

Rural Health Care Access in North Dakota: Unlocking the Potential of Health Care Providers

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Introduction

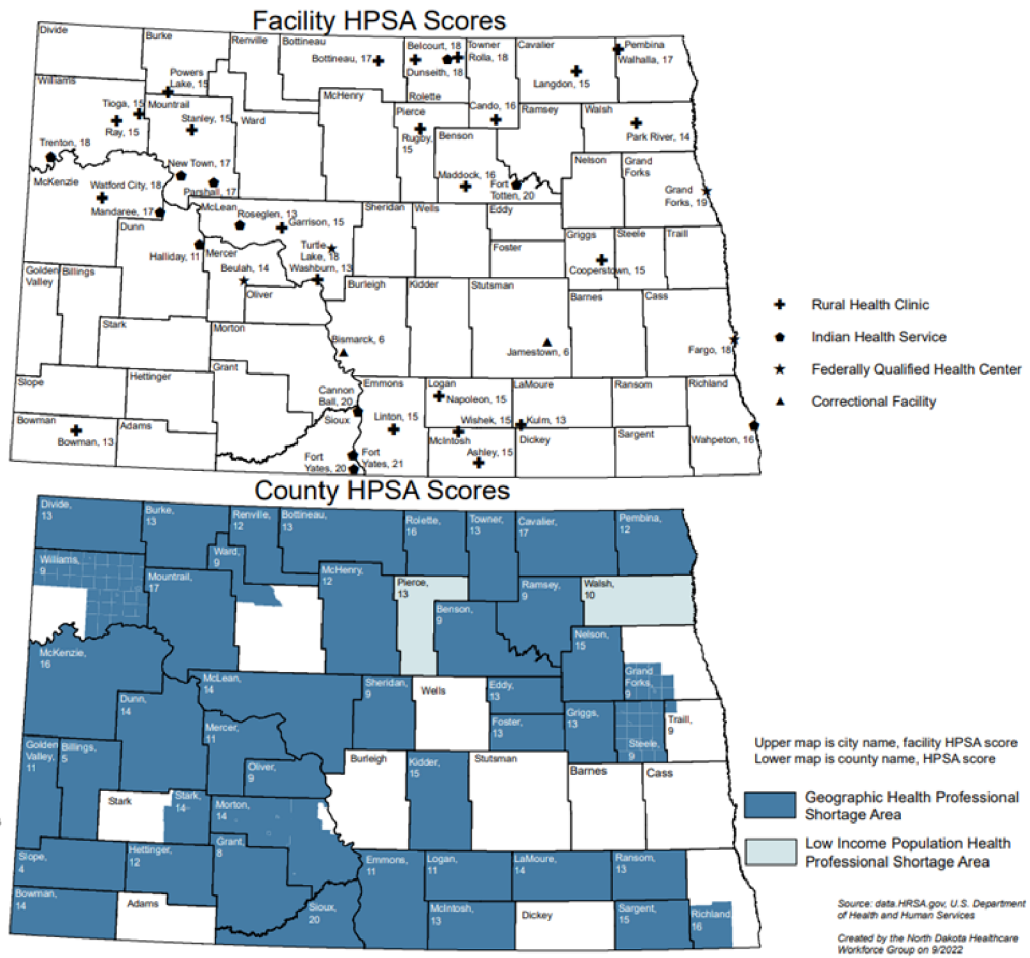
Like the rest of the US, North Dakota is struggling to meet the growing demand for health care with a sufficient supply of healthcare providers, which impacts the availability, cost, and quality of healthcare for North Dakota residents.[i] According to the Health Resources and Services Administration (Figure 1 below), 46 of the 53 counties in North Dakota are designated as primary care health professional shortage areas.[ii] In most of the counties (40 to be precise) the entire county is designated as a shortage area. There are also 46 counties in the state that are designated as mental health professional shortage areas and twenty counties designated as dental health professional shortage areas. These challenges are particularly acute in rural areas, but North Dakota can mobilize and empower existing workforces to address these problems within community health.

In North Dakota, 46 of the 53 counties are designated either partially or fully as

primary care health professional shortage areas (HPSA). There are several types of possible designations. A geographic HPSA designation indicates that there are too few providers in a drivable distance from the population over a geographic area. Low-income Population HPSA is a similar indicator but identifies that a low socio-economic status population does not have enough providers in the geographic region and additionally meets one or more health or income criteria designating the area as high need. In both cases, the entire region can apply for specialized grants for improving HPSA communities. Facility HPSAs are when a single facility applies for a designation of a facility HPSA to indicate that they have limited staffing for their local population and therefore would benefit from specialized programs to encourage primary care providers to locate within these facilities. In each of these applications, a facility or area is given a score between 0 and 25, with higher numeric scores indicating worse primary healthcare access. A score of 14 or above is considered to be a shortage area.

Figure 1 Healthcare Professional Shortage Area for North Dakota

North Dakota Health Professional Shortage Areas: Primary Care



This is a problem that existed well before COVID-19. Exacerbating the problem is the increased need for healthcare due to an aging population as a result of the Baby Boomer generation reaching retirement age and increased longevity from significant improvements in technology and health treatment.

The health care delivery system being pushed to its breaking point from COVID-19 could possibly become the new normal if steps are not made to:[iii]

- 1) Increase provider supply and
- 2) Allow existing workers to legally do the work that they have been trained to do.

Occupational licensing is ubiquitous in healthcare professions in North Dakota and nationwide. Occupational licensing laws and regulations set requirements for entry such as minimum levels of schooling, passing exams, and paying fees to the state. Licensing also establishes ground rules for the practice of the profession—tasks that medical providers are permitted to perform. The laws may also stipulate if the health care provider must be supervised or enter into a collaborative contract arrangement with another health care provider.[iv]

Historically, physicians and dentists have played a significant role in limiting the potential of other health care providers to provide crucial services, even if their training included these procedures. These providers were the first licensed health care professionals, and it is possible they feel threatened from new competition in that more providers may lower prices of services or limit their potential customer base.[v] There are also large differences in the required training for healthcare professionals, such as physicians and nurse practitioners. There could be envy from physicians and dentists if other healthcare professionals are able to perform portions of the tasks that they have been trained to do in medical and dental schools. It is also possible that these professions are indeed representing the public interest and genuinely fear for the safety of consumers if other healthcare professionals are able to provide similar services. Research consistently shows, however, that consumers have nothing to fear from health providers

being allowed by law to do the tasks they received the training to perform.[vi]

In this piece, we highlight examples where North Dakota has already taken steps to address healthcare provider shortages with reform. Further, we provide recommendations for state legislators. The accompanying data analysis illustrates the potential for further reform to help alleviate persistent healthcare provider shortages in North Dakota.

Where North Dakota Gets Practice Authority Right

In some areas, North Dakota has already taken important steps to grant healthcare workers the freedom to work. In 2011, nurse practitioners in the state were granted full practice authority and were permitted to prescribe controlled substances without physician oversight.[vii] Certified nurse midwives, clinical nurse specialists, and certified registered nurse anesthetists are also able to work to the full extent of their training. Changing these requirements created new pathways for getting crucial healthcare resources to shortage areas and provided new resources to historically underserved counties.[viii]

North Dakota also demonstrated its willingness to try something new and be an innovator with respect to practice authority. In 2019, North Dakota became the first state in the country to give physician assistants a pathway to independent practice. Physician assistants can provide both primary and

mental health care after specialized training and are expected to be one of the largest growing medical fields with a 28 percent projected growth rate from 2021 to 2031.[ix] Developing a pathway to independent practice will help these medical professionals service rural communities where the physician shortage is most drastic.

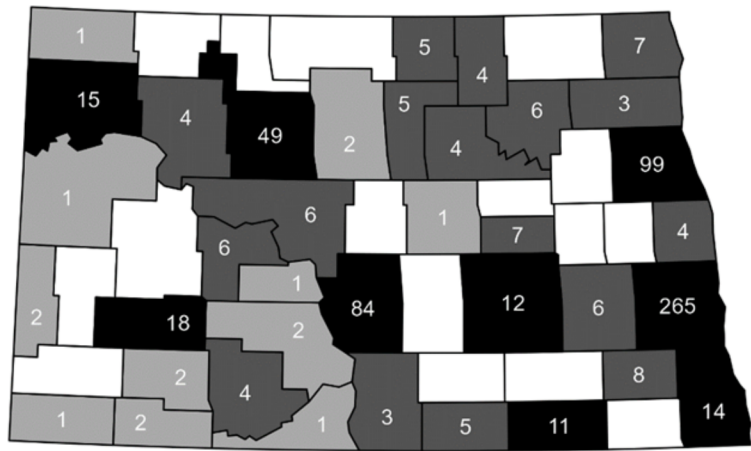
In the table that follows we provide counts of physician assistants in North Dakota. Counts are obtained from the National Plan and Provider Enumeration System (NPPES) on location and numbers of providers in North Dakota. The NPPES was developed by the Centers for Medicare & Medicaid Services (CMS) to assign unique identifiers to healthcare providers. Healthcare providers acquire their unique 10-digit NPIs to identify themselves in a standard way throughout their industry.[x] We follow the approach of Shakya and Plemmons (2020)[xi] and Shakya et. al (2023)[xii] to count the unique skillsets of providers rather than raw counts of providers who may work in multiple locations or departments. Since 2016, the total number of physician assistants has increased by more than 60 percent. By providing physician assistants a pathway to independent practice, these highly trained medical providers are better able to meet their full potential in providing care.

Table 1 Physician Assistants (PAs) in North Dakota (2016-2023)

Providers	2016	2017	2018	2019	2020	2021	2022	2023
Physician Assistant	260	295	332	362	407	431	468	507
Physician Assistant (Medical)	129	130	130	130	131	131	129	135
Physician Assistant (Surgical)	25	28	29	28	24	27	26	28
Total Physician Assistant	414	453	491	520	562	589	623	670

Notes: The total numbers of Physician Assistants (363A00000X), Physician Assistants medical (363AM0700X), and Physician Assistants surgical (363AS0400X). Enclosed in the parentheses are the relevant taxonomy codes. Counts are based on the National Plan and Provider Enumeration System (NPPES).

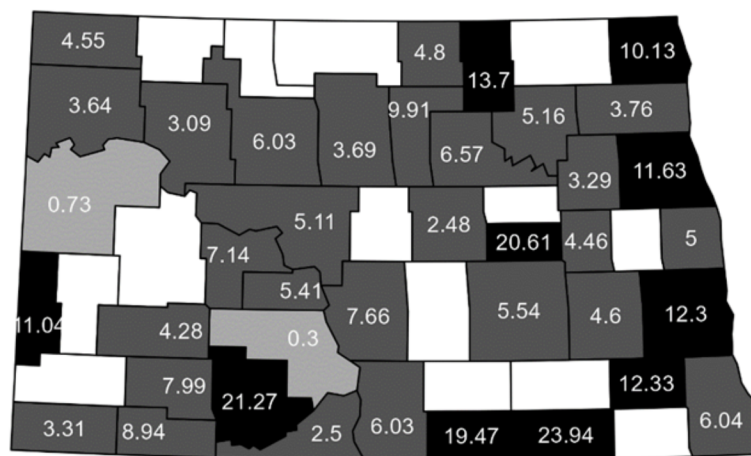
Figure 2a Number of Physician Assistants in North Dakota Counties 2023



Numbers of Physician Assistant in 2023: NA At most 2 Between 3 and 10 inclusive More than 10

Note: The NA means no data available

Figure 2b Number of Physician Assistants per 10,000 Residents in North Dakota Counties 2021



Numbers of Physician Assistant per 10,000 Resident Population in 2021: NA At most 2 Between 3 and 10 incl

Note: The NA means no data available

Where Can North Dakota Consider Reform?

1. Pharmacists

Idaho has emerged as a national leader in granting pharmacists prescriptive authority. Beginning in 2019, pharmacists in Idaho were permitted to prescribe medications for patients experiencing illnesses that:

- did not require a new diagnosis
- are minor and self-limiting
- have a low-risk (Clinical Laboratory Improvement Amendment) test for diagnosis
- present an immediate danger.[xiii]

Pharmacists, much like physicians, complete 4 years of professional training after completing a four-year bachelor's degree. No other medical professional receives as much pharmacological training as pharmacists. Pharmacists are often located in rural communities, and patients often trust their community pharmacists. Advancements in technology for detecting illnesses like strep throat give pharmacists the tools they need to treat patients without a physician visit. Granting pharmacists prescriptive authority can free up physicians to spend time with other patients who need them more. Bordering state Montana enacted this reform earlier this year. [xiv]

Table 2 shows counts of providers from 2016 to 2023 for endocrinologists and pharmacists. We used the same NPPES data and approach from Table 1 above. The

comparison of endocrinologists with pharmacists is important because these specialized doctors are responsible for the majority of prescriptions for diabetic patients, a condition that is directly addressed in the pharmacist prescription authority expansion laws in states similar to North Dakota. Figures 3a and 3b and 4a and 4b provide county-by-county breakdowns of pharmacists and endocrinologists, respectively.

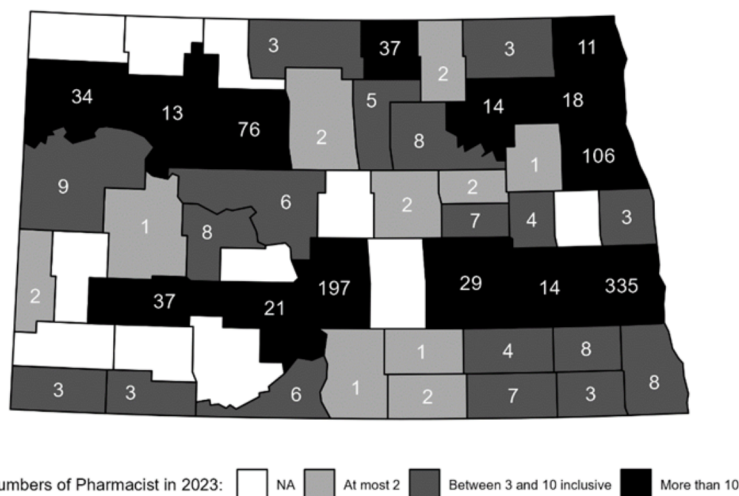
Table 2 Location and Count of Providers in North Dakota 2016-2023

YEAR	LOCATION OF PROVIDERS		NUMBER OF PROVIDERS	
	ENDOCRINOLOGIST OFFICE	PHARMACY	ENDOCRINOLOGIST	PHARMACIST
2016	11	379	25	735
2017	10	403	23	807
2018	13	428	26	855
2019	12	443	25	892
2020	12	459	23	939
2021	14	466	25	976
2022	15	476	25	1010
2023	16	498	26	1056

Note: We use the taxonomy codes in parentheses to compute the total numbers of pharmacists (1835P1300X, 183500000X, 1835N1003X, 1835P1200X, 1835G0303X, 1835X0200X, 1835P0018X, 1835P2201X, 1835P0200X) and endocrinologists (207RE0101X). Counts are based on the National Plan and Provider Enumeration System (NPES).

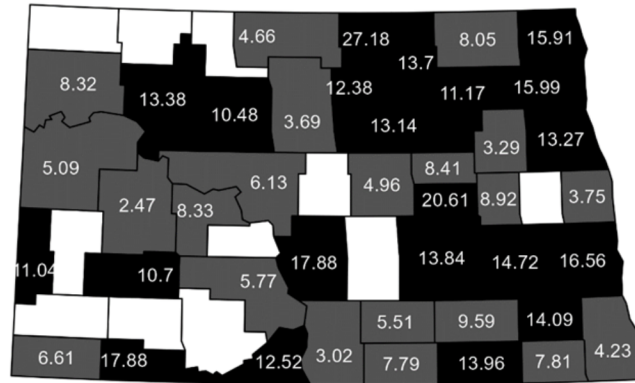
Shakya et al. (2023) find that after Idaho granted pharmacists prescriptive authority, Medicare Part D beneficiaries received greater access to pen needles (diabetes) from pharmacists.[xv] Many counties and communities do not have an available specialist and may need to travel a long distance for care, but every single community has a pharmacist. The prevalence of pharmacists would mean that many families could access crucial medications like insulin from a neighborhood pharmacist rather than having to go to an emergency or urgent care facility when a specialist is not available.

Figure 3a Number of Pharmacists in North Dakota Counties 2023



Note: The NA means no data available

Figure 3b Number of Pharmacists per 10,000 residents in North Dakota Counties 2021



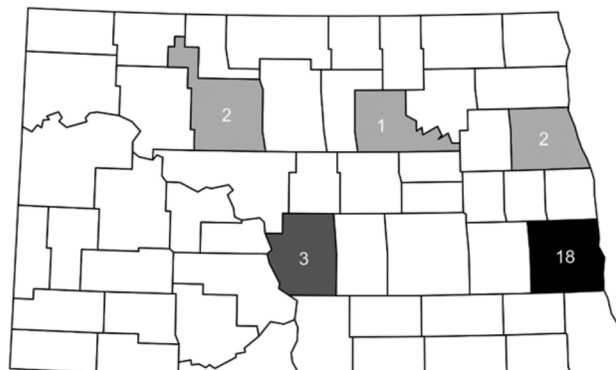
Numbers of Pharmacist per 10,000 Resident Population in 2021: NA Between 3 and 10 inclusive More than 10

Note: The NA means no data available

Building on our previous work, we collected prescription data from the Centers for Medicare and Medicaid Services' Medicare Part D Prescribers by Provider and Drug data set. We gathered data on prescribing of insulin pen needles by pharmacists, endocrinologists, and other doctors in 2020. Shakya et al. (2023) chose endocrinologists because these specialized physicians have frequent contact to develop treatment and prescription plans for diabetic patients.

The sample is limited to practitioners who care for and prescribe medication to Medicare beneficiaries. We extract individual-level prescriber data on their average total claim counts, thirty-day fills, and thirty-day supplies of insulin pen needles. We then average each of these variables across the year and prescriber type.

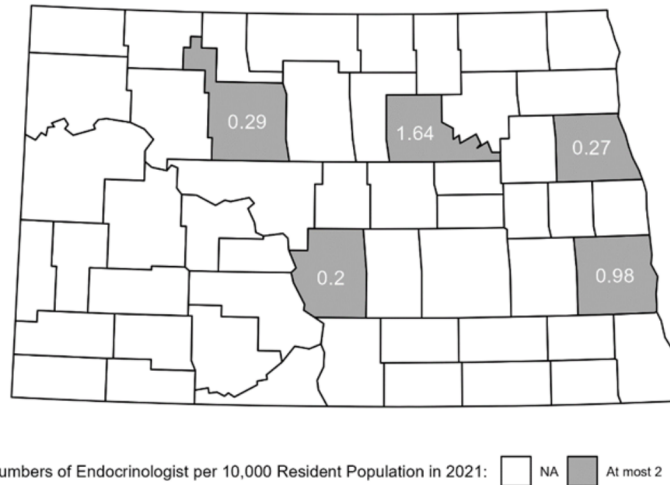
Figure 4a Number of Endocrinologists in North Dakota Counties 2023



Numbers of Endocrinologist in 2023: NA At most 2 Between 3 and 10 inclusive More than 10

Note: The NA means no data available

Figure 4b Number of Endocrinologists per 10,000 residents in North Dakota Counties 2021



Note: The NA means no data available

We compare Idaho and North Dakota in terms of pen needles in Table 3. In Idaho, out of a total of 927 beneficiaries, pharmacists prescribed to 22 of the 927 beneficiaries, or 2.4%.^[xvi] On first glance this percentage may seem negligible, however, the sample is limited to Medicare Part D beneficiaries, and claims fewer than 11 are not included in the data which means that our estimate is a lower bound of the potential effect size on changes in access to care. But, for individual providers and communities, this effect size represents potential lives saved and improved standards of living by having access to necessary medications for minor or manageable long-term conditions. Consider that in North Dakota, in 2020, there were 939 pharmacists working in 459 unique locations (from Table 2). If each North Dakota pharmacist prescribed to the same number of patients on average as in Idaho in 2020 (22 Medicare Part D beneficiaries), they would be able to prescribe to 20,000 patients (939 x 22).

Table 3 Pen Needle Prescriptions By Provider Type in Idaho and North Dakota in 2020

PRESCRIBERS OF PEN NEEDLES, DIABETIC, 2020	AVERAGE NUMBER OF MEDICARE BENEFICIARIES PER PROVIDER	
	IDAHO	NORTH DAKOTA
ENDOCRINOLOGY	415	162
NURSE PRACTITIONER	203	193
INTERNAL MEDICINE	122	163
FAMILY PRACTICE	86	109
PHYSICIAN ASSISTANT	79	27
PHARMACIST	22	0
TOTAL	927	654

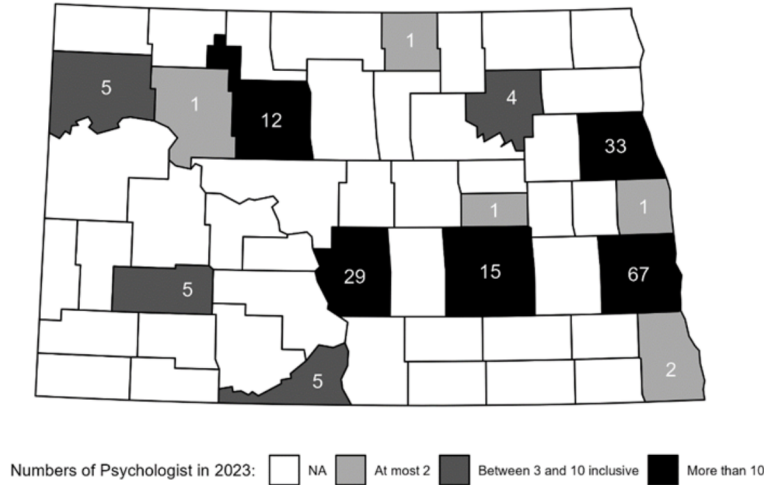
2. Psychologists

Due to the lack of available psychiatrists in many neighborhoods, the wait to see a mental health practitioner and receive necessary medications may be unnecessarily long for individuals in need of help. While primary care providers can prescribe mental and behavioral health medications, most do not specialize in this form of healthcare, and it would require substantial continuing education training to train the already limited volume of these providers when most counties are suffering from a primary care shortage. Instead, to increase the total volume of available mental and behavioral health resources, reimagining the role of currently limited providers represents the largest potential access increase. On average, an initial appointment and diagnosis by a psychologist may take six to eight weeks. [xvii] After this, it will take approximately eight weeks to be referred for medicine intervention with a psychiatrist- a wait time that gets much longer the further away from an urban center a community is. In North Dakota, there is only one psychiatrist for every 10,000 residents, but there are nearly four psychologists per 10,000 who work within a clinical setting.[xviii] Allowing psychologists who have gone through significant psychopharmacological training to prescribe medication can increase the number of resources for behavioral and mental health medication interventions by up to an additional 377 percent.[xix]

A more effective model of allowing psychologists to undertake additional

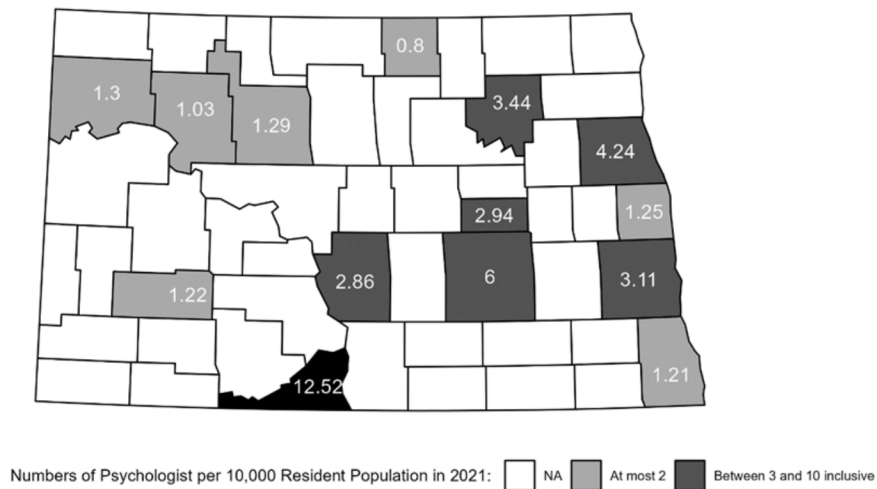
training to prescribe mental and behavioral health medications can increase the volume of providers in areas with chronic shortages, begin medicine intervention earlier, and reduce adverse outcomes such as suicides. [xx],[xxi] Six other states (Louisiana, Idaho, Illinois, Iowa, New Mexico, and Colorado) have already enacted this reform. An important note is that expanding prescriptive authority for psychologists increases the number of psychology services within a state without reducing the available number of psychiatrists or counselors, leading to an overall increase in mental health resources. This increase would be substantial to North Dakota counties with smaller populations, as many do have a clinical and counseling psychologist but not a psychiatrist available. Figures 5a and 5b provide counts of psychologists in each county in North Dakota. Figures 6a and 6b provide counts of psychiatrists and neurology psychiatrists in North Dakota.

Figure 5a Number of Psychologists in North Dakota Counties 2023



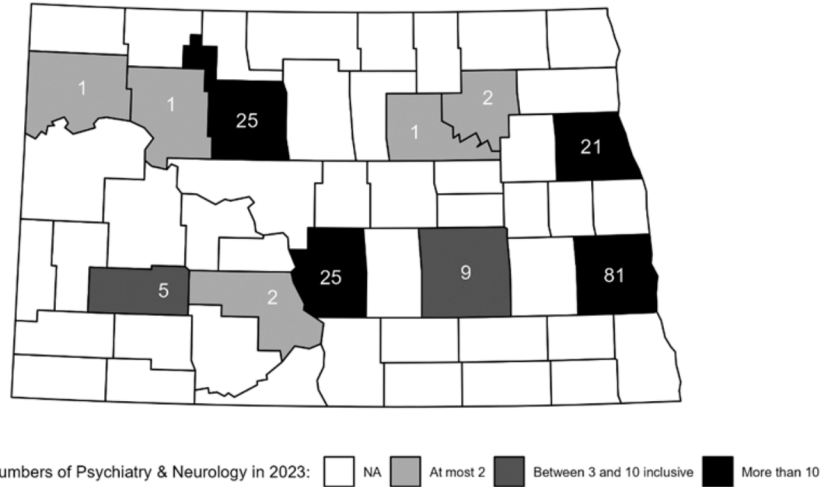
Note: The NA means no data available

Figure 5b Number of Psychologists in North Dakota Counties 2021



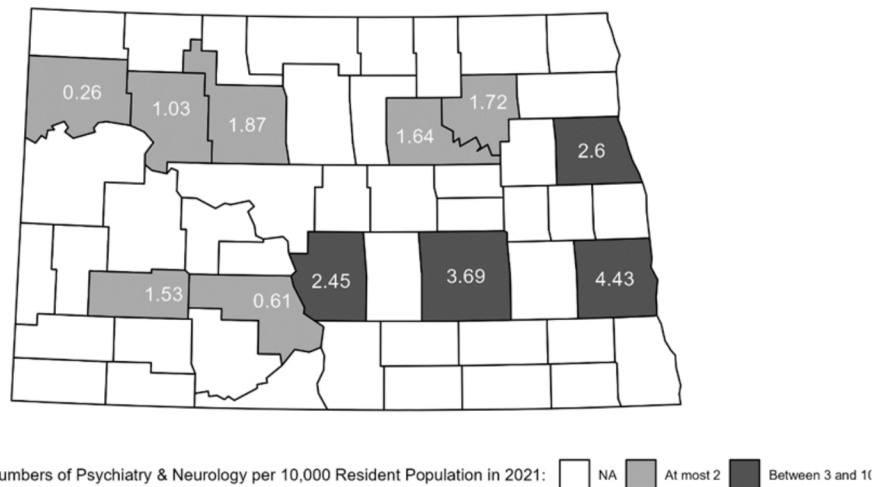
Note: The NA means no data available

Figure 6a Number of Psychiatrists and Neurology Psychiatrists in North Dakota Counties 2023



Note: The NA means no data available

Figure 6b Number of Psychiatrists and Neurology Psychiatrists per 10,000 Residents in North Dakota Counties 2021



Note: The NA means no data available

3. Reforms to Physician Licensing

Finding an appropriate match for an aspiring physician represents a significant bottleneck in expanding physician supply. [xxii] Since early 2017, Missouri has implemented a program called "assistant physicians" to train physicians, which serves as a contemporary alternative to traditional residency programs. [xxiii] Aspiring physicians who meet the residency program requirements but may not have matched into a residency program since there are far more applicants than positions or are geographically bound to the Missouri area are eligible to work as assistant physicians. Assistant physicians are authorized to deliver primary care services under specific conditions in rural and underserved regions; however, they must practice under the supervision of a licensed physician and operate under a signed collaborative practice agreement. This gives the assistant physician authority to work separately from the supervising physician if mutually agreed. As of January 2023, Missouri had 10,060 fully licensed primary care physicians who directly provided healthcare services to patients. [xxiv] Additionally, the Missouri Division of Professional Registration's records from mid-February 2023 indicated 292 licensed assistant physicians (APs) were in the state. [xxv] This suggests that assistant physicians have contributed to an almost 3% increase in the number of primary care physicians in Missouri (Singer and Pratt, 2023). [xxvi]

Since the passage of Missouri's reform, six

other states have enacted similar laws: Arkansas, Kansas, Utah, Arizona, Louisiana, and Idaho. In Arkansas, they use the term "graduate registered physicians" instead of assistant physicians, while Utah refers to them as "associate physicians." Louisiana and Idaho have implemented "bridge physicians" to assist graduates in bridging the waiting period from graduation until they can apply for a residency position. In Tennessee, these professionals are referred to as "graduate physicians." Idaho's bridge physician license is non-renewable, whereas Louisiana allows bridge physicians to renew for two additional years.

Another type of reform that has been adopted in states is making it easier for foreign-trained physicians to begin working in the US. Washington State has recently introduced a program that grants assistant physicians the opportunity to practice, but it is specifically tailored to medical graduates from other countries who have immigrated to the United States and are interested in delivering patient care. [xxvii] American or Canadian medical school graduates are not eligible for this program.

Governor Bill Lee of Tennessee has recently signed a new law, HB 1312, which enables international medical graduates with valid licenses from other countries, and who pass the same standardized exams as U.S. medical graduates, to obtain provisional licenses without repeating a three-year or longer residency training program. [xxviii] Following two years of supervision by a Tennessee-licensed

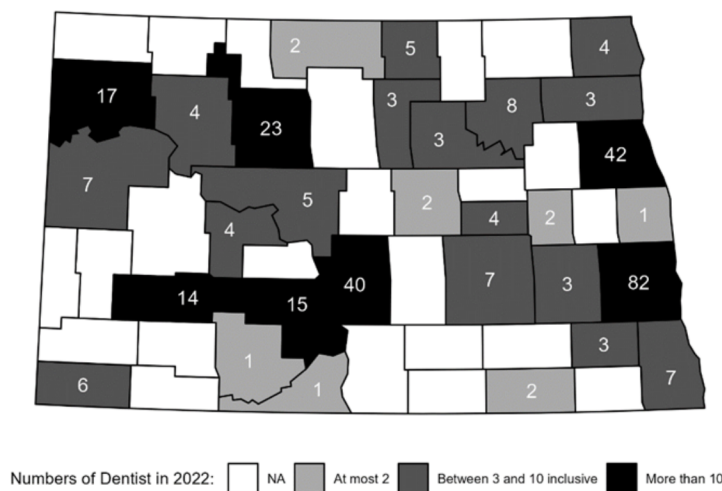
physician, they become eligible for unrestricted licenses. This can serve as another channel for expanding the supply of physicians in North Dakota.

4. Dental Therapists

To address the unmet need for dental care, several states have legally authorized a new professional to provide care to patients. Twenty counties in North Dakota are classified as dental shortage areas where there are not enough dentists to meet the care needs of the population. [xxix] Dental therapists are highly trained and receive three years of education and clinical instruction which includes actively participating in hands-on experience through supervised clinical hour requirements prior to working with patients independently. They are trained to fill cavities, place temporary crowns, and extract unhealthy teeth.[xxx] Eight states, including the bordering state of Minnesota, have authorized dental therapists to practice in providing services within the scope of their education, increasing the volume of services that are available beyond the care needs that can be met by the limited supply of dentists. Idaho, Oregon, and Washington have permitted dental therapists on tribal lands.

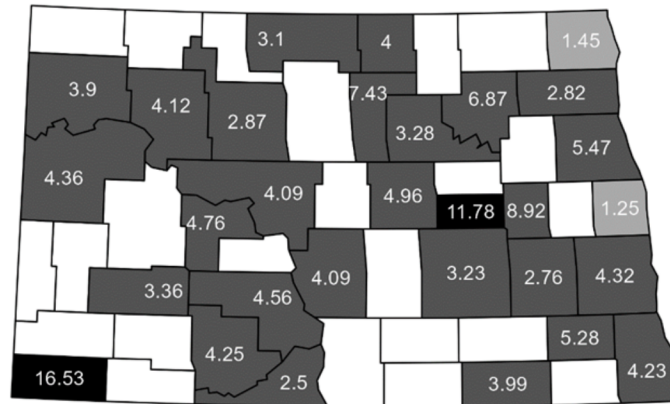
Figures 7a and 7b provide counts of dentists in counties with data in North Dakota. Adding dental therapists as a new provider may help fill in gaps in the provision of dental services and could be particularly helpful in more rural parts of the state.

Figure 7a Number of Dentists in North Dakota Counties 2023



Note: The NA means no data available

Figure 7b Number of Dentists in North Dakota Counties per 10,000 residents in 2021



Numbers of Dentist per 10,000 Resident Population in 2021: NA At most 2 Between 3 and 10 inclusive 16+

Note: The NA means no data available

Conclusion

Granting healthcare professionals, the freedom to work to their fullest potential can mitigate staffing shortages. In this piece, we summarize steps that North Dakota has already taken and provide four additional avenues for reform. North Dakota policymakers should consider the merits of each of these proposed reforms. All these options present no new costs to taxpayers but can make an important difference in the provision of healthcare in the state. Expanding provider supply will be particularly helpful to residents that currently have long drives or long wait times to get access to care.

North Dakota has the opportunity to make proactive policy decisions to empower healthcare professionals to work to the full extent of their expertise and training. While much work has been done with nurse practitioners, there are several potential paths forward for psychologists, pharmacists, dental therapists, and physician licensing to improve access to primary care, dental care, and timely medication management for North Dakotans.

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