under 65 due to automatic enrollment into Medicare at age 65. Plans with indications of being Medicare Advantage or Supplemental plans were not included in the commercial data analysis. The NH Medicare data is limited to members with both Parts A & B. As noted above, reported billing of outpatient services by NPs and PAs may be impacted by "incident to" billing practices.

## Resources

| Resource Title: | Resource Link: |
|---|---|
| Quickstart Guide to Teleprecepting: An Interdisciplinary Guide for Conducting a Successful Teleprecepting Patient Visits | https://scholars.unh.edu/cgi/viewcontent.cgi?article=1050&context=ihpp |
| Telepractice Videos | https://www.youtube.com/@unhtelehealthpracticecente1004/featured |
| Southern New Hampshire Area Health Education Center Preceptor Development Modules | https://www.snhahec.org/preceptor-modules.html |
| UNH Project ECHO® Website | https://chhs.unh.edu/institute-health-policy-practice/focal-areas/delivery-system-payment-reform/project-echo |

## Data Sources

**Primary Data Sources:**

- Commercial: New Hampshire Comprehensive Health Care Information System (NHCHIS) Non-ERISA administrative claims and enrollment data
- NH Medicaid: State of NH DHHS's Enterprise Business Intelligence (EBI) System, Managed Care Organization and Fee-for-Service administrative claims and enrollment data
- NH Medicare: Centers for Medicare & Medicaid Services; Parts A&B administrative claims and enrollment data

**Supplemental Data Sources and Uses:**

- American Medical Association (AMA): Procedure codes descriptions
- American Hospital Association (AHA): Revenue code descriptions
- Centers for Medicare and Medicaid Services (CMS): ICD 10 procedure code descriptions
- National Uniform Claim Committee (NUCC): Provider taxonomy descriptions
- National Plan & Provider Enumeration System (NPPES): Provider information
- Centers for Medicare & Medicaid Services: Place of service code descriptions
- Health Services & Resources Administration: Rurality assignment by zip code

## References


1. The Commonwealth Fund. Health Care Delivery System Reform: Six Policy Imperatives. Published online November 2020:37.

2. Fong K. The U.S. Health Care System Isn't Built for Primary Care. *Harv Bus Rev*. Published online September 28, 2021. Accessed March 30, 2023. https://hbr.org/2021/09/the-u-s-health-care-system-isnt-built-for-primary-care

3. Ann Kemspki, Ann Grember. *Primary Care Spending: High Stakes, Low Investment*. Primary Care Collaborative; 2020:48. Accessed November 2, 2022. https://www.pcpcc.org/sites/default/files/resources/PCC_Primary_Care_Spending_2020.pdf

4. Pathman DE. Changes in Rates and Content of Primary Care Visits Within an Evolving Health Care System. *Ann Fam Med*. 2019;17(6):482-484. doi:10.1370/afm.2477

5. Primary Care Collaborative. State Primary Care Investment Initiatives. Primary Care Collaborative. Published 2022. Accessed April 25, 2023. https://www.pcpcc.org/primary-care-investment/legislation

6. Auerbach DI, Buerhaus PI, Staiger DO. Implications Of The Rapid Growth Of The Nurse Practitioner Workforce In The US: An examination of recent changes in demographic, employment, and earnings characteristics of nurse practitioners and the implications of those changes. *Health Aff (Millwood)*. 2020;39(2):273-279. doi:10.1377/hlthaff.2019.00686

7. Association of American Medical Colleges. AAMC Report Reinforces Mounting Physician Shortage. AAMC. Published June 11, 2021. Accessed November 2, 2022. https://www.aamc.org/news-insights/press-releases/aamc-report-reinforces-mounting-physician-shortage

8. Buerhaus P. A Solution To American's Primary Care Crisis. Published online September 2018:31.

9. American Association of Nurse Practitioners. Nurse Practitioners in Primary Care. Published online May 2022. Accessed May 24, 2023. https://www.aanp.org/advocacy/advocacy-resource/position-statements/nurse-practitioners-in-primary-care

10. Rural Health Information Hub. New Hampshire. Published September 20, 2022. Accessed November 1, 2022. https://www.ruralhealthinfo.org/states/new-hampshire

11. Health Resources and Services Administration. HPSA Find. Accessed May 25, 2023. https://data.hrsa.gov/tools/shortage-area/hpsa-find

12.Health Resources and Services Administration. Centers for Medicare & Medicaid Services Health Center Facilities Report. Accessed June 8, 2023. https://data.hrsa.gov/data/reports/datagrid?gridName=CMSFacilities

13.Bi-State Primary Care Association. Health Centers. Published 2022. Accessed September 1, 2023. https://bistatepca.org/centers/

14.The University of North Carolina at Chapel Hill. Rural Hospital Closures. Sheps Center. Accessed November 2, 2022. https://www.shepscenter.unc.edu/programs-projects/rural-health/rural-hospital-closures/

15.Tucker N. 631 rural hospitals at risk of closure by state. Published November 3, 2022. Accessed March 30, 2023. https://www.beckershospitalreview.com/finance/631-rural-hospitals-at-risk-of-closure-by-state.html

16.HWK Consulting, LLC. *Giving Care: A Strategic Plan to Expand and Support New Hampshire's Health Care Workforce*. Endowment for Health; 2022:40. https://endowment-assets.nyc3.digitaloceanspaces.com/images/Giving-Care-A-Strategic-Plan-to-Expand-and-Support-NH-Health-Care-Workforce.pdf

17.New Hampshire Health Professions Data Center, Office of Rural Health and Primary Care, Department of Health and Human Services. *2020 APRN Workforce Data Report*. New Hampshire Department of Health and Human Services; 2020. Accessed March 22, 2023. https://www.nh.gov/t/DHHS/views/2020APRNWorkforceDataReport/TableofContents?%3Aiid=1&%3AisGuestRedirectFromVizportal=y&%3Aembed=y

18.New Hampshire Health Professions Data Center. *2020 Physician Workforce Data Report*. NH Department of Health and Human Services; 2020. Accessed March 28, 2023. https://www.nh.gov/t/DHHS/views/2020PhysicianWorkforceDataReport/TableofContents?%3Aiid=1&%3AisGuestRedirectFromVizportal=y&%3Aembed=y

19.New Hampshire Health Professions Data Center, Office of Rural Health and Primary Care, Department of Health and Human Services. *2020 PA Workforce Data Report*. New Hampshire Department of Health and Human Services; 2020. Accessed September 1, 2023. https://www.nh.gov/t/DHHS/views/2020PAWorkforceDataReport/TableofContents?%3Aiid=1&%3AisGuestRedirectFromVizportal=y&%3Aembed=y

20.Institute for Health Policy and Practice, Center for Health Analytics. *All-Payer Claims Data Primary Care Workforce Dashboard*.; 2023.

21.NH Department of Health and Human Services. CHAPTER He-W 900 OTHER PROGRAMS ADMINISTERED. Accessed June 8, 2023. https://www.gencourt.state.nh.us/rules/state_agencies/he-w900.html

22.Health Resources and Services Administration. Federal Office of Rural Health Policy (FORHP) Data Files. Published March 2022. Accessed September 18, 2023. https://www.hrsa.gov/rural-health/about-us/what-is-rural/data-files

23.Patel SY, Huskamp HA, Frakt AB, et al. Frequency Of Indirect Billing To Medicare For Nurse Practitioner And Physician Assistant Office Visits. *Health Aff (Millwood)*. 2022;41(6):805-813. doi:10.1377/hlthaff.2021.01968

24.Webb J, Lopez RP, Guarino AJ. Incentives and Barriers to Precepting Nurse Practitioner Students. *J Nurse Pract*. 2015;11(8):782-789. doi:10.1016/j.nurpra.2015.06.003

25.Gobeille v. Liberty Mutual Insurance Company. SCOTUSblog. Accessed May 24, 2023. https://www.scotusblog.com/case-files/cases/gobeille-v-liberty-mutual-insurance-company/