North Dakota Nursing Needs Study

2011 Licensed Nurse Supply Analysis

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North Dakota Center for Nursing

A unified voice for nursing excellence.

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EXECUTIVE SUMMARY

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, 2011). 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.

This report includes results from analysis of the North Dakota Board of Nursing licensure database and is a part of the ND Nursing Needs Study that is funded by the ND Board of Nursing. The database includes data from a total of 15,600 nurses as of September, 2011. These results are compared with licensed nurse survey results from 2003, 2004, 2005, 2006, 2007 and 2009 reports available at www.ndcenterfornursing.org. Policy recommendations are also included.

- **Age and Projected Retirement**
  The average age for LPNs and RNS is 46 years which has varied throughout the last eight years but is lower than in 2003. The average age for APNs is the same as 2003. Projecting retirement at age 60, 20% of LPNs, RNs and APNs will have retired by 2013-
  2014.

- **Gender and Ethnic Diversity**
  There is a slight increase in the percentage of male nurses (2%) as compared to 2009. There has also been a slight increase in the percentage of non-white nurses (1%) since 2009 with Native American nurses composing the largest ethnicity.

- **Employment Status**
  The majority of nurses are employed full-time which has significantly increased over the last five years. Those employed part-time has decreased since 2003. About 9% of nurses are unemployed in North Dakota.

- **Employment Setting**
  Most LPNs work in long-term care, ambulatory care or in the hospital. Most RNs work in hospitals and other settings and most APNS work in hospital and ambulatory care. Most RNs and LPNs are staff nurses. Nurses have worked an average of 14-19 years since initial licensure. Nurses that have worked less than five years have decreased since 2009.

- **Education**
  Most LPNs start their licensure with a Vocational certificate or an Associate’s degree; RNs start with a Bachelor’s degree followed by an Associate’s degree. The majority of nurses at all licensure levels have remained at their initial education level.
NORTH DAKOTA NURSING NEEDS STUDY INTRODUCTION

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.

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 is currently in its tenth year and is funded by the North Dakota Board of Nursing.

In this report, nursing supply results are presented. Data for this study was obtained from the North Dakota Board of Nursing Licensure database from September 2011. This database includes information on 10,874 RNs, 3,847 LPNs and 879 APNs. Of the APNs, 492 are Nurse Practitioners, 310 are Certified Registered Nurse Anesthetists, 55 Certified Nurse Specialists, 14 Certified Nurse Midwives and 8 other/dual certified. The 2011 data is compared with results from previous surveys of licensed nurses in 2009, 2007, 2006, 2005, 2004, 2003 and 2002. These studies had varied response rates each year and caution should be used when interpreting trend data. For a complete list of supply reports and results see the ND Center for Nursing website at www.ndcenterfornursing.org
RESULTS

Age and Projected Retirement

The average age for LPNs and RNs is 46 years and 47 years for APNs. APNs and LPNs are on average younger in 2011 than in 2009 (see Figure 1). Nationally, the median age for RNs is 46 (2008 National Sample Survey of Registered Nurses).

Figure 1: Mean Age by License

![Mean Age by License Chart](chart.png)
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 (see Figure 2).

**Figure 2: Projected LPN loss due to Retirement at Age 60 and 67**

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 (see Figure 3).

**Figure 3: Projected RN loss due to Retirement at Age 60 and 67**
Projecting retirement at age 60, it is estimated that 20% of current APNs 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 (see Figure 4).

Figure 4: Projected APN loss due to Retirement at Age 60 and 67
Gender and Ethnic Diversity

In 2011, 94% of nurses are female which is a decrease from 2009 where 96% were female. The greatest percentage of male nurses is APNs (see Figure 5). Nationally, between 6.2% and 9.6% of RNs are male (2008 National Sample Survey of Registered Nurses).

**Figure 5: Gender by Licensure**

Ninety-five percent of nurses are White in 2011. This is a slight decrease from 96% in 2009. The next largest group is Native American with 1.4% which is a decrease from 2% in 2009 (see Figure 6). Nationally, 83.2% of RNs are white (2008 National Sample Survey of Registered Nurses).

**Figure 6: Ethnicity by Licensure**
Employment Status

The majority of nurses work full-time with APNs having the greatest percentage. In 2011, 9.4% of nurses are not employed with LPNs having the greatest percentage (see Figure 7).

Figure 7: Employment Status
Over the last five years, the percentage of LPNs and RNS working full-time has significantly increased (see Figure 8). Nationally, 63.2% of RNs are employed full-time (2008 National Sample Survey of Registered Nurses).

**Figure 8: Percentage of Nurses Working Full-Time**

Comparatively, the number of nurses working part-time decreased between 2003 (33%) and 2009 (21%) and is currently 22% (see Figure 9)

**Figure 9: Part Time Employment Trend**
Employment Setting

Most RNs work in hospitals and other settings and APNs work in hospital and ambulatory care settings. Most LPNs worked in long-term care, ambulatory care, and hospital settings (see Figure 9). Nationally, 62.2% of RNs work in hospitals and 10.5% in ambulatory care (2008 National Sample Survey of Registered Nurses).

Figure 9: Employment Setting

Most RNs and LPNs indicate that their nursing position is as a staff nurse. RN’s more frequently indicated their position as nursing manager, executive or administrator and LPNs more frequently indicated their position as an office nurse (see Figure 10). Nationally, 66.3% of RNs are staff nurses and 12.5% are nursing managers or executives (2008 National Sample Survey of Registered Nurses).

Figure 10: Employment Position by Licensure
APNs have worked on average the most years since initial licensure followed by LPNs and RNs. (see Figure 11).

**Figure 11: Years since Initial Licensure by License**

The percentage of RNs and LPNs who reported working as nurses for one to five years has decreased since 2009 but has increased since 2007 (see Figure 12).

**Figure 12: Trend: Percentage of Nurses w/ 1-5 Years Worked**
Education

Initial education at licensure is split roughly evenly between a Vocational certificate and an Associate’s degree for LPNs. Bachelor’s degrees, followed by Associates degrees and then Diplomas are the initial education pathway for RNs. APNs most frequently start with a Bachelor’s degree (see Figure 13). Nationally, for initial education, 45.4% of RNs have an Associate’s degree and 34.2% have a Bachelor’s degree (2008 National RN Sample Survey).

Figure 13: Initial Education by License

In addition to their initial education, LPNs are most likely to obtain an Associate’s degree, RNs a Bachelor’s degree and APNs a Master’s degree in nursing as additional education (see Figure 14). Nationally, 47.2% of RNs have obtained a Bachelor's degree or higher (2008 National RN Sample Survey).

Figure 14: Additional Education by License
For those LPNs who initially started with a diploma 77.8% went on to obtain a Vocational certificate or an Associate’s degree. Of note, 11% obtained a Bachelor’s degree in a field outside of nursing. Most LPNs with initial Vocational and Associates degrees remained with their initial degree (see Table 1).

**Table 1: LPN Career Ladder Progression from Initial Education**

<table>
<thead>
<tr>
<th>Highest Education</th>
<th>Initial Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diploma</td>
</tr>
<tr>
<td>Diploma</td>
<td>11.1%</td>
</tr>
<tr>
<td>Vocational Certificate</td>
<td>38.9%</td>
</tr>
<tr>
<td>Associates Degree</td>
<td>38.9%</td>
</tr>
<tr>
<td>Bachelors in Nursing</td>
<td>0%</td>
</tr>
<tr>
<td>Bachelors in Other</td>
<td>11.1%</td>
</tr>
<tr>
<td>Masters in Nursing</td>
<td>0%</td>
</tr>
<tr>
<td>Masters in Other</td>
<td>0%</td>
</tr>
<tr>
<td>Doctorate in Nursing</td>
<td>0%</td>
</tr>
<tr>
<td>Doctorate in Other</td>
<td>0%</td>
</tr>
<tr>
<td>AP Post Basic Education</td>
<td>0%</td>
</tr>
<tr>
<td>Post BS Anesthesia</td>
<td>0%</td>
</tr>
</tbody>
</table>
Nurses with initial Diploma degrees more frequently obtained additional education including a Bachelor’s degree in nursing and had the greatest percentage of RNs to obtain Doctorate degrees in nursing and in other fields. This could be due to more time in the field as those with diploma degrees have been practicing nursing for many years. Few ND RNs who originally obtained a Bachelor’s degree in nursing went on to obtain additional education (see Table 2). Nationally, 68.4% of RNs remain with their initial diploma, 79.0% with their Associates degree and 78.4% with their Bachelor’s degree (2008 National RN Sample Survey).

**Table 2: RN Career Ladder Progression from Initial Education**

<table>
<thead>
<tr>
<th>Highest Education</th>
<th>Initial Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diploma</td>
</tr>
<tr>
<td>Diploma</td>
<td>79.3%</td>
</tr>
<tr>
<td>Vocational Certificate</td>
<td>0%</td>
</tr>
<tr>
<td>Associates Degree</td>
<td>1.7%</td>
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<tr>
<td>Bachelors in Nursing</td>
<td>11.8%</td>
</tr>
<tr>
<td>Bachelors in Other</td>
<td>3.0%</td>
</tr>
<tr>
<td>Masters in Nursing</td>
<td>2.0%</td>
</tr>
<tr>
<td>Masters in Other</td>
<td>1.4%</td>
</tr>
<tr>
<td>Doctorate in Nursing</td>
<td>.3%</td>
</tr>
<tr>
<td>Doctorate in Other</td>
<td>.5%</td>
</tr>
<tr>
<td>AP Post Basic Education</td>
<td>0%</td>
</tr>
<tr>
<td>Post BS Anesthesia</td>
<td>0%</td>
</tr>
</tbody>
</table>
SURVEY CONCLUSIONS AND POLICY RECOMMENDATIONS

The decreasing average age of North Dakota nurses continues to track with national trends, especially for LPN and RN nurses. In addition, there has been an increase in the percentage of nurses in the first five years of their licensure over the last four years which indicates younger nurse growth.

However, if the current pool of nurses can be used to project future educational status, few of these new nurses will obtain further education beyond their current licensure. This is problematic as providing access to a career ladder can assist in retaining a highly-qualified workforce. With fairly flat educational progression, few nurses are pursuing the education necessary to obtain higher level positions, obtain advanced practice positions or to become faculty.

While a small amount of progress has been made in increasing nurse diversity including more male and ethnic minority nurses- this needs much more emphasis. With the anticipated national shift in demographics, having a nursing workforce that is representative of the population will be important. In addition, recruiting future nurses from more diverse populations will provide a greater pool of potential nurses.

Nurses work in a wide variety of settings from hospital to consulting to insurance to long term care. The Large majority of nurses have full-time jobs. This diversity and potential stability in career opportunities should be used as a recruitment tool.

Specific Policy Recommendations

- Track the entry of younger nurses into the profession and their career trajectory including obtaining further education.

- Promote career ladder education opportunities and examine programs that provide support to nurses to increase their educational attainment including scholarships and loan repayment programs.

- Design programs to increase the entry of males and ethnic minorities into nursing careers. Track their entry into the nursing profession and their career trajectory.

- Develop programs designed to increase awareness of all of the different nursing settings and the stability of the nursing profession as a career.