



CENTER *for* RURAL AFFAIRS

STATE POLICY OPTIONS FOR RECRUITING AND RETAINING RURAL HEALTH CARE PROVIDERS IN NEBRASKA

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I. INTRODUCTION

The U.S. is facing an impending shortage in doctors, nurses, and other health care providers, with some models showing demand outpacing supply by as early as 2025, with a shortfall of hundreds of thousands of workers across professions and specialties, including physicians, nurses, health aides, and lab technicians. These are the kinds of shortages rural America has been facing for decades. Today, rural areas make up more than 60% of the nation's Health Professional Shortage Areas.¹

The health care shortages experienced in rural Nebraska are representative of those found in rural states across the country. Shortages of physicians, nurses, and other providers are ubiquitous. Rural hospitals continue to close at an alarming rate, and certain professions, such as mental health practitioners or obstetrician-gynecologists (OB/GYNs), are wholly absent from substantial portions of the state. This has contributed to a vicious cycle, where health resources

leave because populations are decreasing or economic incentives are too low, and populations continue to decrease, in part, because health care resources are harder to access.²

The question of how to attract, educate, and retain a rural health care workforce has become a perennial one, with no easy answers and no silver bullet. That said, Nebraska and other states have taken steps in the right direction, such as granting full practice authority to advanced practice registered nurse-certified nurse practitioners (APRN-CNP), and providing a loan repayment program for physicians practicing in rural areas.

This paper will examine the present state of affairs with regard to the workforce shortage in Nebraska's rural health care system, review policy interventions implemented in other states, and make recommendations for addressing this ongoing problem.

1 "Designated Health Professional Shortage Area Statistics." Bureau of Health Workforce Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services, Sept. 30, 2021, data.hrsa.gov/Default/GenerateHPSAQuarterlyReport. Accessed November 2021.

2 "Nebraska Rural Health Advisory Commission's Rural Health Recommendations." Nebraska Department of Health and Human Services, December 2020, dhhs.ne.gov/RH%20Advisory%20Commission/RHAC%27s%20Recommendations%202020.pdf. Accessed November 2021.

PART I: DISPARATE OUTCOMES

Rural America has higher rates of chronic illness than urban America. Residents in rural counties are more likely to smoke, be obese, and grow up poor.³ As a result, in part, of these social determinants, rural Americans are more likely than urban to die from the leading causes of death—heart disease, injury, diabetes, cancer, chronic lower respiratory disease, and stroke.⁴ These higher incidences are rooted in challenging socioeconomic circumstances, with many rural counties facing higher poverty rates, broken families, and hunger.⁵ On top of this, rural people are less likely to be insured, and more likely to be in health care workforce shortage areas. Taken together, these factors lead to a broad range of negative health outcomes for rural residents.

In the 1980s, the death rate in rural and urban America was nearly equal, but the following decades have seen the numbers diverge.⁶ In 2016, there were 134.7 more deaths per 100,000 rural residents than per 100,000 urban residents, an almost 20% disparity.⁷ The gap between life expectancies continues to grow, with urban residents on average living three years longer than rural residents.⁸ Heart disease incidence is 40% higher for rural populations versus urban, and a rural person is 30% more

likely to die of a stroke.⁹ Rural stroke patients are less likely to receive necessary, life-saving interventions, which may be indicative of the lack of access to important treatment for other conditions.¹⁰

Rural Americans likewise have higher incidence of cancer deaths related to tobacco, human papillomavirus, and colorectal and cervical cancer, which can be caught and treated by early screening.¹¹ Incidence of cancer may not differ significantly between urban and rural populations, but cancer mortality does. A Centers for Disease Control and Prevention study released in 2017 shows 180 cancer deaths per 100,000 rural persons compared to 158 per 100,000 urban persons, and this gap is increasing.¹²

In Nebraska, specifically from 2010 to 2014, residents in rural areas had higher death rates than urban for heart disease, unintentional injuries, motor vehicle crashes, and suicide.¹³

These stark differences in health outcomes are merely a sampling of the disparities between conditions in rural and urban America. While addressing these issues will continue to be a vast and multifront effort, one effective path forward is precisely the subject matter of this paper: Better access to necessary treatment could help to prevent, diagnose, treat, and cure

3 Vohra, Sameer, et al. “Designing Policy Solutions to Build a Healthier Rural America.” *The Journal of Law, Medicine & Ethics*, School of Law University of Georgia, Vol. 48, pp. 491-505, 2020, digitalcommons.law.uga.edu/cgi/viewcontent.cgi?article=2340&context=fac_artchop. Accessed November 2021.

4 Ibid.

5 Warshaw, Robin. “Health Disparities Affect Millions in Rural U.S. Communities.” *Association of American Medical Colleges*, Oct. 31, 2017, aamc.org/news-insights/health-disparities-affect-millions-rural-us-communities. Accessed November 2021.

6 Harrington, Robert A., et al. “Call to Action: Rural Health: A Presidential Advisory From the American Heart Association and American Stroke Association.” *American Heart Association*, Feb. 10, 2020, ahajournals.org/doi/10.1161/CIR.00000000000000753. Accessed November 2021.

7 Ibid.

8 Ibid.

9 Ibid.

10 Hammond, Gmerice, et al. “Urban-Rural Inequities in Acute Stroke Care and In-Hospital Mortality.” *American Heart Association*, June 17, 2020, ahajournals.org/doi/10.1161/STROKEAHA.120.029318. Accessed November 2021.

11 Warshaw, Robin. “Health Disparities Affect Millions in Rural U.S. Communities.” *Association of American Medical Colleges*, Oct. 31, 2017, aamc.org/news-insights/health-disparities-affect-millions-rural-us-communities. Accessed November 2021.

12 “New CDC Report shows deaths from cancer higher in rural America.” *Centers for Disease Control and Prevention*, July 6, 2017, cdc.gov/media/releases/2017/p0706-rural-cancer-deaths.html. Accessed November 2021.

13 “State Health Assessment: Nebraska.” *Nebraska Department of Health and Human Services*, September 2016, dhhs.ne.gov/Reports/Statewide%20Health%20Needs%20Assessment%20-%202016.pdf. Accessed November 2021.

disease in rural populations, and a larger workforce is a key step toward better access.

PART II: FACTORS CONTRIBUTING TO WORKFORCE SHORTAGES

The causes for the decline in the rural health care workforce are manifold and complex. A significant factor, as mentioned above, is simply the effect of population loss in rural areas, which means fewer patients need care in a given place, making it difficult for hospitals and clinics to justify devoting resources to facilities that pay low returns in a volume-based reimbursement system.

In part because of the higher volume and demand in urban areas, and because medical schools tend to be at urban universities with large hospitals, the medical education pipeline is structured to channel students toward working in cities rather than rural areas. Most medical schools are in urban settings, and medical training in general is less available to the rural population.¹⁴ Additionally, rural students may be less exposed to medical careers as an option, don't feel academically prepared, or don't have the financial resources.¹⁵ Perhaps most importantly, rural areas offer relatively few opportunities for graduate medical training.¹⁶ When medical students enter the rotation or residency phase of their education, they will encounter few graduate training programs in rural facilities; therefore, students are more likely to practice where they have trained.

The demographics of rural areas also exacerbate the shortage; even as the pipeline for bringing medical professionals to rural areas becomes more and more constricted, the population is aging and encountering higher rates of chronic disease.¹⁷ In addition to these changing dynamics, rural counties tend to be experiencing sluggish population growth, stagnation, or population loss. Rural populations are also more likely to be on Medicaid or to be uninsured, which means doctors and hospitals in rural areas are likely to make less money for the same types of care provided.^{18,19} At the same time, because of the shortage of nurses and technicians in rural areas, doctors may face greater burdens for less pay.

Finally, some rural areas face shortages in resources and other amenities that would make them more attractive places to live. Those communities that have a lack of housing, depleted main streets, underfunded schools, and a lack of child care or job opportunities for spouses may be unattractive to mobile health care professionals.

This has been a brief overview of generally agreed-upon significant factors contributing to the health care workforce shortage in rural areas. To fully explore these factors would require several additional papers, but the above should be enough to introduce the general thrust of the causes and concerns involved. What these factors suggest is that any solution to the shortage will have to be multipronged. Before turning to a handful of suggestions in that regard, we will summarize the latest data on the shortage here in Nebraska.

14 "Rural Healthcare Workforce." Rural Health Information Hub, Nov. 9, 2020, ruralhealthinfo.org/topics/health-care-workforce. Accessed November 2021.

15 Castellucci, Maria. "Medical schools see significant decline in rural students." *Modern Healthcare*, Dec. 3, 2019, [modernhealthcare.com/education/medical-schools-see-significant-decline-rural-students](https://www.modernhealthcare.com/education/medical-schools-see-significant-decline-rural-students). Accessed November 2021.

16 Hawes, Emily M., et al. "Rural Residency Training as a Strategy to Address Rural Health Disparities: Barriers to Expansion and Possible Solutions." *Journal of Graduate Medical Education*, August 2021, meridian.allenpress.com/jgme/article/13/4/461/469314/Rural-Residency-Training-as-a-Strategy-to-Address. Accessed November 2021.

17 Smith, Amy Symens, and Edward Trevelyan. "In Some States, More Than Half of Older Residents Live In Rural Areas." U.S. Census Bureau, Oct. 22, 2019, [census.gov/library/stories/2019/10/older-population-in-rural-america.html](https://www.census.gov/library/stories/2019/10/older-population-in-rural-america.html). Accessed November 2021.

18 Foutz, Julia, et al. "The Role of Medicaid in Rural America." Kaiser Family Foundation, April 25, 2017, [kff.org/medicaid/issue-brief/the-role-of-medicaid-in-rural-america](https://www.kff.org/medicaid/issue-brief/the-role-of-medicaid-in-rural-america). Accessed November 2021.

19 "Improving Rural Health: State Policy Options for Increasing Access to Care." National Conference of State Legislatures, June 6, 2020, [ncsl.org/research/health/improving-rural-health-state-policy-options-for-increasing-access-to-care.aspx](https://www.ncsl.org/research/health/improving-rural-health-state-policy-options-for-increasing-access-to-care.aspx). Accessed November 2021.

IV. THE PRESENT STATE OF AFFAIRS: MEDICAL WORKFORCE SHORTAGES IN RURAL NEBRASKA

In 2015, the Nebraska Legislature passed Legislative Bill (LB) 107, which granted what is known as “full practice authority” to advanced practice registered nurses (APRN) who are certified nurse practitioners (CNP).²⁰ Prior to the bill’s passage, state law required a CNP to be party to an integrated practice agreement, which meant he or she had to operate under the authority of a cooperating physician. This was replaced by a “transition-to-practice” agreement, which allowed CNPs to complete 10,000 hours under a supervising provider and then practice independently to the full scope of their training, including independent prescriptive authority.

Even though granting full practice authority to CNPs has increased the number of primary care providers in a significant way, shortages remain stark. Indeed, 14 counties in Nebraska lack any primary care providers whatsoever, up from 13 in 2017, and this despite the growing number of primary care providers overall.²¹

While the number of physicians in the state is rising, this growth is largely driven by surgeons and specialists in urban or suburban areas while the state has seen an overall decrease in practitioners of family medicine, obstetrics, and internal medicine.²² Likewise, the number of primary care providers in general is growing in urban and suburban areas but not in rural areas. Every county in the state, except for Douglas and Lancaster, is designated a shortage area for at least one type of primary care provider. Western, northeastern, and parts of central southern Nebraska are most adversely affected.²³

20 “Legislative Bill 107.” Nebraska Legislature, 2015, nebraskalegislature.gov/FloorDocs/104/PDF/Final/LB107.pdf. Accessed November 2021.

21 “The Status of the Nebraska Healthcare Workforce: Update 2020.” Nebraska Area Health Education Center Program, March 2020, unmc.edu/publichealth/chp/_documents/Workforce_2020.pdf. Accessed November 2021.

22 Ibid.

23 Ibid.

Only 39 out of 93 counties have an OB/GYN, a huge drop from 49 just two years previous. A pregnant woman in a place like Arthur County will have to make a four-hour round trip to North Platte to see the nearest OB/GYN physician. Although the number of OB/GYNs decreased only by four in recent years, the remaining professionals in this field have been redistributed toward urban areas.²⁴

While APRN certified nurse midwives might be able to help fill the gap, there are just 37 in the state, and they work in a handful of counties. As dire as this shortage is, rural Nebraskans have an even more difficult time accessing internists or pediatricians. Only 19 of the state’s counties have an internist, and only 15 have a pediatrician.²⁵

While the number of primary care providers shrinks among physicians, there is a growing number of APRNs, and this workforce is also, by and large, younger than the physician workforce. Part of this growth may be attributable to the expansion of the scope of practice to the full extent of an APRN’s education under LB 107. The growing numbers suggest support for these types of providers is a fruitful path for increasing access to health professionals in rural shortage areas.

Many rural counties face significant shortages in other health professions as well, such as respiratory care, occupational therapy, and physical therapy. Thirty counties lack the essential services provided by a physical therapist, and still more lack professionals in occupational therapy. In emergency health care, the state has lost more than 300 emergency medical technicians (EMTs) since 2017.²⁶

Rural registered nurses are more scarce than urban ones, and they are, on the whole, older, meaning that an already short workforce is aging out. In Nebraska, 39.8% of rural nurses are older

24 Ibid.

25 “Designated Health Professional Shortage Area Statistics.” Bureau of Health Workforce Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services, Sept. 30, 2021, data.hrsa.gov/Default/GenerateHPSAQuarterlyReport. Accessed November 2021.

26 Ibid.

than 51 versus 30.3% of urban nurses. The average age of a rural registered nurse is 3.6 years older than the average age of an urban nurse, and they are less likely to be in a hospital and more likely to be in a home or outpatient setting. While 20% of Nebraskans live in rural areas, only 8.2% of nurses practice there. The Nebraska Center for Nursing predicts a shortage of 5,436 nurses through the year 2025, including registered nurses (RNs), licensed practical nurses (LPNs), and APRNs.²⁷

OBSTETRICS SHORTAGES: A RURAL PRESSURE POINT

Obstetricians, nurse practitioners, physicians assistants, and midwives all play an important role in pregnancy care, and rural areas often face a shortage of each of these roles. Nationwide, rural or urban, there is a shortage of 9,000 OB/GYNs, a number expected to grow in the coming decades. Medical school admittance has risen, but residency positions have not, especially in rural areas. This state of affairs portends continued, and even increasing, shortages. Shortages and closures together factor into higher rates of complications, including infant and maternal mortality.

27 “2020 Biennial Report.” Nebraska Center for Nursing, September 2020, center4nursing.nebraska.gov/sites/center4nursing.nebraska.gov/files/doc/2020%20CFN%20-%20BIENNIAL%20REPORT.pdf. Accessed November 2021.

V. POLICY OPTIONS

A. HARMONIZE REGULATIONS AND EXPAND SCOPE OF PRACTICE FOR APRNS

Across the country, there has been a broad recognition that Advanced Practice Registered Nurses can help to fill the gap of primary care shortages in rural areas. For this reason, 22 states have elected to grant APRNs full practice authority. This authority is defined by the American Association of Nurse Practitioners as “the authorization of nurse practitioners (NPs) to evaluate patients, diagnose, order, and interpret diagnostic tests and initiate and manage treatments—including prescribed medications—under the exclusive licensure authority of the state board of nursing.” This means a CNP can serve as a primary care provider up to the extent of his or her training.²⁸

In the 1970s, as nurse practitioner graduate programs became more prominent, states began to regulate the profession unevenly. In some places, a nurse practitioner could only practice under the authority of a collaborating physician or the oversight of a state medical board. These burdens are increasingly considered an onerous obstacle to the ability of CNPs to provide the sort of care they are trained to administer. In some cases, collaborating physicians will not have a relationship with CNPs beyond signing off on their decisions.

In Nebraska in 2015, as in many other states, APRN-CNPs were granted full practice authority.²⁹ This has enabled an increase in the availability of primary care treatment in rural areas. However, not all APRNs were granted the same practice authority. APRN-CNMs (certified nurse midwives), APRN-CNSs (clinical nurse specialists), and APRN-CNAs (certified nurse anesthetists) are not all regulated consistently. APRNs who are not CNPs must still work under a collaborating physician. For example, in some

28 “Issues at a Glance, Full Practice Authority.” American Association of Nurse Practitioners, August 2021, storage.aanp.org/www/documents/practice/Full-Practice-Authority.pdf. Accessed November 2021.

29 Wilson Pecci, Alexandra. “Nurse Practitioners Get Full Practice Authority in Nebraska.” Health Leaders, April 6, 2015, healthleadersmedia.com/nursing/nurse-practitioners-get-full-practice-authority-nebraska. Accessed November 2021.

cases, CNMs are required to pay a physician to sign off on decisions made in administering care, because the physician will want to offset the risk of involvement in a medical malpractice suit. The result is that CNMs, who are not as highly paid as physicians, may be paying for the formality of a physician signature on care administered within their proper scope of practice.

One option for changing this is the Consensus Model for APRN Regulation developed by the American Association of Colleges of Nursing and the National Council of State Boards of Nursing.³⁰ This model provides a consistent framework for regulating all nurses of this kind and provides for full practice under the professional definition of the APRN's scope.³¹ Whether the Consensus Model is adopted or not, all APRNs should be granted the full practice authority available to APRN-NPs. In other words, APRNs who are not certified nurse practitioners should also be able to participate in the "transition-to-practice." Doing this would remove barriers for professionals who could serve as independent care providers in rural areas.

B. EXTENDING MEDICAID COVERAGE FOR NEW MOTHERS

A significant problem with maintaining gynecological and obstetrics services in rural areas, as in retaining medical personnel generally, is low reimbursement rates for services rendered. Medicaid is the nation's single largest payer of perinatal care and is especially important in rural areas. In 2017, Medicaid paid for 43% of all births in the U.S. (1.7 million of 3.9 million births) and an estimated 50% to 60% of births

in rural areas.^{32,33} Medicaid rates do not typically achieve parity with rates paid by private insurers. This being so, it can become difficult for a hospital system to successfully manage a low-volume obstetrics center when relying so heavily on Medicaid's lower reimbursement rate.

What's more, postpartum coverage available under Medicaid is comparatively limited to private insurance in that coverage ends after 60 days. At this point, a new mother's options for health care coverage depends on the state in which she lives. Twenty-five states have or are in the process of extending postpartum Medicaid coverage. Most plans extend to 12 months, some are seeking 6 or 9 months of coverage.³⁴ Extending postpartum coverage to one year is important both to address the continuing needs of mothers and to increase the financial viability of rural health care services. This extension is critical to a new mother's health. More than half of pregnancy-related deaths happen postpartum, and 12% occur after six weeks postpartum.³⁵ The federal government has recently provided a new way to realize this coverage extension through a provision in the American Rescue Plan Act of 2021.³⁶ States can

30 "APRN Consensus Model." American Association of Colleges of Nursing, aacnnursing.org/Education-Resources/APRN-Education/APRN-Consensus-Model. Accessed November 2021.

31 "Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education." APRN Consensus Work Group and the National Council of State Boards of Nursing APRN Advisory Committee, July 7, 2008, aacnnursing.org/Portals/42/AcademicNursing/pdf/APRNReport.pdf. Accessed November 2021.

32 "Births Financed by Medicaid." Kaiser Family Foundation, 2019, kff.org/medicaid/state-indicator/births-financed-by-medicaid/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D. Accessed November 2021.

33 "Improving Access to Maternal Health Care in Rural Communities, Issue Brief." Centers for Medicare & Medicaid Services, cms.gov/About-CMS/Agency-Information/OMH/equity-initiatives/rural-health/09032019-Maternal-Health-Care-in-Rural-Communities.pdf. Accessed November 2021.

34 "Medicaid Postpartum Coverage Extension Tracker." Kaiser Family Foundation, Nov. 11, 2021, kff.org/medicaid/issue-brief/medicaid-postpartum-coverage-extension-tracker. Accessed November 2021.

35 Petersen, Emily E., et al. "Vital Signs: Pregnancy-Related Deaths, United States, 2011-2015, and Strategies for Prevention, 13 States, 2013-2017." *Morbidity and Mortality Weekly Report*, vol. 68, no. 18, pp. 423-429, May 7, 2019, Centers for Disease Control and Prevention, cdc.gov/mmwr/volumes/68/wr/mm6818e1.htm. Accessed November 2021.

36 "H.R.1319 - American Rescue Plan Act of 2021, § 9812 and § 9822." 117th Congress, March 11, 2021, congress.gov/bill/117th-congress/house-bill/1319. Accessed November 2021.

now file a state plan amendment to their Medicaid programs that would increase postpartum Medicaid coverage to one year. Extending coverage in this way would both ensure the necessary follow-up care for new mothers and provide a further financial incentive for maintaining obstetric services in rural settings.

C. ENHANCE THE RURAL MEDICAL EDUCATION PIPELINE

Students who grow up in rural areas have a higher likelihood of practicing in rural areas if they pursue medical education. However, rural students may encounter several barriers, such as a lower quality of secondary education, tight finances, and a lack of social support for pursuing medical career paths. It would be in the state's best interest to provide educational materials and opportunities to expose rural high school students to the medical profession and present it as a viable and attractive career path. Furthermore, the state can work with colleges to incentivize rural students in the medical field. Currently in Nebraska, the University of Nebraska Medical Center (UNMC) is partnered with Wayne, Chadron, and Peru state colleges in the Rural Health Opportunities Program, which provides full undergraduate tuition to rural students pursuing medical careers, and guaranteed admission to UNMC after graduating.³⁷

States need to find ways to encourage graduate medical education in rural areas because students who train in rural residencies are more likely to stay there. Of Nebraska's 10 teaching hospitals, six are in Omaha, two in Lincoln, one in Kearney, and one in Grand Island.³⁸ UNMC and the University of Nebraska at Kearney (UNK) are seeking funds from the state to expand their partnership on UNK's campus. The two schools recently proposed the \$85 million plan

37 "Rural Health Programs." University of Nebraska Medical Center, College of Dentistry, unmc.edu/dentistry/programs/ruralhealthprograms.html. Accessed November 2021.

38 "Open Payments List of Teaching Hospitals." Centers for Medicare & Medicaid Services, October 2019, cms.gov/OpenPayments/Downloads/2020-Reporting-Cycle-Teaching-Hospital-List-PDF-.pdf. Accessed November 2021.

to the Legislature's Appropriations Committee.³⁹ This effort to grow rural health education should be supported by the state and could be an effective use of American Rescue Plan Act funds. As it is, too few campuses in rural areas have graduate medical training programs, meaning medical students will likely study, train, become certified, and practice in urban areas alone.

Increasing the number of rotations and residency spots in rural settings could expose students to rural care in a way that allows them to set down roots, or at least be exposed to the realities of rural health care. Minnesota offers the Rural Family Medicine Residency Grant Program, which awards funding to existing rural family medicine residency programs or to those seeking accreditation, provided they demonstrate that at least a quarter of program graduates continue to practice in rural settings.⁴⁰ Iowa provides Medical Residency Training State Matching Grants for the establishment of rural residency programs, especially in emergency medicine, obstetrics, and psychiatry.⁴¹

D. PROVIDE AN INCOME TAX CREDIT FOR RURAL AND FRONTIER PRECEPTORS

Preceptors are medical school instructors who are working physicians or nurses and give on-the-job clinical instruction during medical students' rotations.

Like residency programs, rotations can influence where a medical student will practice later on. Incentivizing rural health care professionals to volunteer as preceptors will increase student exposure to rural environments, and will help fill another gap in the educational pipeline for rural health care.

39 Ellyson, Tyler. "Proposed Rural Health Complex at UNK would address state's workforce needs." University of Nebraska Kearney, Oct. 5, 2021, unknews.unk.edu/2021/10/05/proposed-rural-health-complex-would-address-states-workforce-needs. Accessed November 2021.

40 "2021 Minnesota Statutes." Office of the Revisor Statutes, Minnesota Legislature, revisor.mn.gov/statutes/cite/144.1912. Accessed November 2021.

41 "135.176 Medical residency training state matching grants program." Iowa Department of Public Health, Iowa Code, Iowa Legislature, legis.iowa.gov/docs/code/135.176.pdf. Accessed November 2021.

Several states have instituted tax credits for rural preceptors; this is especially important as preceptors may not be reimbursed otherwise for their instruction. Providing incentives for more rural professionals to become certified preceptors, thereby creating opportunities for medical students to experience and participate in rural practice, is a useful intervention in exposing students to rural practice settings.

Colorado offers a Rural and Frontier Health Care Preceptor Tax Credit, which amounts to a \$1,000-per-year state income tax credit for those working as primary care preceptors in rural or frontier counties.⁴² This is not intended as remuneration, but to offset the costs of volunteering to mentor medical students in a rural setting. Georgia's House Bill (HB) 287, from the 2020 session, created a similar program.⁴³

E. EXPAND LOAN REPAYMENT TO INCLUDE ALL NURSES

In Nebraska, as in many other states, physicians, nurse practitioners, dentists, and mental health professionals may receive repayment for student loans if they practice in underserved locations.⁴⁴ Many of these shortage areas are rural. As of Nov. 1, 2020, Nebraska had 73 health care professionals serving rural communities under the loan repayment program.⁴⁵ Expanding funding for this program was a 2020 recommendation

from the Nebraska Rural Health Advisory Commission.⁴⁶

However, nurses are not included in this program. Doing so, which would be less costly than repaying physician loans, could increase rural health care capacity in two ways. In rural areas, nurses take on a larger share of the burden of medical care, due to the dearth of doctors, and likely will be the most consistent points of contact and care for patients in many rural counties. In addition, with a sufficient supporting staff of nurses, it may be easier to recruit and retain physicians while preventing burnout.

The state's current loan repayment program has proven effective in channeling student physicians toward practice in rural areas, and expanding this program may be effective for the recruitment and retention of doctors and nurses alike. Depending on which loan repayment program is used, medical professionals can agree to three- or two-year contracts or two-year contracts with one- or two-year extensions for a total of four years. They must practice in a rural health care shortage area. Doctors and dentists may receive up to \$180,000 to \$200,000 in loan reimbursement; mental health professionals, pharmacists, occupational therapists, physical therapists, and nurse practitioners may receive up to \$90,000 to \$100,000. The loan repayment programs fund 50%, and employing hospitals pay the other 50%.⁴⁷

F. EXPLORE ALTERNATIVE HOSPITAL BUDGETING, REIMBURSEMENT SYSTEMS

A chief reason cited in rural hospital closures, including the recent closing of the hospital in Burt County, Nebraska, is low patient volume. This is a problem because, under the predominant payment system in hospitals, a facility is reimbursed per patient. For Medicare, these payments are

42 "Rural and Frontier Health Care Preceptor Tax Credit." Colorado Department of Revenue, Taxation Division, State of Colorado, tax.colorado.gov/rural-and-frontier-health-care-preceptor-tax-credit. Accessed November 2021.

43 "HB 287: Income tax; certain physicians serving as community based faculty physicians; delete deduction." Georgia General Assembly, legis.ga.gov/legislation/54921. Accessed November 2021.

44 "Nebraska Loan Repayment Programs." Nebraska Department of Health and Human Services, dhhs.ne.gov/Pages/Rural-Health-Nebraska-Loan-Repayment-Programs.aspx. Accessed November 2021.

45 "Nebraska Rural Health Advisory Commission's Annual Report." Nebraska Department of Health and Human Services, December 2020, dhhs.ne.gov/RH%20Advisory%20Commission/Annual%20Report%202020.pdf. Accessed November 2021.

46 "Nebraska Rural Health Advisory Commission's Rural Health Recommendations." Nebraska Department of Health and Human Services, December 2020, dhhs.ne.gov/RH%20Advisory%20Commission/RHAC%27s%20Recommendations%202020.pdf. Accessed November 2021.

47 "Nebraska Loan Repayment Programs." Nebraska Department of Health and Human Services, dhhs.ne.gov/Pages/Rural-Health-Nebraska-Loan-Repayment-Programs.aspx. Accessed November 2021.

made through the Inpatient Prospective Payment System (IPPS), through which each case is given a diagnosis-related group (DRG) designation. The DRG is given a flat reimbursement rate based on the average resources involved in treatment of a given condition category. Unfortunately, this rate often does not match the actual cost of care, and additional resources expended beyond the DRG reimbursement may cause the hospital to lose money, thereby disincentivizing it from accepting Medicare or Medicaid patients when privately insured patients are available.

Private insurance rates tend to be higher than public rates, and are usually based on the services provided per patient, which can incentivize doctors to order extra tests or otherwise inflate the cost of care.

In both cases, the hospital's financial model is directly volume-based. Rural areas, almost by definition, will be low-volume compared to urban hospitals. The question then becomes how to retain services in rural areas when the reimbursement structure may make it financially untenable for facilities to remain open.

One recent alternative is the Pennsylvania Rural Health Model. Under this model participating payers, such as Medicare and private insurance entities, pay rural hospitals a fixed amount based on client population and past years' revenue data.⁴⁸ The hospital knows, therefore, what revenue it can expect. This is meant to incentivize efficiency in treatment by encouraging preventive care that keeps people from needing to be in hospitals, decreasing lengths of stay, and eliminating superfluous expenses. At the same time, it gives a rural hospital stability and sets a budget that covers the costs of care being provided in that year, ensuring there will be no shortfall at the end of the term.

Such a system is not without risks and weaknesses. It can be difficult to accurately assess what a hospital's yearly budget will be, and highly

specific data will be required.⁴⁹ Furthermore, practitioners may avoid pursuing necessary testing or necessary extensions to length of stays if they are facing limited budgets. The physician is also not incentivized according to positive outcomes. Various proposals for dealing with these issues include budgeting physician bonuses for positive patient outcomes.

To provide a recommendation on this point, or investigate it exhaustively, is beyond the scope of the present paper, but states should consider creative and inventive strategies for solving the problem of volume-based reimbursement in rural hospitals. Workforce and the financial stability of the hospital are, obviously, intimately linked, and the recruitment and retention of rural providers will need to involve job stability and competitive pay. Addressing the weakness in the current reimbursement system is important to workforce development, and, as such, the overall availability of care in rural areas.

G. PROMOTE RURAL ECONOMIC DEVELOPMENT

To attract and retain health professionals, rural towns, cities, counties, and economic development authorities need to invest in the assets that attract workers in general. Doctors, like other professionals, are looking for the amenities that make for an attractive place to live.

While it is outside the scope of this paper to outline economic development strategies for hometowns, economic development and placemaking are also strategies for health care workforce recruitment and retention. Doctors, nurses, and technicians will look for good schools, strong broadband, places to eat, and things to do.

48 "Pennsylvania Rural Health Model." Centers for Medicare & Medicaid Services, innovation.cms.gov/innovation-models/pa-rural-health-model. Accessed November 2021.

49 Berenson, Robert A., et al. "Global Budgets for Hospitals. Payment Methods and Benefit Designs: How They Work and How They Work Together to Improve Health Care." Urban Institute, April 2016, urban.org/sites/default/files/2016/05/03/05_global_budgets_for_hospitals.pdf. Accessed November 2021.

In this respect, placemaking should be emphasized.^{50,51} Placemaking refers to the development of existing assets, whether structural, cultural, or environmental, to foster a unique sense of place and identity in a town. Broadly, this has to do with making a town a pleasing and attractive place to settle down. These broader, contextual forms of development cannot be ignored in considerations involving workforce recruitment and retention across professions, and particularly in medical professions. Aesthetic improvements are not superficial or unnecessary; they make rural towns more appealing alternatives to urban practices.

VI. CONCLUSION

For the past several decades, rural workforce shortages in health care have worsened, and projections show the trend will continue. These shortages are associated with higher rates of chronic disease and death in rural areas. This paper has offered a look at the intensity and immediacy of the challenge, the complexity of addressing it, and a few helpful, incremental options for state policymakers to pursue.

In the wake of the COVID-19 pandemic, there has been a positive expansion in the availability of telehealth services, including relaxing some requirements around providing written consent and ensuring reimbursement for mental health services. Telehealth options should be supported to the fullest extent they can be useful, and in tandem with better broadband development. However, there is no substitute for a workforce adequately sized to address the needs of the rural population, and the issue of

recruitment and retention needs to remain top of mind for lawmakers, regulators, health systems, and community groups.

Progress has been made in Nebraska and elsewhere, but even as progress occurs, the challenge grows. Granting full scope of practice to all APRNs, creating a tax credit for preceptors, and expanding loan repayment may be a place to begin. The influx of federal money from the American Rescue Plan Act should be an impetus for creative thinking and reimagining what the state can do to support the rural health workforce, and we hope this paper can spur some of that thinking.

50 Malatzky, Christina, et al. "The utility of conceptualisations of place and belonging in workforce retention: A proposal for future rural health research." *Health & Place*, Vol. 62, March 2020, doi.org/10.1016/j.healthplace.2019.102279. Accessed November 2021.

51 Cosgrave, Catherine. "The Whole-of-Person Retention Improvement Framework: A Guide for Addressing Health Workforce Challenges in the Rural Context." *International Journal of Environmental Research and Public Health*, April 14, 2020, doi.org/10.3390/ijerph17082698. Accessed November 2021.

ABOUT THE CENTER FOR RURAL AFFAIRS

Established in 1973, the Center for Rural Affairs is a private, nonprofit organization with a mission to establish strong rural communities, social and economic justice, environmental stewardship, and genuine opportunity for all while engaging people in decisions that affect the quality of their lives and the future of their communities. This institution is an equal opportunity provider and employer.

