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Soumitra S. Bhuyan

University of Nebraska Medical Center, sbhuyan@memphis.edu

Marlene Deras

University of Nebraska Medical Center, mderas@unmc.edu

Mary E. Cramer

University of Nebraska Medical Center, mecramer@unmc.edu

Janet Cuddigan

University of Nebraska Medical Center, jcuddiga@unmc.edu

Jim P. Stimpson

University of Nebraska Medical Center

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Primary Care Nurse Practitioners in Nebraska

Soumitra S. Bhuyan, Marlene Deras, Mary E. Cramer, Janet E. Cuddigan, and Jim P. Stimpson

SUMMARY

Over the past 20 years, nurse practitioners (NPs) have become an increasingly important source of primary care in the United States. A shortage of primary care physicians, and changes being implemented under the federal health reform law will create an increased demand for primary care NPs. For this report, we used workforce survey data from the Health Professions Tracking Service at the University of Nebraska Medical Center from 2007-2011 to describe trends and characteristics of the primary care NP workforce in Nebraska. We found that the number of primary care NPs in Nebraska grew by 33% between 2007 and 2011, to a total of 293. However, to fill the demand that could be created by an aging population and the enactment of key provisions of the federal health reform law starting in 2014, Nebraska will need at least 314 NPs, which would require a larger growth rate than the state has seen since 2007.

Introduction

NPs are registered nurses who have additional education, national board certification in their specialty, and licensure to manage common health problems and provide expert direct care in the form of health assessments and prevention, diagnosis, and management of common acute and chronic illness, including prescribing medication.¹ The educational track for an NP involves either a master's or a doctorate degree in nursing.² NPs are generally trained to provide primary care with a specialization in adult health, family medicine, pediatrics, gerontology, or women's health.¹

Under provisions of the Affordable Care Act (ACA), enacted in 2010, there will be an estimated 32 million newly insured people in the United States by 2019.³ It is also estimated that by 2020 the United States will have a shortage of 91,500 physicians, almost half of them in primary care.⁴ Physician shortages have negative consequences for access to care because they increase the wait time to get an appointment, increase travel distances, decrease the time clinicians spend with patients, and potentially increase prices.⁴

The shortage of primary care physicians will create an increased demand for other types of primary care providers, such as NPs and physician

assistants, to fill the gap.⁵ Over the past 20 years, NPs have become an increasingly important source of primary care in the United States, and provisions of the ACA will likely accelerate this trend.² Nationally, NPs comprise 20% of the primary care workforce,⁶ and the majority of NPs (65%) work in a primary care setting.⁷ The purpose of this report is to describe the trends and characteristics of Nebraska's primary care NP workforce.

Data Source

We used workforce survey data from the Health Professions Tracking Service (HPTS) at the University of Nebraska Medical Center for 2007-2011.⁸ More information about the HPTS data can be found elsewhere.^{9,10} Annual data from 2011 was used to describe the rural-urban NP age distribution. HPTS data was also used to analyze the change in demographic characteristics of the primary care NP workforce between 2007-2011. Population data were retrieved from the US Census Bureau and a Nebraska State government source.^{11,12} Primary care NPs included those who reported practicing in a location specializing in family medicine, internal medicine, obstetrics and gynecology, or pediatrics. HPTS administers surveys in stages. Annually HPTS surveys NPs who are currently practicing in Nebraska, newly

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UNMC Center for Health Policy
Maurer Center for Public Health
984350 Nebraska Medical Center
Omaha, Nebraska 68198-4350

Ph: 402.552.7254
Fx: 402.559.9695
Email: james.stimpson@unmc.edu

unmc.edu/publichealth/chp.htm

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984330 Nebraska Medical Center
Omaha, Nebraska 68198-4330

Ph: 402.559.2901
Fx: 402.559.9695
Email: mderas@unmc.edu

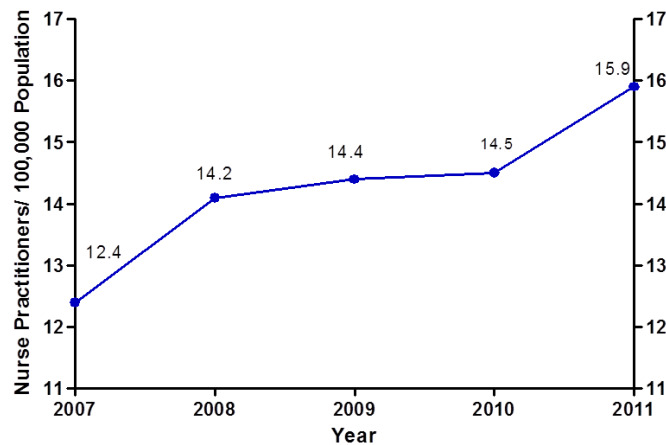
licensed in Nebraska, or of unknown status but with a current Nebraska address. Biannually HPTS surveys physician offices, clinics, and hospitals to confirm and update contact and practitioner information. HPTS's annual verification rate for all practicing professionals and facilities combined ranges from 65% to 95%. Urban counties include Douglas, Lancaster, and Sarpy.

Results

Exhibit 1 shows the steady growth in the number of NPs in primary care in Nebraska. Between 2007-2011, the number of NPs increased by 28% per 100,000 population. Between, 2008-2010, rural counties had a higher number of NPs per 100,000 population than did urban counties.

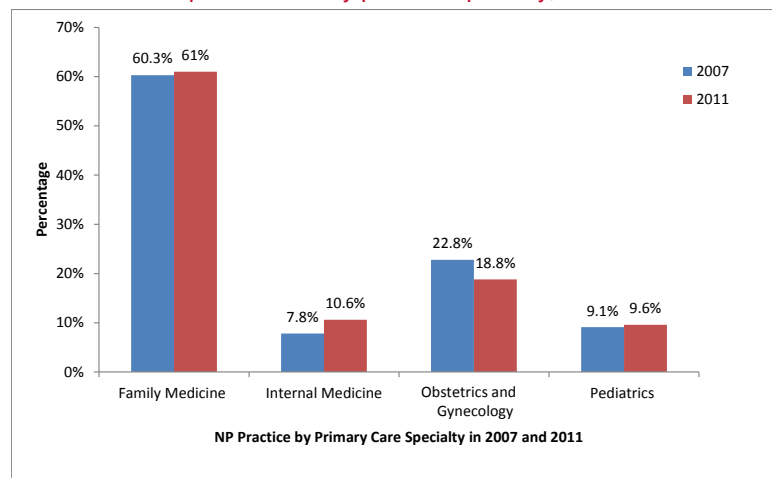
Exhibit 2 shows the distribution of NPs in four types of primary care medical specialty clinics (family medicine, internal medicine, obstetrics/gynecology, and pediatrics). Growth was observed across 3 of the 4 primary care specialties.

Exhibit 1. Nurse practitioners per 100,000 population, Nebraska 2007-2011



Data Source: UNMC Health Professions Tracking Service, 2007-2011; US Census Bureau.

Exhibit 2. Nurse practitioners by practice specialty, Nebraska 2007 and 2011

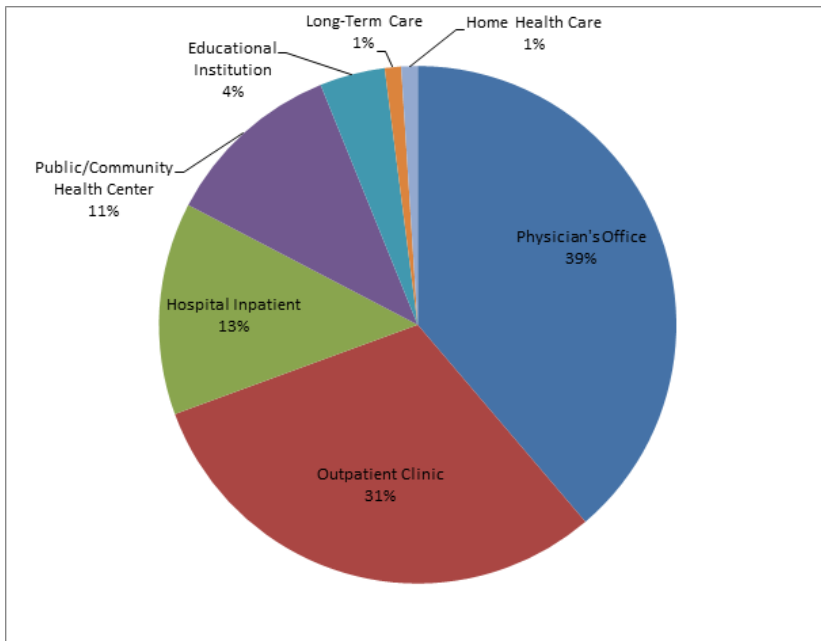


Data Source: UNMC Health Professions Tracking Service, 2007-2011.

Primary care NPs work in a range of settings. The most frequently reported work settings are a physician's office (39%); outpatient clinics, including emergency and urgent care (31%); hospital inpatient setting (13%); and public/community health centers (11%) (Exhibit 3).

Exhibit 4 shows the change in demographic characteristics of primary care NPs in Nebraska between 2007-2011. The number of NPs in primary care in Nebraska grew steadily, with the highest growth in urban counties (40%). More than a third of NPs were employed part-time.

Exhibit 3. Employment settings of nurse practitioners, Nebraska 2011



Data Source: UNMC Health Professions Tracking Service, 2007-2011.

Exhibit 4. Characteristics of Nebraska's primary care nurse practitioner workforce, 2011, and percent change, 2007-2011

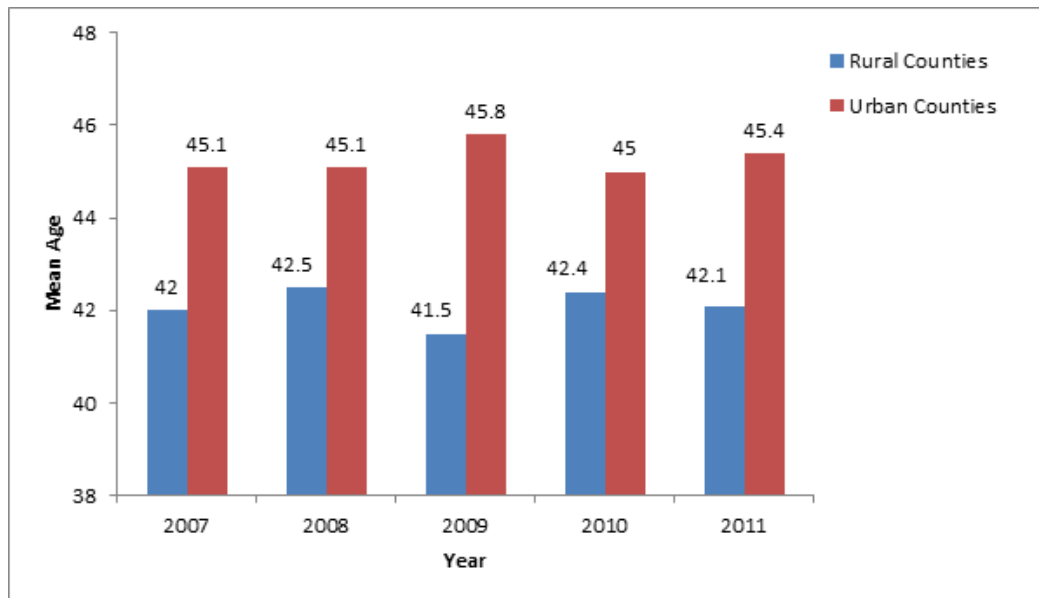
Characteristics	2011	% Change 2007-2011
Total Number (Counts)	293	+33
Gender (%)		
Female	96	+40
Male	4	+70
Employment Status (%)		
Full-Time	63	+38
Part-Time	37	+29
Rural-Urban Distribution		
Urban Counties	56	+40
Rural Counties	44	+30

Data Source: UNMC Health Professions Tracking Service, 2007-2011.

Exhibit 5 shows the average age distribution of NPs by rural-urban location. Between 2007-2011, the average age of primary care NPs was lower in rural counties than in urban counties.

Exhibit 6 shows the percent change in the number of NPs from 2007 to 2011 by age distribution and by rural-urban location. Although the increase in the number of NPs of all ages was higher in urban counties than in rural counties, the increase for those aged 26-40 years and those aged 41-65 years was higher in rural counties than in urban counties. The 100% increase for NPs 65 years of age and older should be interpreted cautiously because there are a small number of NPs in that age range, and small numerical increases translate into large percentage increases.

Exhibit 5. Average age of nurse practitioners by rural-urban location, Nebraska 2007-2011



Data Source: UNMC Health Professions Tracking Service, 2007-2011.

Exhibit 6. Percent change in the number of nurse practitioners, by age distribution and by rural-urban counties, Nebraska 2007-2011

Age of Nurse Practitioner	Percent Change 2007 to 2011		
	Total	Urban	Rural
All ages	+33	+37	+28
26-40 years	+49	+40	+52
41-65 years	+19	+33	+37
65+ years	+100	+100	+100

Data Source: UNMC Health Professions Tracking Service, 2007-2011.

Discussion and Policy Implications

One of the most important challenges for health care is to increase the size of the primary care workforce to meet the expected demand from an aging population and the newly insured under the ACA.¹³ This report describes the practice patterns, age distribution, and rural-urban distribution trends for primary care NPs in Nebraska between 2007-2011. From 2007 to 2011, the supply of primary care NPs in Nebraska grew by 33%.

Several policy options could help increase the primary care NP workforce. One option is to increase incentives in the form of grants, student loans, and fellowships for registered nurses to pursue NP education, and on a full-time basis. For example, at the UNMC College of Nursing, the majority of NP students matriculate part-time through the program and take longer than 3 years to complete their program because they must continue to work. A recent report from the Institute of Medicine (IOM), *The Future of Nursing: Leading Change, Advancing Health*, examined the nursing workforce and proposed 8 recommendations for improvement.¹⁴ One recommendation is to allow NPs to practice to the full extent of their education and training by removing barriers to NP practice. An earlier study on geographic distribution of nurse practitioners found that states that allow independent practice and direct third-party reimbursement have a greater supply and availability of NPs in rural counties.¹⁵ Currently, 18 states and the District of Columbia allow NPs to practice without physician supervision to diagnose and treat patients and prescribe medications, while 32 states, including Nebraska require physician involvement.¹⁶ Prior research

suggests that NPs provide care equivalent to the care provided by physicians for common health problems and chronic conditions.^{17,18} Patients with multiple chronic diseases, such as heart disease, diabetes, and depression, have better outcomes when treated through a team approach involving NPs.¹⁹

The IOM also recommends improving NP workforce data collection instruments through the National Council of State Boards of Nursing and the use of a minimum data set. The need for better workforce data can be traced to the Health Resources and Services Administration's failure to include NPs along with other health care providers in the designation of Health Professional Shortage Areas and Medically Underserved Areas. New rules being proposed at the federal level would include NPs among the health care professionals considered in designating shortage areas and underserved areas. Adopting such rules, in combination with improved workforce data collection, will allow better planning for the primary care workforce.

The NP workforce is projected to grow by 94%, to 244,000 FTEs, by 2025, compared to 128,000 FTEs in 2008.²⁰ As the current primary care physician workforce in Nebraska ages,⁷ additional NPs could provide primary care services in rural and isolated areas. The US Department of Health and Human Services recently announced the availability of \$200 million in federal funding to help train NPs in a demonstration project to strengthen the primary care workforce.¹⁶ The findings presented in this brief indicate that more resources and initiatives may be needed to increase the supply of primary care NPs to meet the expected demand for health care in the coming decade.

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Author Information

Soumitra S. Bhuyan is a graduate assistant in the UNMC College of Public Health, Department of Health Services Research and Administration. Marlene Deras, BS, is the administrator of the Health Professions Tracking Service. Mary E. Cramer, PhD, is a professor in the UNMC College of Nursing, Department of Community-Based Health. Janet E. Cuddigan, PhD, is an associate professor in the UNMC College of Nursing and chair of the College of Nursing Department of Adult Health and Illness. Jim P. Stimpson, PhD, is an associate professor in the UNMC College of Public Health in the Department of Health Services Research and Administration and director of the UNMC Center for Health Policy.

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Conflict of Interest

None.

Disclaimer

The views expressed herein are those of the author and do not necessarily reflect the views of collaborating organizations or funders, or of the Regents of the University of Nebraska.

Contact Information

Jim P. Stimpson, PhD
Director

UNMC Center for Health Policy
Maurer Center for Public Health
984350 Nebraska Medical Center
Omaha, NE 68198-4350

Ph: 402.552.7254

Fx: 402.559.9695

Email: james.stimpson@unmc.edu
unmc.edu/publichealth/chp.htm