FIFTH BIENNIAL REPORT | 2019

HEALTH ISSUES FOR THE STATE OF NORTH DAKOTA

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ADVISORY COUNCIL

Center *for* Rural Health
University of North Dakota
School of Medicine and Health Sciences

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Disclaimer

This *Biennial Report* represents the good-faith effort of the UND School of Medicine and Health Sciences and its Advisory Council to provide current and accurate information about the state of healthcare in North Dakota. Numerous sources were used in gathering the information found in this *Report*. We welcome corrections, which we will incorporate in subsequent editions of the *Biennial Report*.

Acknowledgement

We acknowledge the exceptional contributions of the following individuals in the preparation of the *Report*: Mandi-Leigh Peterson, Robin Besse, Karen Vanderzanden, Nathan Fix, Sonja Bauman, Kristen Leighton, and Delphine Tamukong of the North Dakota Healthcare Workforce Group; Dr. Tom Mohr, associate dean for Health Sciences; Dr. Rashid Ahmed, associate dean of research, Dr. Jana Zwilling, and Dr. Rhoda Owens, of the College of Nursing and Professional Disciplines; Brad Gibbens, of the Center for Rural Health; Jessica Sobolik and Brian Schill of the Office of Alumni and Community Relations; and Laura Cory of Information Resources. In addition, we thank Dr. Gary Schwartz, chair of the Department of Population Health; Rebecca Quinn, Dr. Shawnda Schroeder, and Lynette Dickson of the Center for Rural Health.

Cover photo courtesy of North Dakota Tourism.

EXECUTIVE SUMMARY*

North Dakota (ND), like the rest of the country, is facing a major healthcare delivery challenge—how to meet a burgeoning need for healthcare services now and especially in the future with a supply of physicians and other healthcare providers that has not kept pace with the growing demand. The problem is particularly important in rural and western parts of North Dakota, where there has been a chronic shortage especially of primary care providers dating back for many decades. The data that were reviewed for this report illustrate two major problems in North Dakota. One problem is an inadequate number of healthcare providers; however, the larger problem is a maldistribution of providers. The data show that healthcare providers are disproportionately located in the larger urbanized areas of the state, leaving many rural areas with a shortage. Without direct intervention, the difficulty of providing adequate healthcare in North Dakota will worsen over the coming decades from the combination of aging of the population (including aging and eventual retirement of the healthcare workforce) along with localized population growth in the Oil Patch and the cities, both of which will increase the demand for healthcare services in those areas.

However, unlike much of the rest of the country, North Dakota is directly addressing its healthcare delivery challenges through the implementation of a well-vetted plan for healthcare workforce development and improved healthcare delivery. That plan, the Healthcare Workforce Initiative (HWI), was an outgrowth of both the *First* and *Second Biennial Reports on Health Issues for the State of North Dakota*. Phase I of the HWI, which began by increasing medical and health sciences class sizes along with increasing residency (post-MD degree training) slots, has been fully implemented. Phase II of the plan, which includes full class size expansion and further growth of residency slots in the state, has been implemented as well. The HWI should, in the future, decrease North Dakota's healthcare delivery challenges through attainment of its four goals: 1) reducing disease burden, 2) retaining more healthcare provider graduates for care delivery within the state, 3) training more healthcare providers, and 4) improving the efficiency of the state's healthcare delivery system through an emphasis on team-based care delivery approaches. To accommodate the substantial class size expansions associated with the HWI, a new University of North Dakota (UND) School of Medicine and Health Sciences (SMHS) facility was completed in 2016 and is fully functional on UND's Grand Forks campus. The largest government-funded building construction project in the state's history, it was completed on time and on budget.

In accordance with the expectations specified in the North Dakota Century Code (NDCC 15-52-04), this *Fifth Biennial Report on Health Issues for the State of North Dakota (Report)* updates the first four *Reports* with an assessment of the current state of health of North Dakotans and their healthcare delivery system, along with an analysis of the steps that need to be taken to ensure that all North Dakotans have access to high-quality healthcare at an affordable cost in the future.

Demographics of North Dakota: The *Report* begins with an updated analysis of the population demographics in North Dakota, utilizing the most recently available data. Standardized definitions are used to define the state's population—metropolitan to denote areas with a core population of 50,000 or more; micropolitan (or large rural) to denote areas with core populations of 10,000 to 49,999; and rural to denote areas with less than a population of 10,000. Fifty percent of North Dakota's current population resides in metropolitan areas, with a little more than a quarter (26%) located in rural areas. This represents a dramatic change, where only a few decades ago, more than half of the state's population was located in rural areas. North Dakota is one of the least densely populated states in the country, ranking 49th in population density, and is tied for fourth in the country in the percentage of its state population that is 85 years of age or older. Because demand for healthcare increases proportionally with age, demand for healthcare services is especially pronounced in North Dakota. Such needs will only increase as the state's citizens grow older. People in rural regions of North Dakota are generally older, poorer, and have less or no insurance coverage than people in non-rural areas, all of which are challenges to providing adequate healthcare. Rural regions continue to experience depopulation, which will only exacerbate the current problem of healthcare access and delivery.

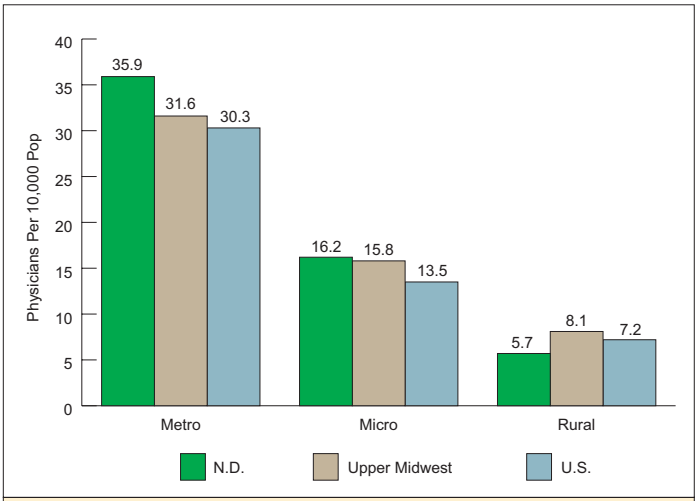
* The full *Report*, along with all supporting data, is available at med.UND.edu/publications/biennial-report.

The Health of North Dakota: The health of North Dakotans, in comparison with the rest of the United States, generally is good. North Dakotans have a slightly lower prevalence of diabetes than the rest of the United States and are less likely to report fair or poor health. However, North Dakotans tend to have a higher risk of some types of cancer and a mortality rate that exceeds the national average. Behavioral risks tend to increase as population density decreases; rural areas have the worst behavioral risk, with an increased frequency of obesity, smoking, and alcohol consumption, especially in males.

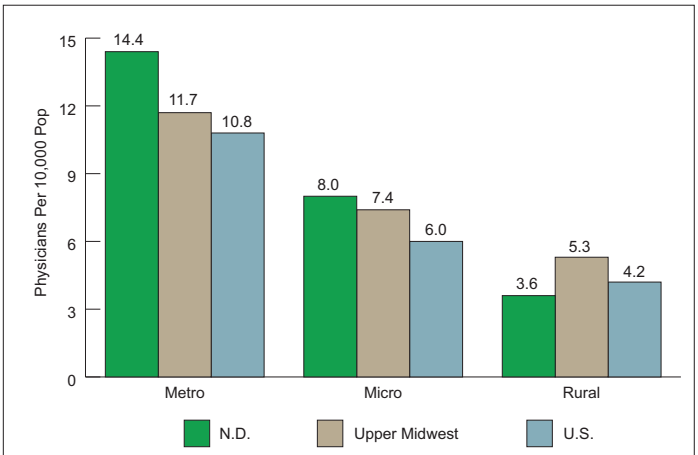
Physician Workforce: The physician workforce in North Dakota has fewer physicians per 10,000 population than the United States as a whole or the Midwest comparison group, and although the gap had narrowed over the past three decades, it recently widened. Our physicians are older and more likely to be male than elsewhere in the United States. About one-fourth of the physician workforce is made up of international medical graduates, a little higher than the rest of the country. The UND SMHS is an important source of physicians for the state, accounting for 47% of the more than 1,000 physicians practicing in North Dakota who graduated from a U.S. medical school. The Rural Opportunities in Medical Education (ROME) program has had 144 participants, of which 88 are currently practicing medicine. Of those, 66% are practicing in primary care, and 29% are practicing in rural areas.

About 44% of the physicians in North Dakota received some or all of their medical training (medical school or residency or both) in-state. The patient-to-physician ratio is not equally distributed across the state. Micropolitan areas have about twice as many patients per physician as metropolitan areas, while rural areas have about five times as many. Predictions of an inadequate future physician supply has helped garner support for the HWI. Without the effects of the HWI, current estimates indicate a shortage of some 260 to 360 physicians by 2025, the consequence of a heightened need for healthcare services as the Baby Boom generation ages, but also from retirements in the aging physician workforce (one-third of the physicians in North Dakota are 55 years of age or older). If the population of North Dakota increases to 800,000 people at some point in the future, as predicted, around 500 additional physicians will be needed.

Primary Care Physician Workforce: The state's primary care physicians include family medicine, general internal medicine, and general pediatrics. Compared with the rest of the country, North Dakota has more primary care physicians when normalized to the population size. Their density is significantly higher than either comparison group in metropolitan regions; it is only in rural areas where North Dakota significantly lags the Midwest comparison group. Although primary care physicians in North Dakota are more likely to practice in rural areas compared with specialist physicians, they still are twice as likely to be found in urban regions than rural



Physicians per 10,000 population for North Dakota, with comparisions.

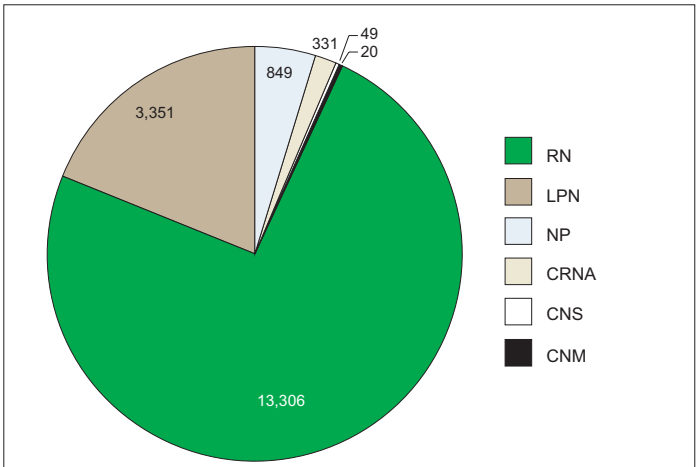


Primary care physicians per 10,000 population in North Dakota, with comparisons.

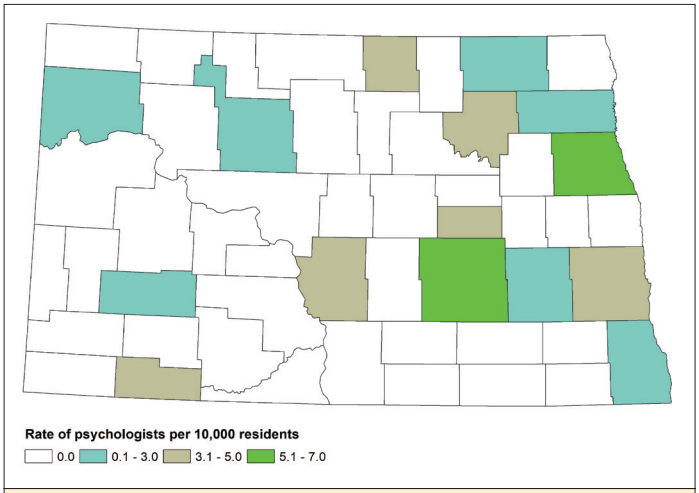
areas. Residency training in North Dakota is an especially important conduit of primary care physicians, since nearly half (45%) of them have completed a residency within the state; more than half went to medical school at UND, completed an in-state residency, or did both.

North Dakota has relatively fewer specialists than the Midwest or the rest of the United States in certain specialties, including obstetrics-gynecology. We have about the same relative number of psychiatrists as other Midwest states, although two-thirds of them work in the eastern part of the state, leaving the western parts of North Dakota with a relative shortage.

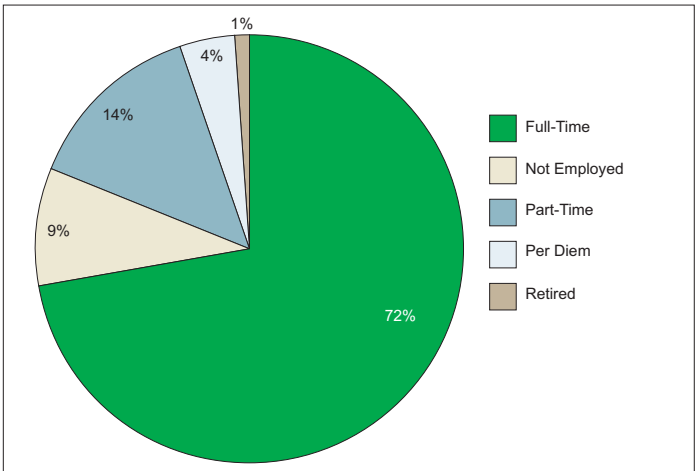
Nursing Workforce: The state's nursing workforce was examined using a new hospital survey and new licensure data. A majority of hospital nurses are licensed practical nurses (LPNs) or registered nurses (RNs). There was a vacancy rate of greater than 10% for all levels of nurses. North Dakota institutions train a majority of the state's nursing workforce. A majority of RNs and LPNs were trained in state, with a majority working in an in-patient setting. A majority of nurse practitioners were trained in North Dakota with a majority working in primary care.



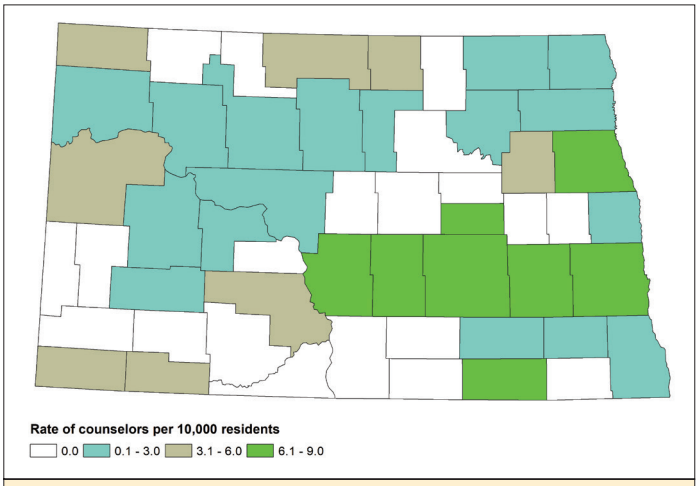
Total numbers of licensed nurses in North Dakota by degree.



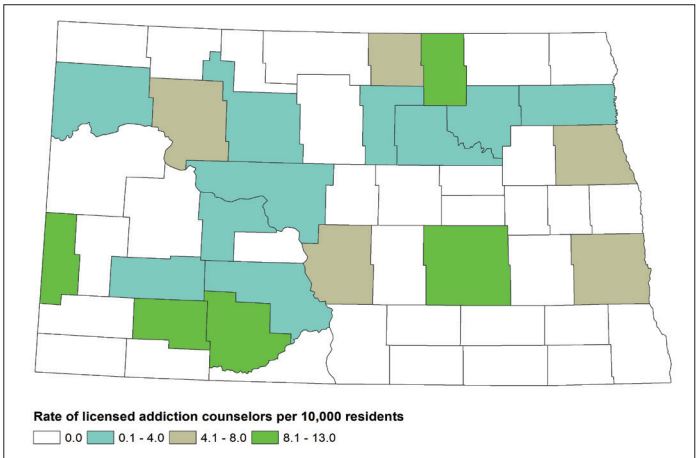
Rate of psychologists per North Dakota county.



Employment status totals for all nursing roles.



Rate of counselors per North Dakota county.



Rate of licensed addiction counselors per North Dakota county.

Psychiatrists, Behavioral Health, and Non-Physician Healthcare Workforce: A majority of the data reported are from professional licensure boards and is new to the current *Report* or expanded from previous *Reports*. Most behavioral health professionals are found in urban areas. This includes psychiatrists, psychologists, counselors, licensed addiction counselors, and social workers. More than half of all social workers were trained in North Dakota. Almost three-quarters of the physical therapists and physical therapist assistants were trained in North Dakota, with half having received training at UND. Of those physician assistants trained in North Dakota, half practice in rural areas and 38% practice in rural primary care.

Healthcare Facility Workforce: Nursing facilities and hospitals typically rely on external contract employees, along with physical therapists, occupational therapists, and speech therapists as the most common external contract employees. The highest turnover rate was found with nurse assistants, which were the most difficult positions to fill.

Healthcare Organization and Infrastructure: Healthcare in North Dakota is delivered through more than 300 ambulatory care clinics, 52 hospitals, 80 skilled-nursing facilities, 68 basic-care facilities, and 72 assisted-living facilities, supported by an array of EMS providers, trauma centers, 28 public health units, oral health providers, mental health providers, and pharmacies. Generally, the further the facility is from a metropolitan area, the more its operation is threatened by financial and other pressures, including staff recruitment and

retention. Rural health organizations tend to be small in size but have a significant impact on both the health of individuals and the economic base of the community.

Healthcare Policy: Nationally, the health delivery system is going through profound change. Improvements in population health and a realignment of provider payments to incorporate those improvements is a new and fundamental reality. The quality and safety of care delivered in a healthcare system is directly associated with improving and maintaining overall health status. In a complex healthcare system, there are a number of concerns, such as the availability of providers; access to care and health services, technology, and treatment advancement; and the financial dimensions of affordability and payment. Each of these is a contributing factor in the overall strategy to be considered when reforming or redesigning the health system. In addition, the quality of care provided to the population and the patient outcomes produced are equally important facets of reform.

The statewide problem of unmet mental and behavioral health needs, especially related to the burgeoning opioid abuse issue, is highlighted in the current *Report*. One approach already implemented through the HWI is to bring the often rural patient to the provider through the use of telepsychiatry. The UND Department of Psychiatry and Behavioral Science has implemented training in telepsychiatry for all of its residents so that they will be able to utilize this effectively in clinical practice.

The quality of healthcare delivered in North Dakota is as good as or better than much of the United States, but there appears to have been a decline in several measures in the past few years, particularly in the delivery of certain acute-care services. North Dakota (along with other upper Midwest states) generally provides high-quality care at relatively lower cost than other states in the United States. North Dakota ranked 22nd in the country in a recent assessment undertaken by the Commonwealth Fund (down from 9th in 2009).

The *Report* concludes with a strong ongoing endorsement of the HWI and a recommendation to continue its funding by the 66th Legislative Assembly. One component of the HWI—the RuralMed medical school scholarship program—is cited in particular for its positive results in rural physician recruitment. An important issue for consideration by the 66th Legislative Assembly is the effect of the state's current financial status on funding for the HWI. Because of the required budget allotment process during the 2015–2017 biennium that amounted effectively to more than a 10% budget reduction, 19 approved residency slots (post-MD degree training) could not be funded. The budget submitted by the UND SMHS for the 2019–2021 biennium and endorsed by both UND and the State Board of Higher Education has been structured to make current funding levels permanent (that is, part of base funding) and thus allow a continuation of the various vital healthcare educational programs of the UND SMHS. It will be up to the 66th Legislative Assembly to weigh the merits of full funding of the HWI in relation to the other funding priorities. The UND SMHS Advisory Council strongly supports full funding of the HWI as requested in the submitted UND SMHS budget.

AN ELECTRONIC VERSION OF THE COMPLETE REPORT IS AVAILABLE AT MED.UND.EDU/PUBLICATIONS/BIENNIAL-REPORT.

Dedication plaque at the entrance of the new UND School of Medicine & Health Sciences building in Grand Forks, N.D.