Spotlight on the Past and Looking Forward to the Future of Nursing in North Dakota

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Developed by the North Dakota Center for Nursing Leadership Team

North Dakota Center for Nursing
A unified voice for nursing excellence.

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This report is available on our website at www.ndcenterfornursing.org
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EXECUTIVE SUMMARY AND POLICY RECOMMENDATIONS

Nationally, it is projected that over 4.0 million jobs will be generated in health care by 2018 due to an aging population and advances in medical technology (Woods, 2009). Within North Dakota, health care and social assistance is the largest industry with an estimated 55,598 workers (Job Service North Dakota, 2009). Health care facilities are economic drivers in our communities and are a vital part of North Dakota’s future growth. Ensuring that each North Dakotan has access to high quality care will be even more important as health care reform is implemented. The nursing profession is an important part of all facets of the health care system from prevention through chronic and end-of life care and from prenatal and pediatric to gerontology care. The entire health care system relies on nursing as the backbone, making a healthy supply of nurses a necessity to state policy and planning. This report highlights findings from the ten-year North Dakota Nursing Needs Study as well as initial strategic plans for the North Dakota Center for Nursing. However, the North Dakota Center for Nursing cannot solve all nursing workforce issues and solutions must come from the broader cadre of stakeholders. This report was developed by the ND Center for Nursing Leadership Team which includes 50 different organizations that are working together to provide a unified voice and to work strategically on solutions. Some key findings and strategies from this report include:

K-12 Pipeline

- There are currently many programs and activities that target students in K-12 to increase their awareness of health careers and in nursing in particular and interest in nursing careers has been sustained over a number of years. However, about 1/5 of students are undecided about their future careers. This pool of students would benefit from targeted hands-on activities including high fidelity human patient simulation and activities to bring a greater awareness of the wide scope of the nursing profession. The ND Center for Nursing is working to link targeted partners to provide these opportunities and resources to students.

Higher Education

- North Dakota has a wide cadre of established nursing programs that utilize clinical sites across many areas. However, 17 counties currently have no clinical sites. These are largely rural counties. The ND Center for Nursing is working to determine clinical placement gaps and to work with nursing programs and employers to facilitate additional clinical placements.

- Although LPN programs include about 1/5 minority students, other nursing programs have few minority or male students. Great efforts to increase diversity in nursing education programs are needed. This is also a concern with nursing faculty as there are very few male or minority nursing faculty. The ND Center for Nursing is working to collaborate with several existing grant-funded programs that are targeting increasing diversity. The ND Center for Nursing is also working on developing cultural competence training for faculty.
• Few current students and nurses are interested in becoming faculty members. In addition, few nurses have climbed the career ladder and obtained further education. Efforts need to be increased to create seamless career ladders amongst North Dakota’s nursing education programs. *The ND Center for Nursing is also working to develop faculty recruitment and mentoring programs to help increase the future faculty pool.*

**Nursing Supply and Demand**

• While North Dakota has a good supply of RN/APRNs there is a misdistribution with some rural areas without an adequate supply of RNs. In addition, with the implementation of the Affordable Care Act it is anticipated that RNs will be utilized in greater care coordination roles and APRNs utilized to fill in areas with physicians shortages. *The North Dakota Center for Nursing is working to provide a career center along with support to health care facilities to increase retention of new graduates across urban and rural settings.*

• North Dakota currently has a good supply of LPNs with some maldistribution. However, projections indicate that the slow growth of LPN supply over the last several years will not be adequate for future projected demand. Efforts to increase the pool of LPNs and to retain current LPNs are needed. *The North Dakota Center for Nursing is working to establish regional LPN interest groups in order to establish opportunities for education, networking and support that are currently non-existent.*
INTRODUCTION

The United States is confronting a set of contemporary health and healthcare challenges with numerous and complex elements. Multilayered health professions education and health care delivery systems face an array of demands including expectations for responsiveness in meeting current and emerging health care access and quality needs. For example, demands placed on the nation’s healthcare infrastructure include caring for culturally diverse populations with different language and health care customs and markedly increased numbers of individuals seeking care for chronic conditions (Greer, 2008; Medicare Payment Advisory Commission, 2008). An aging population also adds expectations for training and deploying the health workforce to deliver care specific to this population that is accessible, efficient and of high quality. The current health care system, while reflecting high performing components in both rural and urban areas, overall is underperforming (Cantor, Schoen, Belloff, How, and McCarthy, 2007). Deficiencies in the health care sector result in millions of uninsured, poor care quality, escalating costs, and inadequate value for the amount of resources invested. Frequently cited work by McGlynn shows that only about half the time, for a set of common conditions, Americans receive the care that evidence indicates they should. Geographic variation in care quality also exists. Emerging approaches to solving this set of thorny challenges, including driving performance improvement through structural changes in payment policy, have major implications for both the delivery of health care services and the preparation of the workforce providing these services (Wakefield & Moulton, 2008). Health personnel shortages can negatively impact health care quality, through reduced health care access, increased stress on providers, and the use of under-qualified personnel. Also, shortages can contribute to higher costs by raising compensation levels to attract and retain personnel and by increasing the use of overtime pay and expensive temporary personnel.

Workforce shortages, while a problem for the entire health care system, are likely to be most severe for rural/frontier regions and medically needy population groups such as the elderly. Ninety-two percent of North Dakota’s 53 counties are health professional shortage areas. North Dakota also has the highest proportion of residents aged 85 and older, the age group with the greatest need for health care services. In North Dakota, this group is predicted to double in size by 2020. Health professional shortages impact all facets of life in North Dakota.
Beyond public policymakers, the business community, health care providers, foundations, and others are also advancing solutions with direct and indirect implications for the health care workforce. For example, in their series of reports on quality, the Institute of Medicine (IOM) documented fundamental problems with the U.S. health system. The report *Crossing the Quality Chasm*, (2001) called for major changes in applying evidence, improving care quality, using technology, and preparing the health care workforce. The report cited the health care workforce as an essential element in needed health system transformation and asserted that meeting six priority national aims (safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity) requires much more of health providers. New demands on workforce education programs include ensuring the acquisition of competencies in the areas of interprofessional teamwork, quality improvement, evidence-based practice, patient-centered care, and informatics (IOM, 2003). As policymakers and others advance new performance expectations for health care delivery systems by requiring expanded public reporting of this performance and titrated associated reimbursement, the competencies the health care workforce acquires are even more important. In 2010, the Institute of Medicine released a report detailing its recommendations for the Future of Nursing. This report’s key messages included:

- Nurses should practice to the full extent of their education and training.
- Nurses should achieve higher levels of education and training through an improved education system that promotes seamless academic progression.
- Nurses should be full partners, with physicians and other health care professionals, in redesigning health care in the United States
- Effective workplace planning and policy making require better data collection and an improved information infrastructure.

Each section of this report is organized along the health workforce pipeline with available data presented along with concrete strategies by the ND Center for Nursing Leadership team. The workforce pipeline indicates that ensuring an adequate health care workforce for North Dakota citizens requires creating a shared statewide agenda. There are roles for many groups to play including educators, employers, state associations and boards and state and tribal government. Given the demographic trajectory of North Dakota as well as anecdotal and quantifiable information about our health care workforce, the state clearly faces emerging challenges to ensure access to an adequate workforce.

Wakefield, Amundson & Moulton, 2006
NORTH DAKOTA CENTER FOR NURSING

The Nursing Needs Study was recommended, in 2001, by the North Dakota State Legislature (NDCC Nurse Practices Act 43-12.1-08.2) to address potential shortages in nursing supply. Specifically, the North Dakota Board of Nursing was directed to address issues of supply and demand for nurses, including issues of recruitment, retention, and utilization of nurses. This study, initiated in 2002, was designed to obtain an accurate and complete picture of nurses in rural and urban areas of North Dakota, compare North Dakota’s trends to national trends, and inform institutional and public policy. The study has just completed its tenth year and is funded by the North Dakota Board of Nursing.

Over a number of years, the state’s nursing leadership has worked on various models of collaboration including a Nurse Leadership Council and a Nursing Education Capacity Summit Team. Nursing leadership has also attempted to erect a ND Center for Nursing through legislative bills in 2001 and in 2009. The North Dakota Center for Nursing, a non-profit organization, was officially created in 2011 to provide for a unified voice for nursing excellence. This mission of the North Dakota Center for Nursing is to guide the ongoing development of a well-prepared and diverse nursing workforce to meet the needs of the citizens of North Dakota through research, education, recruitment and retention, advocacy and public policy. The North Dakota Center for Nursing has a governing board of directors that includes representation of 11 organizations:

- North Dakota Organization of Nurse Executives
- College and University Nursing Education Administrators
- ND Chapter of National Association of Directors of Nursing/Long Term Care
- North Dakota Board of Nursing
- North Dakota Area Health Education Center
- North Dakota Nurse Practitioners Association
- Nursing Students Association of North Dakota
- North Dakota Department of Commerce Workforce Development Division
- North Dakota Association of Nurse Anesthetists
- North Dakota Nurses Association
- Public Member
The ND Center for Nursing Leadership Team includes representation from the above organizations along with nursing organizations, nursing education programs, regulatory agencies, philanthropic organizations, state agencies, grant-funded projects that have a focus on statewide nursing workforce development and other interested individuals. The 50+ organizations include:

- AARP
- Altru Health Foundation
- American Association of Nurse Practitioners Regional Representatives
- American Indian Community University Partnership
- Association of Perioperative Registered Nurses North Dakota State Council
- Bismarck State University Nursing Program
- Chapters of Sigma Theta Tau
- Concordia College Department of Nursing
- Critical Access Hospital Quality Network
- Dakota College at Bottineau Nursing Program
- Dakota Nursing Program
- Dickinson State University Department of Nursing
- F-M Clinical Sites/Academic Faculties Collaborative
- Fort Berthold Community College Nursing Program
- Jamestown College Nursing Program
- Lake Region State College Nursing Program
- Minot State University Nursing Program
- Minnesota Nursing Informatics Group Representative
- Next Steps: A Career Ladder into the Health Professions in Tribal Communities
- North Dakota Association of Home Care
- North Dakota Chapters of American Nephrology Nurses’ Association
- North Dakota Department of Health
- North Dakota Hospice Organization
- North Dakota Nurses Association
- North Dakota Nursing Education Consortium
- North Dakota Public Health Directors of Nursing
- North Dakota School Nurses Association
- North Dakota State College of Science Nursing Program
- North Dakota State Genetics Education
- North Dakota State University Nursing Program
- North Dakota University System Nursing Articulation Committee
- North Dakota Workforce Development Council
- Robert Wood Johnson Partners Investing in Nursing’s Future
- Rural Nurse Organization North Dakota Representative
- Sanford College of Nursing
- Sitting Bull College Nursing Program
- United Tribes Technical College Nursing Program
- University of Maryland Nursing Program
- University of North Dakota College of Nursing
- Williston State College Nursing Program
SPOTLIGHT ON THE K-12 PIPELINE

An important part of the future health career pipeline is K-12 students and in particular high school students who are in the midst of making decisions about college and career choice. The largest percentage of 2010 North Dakota high school students taking the ACT test indicated an interest in health sciences and allied health fields (21%). Twenty-one percent of North Dakota high school students indicated that they were undecided. Nationally, 20% of high school students indicate an interest in a health science or allied health field and 19% indicate undecided or no response. North Dakota has a significant pool of high school students that have not yet decided on their future career (or may have more than one career in mind) that may be recruited into a health care occupation. (ACT Profile Report, 2010).

Over the last five years, interest in health professions has been between 16% and 21% (ACT Profile Reports 2006, 2007, 2008, 2009).

When asked about the field of their future career plans in 2011, 28% of high schools students indicated an interest in medical/health care and 25% in engineering or arts, design, entertainment, sports. Of those that chose health care as a field, 34% indicated plans to become a nurse, followed by an interest in becoming a physician, physical therapist or social worker (each 22%). This is similar to 2006 and 2002 in which students interested in health care were most likely to express interest in careers as a doctor, physical therapist, and nurse (Moulton et al., 2011; Hanson et al., 2006, ND Healthcare Association, 2002).

High school students were also asked whether incentive programs would influence their selection of careers. Over half of both health care and non-health care students agreed or strongly agreed that incentive programs would influence their career choice, especially an incentive program to work in North Dakota. Similar results were found in 2006 and in 2002 (Moulton et al., 2011; Hanson et al., 2006, ND Healthcare Association, 2002).
NORTH DAKOTA CENTER FOR NURSING K-12 STRATEGIES

Ensuring a healthy future supply of nurses is an important activity of the North Dakota Center for Nursing. Several partner organizations provide multiple opportunities to encourage K-12 students to pursue nursing careers. These include nursing programs at several colleges/universities that sponsor career days and nursing days. The Partners Investing in Nursing (PIN) project sponsors an annual nursing camp. The North Dakota Area Health Education Center (NDAHEC) continues to work with K-12 schools and with organizations such as Marketplace for Kids to provide health care awareness activities.

North Dakota Center for Nursing strategies includes:

- Development of a list of K-12 and other workforce activities including a summary of the activity, contact information and website. This list is available on our website at www.ndcenterfornursing.org

- Following the results of a survey of ND Department of Career and Technical Education health care occupation teachers, we are working on developing linkages between high schools and nursing education programs in order to facilitate the utilization of high-fidelity patient simulators. We are also developing a list of nurses and talking points that are interested in talking to high school students about the nursing career.

- We are also in the process of surveying high school counselors and career advisors to determine needed nursing profession resources.
North Dakota’s Nursing Education Programs

North Dakota currently has eighteen nursing education programs including preparation for LPN, RN, Advanced Practice Nurses and other graduate education programs (NDBON, 2012).

North Dakota nursing education programs utilize many clinical sites in North Dakota. There is significant outreach and rural practice opportunities for nursing students in North Dakota, which supports rural recruitment and employment after students complete their respective nursing program. However, there are currently 17 counties with no clinical sites (NDBON, 2012).
The North Dakota Nursing Education Consortium composed of all of the nursing education programs in North Dakota has over the last four years worked to develop greater opportunities to incorporate high-fidelity human patient simulation.

The use of simulation in the training of future nurses has several benefits including the ability to practice clinical situations in a safe environment, especially when patient census can be a constricting factor in expanding clinical practice sites in some rural areas of the state. There has been a marked increase in the use of high-fidelity human patient simulators from 25% of nursing programs to 87% in 2010. In comparison, only 55% of Florida human patient simulation centers and 66% of Illinois nursing programs utilize this level of simulation. In addition, most ND programs have the ancillary equipment needed to conduct sessions including video cameras for videotaping sessions for debriefing (Moulton & Johnson, 2012).
North Dakota’s Nursing Students

Most nursing students are below age 24 with about ¼ between 25-30 years of age (2011-2012 NDBON Nursing Education Annual Report)

2012 ND LPN Nursing Student Age Distribution

- <24: 8%
- 25-30: 19%
- 31-40: 24%
- >40: 49%

2012 ND RN Nursing Student Age Distribution

- <24: 19%
- 25-30: 27%
- 31-40: 14%
- >40: 53%

Bismarck State College Harvey LPN Student Pinning Ceremony 2012

Nursing Student Association of North Dakota Board 2012-2013
LPN programs have the greatest percentage of enrolled minority students and RN programs have the greatest percentage of male students (2011-2012 NDBON Nursing Education Annual Report).

Many nursing students are married, have children and are currently employed in a nursing related job. This is especially the case for APRN students (Lang & Moulton, 2009).

The number of LPN graduates has varied throughout the last eight years. In 2005-2006, certificate degree LPN graduates started to emerge (NDBON Nursing Education Annual Reports 2004-2012).
The number of BSRN graduates has risen over the last eight years including the addition of graduates from Associate degree programs starting in 2005-2006 (NDBON Nursing Education Annual Reports 2004-2012).

One of the most significant trends identified in nursing practice in North Dakota is the continuing increase in advanced practice nursing including both masters prepared and doctorate levels (NDBON Annual Nursing Education Reports 2001-2012).
In 2009, more LPN (78%) and RN (58%) students plan to work in North Dakota following graduation as compared to 2004. The top reasons included family living in North Dakota, North Dakota is a safe place to live and to raise a family, the low cost of living and that the spouse or significant other has a job in North Dakota (Lang & Moulton, 2009).

Most LPN students (66%) anticipate practicing in a hospital setting. The remaining LPN students plan to go into other health related fields such as long term care, ambulatory care, school nursing, and public/community health. It should be noted, while the majority of the LPN students expect to be employed in hospital settings, LPNs are utilized predominately in long term care/nursing homes or clinic settings (Lang & Moulton, 2009). Most RN students (83%) also plan to work in a hospital setting. The remaining locations of employment are long-term care/nursing homes (7%) with others as public health, clinic, and school nursing and nursing education.

Of currently licensed LPNs, 59% graduated from a North Dakota nursing education program. The greatest number of graduates (30% of total population) attended North Dakota State College of Science (NDBON 2012 Licensure Database).
Of currently licensed RNs, 64% graduated from a North Dakota education program. The greatest number attended the University of North Dakota (about 13% of total population), followed by former Hospital-Based Programs (i.e. Saint Luke’s Hospital School of Nursing) which accounts for about 10% of the total population. University of Mary was the third highest accounting for about 10% of the total RN population (NDBON 2012 Licensure Database).

North Dakota’s Nursing Faculty

Despite recent increases in masters and doctoral program graduates, there has been little movement up a career ladder among the ND nursing population. Most currently licensed LPNs remained with their initial degree (95% of those with an Associate’s Degree and 77% with a Vocational Certificate). Most currently licensed RNs have also remained with their initial degree (93% with a Bachelor’s Degree and 84% with an Associate’s degree). This extends to a lack of interest in faculty positions. In 2009, 54% of LPN students, 60% of RN students and 28% of APN students indicated they have no intention of pursuing a nursing faculty role sometime in the future. The most frequent reason was that they didn’t want to obtain the additional education required (Lang & Moulton, 2009).
The total number of faculty has varied over the past seven years with faculty numbers with a peak of 476 faculty members in 2009-2010. In recent years, there has been a noticeable drop in part-time staff and an increase in full-time nursing faculty. (NDBON Annual Education Reports 2004-2012). (Note: faculty numbers include nurse faculty interns and assistants as reported in annual reports)

The number of faculty position openings has varied greatly over the last eight years from a low of 6 to 32 faculty position vacancies (NDBON Annual Education Reports 2004-2012) (Note: Part time openings were counted as .25 full-time opening and openings were rounded to the nearest whole number).
There is very little diversity within the nursing faculty population with 98% Caucasian and 98% female (2011-2012 NDBON Nursing Education Annual Report).

The greatest percentage (42%) of nursing faculty are age 51 and above. However, almost 1/3 are between 25 and 40 years of age (2011-2012 NDBON Nursing Education Annual Report).

Barbara Diederick, Associate Professor and Chair, North Dakota State College of Science Nursing Program
Full-time faculty average 53 hours each week for their faculty position. Part-time faculty average 36 hours per week (Lang & Moulton, 2008).

Average nursing faculty salary has increased over the last four years with the greatest increase for those faculty with Professor rank (Note: All salaries are converted to reflect average nine-month academic year salaries) (2012 ND Center for Nursing Education Program Survey; Lang & Moulton, 2008).

Average 2012 nursing program administrator salary varies greatly between programs. For those programs with 12-month contracted administrators the average salary is $127,607. For 9 month contracted administrators the average salary is $65,586 (2012 ND Center for Nursing Education Program Survey; Lang & Moulton, 2008).

Carla Gross, North Dakota State University Nursing Program Chair at Wharton Executive Leadership Program
U.S. Bureau of Labor Statistics data (2011) comparing professions that require graduate education for faculty positions indicate that ND nursing faculty salaries are less than biological science, agricultural science and business faculty.

In 2008, 52% of faculty indicated they had been contacted by a recruiter with information about a faculty position at another program out of state. Faculty indicated that offers ($75,000 - $100,000) generally were significantly higher than the current salaries they were receiving. Other benefits, in addition to the higher salary, included housing allowances between $50,000 and $300,000 and full benefits including health, dental, vision and retirement (Lang & Moulton, 2008).
NORTH DAKOTA CENTER FOR HIGHER EDUCATION STRATEGIC PLANS

Working with North Dakota’s nursing education programs is a key function of the ND Center for Nursing. All of the nursing education programs are represented on the ND Center for Nursing Leadership Team and are active members in many ongoing activities.

- We are working to help ensure continued success of the North Dakota Nursing Education Consortium which has received legislative and state-appropriated funding to provide for increased availability of high-fidelity simulation and electronic health record technology for all nursing education programs. The consortium is led by the University of North Dakota College of Nursing and Professional Disciplines.

- We are working with several grant-funded initiatives to help leverage and coordinate activities and resources related to increasing diversity. The Next Steps Program is led by Candeska Cikana Community College and funded by the federal Administration for Children and Families. This program was designed to provide support for American Indian people to attend health care career educational programs including mentoring support. The American Indian Community University Partnerships program, led by North Dakota State University is funded through a federal Administration for Children and Families grant to enhance future nursing employment options and sustainability of employment for American Indians in North Dakota.

- We are tracking the number of minority and English as Second Language students in order to determine future programmatic needs. We are also working on designing cultural competence training for faculty.

- We are in the process of examining the clinical placement location of in-state and out-of-state nursing students in order to determine where gaps exist and to determine future clinical placement coordination needs. Information about the location of nursing student clinical placements is also useful for the North Dakota Area Health Education Center as they continue to build inter-professional opportunities.
- We are designing a faculty recruitment program including a brochure and poster with talking points to distribute to nursing students and nurses in the field to encourage them to consider a faculty career. A video is also in development which will feature faculty from different nursing education programs talking about the benefits of a nursing career. Different options to provide legislative support for nursing faculty including salary differentials, faculty tax credits, and support for joint appointments are being explored. A mentoring program for new faculty will also be developed in the next few years.

- We are exploring innovative teaching techniques for increasing awareness and skills for the gerontology population and for utilizing distance education technologies.

- We are the co-lead for the North Dakota Action Coalition which is working with the Robert Wood Johnson Foundation and the Campaign for Action to implement leadership development programs for faculty/nursing researchers and students in response to the Institute of Medicine Future of Nursing report.
SPOTLIGHT ON NURSING SUPPLY

Number and Distribution of Nurses

There are currently 12,219 RNs including 898 Advanced Practice RNs (NDBON Annual Report 2011-202). There has been a marked increase in the number of RNs and APRNs licensed in North Dakota in the last five years which far exceeds increases over the last 10 or 22 years. If growth continues at the same rate, the state will have over 18,000 RNs and APRNs by 2021 (NDBON Annual Reports 1990-2011).

Governor Dalrymple signing Senate Bill #2148 providing prescriptive practice privileges to APRNs.

North Dakota School Nurse Organization exhibit at North Dakota Education Association Conference
There are currently 3,694 LPNs (NDBON Annual Report 2011-2012). In contrast to the RN trend, the last five years has featured a slowing in growth of LPNs in the state as compared to 10 and 22 year averages. This will result in a statewide supply of LPNs in 2021 between 3,900-4,200 (NDBON Annual Reports 1990-2011).

In 2012, North Dakota has 13.73 RNs per 1,000 people which is greater than the national average of 8.79/1,000 people (U.S. Bureau of Labor Statistics, 2012; U.S. Census Bureau, 2011). However, 13 counties have less than the national average which is more than the 9 counties with less than the national average in 2010 (Moulton, Johnson & Lang, 2010). It is important to note that national averages do not take into account differences in health care delivery systems in states with large rural and elderly populations like North Dakota.

In 2012, North Dakota has 13.73 RNs per 1,000 people which is greater than the national average of 8.79/1,000 people (U.S. Bureau of Labor Statistics, 2012; U.S. Census Bureau, 2011). However, 13 counties have less than the national average which is more than the 9 counties with less than the national average in 2010 (Moulton, Johnson & Lang, 2010). It is important to note that national averages do not take into account differences in health care delivery systems in states with large rural and elderly populations like North Dakota.
In 2012, North Dakota has 4.61 LPNs per 1,000 people which is greater than the national average of 2.41/1,000 people (U.S. Bureau of Labor Statistics, 2012; U.S. Census Bureau, 2011). However, four counties have less than the national average which is more than the two counties with less than the national average in 2010 (Moulton, Johnson & Lang, 2010). It is important to note that national averages do not take into account differences in health care delivery systems in states with large rural and elderly populations like North Dakota.

In 2012, North Dakota has a total of 509 Nurse Practitioners as compared to 407 in 2010 (NDBON Annual Report 2011-2012). In 2012, 10 counties have 0 Nurse Practitioners compared to 11 counties in 2010 (Moulton, Johnson & Lang, 2010). (Note. This map includes NP primary work county. Additional counties where NPs work are not reflected in this map).
In 2012, there are 323 Certified Registered Nurse Anesthetists as compared to 286 in 2011 (2011-2012 Board Report). Thirty-five counties currently have 0 CRNAs as compared to 32 counties in 2010 (Moulton, Johnson & Lang, 2010). (Note. This map includes CRNA primary work county. Additional counties where CRNAs work are not reflected in this map).

**Nurse Demographics**

Average age has remained relatively constant across the last eight years for LPNs, RNs and APRNs (Moulton, 2012, NDBON Nurse Licensure Database 2012). Nationally, the median age for RNs is 46 (HRSA, 2010).
Projecting retirement at age 60, it is estimated that 20% of current LPNs will have retired by 2013 and 50% by 2026. Projecting retirement at age 67, it is estimated that 20% of current LPNs will have retired by 2020 and 50% by 2032 (Moulton, 2012). North Dakota Nursing Survey results indicate that LPNs would consider delaying retirement if they were able to increase pay, have flexible scheduling and retain benefits while working part-time (Lang & Moulton, 2009).

Projecting retirement at age 60, it is estimated that 20% of current RNs will have retired by 2014 and 50% by 2027. Projecting retirement at age 67, it is estimated that 20% of current RNs will have retired by 2021 and 50% by 2034 (Moulton, 2012). North Dakota Nursing Survey results indicate that RNs would consider delaying retirement if they were able to increase pay, have flexible scheduling and retain benefits while working part-time (Lang & Moulton, 2009).
Projecting retirement at age 60, it is estimated that 20% of current APRNs will have retired by 2013 and 50% by 2023. Projecting retirement at age 67, it is estimated that 20% of current APNs will have retired by 2020 and 50% by 2030 (Moulton, 2012).

The percentage of male nurses has changed very little over the last 14 years (NDBON Annual Report 1998-2012). Nationally, between 6.2% and 9.6% of RNs are male (HRSA, 2010).
The LPN population has become slightly more diverse over the last 14 years with increases in Native American and other ethnic groups (NDBON Annual Report 1998-2012).

The RN population is less diverse than the LPN population, but has also shown a slight increase over the last 14 years (NDBON Annual Report 1998-2012). Nationally, 83.2% of RNs are white (HRSA, 2010).

![LPN Diversity Distribution 1998-2011](image1)

![RN Diversity Distribution 1998-2011](image2)

ANNA Red River Nephrology Association Chapter #341 Officers: Cray Eppler, Amy Lamb, Angela McCarvel and Sandy Kantola
SPOTLIGHT ON NURSING DEMAND

The percentage of nurses working full-time has increased over the last 14 years (NDBON Annual Report 1998-2012). Nationally, 63.2% of RNs are employed full-time (HRSA, 2010).

A greater percentage of LPNS are unemployed (NDBON Annual Report 1998-2012). This has increased in the last six years.
The majority of LPNs are employed in long term care, hospitals, and Clinics/Physician Offices. There has been a slight decline in the percentage of LPNs in the hospital setting and an increase in other settings over the last four years (NDBON Annual Report 1998-2012).

The greatest percentage of RNs work in the hospital and other settings (NDBON Annual Report 1998-2012). Nationally, 62.2% of RNs work in hospitals and 10.5% in ambulatory care (HRSA, 2010).
According to Job Service North Dakota, RN/APRN wages have risen slightly in the past 10 years. LPN wages have experienced smaller increases (North Dakota Employment Projections Reports 2002-2011).

The 2010 statewide vacancy rate for LPNs was seven percent, which is a decrease from the 2007 vacancy rate of nine percent. The RN statewide vacancy rate of four percent was an increase from the 2007 rate of three percent (Johnson & Moulton, 2010). Nationally, RN vacancy rates in hospitals are about 8% (AHCA, 2008). According to economists, a full workforce in most industries exists when vacancy rates do not exceed five to six percent (Prescott, 2000). A shortage is considered to be present at a sustained vacancy rate above this level.
The statewide turnover rate for LPNs was 22 percent in 2010 which is lower than the statewide turnover rate in 2007. The statewide turnover rate for RNs was 30 percent, which was higher than previous years (Johnson & Moulton, 2010).

According to the most current Employment Projections by Job Service of North Dakota (2010-2020 Edition) using a federal demand projection model, RNs are projected to have the 10th and LPNs have the 42nd greatest growth over the next 10 years. They also ranked for the number of projected replacement openings (openings due to retirement/death etc.) with RNs ranked at 12th and LPNs at 21st. RNs and LPNs are both characterized as “Bright Outlook” occupations based on growth openings and growth rate. Looking back before 2010, RNs experienced smaller annual increases through 2006 with a one year decline in 2008 and more marked increases from 2010 through 2020 in demand. LPNs have experienced a smaller, but steady increase over the last twelve years.
Data from Jobsnd.com (2012), the state’s job posting system that pulls job postings from the majority of job postings by employers can be utilized to roughly estimate demand. There was an average of 139 jobs/month for LPNs during 2012. Eight counties averaged between 5 and 50 LPN job postings over the twelve months of 2012. Twenty counties had no job postings for LPNs. (Note: Jobsnd data includes flex time, traveling and other positions).

There was a monthly average of 441 job openings for RN/APRN jobs using Jobsnd.com data (2012). Three counties averaged over 50 job postings for RN/APRN positions over the twelve months of 2012. 12 counties averaged between 5 and 50 RN/APRN job postings. Nine counties had no job postings for RN/APRNs. (Note: Jobsnd data includes flex time, traveling and other positions).
SPOTLIGHT ON FUTURE SUPPLY AND DEMAND

Over the next 10 years it is projected that statewide RN/APRN supply will continue to meet demand (Moulton & Howe, 2013). The figure also includes estimates of high and low demand in order to emphasize that many factors may influence demand including population shifts, aging and economics which may not be captured in the demand projections. Factors such as implementation of the ACA will also increase demand.

As of 2010 and for the next years, it is projected that there will be a striking statewide shortage of LPNs when compared to demand including high and low demand estimates of demand (Moulton & Howe, 2013).
NORTH DAKOTA CENTER FOR NURSING SUPPLY/DEMAND STRATEGIC PLANS

The ND Center for Nursing is engaged in a variety of activities with partnering organizations to provide for recruitment and retention of nurses.

- We are in the process of developing a career center which will be connected nationally with other state-based nursing career centers. The career center will provide a resource for nurses in-state and out-of-state to locate job openings and for employers to post job openings.

- We are examining strategies for bringing nurses back that have left the field including providing re-entry information and determining demographic profiles of nurses that have left.

- We are working with the ND Department of Commerce Workforce Development division to determine mechanisms for attracting nurses from other states.

- We are the co-lead for the North Dakota Action Coalition which is working with the Robert Wood Johnson Foundation and the Campaign for Action to implement leadership development programs for front-line nurses, community nurses and advanced practice nurses in response to the Institute of Medicine Future of Nursing report.

- We are examining the movement of nurses between different occupations and health care facilities in order to better determine nurse movement in ND.

- We are examining models for transition to practice programs that are designed to provide on-the-job mentoring and training to new graduates in order to ensure a smooth transition.

- We are developing a research study to determine the prevalence of key national nursing environment indicators in North Dakota’s hospitals.
• We are exploring mechanisms for providing clinical scholars at the point of care with evidence-based resources in order to improve patient care quality. A research mentoring program for nurses in clinical practice will also be developed in the next few years.

• We are developing advocacy resources for all nurses and nursing organizations in order to increase engagement in the legislative process. An infrastructure for the identification of practice and policy issues has also been developed and will provide a mechanism for providing united policy platforms.

• We are developing an online resource for best practices including a mechanism for sharing evidence based practice documents across health care facilities and education institutions.

• We are working with LPNs across the state to develop regional interest groups to provide networking and support.

• We will continue to track key nursing education, supply and demand workforce indicators in order to better inform future activities and state policy.
REFERENCES


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