



Center *for*
Rural Health

University of North Dakota
School of Medicine & Health Sciences

North Dakota Nursing Needs Study: Year Four Facility Survey Results

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the health of people in rural communities.*

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Executive Summary

Background

The “Projected Supply, Demand and Shortages of Registered Nurses 2000-2020” (U.S. Department of Health and Human Services, 2002) report cited a 6 percent nationwide shortage of registered nurses nationwide in 2000 with this shortage increasing to 29 percent by 2020. North Dakota is currently experiencing a shortage of registered nurses (RNs) and licensed practical nurses (LPNs) with an increased shortage projected through the next 10 years (Moulton & Wakefield, 2003). Potential reasons for this shortage include a nationwide decline in the number of nursing graduates, aging of the nursing workforce, decline in relative salaries, an aging population, health care financing issues, and an uneven distribution of demand according to employment setting.

The Nursing Needs Study was recommended by the North Dakota Century Code Nurse Practices Act 43-12.1-08.2 in which the North Dakota Board of Nursing was directed to address issues of supply and demand including recruitment, retention and utilization of nurses. The North Dakota Board of Nursing then contracted with the Center for Rural Health at the University of North Dakota (UND) School of Medicine and Health Sciences to conduct the Nursing Needs Study.

Facility Survey Results

This report includes the results from the facility survey, which was sent to all hospitals, long-term care facilities, regional public health facilities, clinics and home health facilities in North Dakota. In the case of multiple services under the same name or administration (i.e., hospital/clinic and nursing home), only one survey was sent to the administrator and they were asked to collapse their information by county. A total of 200 facilities, representing 96 percent of counties in North Dakota, returned the facility survey, which was developed to provide a comprehensive picture of the nature of nursing employment and potential shortages throughout the state and to enable comparisons to be drawn between health care facilities, rural and urban areas and North Dakota and national data.

- **Recruitment Issues**

Rural hospitals, long-term care facilities and clinics spent more than 20 weeks recruiting for vacant nurse positions in 2006. Although compared to the last three years for hospitals, long-term care and clinics this has decreased overall.

- **Salary and Benefit Issues**

Starting salaries (salaries offered to new graduates) were not consistent with education level in that diploma LPNs had a greater hourly wage than associate degree LPNs and associate degree RNs had a greater hourly wage than bachelor level RNs. Nurses in urban areas had the greatest starting salary along with LPNs in the southwest quadrant of the state, RNs in the south east quadrant of the state and

Advanced Practice Nurses (APNs) in the northeast quadrant of the state. APNs have experienced the greatest increase in starting salary over the last three years.

Average hourly wages (average wage for all nurses) indicated that associate degree RNs had a greater average wage than bachelor degree RNs and that urban nurses had greater average wages. LPN average wages was also greater for LPNs in the southwest quadrant of the state and for RNs and APNs in the northeast quadrant of the state. APNs have experienced the greatest increase in average salary over the last three years.

- **Staffing**

The statewide vacancy rate for LPNs was seven percent which was an increase from the previous three years. The statewide RN vacancy rate was also seven percent which was a decrease from previous years. Five counties had LPN vacancy rates and six counties with RN vacancy rates that exceeded 15 percent.

The statewide turnover rate for LPNs was 12 percent which is a decrease from previous years. The statewide turnover rate for RNs was 17 percent which was also a decrease from previous years. Three counties had LPN turnover rates and six counties had RN turnover rates that were greater than 30 percent.

- **Clinical Education**

Almost one-fifth of urban and semi-rural facilities and almost one-third of rural facilities indicated that they have agreements to provide clinical education to LPN students. As compared to 2003, there was a decrease in the percentage of facilities providing clinical education to LPN student in urban and semi-rural facilities and an increase in rural facilities.

Almost half of facilities indicate that they have agreements to provide clinical education to RN students. As compared to 2003, there was a decrease in the percentage of facilities providing clinical education to RN students in urban facilities, but an increase in semi-rural and rural facilities.

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. North Dakota has 41 designated medically underserved areas, and 81 percent of North Dakota's 53 counties are designated as partial or whole county 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 healthcare services. In North Dakota, this cohort is predicted to double in size by 2020.

Nurses are an integral part of the health care system providing nursing services to patients requiring assistance in recovering or maintaining their physical and/or mental health (North Dakota Healthcare Association, 2002). In the United States, nurses comprise the largest group of health care providers. They practice in settings ranging from public health to long-term care. The ability to provide accessible, high quality care depends on the availability of a nursing workforce with the requisite skills and knowledge. Over the past few years, research studies have identified clear relationships between nurse staffing and patient outcomes. For example, lower nurse staffing in hospitals has been linked to longer hospital stays for patients, as well as a number of complications such as pneumonia (e.g., Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Directly challenging the health care system's ability to provide quality patient care is a growing national and international disparity in nursing workforce supply and demand. North Dakota is not immune to this problem.

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. To respond to this request, the North Dakota Board of Nursing contracted with the Center for Rural Health at the University of North Dakota School of Medicine and Health Sciences.

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, currently in its fourth year, is approved to continue until 2012 by the Board of Nursing. This study will continue to provide valuable information about the nursing workforce through a 10-year period of time.

In this report, results from the current facility survey are presented. These data were collected during the fall and winter of 2005. These results are also compared with facility survey results from 2003, 2004, and 2005 to establish the beginning of a trend analysis.

Facility Survey Results

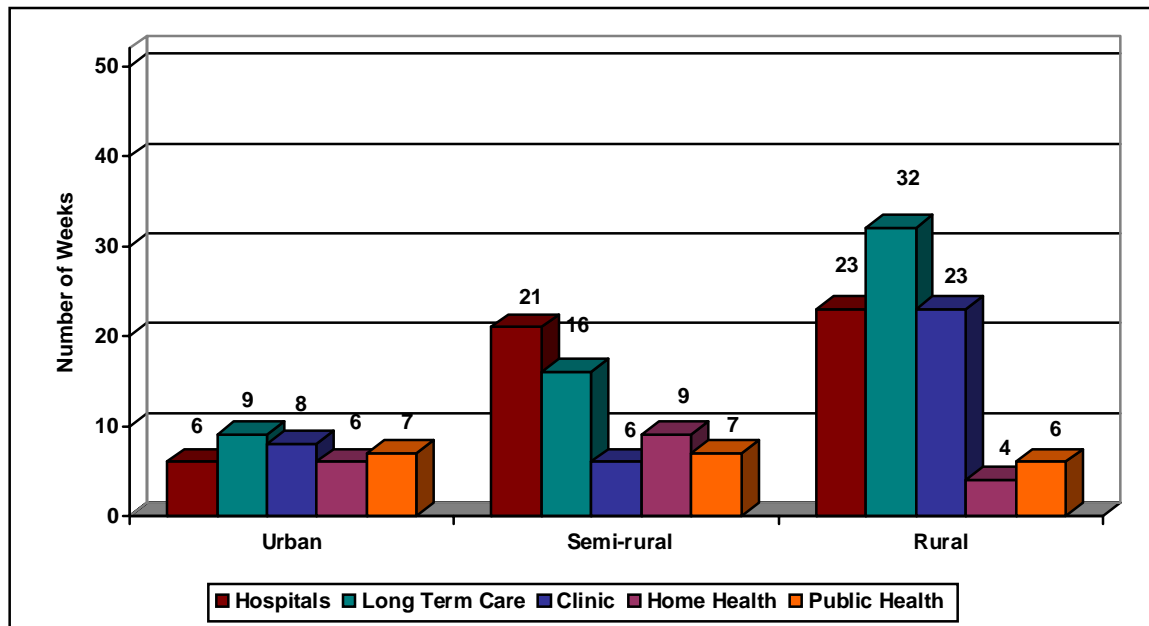
Surveys were sent to all North Dakota hospitals, long-term care facilities, regional public health facilities, home health facilities, and clinics in the fall of 2005. Of the 200 facility responses, 22 percent represented urban facilities; 40 percent represented semi-rural facilities; and 38 percent of the responses came from rural facilities. Fifty-one of 53 counties in North Dakota were represented in the survey responses.

Data was analyzed by rurality using Urban Influence Codes¹ and level of nurses². These results are also compared with facility survey results from 2003, 2004, and 2005 to establish the beginning of a trend analysis.

RECRUITMENT ISSUES

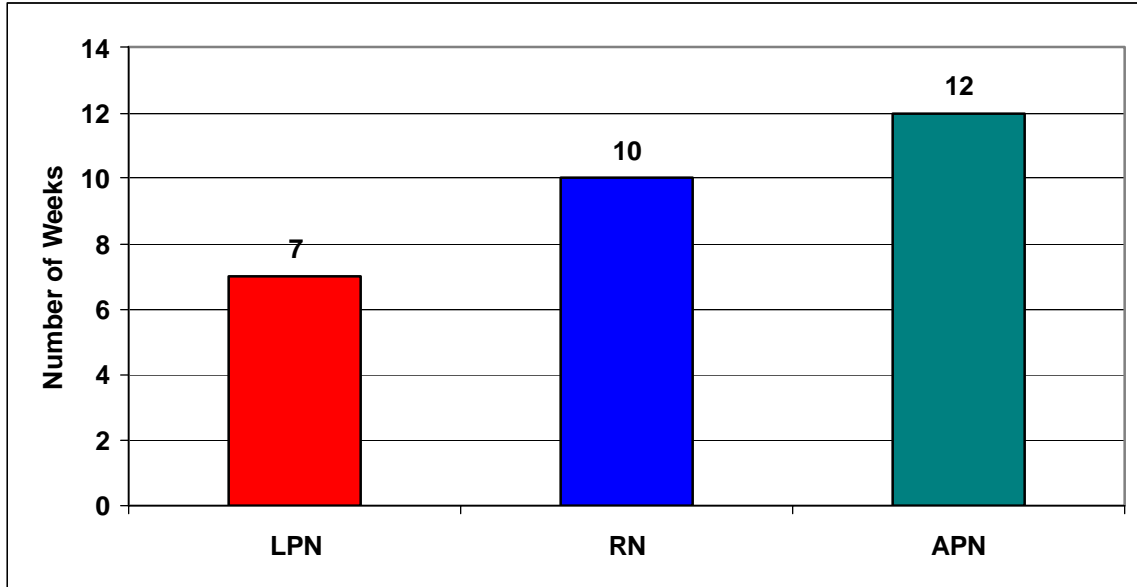
Facilities were asked how long (number of weeks) on average, it takes to fill a vacant nursing position. Rural and semi-rural hospitals along with rural long-term care facilities and clinics indicated that a vacant position is filled in more than 20 weeks (see Figure 1).

Figure 1: Average Number of Weeks to Fill Vacancies



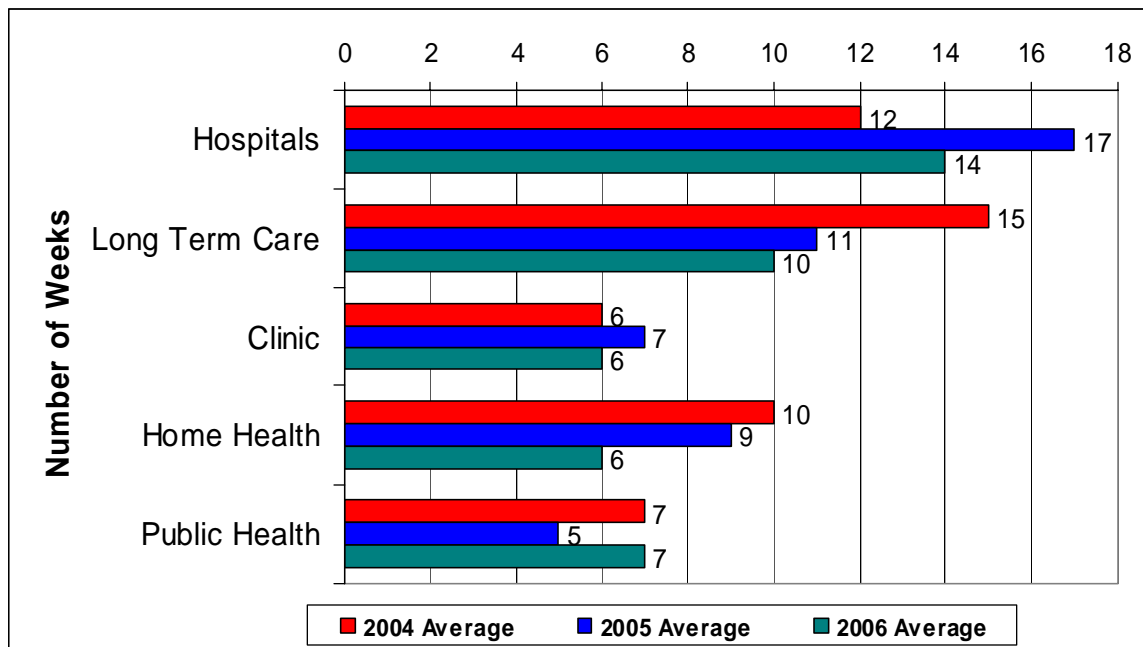
When divided by nurse level, Advanced Practice Nurses (APNs) had the greatest number of weeks to fill a nurse vacancy (see Figure 2).

Figure 2: Average Number of Weeks to Fill Vacancies by Nurse Level



Overall as compared to 2005, hospitals saw a decrease in the number of weeks to fill nurse vacancies last year, although, this was still greater than 2004. Long-term care and home health have experienced a decrease over the last three years. The clinics and public health facilities have remained relatively steady (see Figure 3).

Figure 3: Average Number of Weeks to Fill Vacancies According to Year



SALARY AND BENEFITS ISSUES

Starting Wage

Starting wages indicate the average hourly wage paid to nurses when they were first hired as new graduates. The highest starting wage was noted for urban hospital APN positions at \$28.35 per hour. Lowest starting pay was reported for semi-rural, clinic diploma LPNs at \$11.35 (see Table 1).

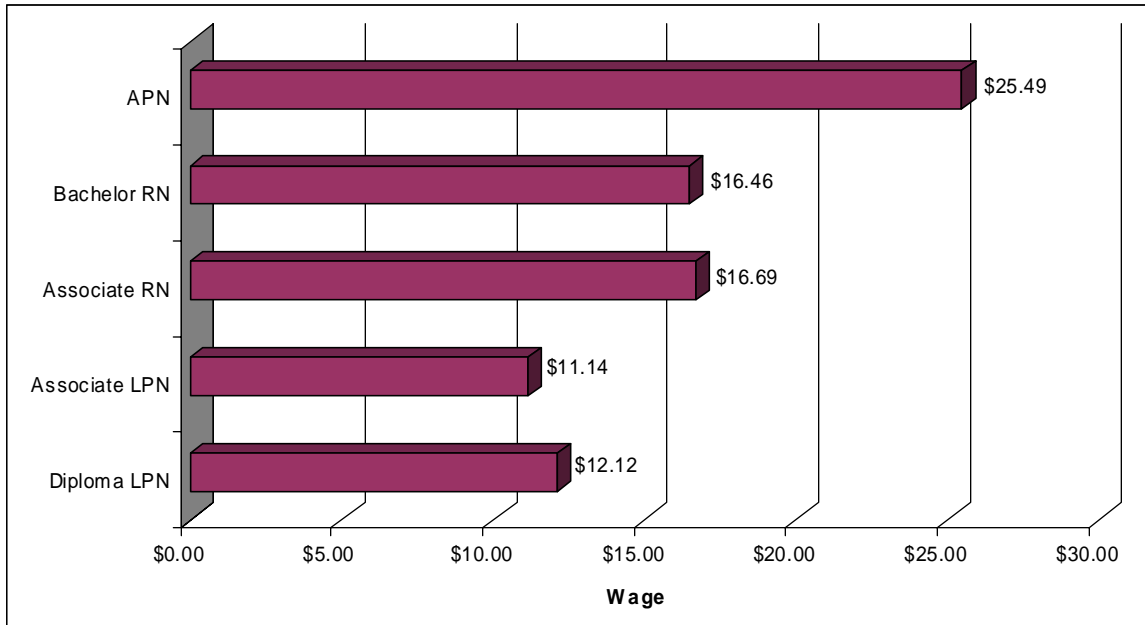
Table 1 - Starting Hourly Wage for Each Nurse Category

| | | Diploma LPN | Associate LPN | Associate RN | Bachelor RN | APN |
|----------------|------------|--------------|---------------|--------------|--------------|-------------|
| HOSPITAL | URBAN | \$12.54 (5) | \$12.73 (5) | \$18.93 (4) | \$19.26 (7) | \$28.35 (3) |
| | SEMI-RURAL | \$11.86 (11) | \$12.13 (10) | \$16.36 (8) | \$16.47 (10) | \$24.70 (2) |
| | RURAL | \$11.50 (8) | \$11.94 (8) | \$15.82 (5) | \$16.36 (8) | --- |
| LONG-TERM CARE | URBAN | \$13.69 (8) | \$13.90 (10) | \$18.46 (4) | \$18.21 (7) | \$28.52 (1) |
| | SEMI-RURAL | \$12.63 (16) | \$12.86 (15) | \$16.65(13) | \$16.62 (13) | --- |
| | RURAL | \$11.15 (4) | \$11.95 (4) | \$15.29 (2) | \$15.79 (4) | --- |
| CLINIC | URBAN | \$12.68 (10) | \$12.89 (5) | \$16.93 (6) | \$17.61 (10) | \$27.33 (1) |
| | SEMI-RURAL | \$11.35 (17) | \$11.66 (18) | \$15.12 (8) | \$15.91 (13) | \$25.41 (3) |
| | RURAL | \$11.92 (6) | \$12.15 (6) | \$14.87 (3) | \$14.87 (3) | \$22.61 (2) |
| HOME HEALTH | URBAN | \$12.44 (3) | \$12.44 (3) | \$18.65 (3) | \$18.65 (3) | \$27.32 (1) |
| | SEMI-RURAL | \$12.37 (1) | \$12.88 (3) | \$18.84 (1) | \$17.05 (3) | --- |
| | RURAL | \$10.63 (3) | \$11.46 (3) | \$15.36 (1) | \$15.48 (2) | --- |
| PUBLIC HEALTH | URBAN | --- | \$10.50 (1) | \$20.05 (1) | \$19.28 (2) | --- |
| | SEMI-RURAL | \$12.27 (4) | \$12.29 (2) | \$16.95 (3) | \$14.88 (18) | \$17.81 (1) |
| | RURAL | --- | --- | --- | \$12.95 (4) | --- |

Note. The number of responses is included in parenthesis.

Overall, the starting hourly wage is greater for diploma educated LPNs vs. Associate-degree LPNs and is also greater for Associate level RNs vs. Bachelor level RNs (see Figure 4).

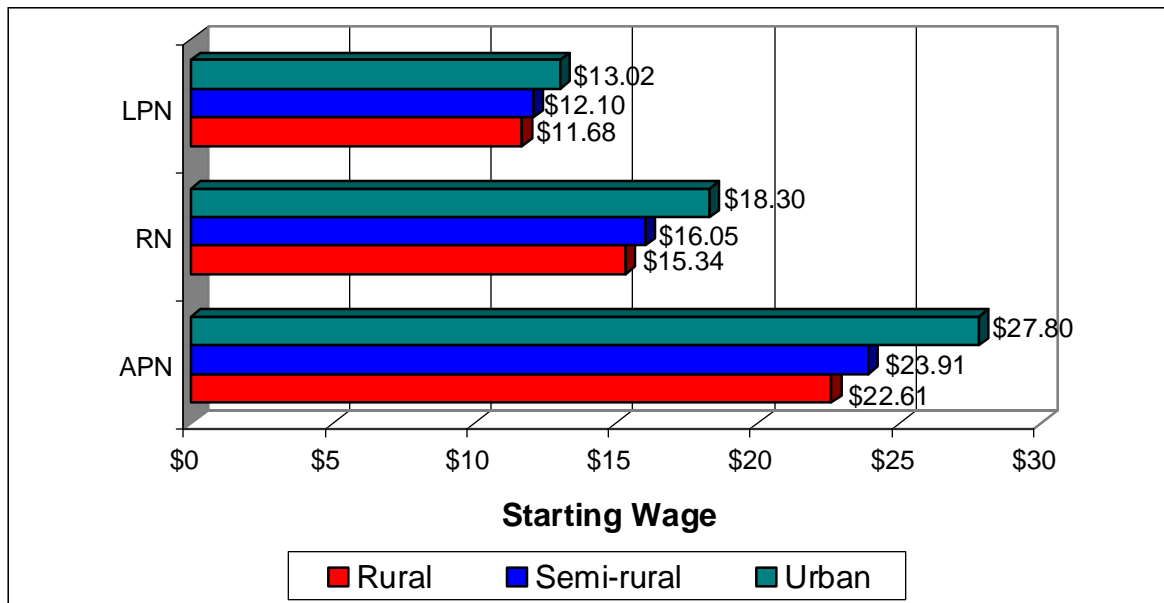
Figure 4: Starting Hourly Wage by Education Level



Note. Average starting wage for each category is a weighted mean.

When divided by rurality, nurses in urban areas had greater average starting hourly wages than nurses in semi-rural and rural areas.

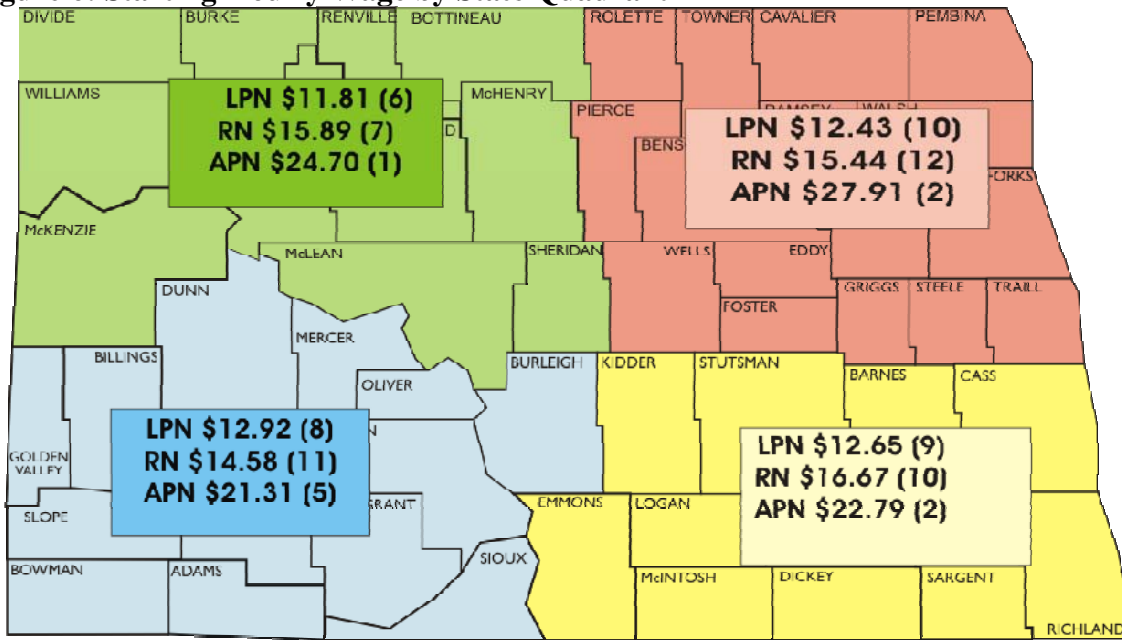
Figure 5: Starting Hourly Wage by Rurality



Note. Average starting wage for each category is a weighted mean.

When divided by quadrant the lowest starting hourly wages are in the Northwest part of state for LPNs and the Southwest for RNs and APNs (see Figure 6).

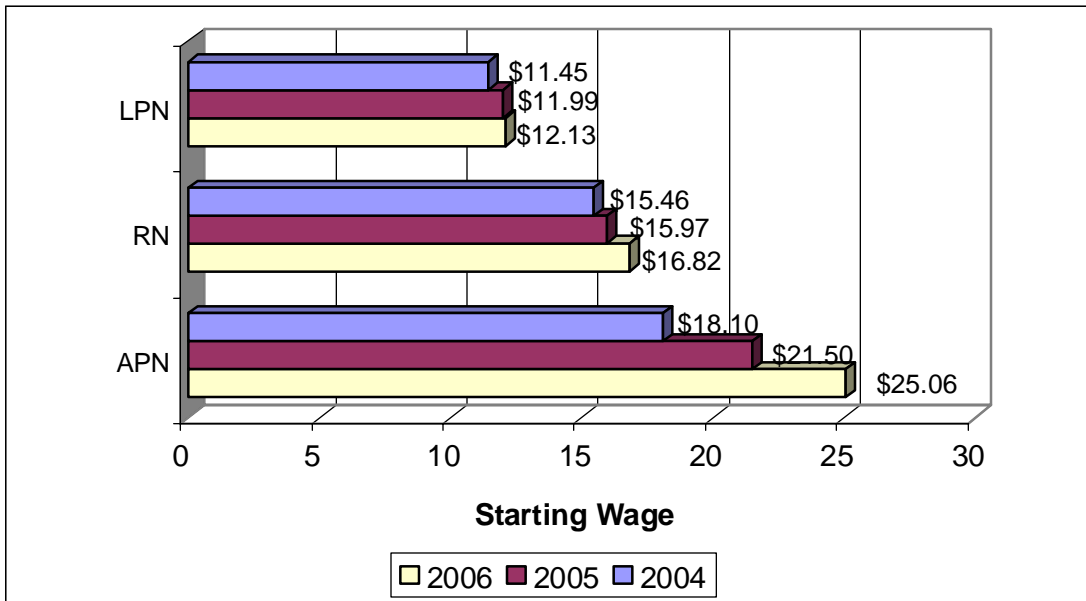
Figure 6: Starting Hourly Wage by State Quadrant



Note. The number of responses is included in parenthesis. Average starting wage for each category is a weighted mean.

Across the last three years, starting wages have increased slightly for LPNs and RNS whereas APNs have had a \$7/hour increase. (see Figure 7).

Figure 7: Comparison of Starting Wage by Year (2004 - 2006)



Average Wage

Average wages reflects the average hourly wage paid for all nurses The highest average wage was noted for urban clinic and long-term care APN positions at \$37.61 per hour. Lowest average pay was reported for rural home health diploma LPNs at \$11.23 per hour (see Table 2).

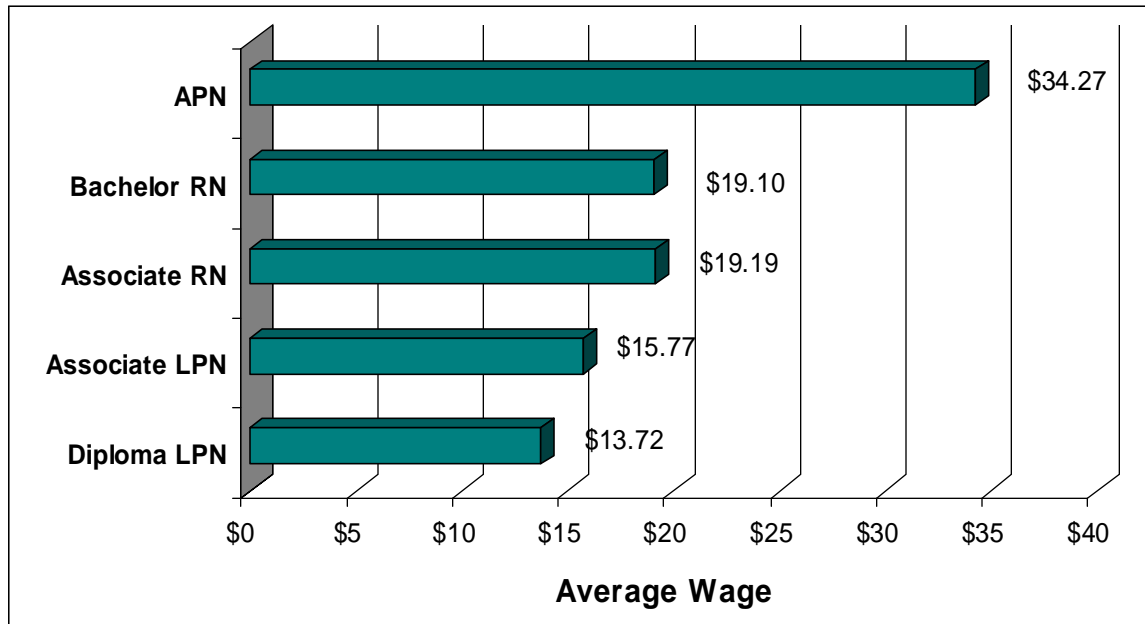
Table 2- Average Hourly Wage for Each Nurse Category

| | | Diploma LPN | Associate LPN | Associate RN | Bachelor RN | APN |
|----------------|------------|--------------|---------------|--------------|--------------|-------------|
| HOSPITAL | URBAN | \$16.08 (3) | \$16.91 (3) | \$23.62 (2) | \$22.49 (5) | --- |
| | SEMI-RURAL | \$13.34 (7) | \$14.51 (8) | \$19.73 (6) | \$20.83 (8) | \$35.00 (1) |
| | RURAL | \$13.99 (5) | \$13.88 (5) | \$17.16 (5) | \$18.31 (7) | --- |
| LONG-TERM CARE | URBAN | \$16.21 (5) | \$15.86 (10) | \$20.91 (4) | \$21.01 (7) | \$37.61 (1) |
| | SEMI-RURAL | \$14.23 (11) | \$14.92 (13) | \$18.78 (11) | \$19.06 (12) | --- |
| | RURAL | --- | \$13.85 (3) | \$17.24 (2) | \$17.62 (3) | --- |
| CLINIC | URBAN | \$14.59 (5) | \$14.46 (9) | \$20.75 (4) | \$21.05 (9) | \$37.61 (1) |
| | SEMI-RURAL | \$12.24 (13) | \$13.91 (17) | \$18.13 (10) | \$19.15 (16) | \$32.26 (3) |
| | RURAL | \$14.18 (4) | \$14.34 (4) | \$17.21 (2) | \$17.21 (2) | \$33.57 (2) |
| HOME HEALTH | URBAN | \$15.25 (1) | \$15.25 (1) | \$23.31 (1) | \$23.31 (1) | --- |
| | SEMI-RURAL | \$12.37 (1) | \$14.50 (1) | --- | \$21.41 (3) | --- |
| | RURAL | \$11.23(2) | \$12.40 (2) | \$21.02 (1) | \$19.01 (2) | --- |
| PUBLIC HEALTH | URBAN | --- | --- | \$24.68 (1) | \$22.69 (2) | --- |
| | SEMI-RURAL | \$12.27 (4) | \$11.72 (2) | \$17.13 (3) | \$16.37 (17) | --- |
| | RURAL | | --- | \$22.00 (1) | \$14.19 (4) | --- |

Note. The number of responses is included in parenthesis.

Overall, the average hourly wage is greater for Associate degree LPNs vs. Diploma LPNs and for Associate degree level RNs vs. Bachelor level RNs (see Figure 8).

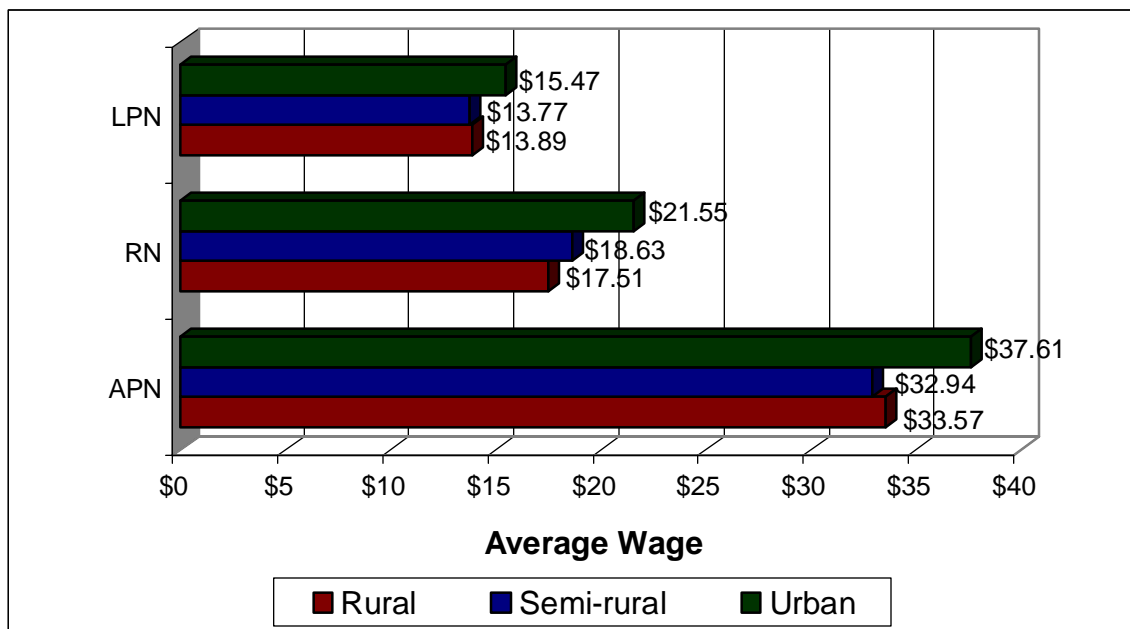
Figure 8: Average Hourly Wage by Nursing level



Note. Average wage for each category is a weighted mean.

When divided by rurality, nurses in urban areas had greater average hourly wages than nurses in semi-rural and rural areas (see Figure 9).

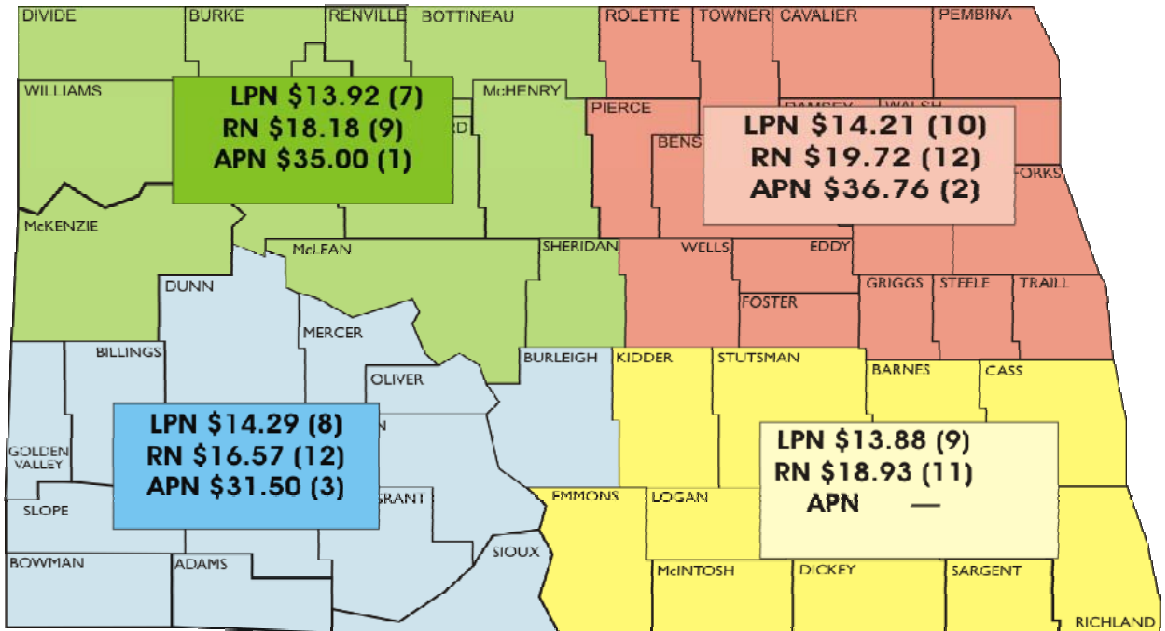
Figure 9: Average Hourly Wage by Rurality



Note. Average wage for each category is a weighted mean.

When divided by quadrant the lowest hourly wages are in the Southeast part of state for LPNs and the Southwest for RNs and APNs (see Figure 10).

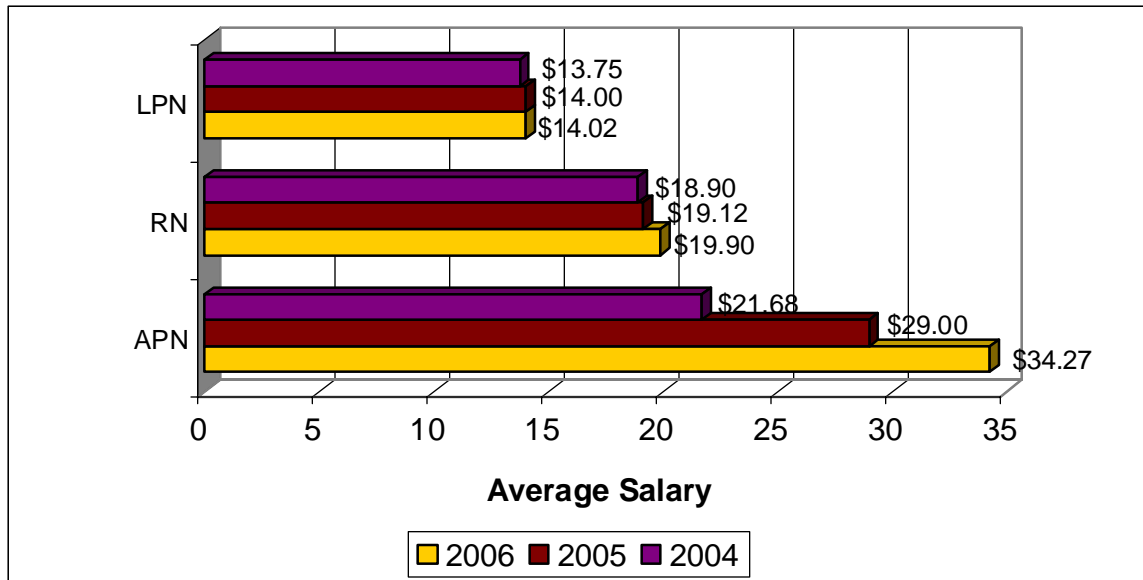
Figure 10: Average Hourly Wage by State Quadrant



Note. The number of responses is included in parenthesis. Average starting wage for each category is a weighted mean.

Across the last three years, average wages have increased slightly for LPNs and RNS whereas APNs have had a \$12.60/hour increase. (see Figure 11).

Figure 11: Comparison of Average Wage by Year (2004 - 2006)



Salary Survey

Fifty-four percent of facilities indicated that they conduct salary surveys. Of these, 49 percent indicated they were used for market analysis of benefits and salaries, 24 percent indicated they were used to compare salaries with comparable facilities, 20 percent indicated they were used to increase current wages and 7 percent indicated they were used to prepare annual budgets.

Benefits Package

Twenty-four percent of facilities have enhanced their benefits package for nurses in the last year. Of these, 53 percent indicated there was an increase in additional benefits (pay, vacation, holidays, education, mileage reimbursement, and disability insurance), 28 percent an increase in payment to health insurance, 12 percent an increase in the retirement plan, five percent added vision or dental health insurance and two percent indicated additional benefits to employees working less than 40 hours/week.

STAFFING ISSUES

Vacancy Rates

Vacancy rates for each facility type, and each nurse category, are defined as the average number of vacant FTE (full-time equivalent) positions divided by the average number of budgeted positions for the same year (HSM, 2003). 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. Nationally, nurse vacancy rates in hospitals average about 15 percent (AHA, 2002). The American Organization of Nurse Executives (AONE) study (HSM Group, 2002) reported the average nation-wide vacancy rate for RNs in hospitals as 10 percent.

The highest vacancy rates for LPNs and RNs were found in clinics (see Table 3)

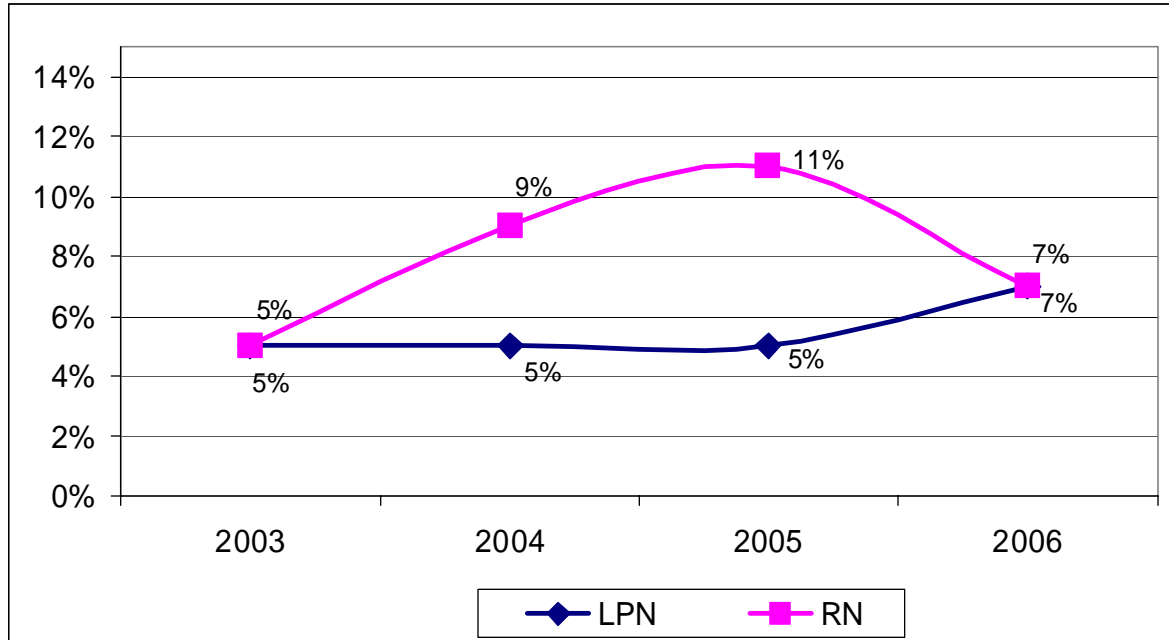
Table 3 – Vacancy Rate by Facility Type

| | LPN | RN | APN |
|----------------|----------|----------|--------|
| HOSPITAL | 10% (20) | 8% (20) | 8% (4) |
| LONG-TERM CARE | 3% (19) | 8% (20) | -- |
| CLINIC | 15% (26) | 11% (22) | 3% (6) |
| HOME HEALTH | 16% (4) | 8% (8) | -- |
| PUBLIC HEALTH | 0% (3) | 1% (23) | -- |

Note. Parenthesis indicates number of facilities who completed all survey questions necessary for calculation of vacancy rates.

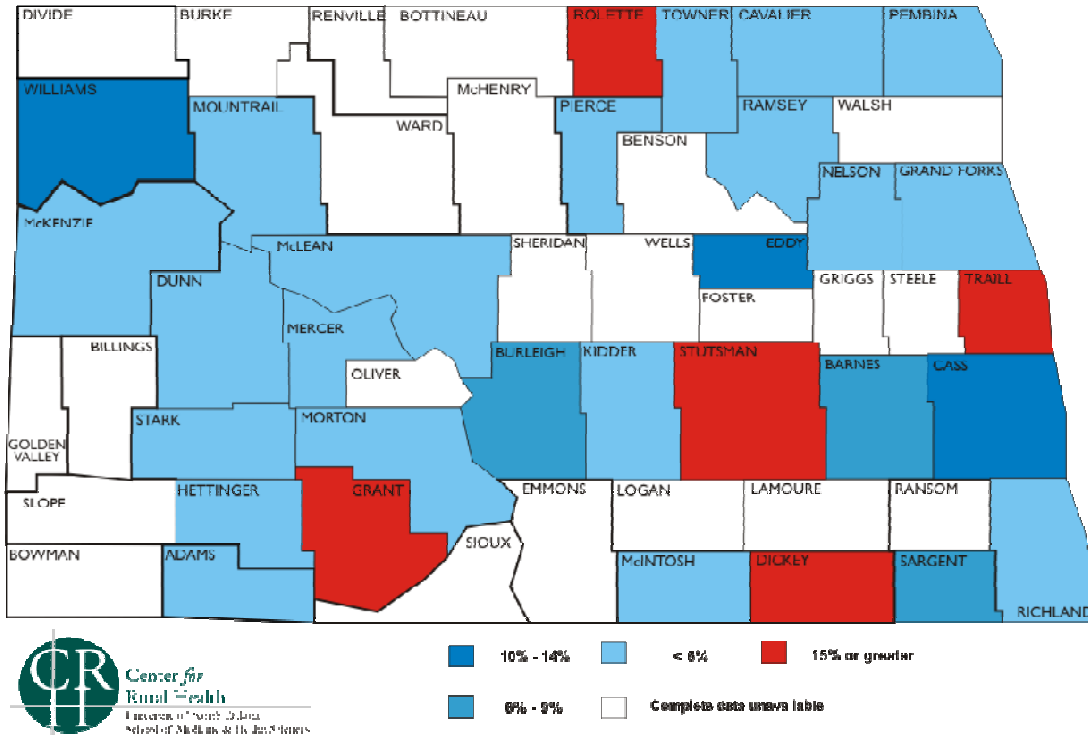
The 2006 statewide vacancy rate for LPNs was seven percent which is an increase from the 2003, 2004 and 2005 vacancy rates of five percent. The RN statewide vacancy rate of 7 percent was a decrease from previous years (see Figure 12).

Figure 12: Statewide Vacancy Rates by Year (2003-2006)



When divided by county, 11 counties had vacancy rates above six percent including five counties with LPN vacancy rates above 15 percent. In comparison in 2005, 11 counties had vacancy rates above six percent including three counties with greater than 15 percent vacancy (see Figure 13).

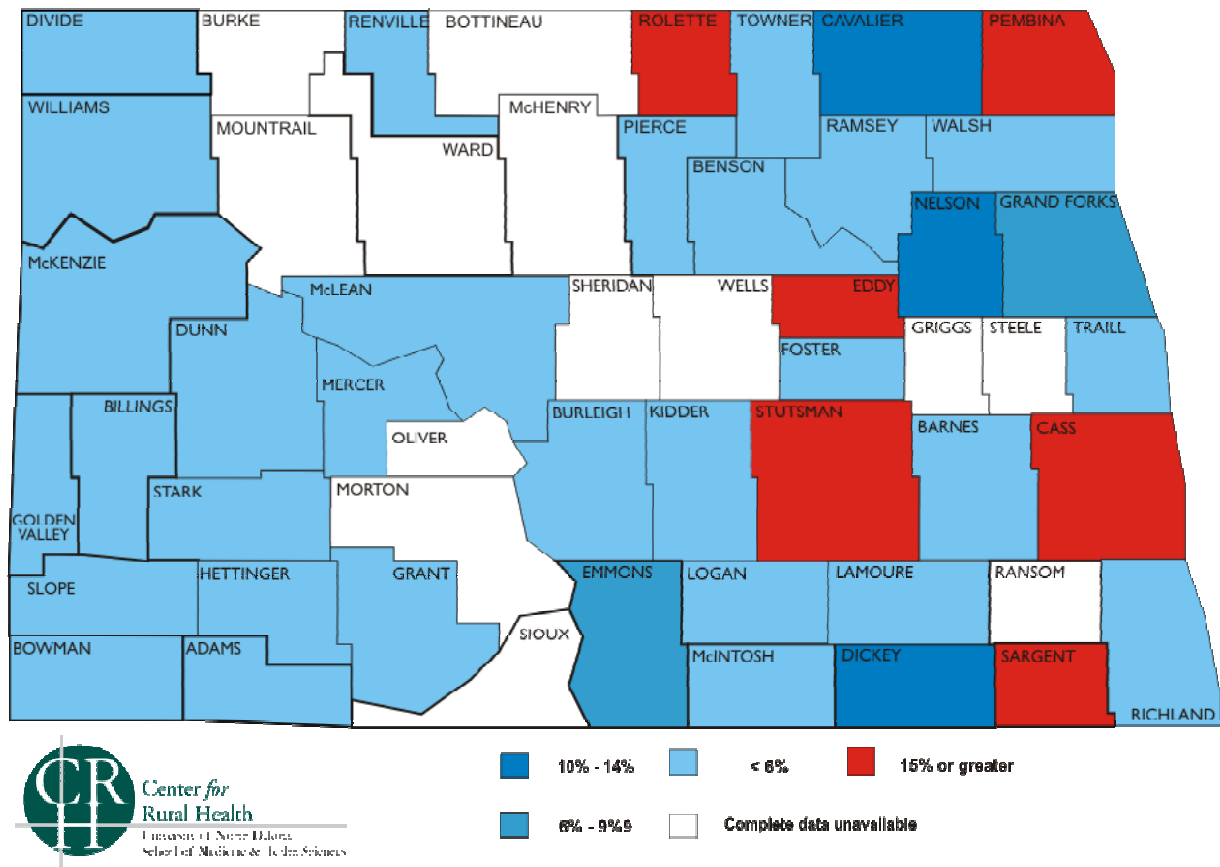
Figure 13: North Dakota LPN Health Care Facility Vacancy Rates



Note. Vacancy rates include all responding health care facilities within each county (hospital, long-term care, clinic, home health and public health). Also, there is a difference in the numbers of incomplete responses across years. For example, there were 18 counties in 2005 and 23 in 2006 with incomplete data.

The statewide vacancy rate for RNs was seven percent for 2006 in comparison to 11 percent for 2005 and nine percent for 2004. Eleven counties had vacancy rates in 2006 above six percent including six counties with vacancy rates above 15 percent. In contrast in 2005, 10 counties had vacancy rates above six percent including two counties with vacancy rates above 15 percent (see Figure 14).

Figure 14: North Dakota RN Health Care Facility Vacancy Rates



Note. Vacancy rates include all responding health care facilities within each county (hospital, long-term care, clinic, home health and public health). There were similar numbers of counties with incomplete data in 2005 and 2006.

Turnover Rates

Turnover rate is defined as the number of resignations or terminations divided by the average number of direct and indirect care full-time equivalent (FTE) positions for the same year (HSM, 2002). The American Organization of Nurse Executives (HSM, 2002) reports an average nationwide turnover rate of 21 percent for RNs in hospitals with a range of 10 to 30 percent. Turnover rates reflect fluctuation in staffing at a facility.

The greatest turnover rates were found for home health care facilities (see Table 4).

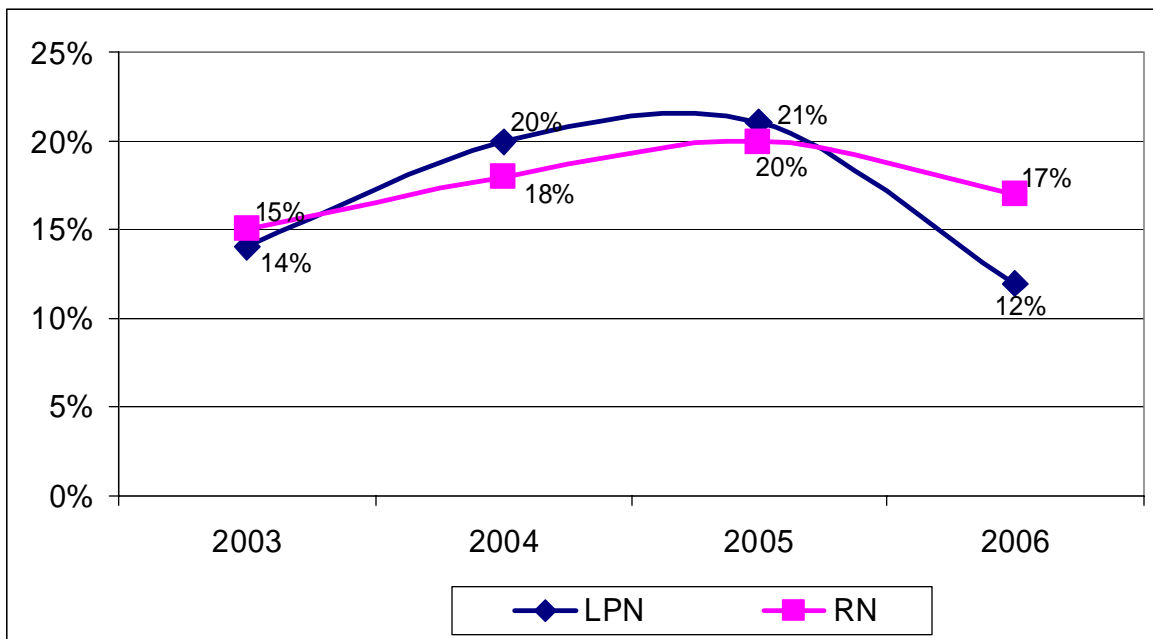
Table 4: Turnover Rate by Facility Type

| | LPN | RN | APN |
|----------------|----------|----------|--------|
| HOSPITAL | 13% (13) | 5% (11) | 0% (1) |
| LONG-TERM CARE | 8% (12) | 21% (10) | -- |
| CLINIC | 17% (18) | 7% (16) | 1% (4) |
| HOME HEALTH | 56% (1) | 42% (4) | -- |
| PUBLIC HEALTH | 0% (2) | 23% (12) | -- |

Note. Parenthesis indicates number of facilities who completed all survey questions necessary for calculation of turnover rates.

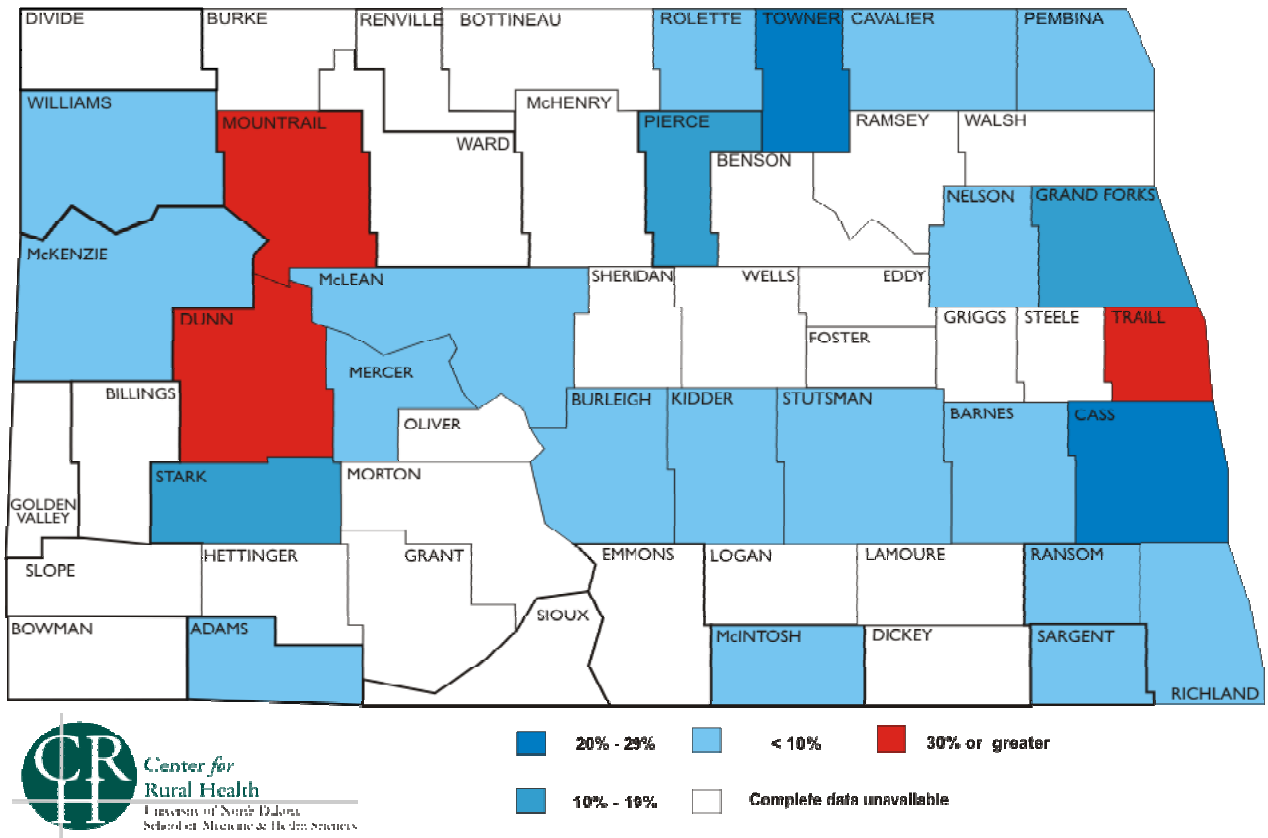
The statewide turnover rate for LPNs was 12 percent in 2006 which is lower than the statewide turnover rate in previous years. The statewide turnover rate for RNs was 17 percent which was lower than the last two years but is still greater than in 2003 (see Figure 15).

Figure 15: Statewide Turnover Rates by Year (2003-2006)



When divided by county, three counties had LPN turnover rates 30 percent or greater in 2006. In contrast in 2005, eight counties had LPN turnover rates above 30 percent (see Figure 16).

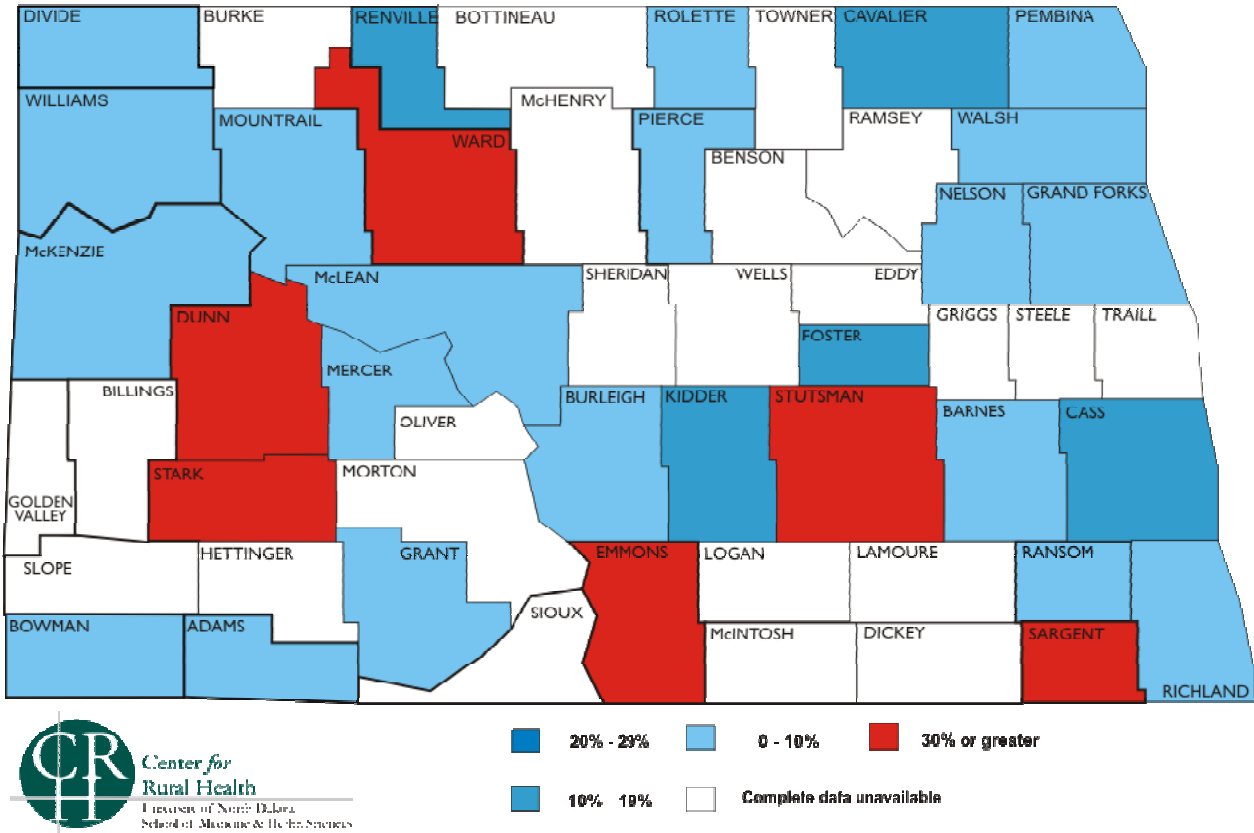
Figure 16: North Dakota LPN Health Care Facility Turnover Rates



Note. Turnover rates include all responding health care facilities within each county (hospital, long-term care, clinic, home health and public health). Also, there is a difference in the numbers of incomplete responses across years. For example, there were 18 counties in 2005 and 28 in 2006 with incomplete data.

When divided by county, six counties had RN turnover rates 30 percent or greater. In contrast to 2005 when there were seven counties with turnover rates greater than 30 percent (see Figure 17).

Figure 17: North Dakota RN Health Care Facility Turnover Rates



Note. Turnover rates include all responding health care facilities within each county (hospital, long-term care, clinic, home health and public health). Also, there is a difference in the numbers of incomplete responses across years. For example, there were 11 counties in 2005 and 23 in 2006 with incomplete data.

Staffing Ratios

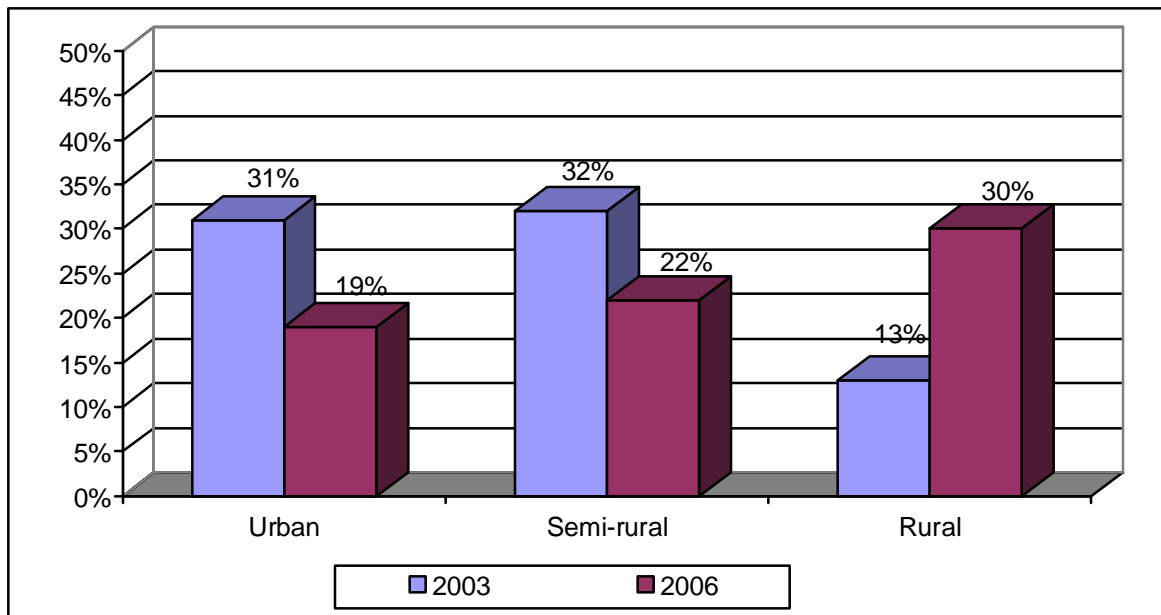
About one-third of facilities indicated that they have a mechanism to establish a staffing ratio. Of these facilities, 37 percent indicated the staffing ratios were determined based on guidelines (for example, National Medical Association) and acuity levels, 26 percent indicated they were based on the number of patients and care patients required, 21 percent indicated the staffing ratios were based on the provider regulations or standards and 16 percent indicated the ratio was based on the number of physicians at the facility.

CLINICAL EDUCATION

LPN Clinical Education

Nineteen percent of urban, 22 percent of semi-rural and 30 percent of rural facilities indicated that they have agreements with schools of nursing to provide clinical education for LPN students. When compared with 2003, there was a decrease in the percentage of facilities that indicated they had agreements with nursing education programs for urban and semi-rural facilities and an increase in rural facilities (see Figure 18).

Figure 18: LPN Clinical Education 2003 and 2006



Semi-rural facilities (79%) were more likely to have agreements with one nursing education program and less likely (16%) to have increased the number of schools with agreements to provide clinical education to LPN students in the last year as compared to urban and rural facilities (see Table 5).

As expected urban facilities provide clinical education to the greatest number of students (Average=60 students at a facility).

Urban facilities were also more likely to have consulted or collaborated with nursing education programs to increase capacity or suggest changes.

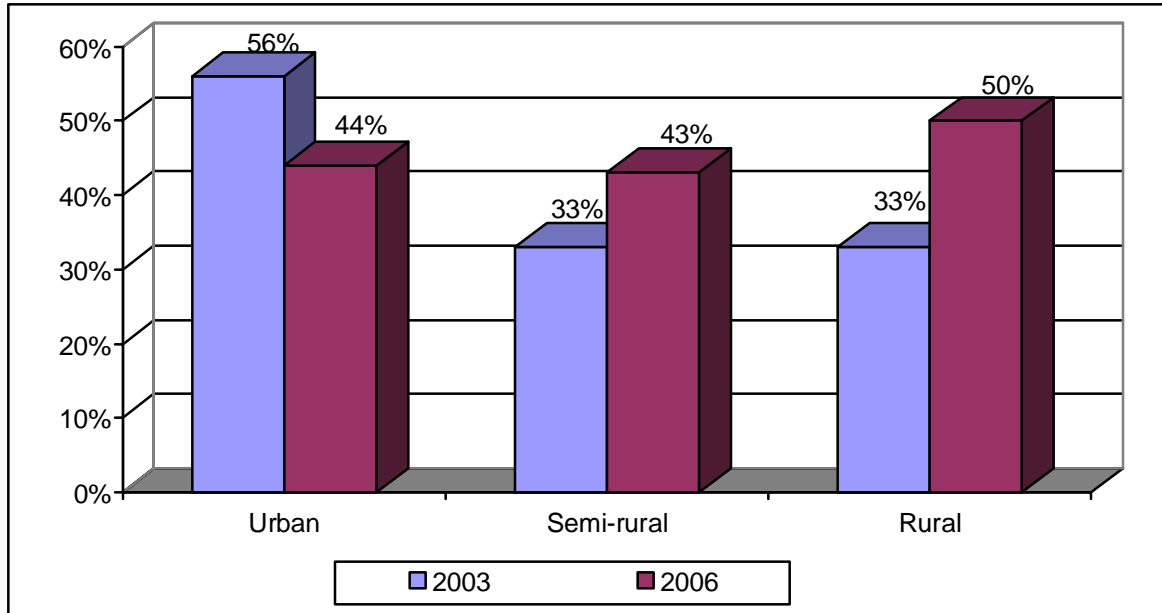
Table 5: Clinical Education for LPNs

| | Urban | Semi-rural | Rural |
|--|---|--|---------------------------------------|
| Number of nursing education programs with agreements. | One program- 38% Two programs- 38% Three programs-24% | One program- 79% Two programs- 11% Three programs-5% | One program- 50% Two programs- 50% |
| Number of agreements with nursing education programs has increased in the last year. | 25% | 16% | 40% |
| Number of students that rotate on-site during one year. | Average= 60 Range= 1-300 | Average= 19 Range= 1-50 | Average= 6 Range= 2-12 |
| Consulted or collaborated with nursing education programs to increase capacity or suggest changes. | 50% | 37% | 20% |

RN Clinical Education

Forty-four percent of urban, 43 percent of semi-rural and 50 percent of rural facilities indicated that they have agreements with schools of nursing to provide clinical education for RN students. When compared with 2003, there was a decrease in the percentage of urban facilities that have agreements with nursing education programs and an increase in semi-rural and rural facilities (see Figure 19).

Figure 19: RN Clinical Education 2003 and 2006



Semi-rural (51%) and rural (50%) were more likely to have agreements with one nursing education program. Semi-rural facilities were more likely to have increased the number of schools with agreements to provide clinical education to RN students in the last year (22%) as compared to urban and rural facilities (see Table 6).

As expected urban facilities provide clinical education to the greatest number of students (Average=70 students at a facility).

Rural (50%) and urban facilities (47%) were more likely to have consulted or collaborated with nursing education programs to increase capacity or suggest changes.

Table 6: Clinical Education for RNs

| | Urban | Semi-rural | Rural |
|--|---|---|---|
| Number of nursing education programs with agreements. | One program- 44% Two programs- 33% Three or more programs-24% | One program- 51% Two programs- 16% Three or more programs-33% | One program- 50% Two programs- 30% Three or more programs-20% |
| Number of agreements with nursing education programs has increased in the last year. | 17% | 22% | 17% |
| Number of students that rotate on-site during one year. | Average= 70 Range= 1-420 | Average= 32 Range= .5-150 | Average= 6 Range= 1-14 |
| Consulted or collaborated with nursing education programs to increase capacity or suggest changes. | 47% | 22% | 50% |

SURVEY CONCLUSIONS AND POLICY IMPLICATIONS

There was a decrease this year in the primary indicators of RN shortage (vacancy rates and turnover rates). Hospitals, long-term care and clinics indicated that they spent less time recruiting nurses than the previous years. Vacancy rate which according to economists indicates a shortage when it is consistently above five to six percent, decreased this year for RNs to seven percent (although still considered a shortage). The turnover rate for RNs also decreased to 17 percent. Turnover rates are used to determine the amount of staffing fluctuation that is occurring in health care facilities. This may indicate that there was a decrease in vacant nursing positions that was paired with fewer RNs leaving their current positions.

This is paired with some indication of a worsening shortage of LPNs. The statewide vacancy rate for LPNs increased to seven percent after remaining stable at five percent for the previous three years. However, the statewide turnover rate decreased for the LPNs to 12 percent. This may indicate that fewer LPNs are leaving their current positions and that the total number of vacant positions throughout the state has increased.

As in the past, salary continues to be a major issue. Nurses with a greater amount of education (nurses with bachelor level RN degrees and associate level LPN degrees) do not receive a greater amount of salary. Nurses in rural and semi-rural areas also continue to lag behind their counterparts in urban areas. There are also differences in salaries across sections of the state with RNs and APNs receiving the lowest average wages in the Southwest section of the state and LPNs receiving the lowest average wage in the Southeast section of the state.

There has also been a decrease in the percentage of urban facilities offering clinical education to RNs since 2003. Semi-rural and rural facilities have increased their effort to assist RN programs in providing this clinical education. For LPNs, both urban and semi-rural facilities have decreased their efforts with an increase apparent in rural facilities.

Policy Implications

- Although data indicate a slight decrease in the severity of the RN shortage, this may be a phenomenon associated with the particular facilities that participated in this survey research. Continued data collection next year will provide a clearer picture as to whether this is an accurate trend. This also applies to the slight increase in LPN shortage found in this year's survey.
- Facilities should examine their salaries to determine whether nurses are rewarded for obtaining greater levels of education. Efforts should be increased to provide equality in salary for nurses working in rural areas of the state.
- A greater connection between health care facilities and education programs may assist in more placements in clinical facilities. Placing students in health care facilities may assist in recruiting individuals to stay in the state after graduation.

FACILITY SURVEY METHOD

This project was designed to assess nursing workforce demand and the characteristics of potential shortages in North Dakota health care facilities. To better understand current nursing workforce a survey was sent to the Nursing Directors at all hospitals and long-term care facilities (nursing homes and basic care facilities) in North Dakota. A survey was also sent to the administrators of all regional public health facilities, home health facilities, and clinics in North Dakota.

This survey was developed to provide a comprehensive picture of the nature of nursing employment and potential shortages throughout the state and to enable comparisons to be drawn between health care facilities, rural and urban areas in North Dakota and national data. Survey questions were derived from national surveys including the Robert Wood Johnson Foundation Nursing Shortage Study: Chief Nursing Officer Interview Tool (Kimball & O'Neil, 2002), the American Organization of Nurse Executives Acute Care Hospital Survey of RN Vacancy and Turnover Rates (HSM Group, 2002) and the American Journal of Nursing Survey (Shindul-Rothschild, Berry & Long-Middleton, 1996). None of the national Director of Nursing surveys addressed LPNs, so several of the NDNN questions were modified to be appropriate for LPNs. Questions on the NDNN survey were also modified to be appropriate for the various types of facilities that were queried.

Mailing lists for the hospital and long-term care facilities were derived from the 2005-2006 North Dakota Medical Services Directory. Participants received the survey by mail and were asked to mail the survey back to the Center for Rural Health in a postage-paid envelope. The survey was accompanied by a cover letter outlining the purpose of the study. The surveys were sent in October 2005 and respondents were asked to return the survey within two weeks. Those participants that had not returned their survey within one month were sent another copy and given two weeks to respond.

- The actual responses were given for each facility and for each level of nurses in the facility. These values were used to calculate the vacancy and turnover rates according to facility type.
- Total percentages were obtained by computing the average of all data points and rounding the results rather than by averaging percentages across the rural—urban continuum.
- If the response contained a range of numbers, the response was converted to a median number (example: the range 2-4 was reported as 3)
- Facilities that did not employ a certain category of nurse or did not provide a response to the survey question were excluded from analysis on items relating to that specific category.

Definitions

¹When appropriate, data were divided by Urban Influence Codes (Ghelfi & Parker, 1997). Urban Influence Codes are a method of classifying U.S. counties according to the size of metropolitan areas, proximity to metropolitan areas and the population of the largest city within the county. There are nine codes including two metropolitan county categories and seven non-metropolitan county categories. Due to the rural nature of North Dakota, several of the categories include no counties and some categories have a small number of counties represented. North Dakota counties were collapsed as follows into three larger categories based on their original Urban Influence Codes (see Table 1).

- Urban counties: Those small metropolitan counties with fewer than one million residents (4 counties).
- Semi-rural counties: Those non-metropolitan counties adjacent or not adjacent to a small metropolitan county with a town containing at least 2,500 residents (20 counties).
- Rural counties: Those areas not adjacent to a small metropolitan area, which does not contain a town with at least 2,500 residents (29 counties).

²For each facility setting, the following options were given for level of nurses employed at that setting: licensed practical nurses (LPN); registered nurses who primarily provide direct patient care (DRN); RN managers or assistant managers (MRN); Specialty RNs, such as diabetes educators, infection control nurses (SRN); public health nurses (PHRN) and advanced practice nurses (APN).

FACILITY SURVEY REFERENCES

AHA Commission on Workforce for Hospital and Health Systems (2002). In Our Hands: How Hospital Leaders Can Build a Thriving Workforce. Chicago: American Hospital Association.

Ghelfi, L. & Parker, T. (1997). A County-level measure of urban influence. Rural Development Perspectives, 12. (2) 32-41.

HSM Group. (2002). Acute Care Hospital Survey of RN Vacancy and Turnover Rates. American Association of Nurse Executives.

Kimball, B. & O'Neil, E. (2002). Health Care's Human Crisis: The American Nursing Shortage. Robert Wood Johnson Foundation Health Workforce Solutions.

Prescott, P. (2000). The Enigmatic Nursing Workforce. Journal of Nursing Administration. Volume 30, No. 2.

Shindul-Rothschild, J., Berry, D. & Long-Middleton, E. (1996). Where have all the nurses gone? Final results of our patient care survey. American Journal of Nursing, 96. 25-39.



2005 North Dakota Nursing Needs Study Facility Survey

Please answer all questions as completely as possible. Several questions include tables. For these questions you will need to only answer those questions pertaining to your facility. **If your organization includes facilities in multiple counties, please complete one survey per county including information about all of your facilities within that county.** The tables include areas for information from hospitals (HOS), long term care, basic care facilities and assisted living facilities (LTC), clinics (CL) and home health care facilities (HH). Leave all areas that do not apply to your facility blank.

For each setting, space is included for answers regarding LPNs; Direct care RNs (DRN: RNs who primarily provide direct patient care) RN Managers (MRN: nurse managers or assistant managers), Specialty RNs (SRN: diabetes education, infection control etc.) and Advance Practice Nurses (APNs). Please answer separately for each of these and leave blank those categories you do not employ. If you have any questions about completing the survey, please contact Dr. Patricia Moulton at 701-777-6781.

1. Where is your facility/facilities located? County _____

2. How long (number of weeks) on average does it take you to fill a vacant position for each level of nurse?

For example: If it takes you 2 weeks to fill a vacant LPN position in your clinic, write a 2 under CL and LPN.

| | HOS | | | | | LTC | | | | | CL | | | | | HH | | | | |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN |
| # of weeks | | | | | | | | | | | | | | | | | | | | |

Note. LPN: Licensed Practical Nurse DRN: Direct Care RN MRN: Manager RN SRN: Specialty RN APN: Advanced Practice Nurse

3. Does your organization conduct salary surveys? _____ Yes _____ No

If yes, how have results from the surveys been used? _____

4. Has your benefit package for nurses been enhanced in the last year? _____ Yes _____ No

If yes, what benefits have been added? _____

5. Do you have a mechanism for establish a staffing ratio? _____ Yes _____ No

If yes, please explain what the mechanism is _____

6. Indicate the total number of FTE (Full-time equivalent) nurse resignations (voluntarily left) and terminations (fired, laid off) for 2004 (Jan 1, 2004-Dec. 31, 2004) for your facility for each setting and category of nurse.

| | HOS | | | | | LTC | | | | | CL | | | | | HH | | | | |
|--|------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|
| | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN |
| Total # of FTE Resignations in 2004 | | | | | | | | | | | | | | | | | | | | |
| Total # of FTE Terminations in 2004 | | | | | | | | | | | | | | | | | | | | |

7. Please indicate the current number of FTE (full-time equivalent=40 hours/week) nurses for each setting and category of nurse. Please note that the number of full-time FTEs, part-time and vacant FTEs should equal the total # of Budgeted FTEs.

| Setting | HOS | | | | | LTC | | | | | CL | | | | | HH | | | | |
|--|------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|
| | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN | LPN | DRN | MRN | SRN | APN |
| Total # of Budgeted FTEs | | | | | | | | | | | | | | | | | | | | |
| How many FTEs are filled with full-time (32 or greater hours/week) nurses? | | | | | | | | | | | | | | | | | | | | |
| How many of FTEs are filled with part-time (less than 32 hours/week) nurses? | | | | | | | | | | | | | | | | | | | | |
| Total number of vacant nurse FTEs | | | | | | | | | | | | | | | | | | | | |

8. List the starting and average hourly wage for each nurse category in your facility for each setting and category of nurse. The first row requests starting wages (average hourly wage paid to nurses when they are first hired as a new graduate) and the second row requests average wages (average hourly wage paid for all nurses).

| | HOS | | | | | LTC | | | | | CL | | | | | HH | | | | |
|----------------------|------------|------------|------|-----|-----|------------|------------|------|-----|-----|------------|------------|------|-----|-----|------------|------------|------|-----|-----|
| | 1 year LPN | 2 year LPN | ASRN | BSN | APN | 1 year LPN | 2 year LPN | ASRN | BSN | APN | 1 year LPN | 2 year LPN | ASRN | BSN | APN | 1 year LPN | 2 year LPN | ASRN | BSN | APN |
| Starting Hourly Wage | | | | | | | | | | | | | | | | | | | | |
| Average Hourly Wage | | | | | | | | | | | | | | | | | | | | |

9. Do you have agreements with schools of nursing to provide clinical training for LPNs?

Yes No

If yes, please answer the following questions.

How many schools do you have agreements with? _____

How many LPN nursing students rotate on-site during 1 year? _____

In the last year, have you increased the number of schools utilizing your organization for RN clinical education? Yes No

Have you consulted/collaborated with schools to increase LPN capacity or suggest any other type of program change? Yes No

10. Do you have agreements with schools of nursing to provide clinical training for RNs?

Yes No

If yes, please answer the following questions.

How many schools do you have agreements with? _____

How many RN nursing students rotate on-site during 1 year? _____

In the last year, have you increased the number of schools utilizing your organization for RN clinical education? Yes No

Have you consulted/collaborated with schools to increase RN capacity or suggest any other type of program change? Yes No

11. Any other comments or suggestions?

