



Center *for*
Rural Health

University of North Dakota
School of Medicine & Health Sciences

Five Year Comparison of North Dakota Nurses: Results and Implications

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June 2007

Funding for this project was provided by
the North Dakota Board of Nursing

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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 six percent 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 School of Medicine and Health Sciences to conduct the Nursing Needs Study.

Results

In this report, results from the current licensed nurse survey are presented. This data was collected from 1,563 of 5,893 nurses (1,614 LPNs and 4,279 RNs; 27% response rate) during license renewal from October-December 2006. These results are also compared with licensed nurse survey results from 2003, 2004, 2005, and 2006.

- **Demographics**

The average age for RNs in North Dakota was 44 years which is slightly lower than the National Sample Survey (Steiger, 2004) average RN age of 45 years. Average LPN age of 42 years was also lower than the national average of 43 years (Seago, et al., 2004). The average age for Advanced Practice Nurses (APNs) in North Dakota was 46 years. Ninety-five percent (94%) of North Dakota’s nurses were female, which is equivalent to the national average (Steiger, 2004). In North Dakota, 96 percent of nurses were Caucasian, not of Hispanic origin. The largest minority group, American Indian/Alaska Native, comprised nearly two percent of nurses in North Dakota.

- **Income**

RNs in urban settings reported an income 13 percent higher than that reported by RNs in rural settings. LPNs in urban settings reported an income six percent higher than that reported by LPNs in rural settings. Urban APNs reported an income 30 percent higher than APNs working in rural settings.

- **Pursing a Faculty Role**

In 2007, 19 percent of RNs and APNs were interested in pursue a nursing faculty role sometime in the future, while nine percent of LPNs were interested in pursuing a faculty position. Barriers included a disinterest in a faculty position, disinterest in meeting educational requirements, and better pay outside of educational settings.

- **Part-Time Employment**

About one-quarter of nurses worked part-time due to taking care of their home and family or a preference for part-time work. This is approximately equal to the figure reported in the last four years. The highest rate of part-time work was in 2003, in which 33 percent of nurses worked part time.

- **Employment Setting**

Regarding primary work setting, most LPNs worked in ambulatory care, hospitals, or long term care facilities. APNs worked mostly in hospitals and ambulatory care facilities. Most RNs worked in hospitals. Sixteen percent (16%) of RNs, 13 percent of LPNs, and 35 percent of APNs were employed in two nursing jobs.

- **Retirement Plans**

About one-quarter of nurses plan to retire within the next 10 years. Nurses indicated that increased pay, flexible scheduling, and working part-time would encourage them to work for more years.

- **Workplace Environment**

Almost one-half of LPNs and RNs and one-quarter of APNs indicated that they had an increase in patient loads over the past two years. Nurses also noted increased voluntary overtime at the workplace. Nurses were most satisfied with the power structure and autonomy aspects of their work and least satisfied with their pay.

- **Continuing Education**

Most nurses work in facilities that provide financial support for continuing education credits. Most often nurses receive support for tuition and/or registration and travel expenses.

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. 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 fifth 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.

SURVEY RESULTS

This survey was designed to examine issues of recruitment, retention, and supply of licensed nurses. The survey was completed online, as part of the North Dakota Board of Nursing bi-annual license renewal process. The North Dakota Board of Nursing provided a link from their license renewal website that directed nurses to visit the UND Center for Rural Health website where they could complete the survey. From a total of 5,893 nurses that renewed their license online, 1,563 submitted completed surveys for a response rate of 27 percent. Licensed practical nurses (LPNs) comprised 325 of the respondents, while 1,166 registered nurses (RNs) responded. Additionally, 63 advanced practice nurses (APNs) responded to the survey.

Demographics

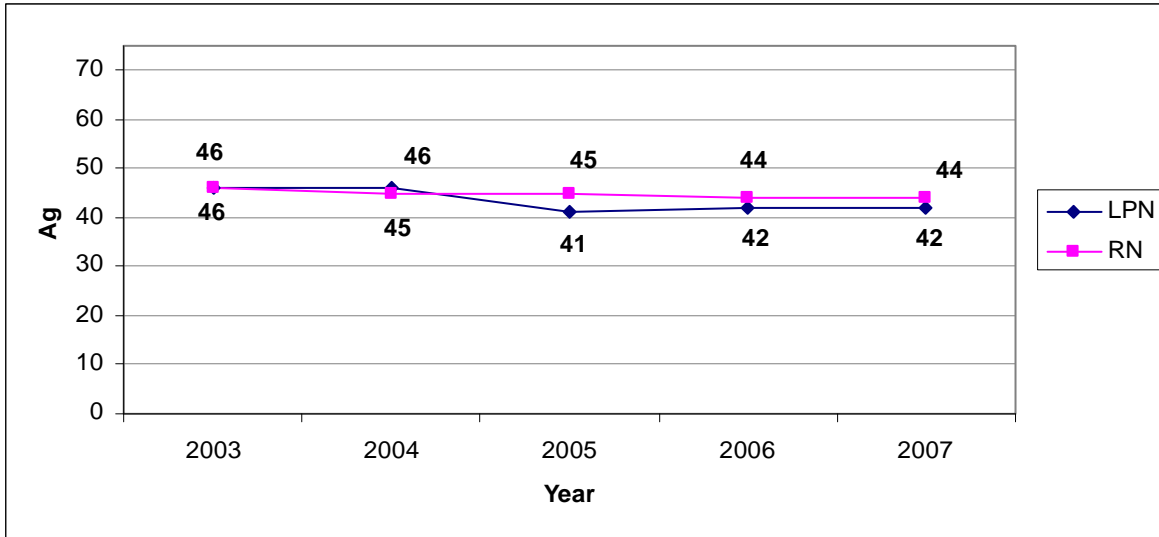
The average age for RNs in North Dakota was 44 years which is somewhat lower than the National Sample Survey (Steiger, et al., 2004) average RN age of 45 years. Average LPN age of 42 years was also lower than the national average of 43 years (Seago et al., 2004). The average age for APNs in North Dakota was 48 years. In general, nurses in urban areas were younger than nurses in semi-rural and rural areas (see Table 1). The American Nurses Association Staffing Survey (2001) found 43 percent of RNs were between 41 and 50 years old.

Table 1: Mean Age by Urban-Rural Status and License

<u>Nurse Level & Rurality</u>	Urban	Semi-Rural	Rural	<i>Overall</i>
LPN	40	44	46	42
RN	43	45	45	44
APN	47	50	48	48
<i>Overall</i>	43	45	46	44

The average age for nurses in North Dakota has decreased slightly from 2003 to 2007 (see Figure 1).

Figure 1: Overall Mean Age Four-Year Trend



Note: Previous years' data in Figure 1 from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

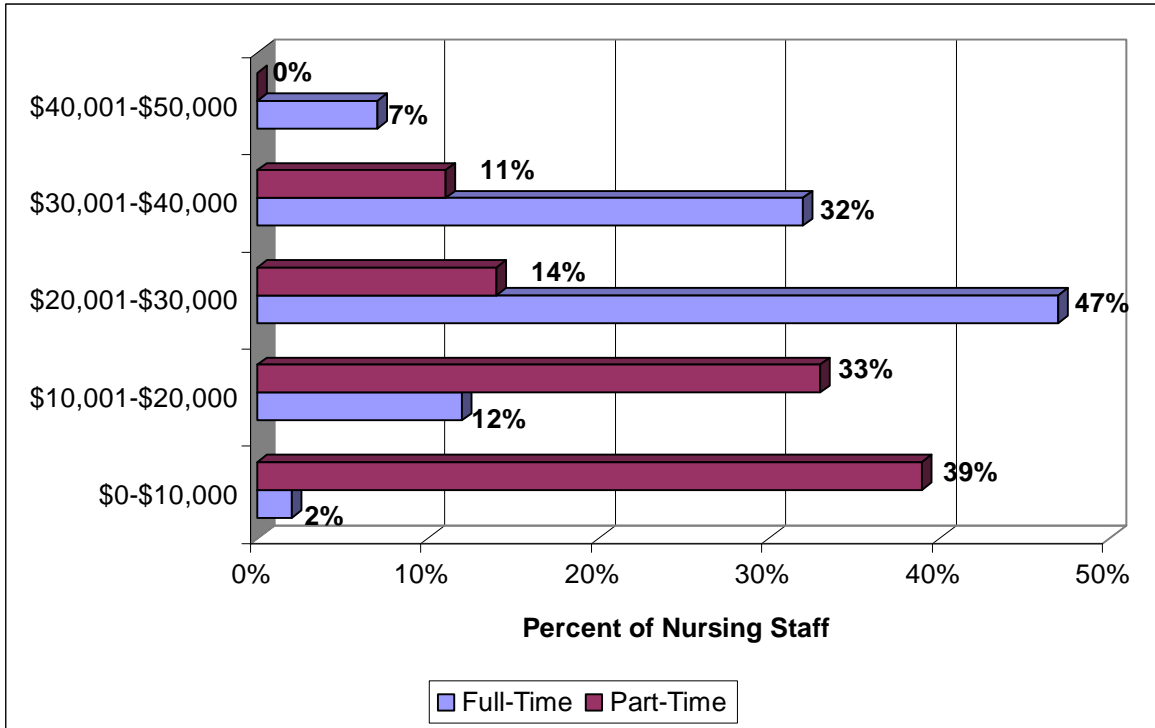
Ninety-four percent (94%) of nurses were female and six percent were male. The number of male nurses was slightly higher than the national average of five percent (Spratley et al., 2000).

Ninety-six percent (96%) of nurses were Caucasian (not of Hispanic origin), and two percent were American Indian/Alaskan Native. Comparatively, the National Sample Survey of Registered Nurses (Steiger, et al., 2004) found that .3 percent were American Indian or Alaskan Native.

Income

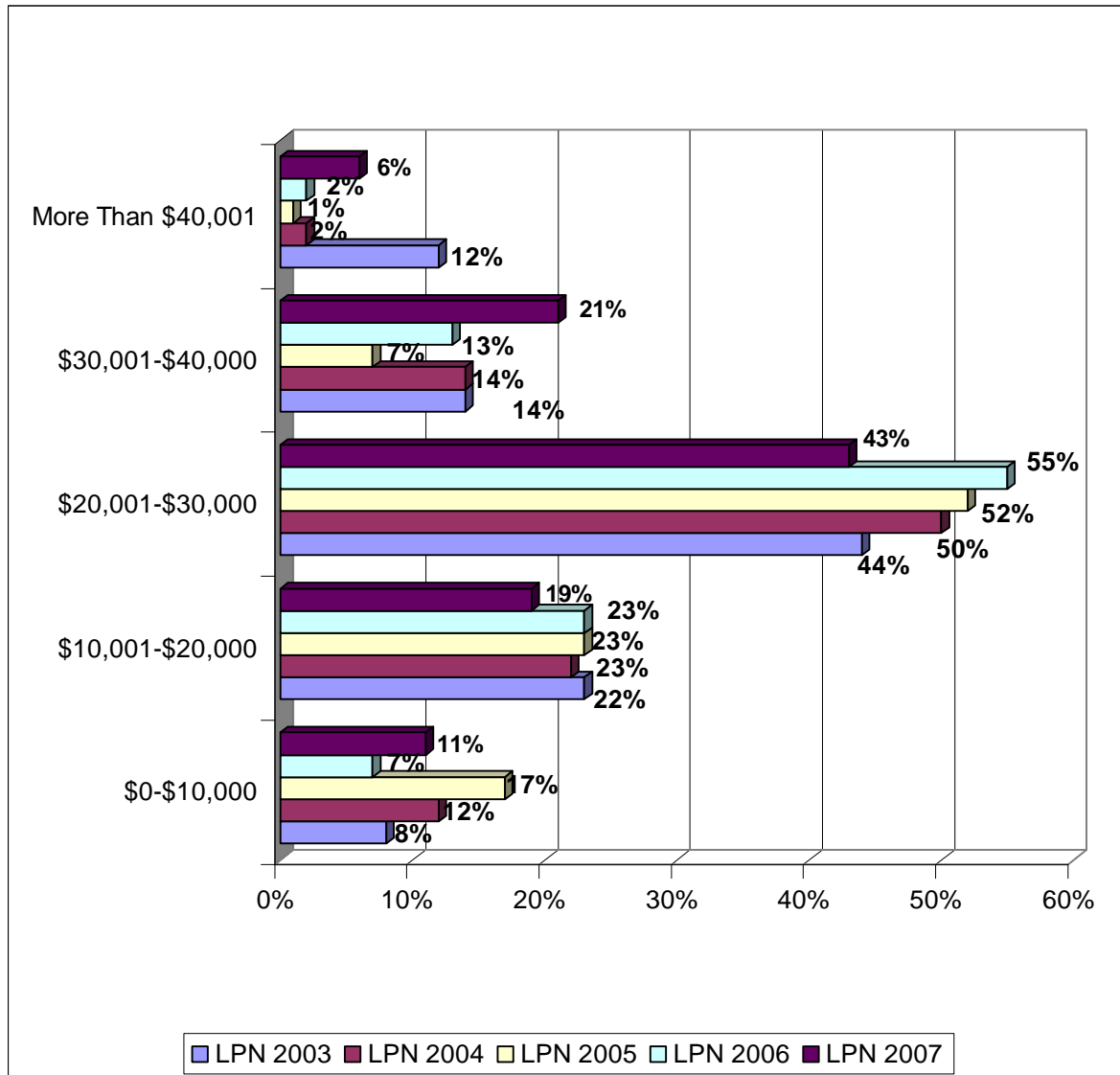
LPNs working full-time most often reported an annual nursing income of \$20,001 to \$30,000. Most LPNs working part-time report an income of less than \$10,000 (see Figure 2).

Figure 2: LPN Gross Annual Income from Nursing Position



Since 2003, the most frequently-reported income of LPNs has been \$20,001 to \$30,000. The percentage of LPNs reporting higher nursing incomes (i.e., more than \$40,000) has generally increased each year. (Note: Trend analyses include both full-time and part-time nurses.)

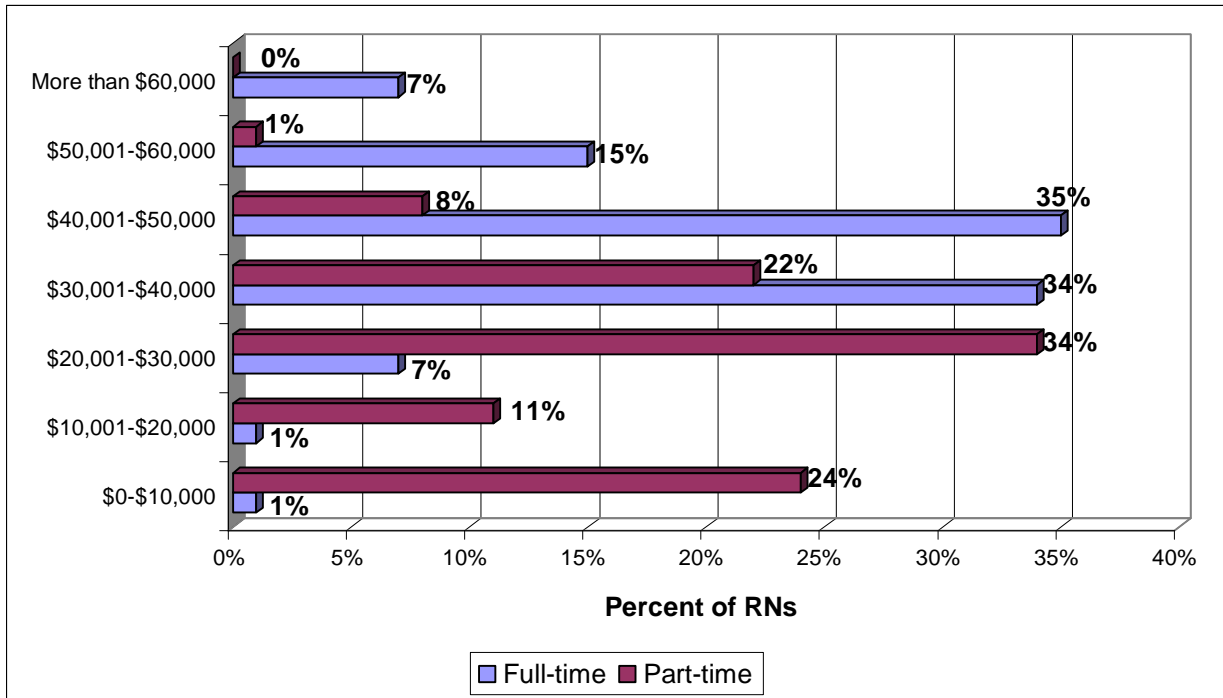
Figure 3: Five Year Trend: LPN Gross Income from Nursing Position



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

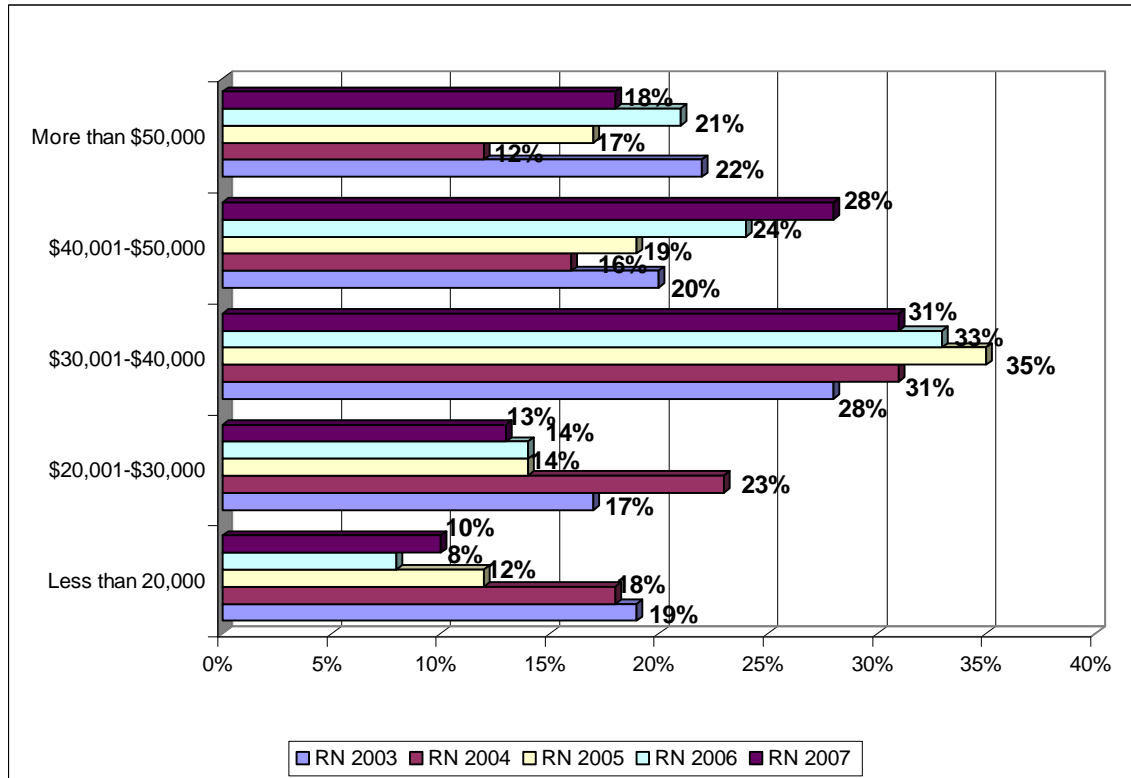
Part-time RNs most often reported an income of \$20,001 to \$30,000. Full time RNs most often reported an income of \$40,001-50,000 (see Figure 4).

Figure 4: RN Gross Income from Nursing Position



Since 2005, the percentage of RNs with an income of \$30,000-\$40,000 has decreased. Additionally, more RNs report earning \$40,001-\$50,000 than before (see Figure 5). (Note: Trend analyses include both full-time and part-time nurses.)

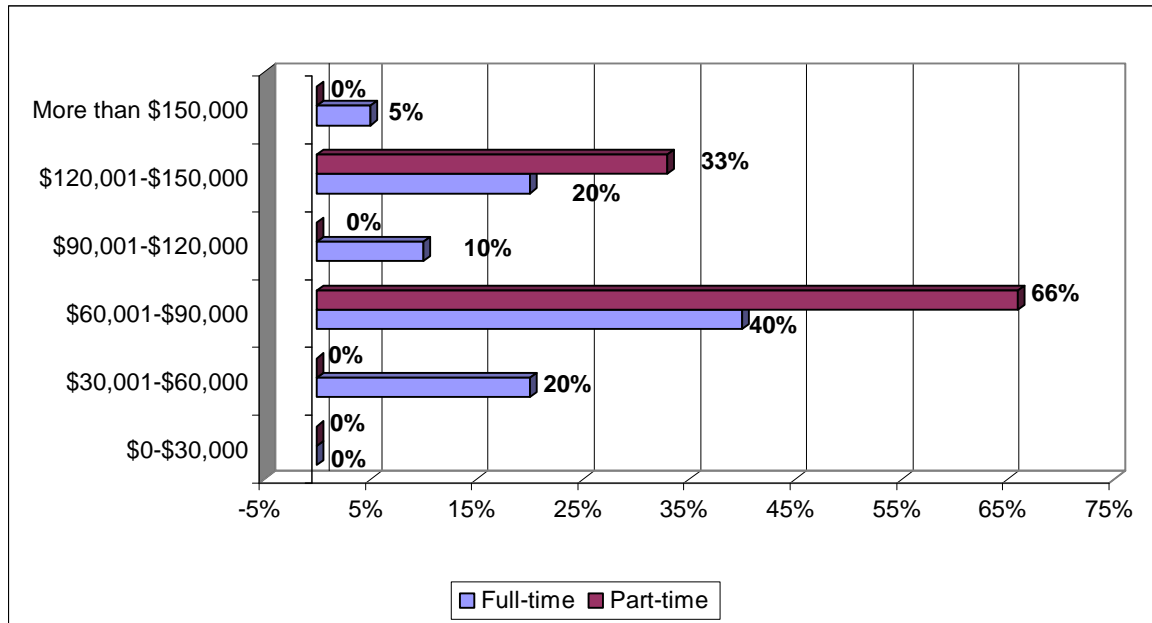
Figure 5: Four-Year Trend: RN Gross Income from Nursing Position



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

APNs most often reported an income of \$60,000 to \$90,000 followed by between \$120,001 and \$150,000 (see Figure 6).

Figure 6: APN Gross Income from Nursing Position



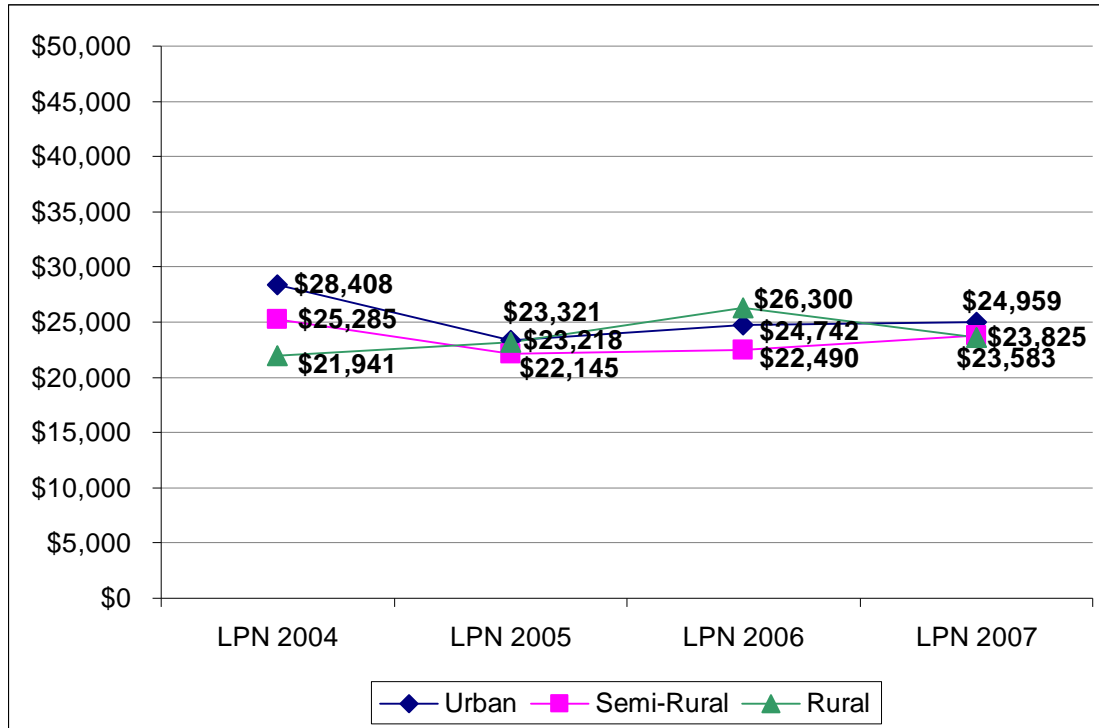
In 2007, RNs in rural settings reported an income 13 percent lower than that reported by RNs in urban settings, with an overall mean of \$40,494. According to the most recent U.S. Department of Labor statistics (2001), the national average income for RNs is \$48,240 and LPNs is \$31,490. LPNs in rural settings reported an income six percent lower than that reported by LPNs in urban settings, with an overall mean of \$24,212. Rural APNs reported an income 30 percent lower than APNs working in urban settings, with an overall mean of \$57,752 (see Table 3). (Note: Average income includes both full-time and part-time nurses.)

Table 3: Average Income by Urban-Rural Status and License

<u>Nurse Level & Rurality</u>	Urban	Semi-Rural	Rural	<i>Overall Mean</i>
LPN	\$24,959 (n=61)	\$23,825 (n=66)	\$23,583 (n=11)	<i>\$24,212</i>
RN	\$43,933 (n=238)	\$39,443 (n=175)	\$38,107 (n=24)	<i>\$40,494</i>
APN	\$97,842 (n=14)	\$68,614 (n=7)	\$68,000 (n=3)	<i>\$57,752</i>
<i>Overall Mean</i>	<i>\$55,578</i>	<i>\$43,960</i>	<i>\$42,230</i>	<i>\$44,037</i>

In the urban areas of the state, LPNs have reported slightly larger incomes compared to the last year. In semi-rural areas, the average income for LPNs has increased slightly from 2004-2006, but decreased in 2007. In rural areas, average incomes for LPNs have decreased since 2006 (see Figure 7). (Note: Trend analyses include both full-time and part-time nurses.)

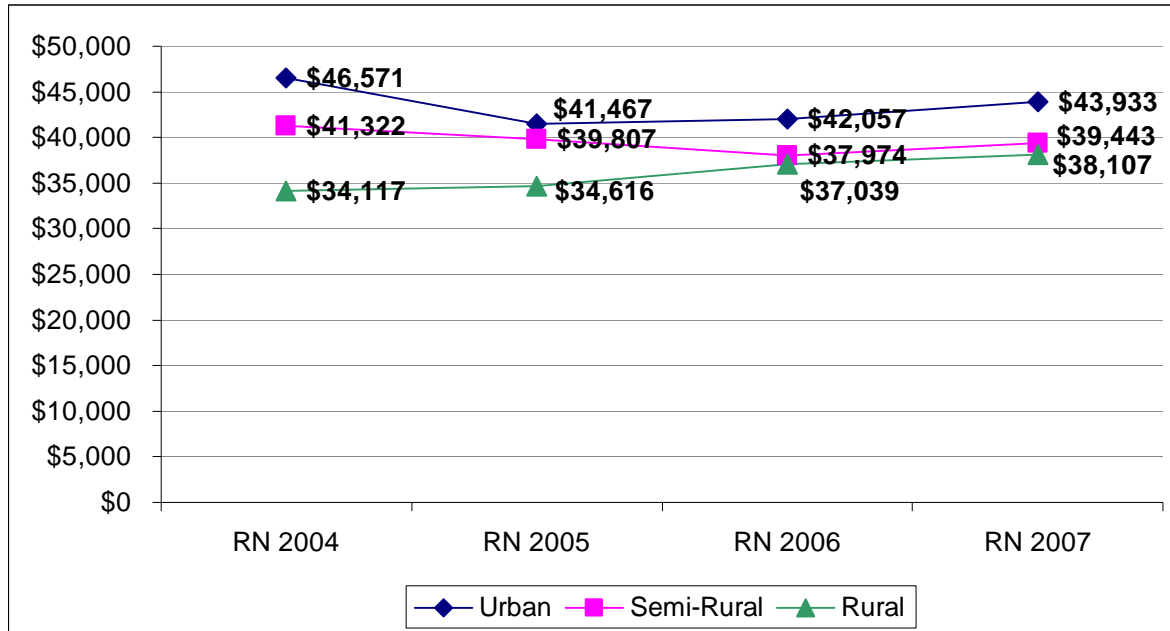
Figure 7: Four-Year Trend: Average LPN Income by Rurality



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Since 2004, the income for RNs working in rural areas has increased slightly but steadily, and continues to approach that of RNs working in other areas. The income for RNs working in urban areas had decreased dramatically from 2004 to 2005, but continues to increase in 2006 and 2007. (Note: Trend analyses include both full-time and part-time nurses.)

Figure 8: Three-Year Trend: Average RN Income by Rurality



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

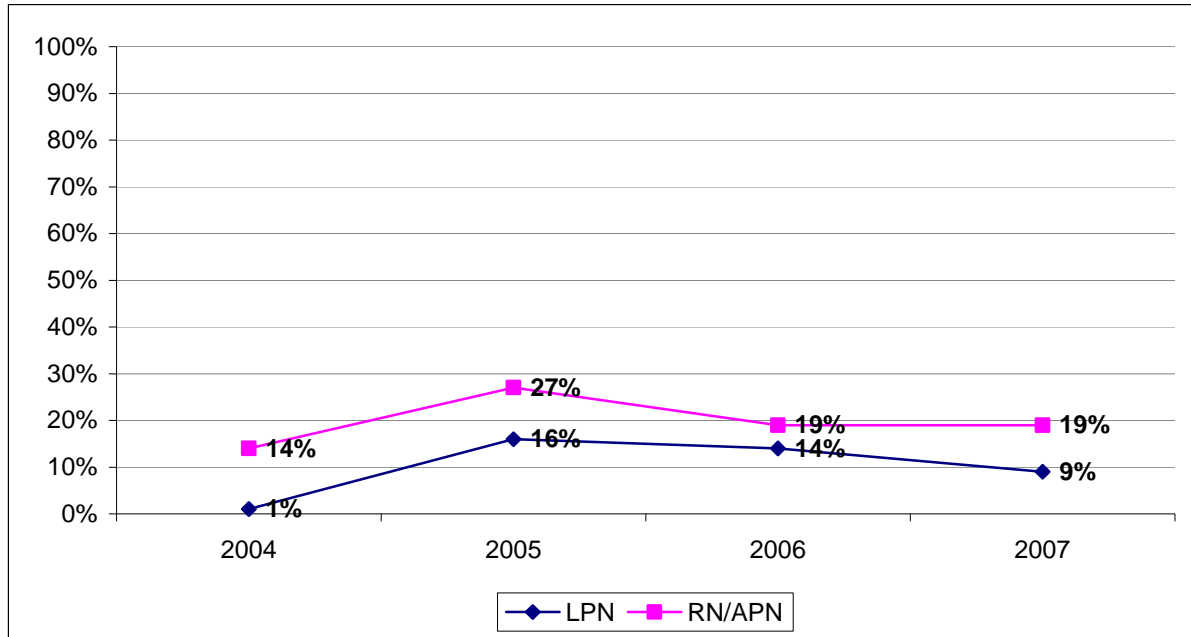
Pursuing a Faculty Role

Nine percent (9%) of LPNs and 19 percent of RNs indicated they would be interested in pursuing a nursing faculty role sometime in the future. Of APNs, 25 percent responded that they would be interested in becoming nursing faculty.

Of those nurses who were interested in pursuing a faculty role (n = 260), five percent desired to do so within the next year, while 50 percent expected to do so in 1-5 years. The remaining planned to pursue a faculty role in 6-10 years (32%) or more than 10 years (13%).

Figure 9 shows the four year trends for percentage of nurses interested in pursuing a faculty role in the future. Note: APNs and RNs are combined into one group.

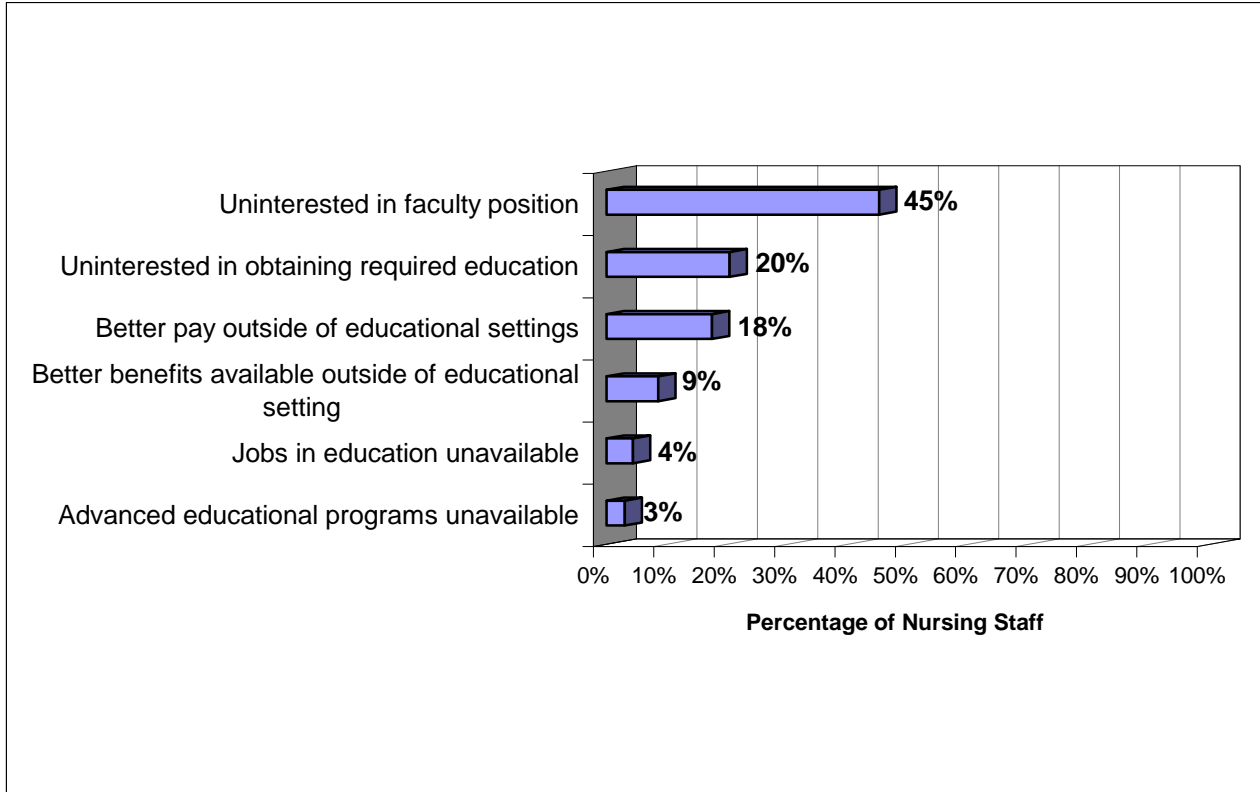
Figure 9: Three-Year Trend: Percentage Willing to Pursue a Faculty Role



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

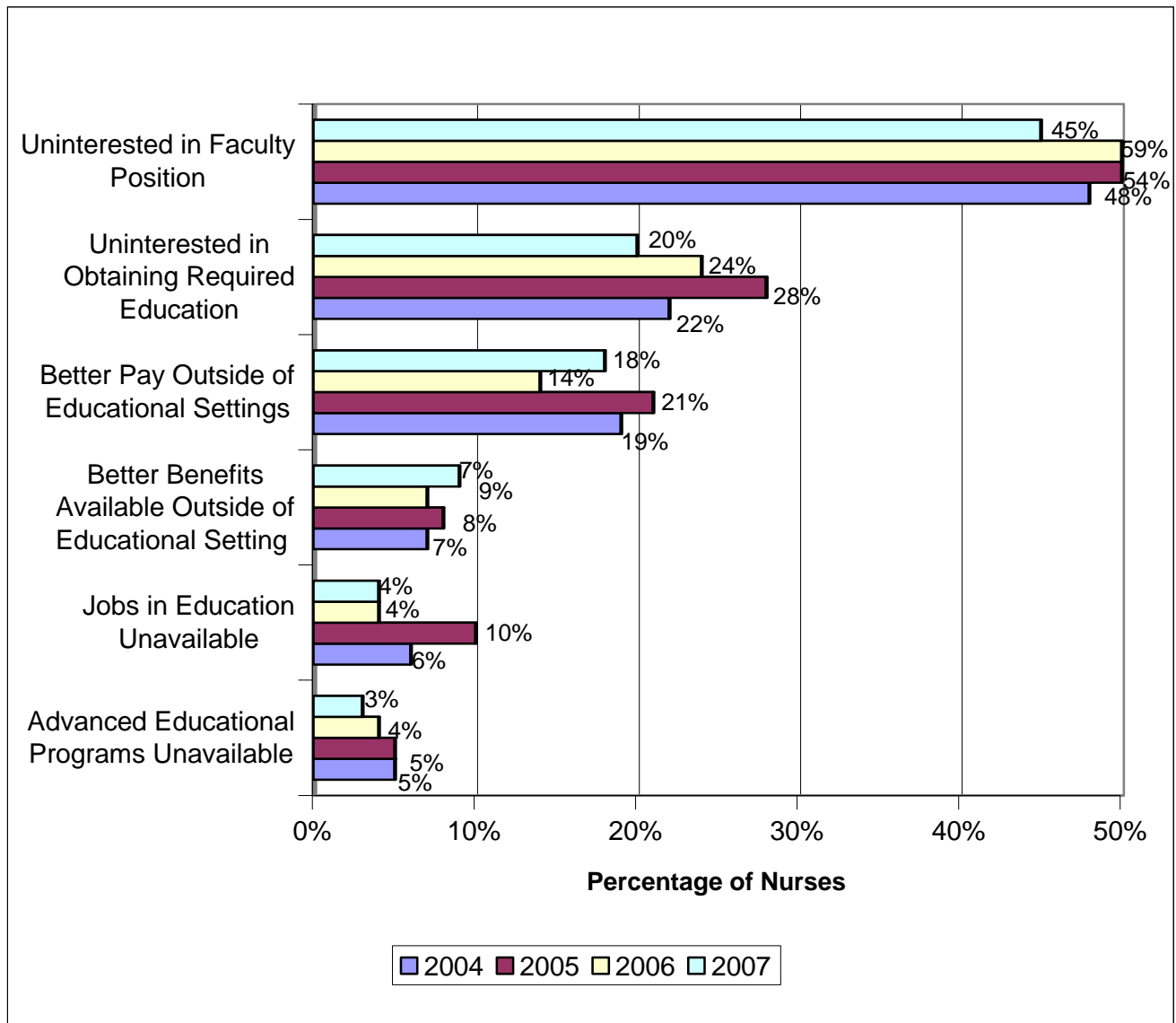
Nurses indicated the major barriers that prevented them from considering teaching included disinterest in a faculty position (45%), disinterest in obtaining the required education (20%), and better pay outside of educational settings (18%) (see Figure 10).

Figure 10: Barriers Preventing Consideration of a Faculty Position in Nursing



The major barriers that prevented nurses from considering teaching in nursing have not changed markedly from 2004 to 2007 (see Figure 11). In 2007, comparisons indicated that faculty benefits was more of a barrier than it had been in the past, while a personal lack of interest has decreased in frequency.

Figure 11: Three-Year Trend: Barriers Preventing Consideration of a Faculty Position In Nursing

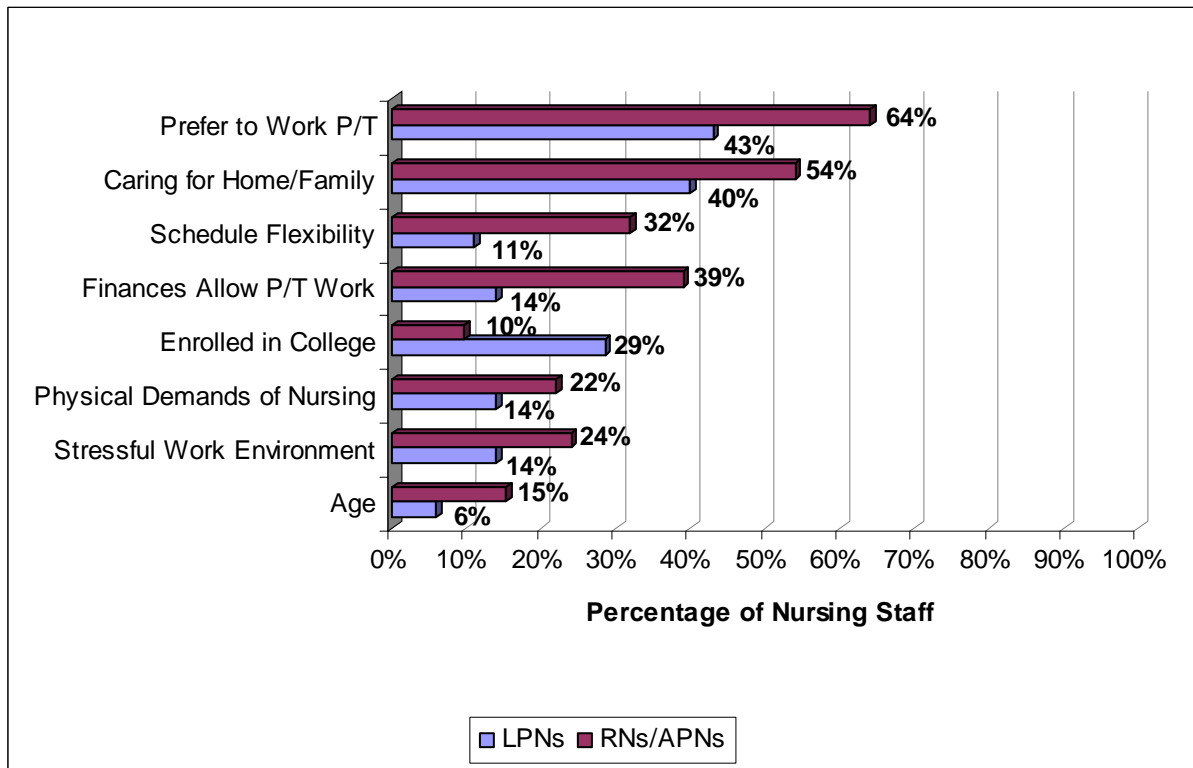


Note: Previous years' data from Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Part-Time Employment

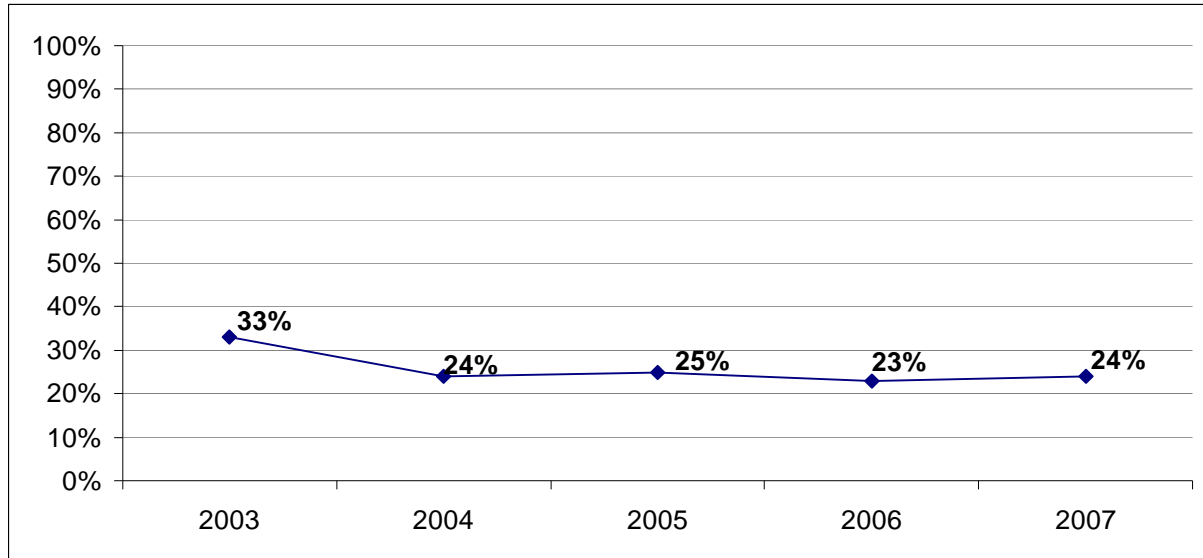
Nurses working part-time (24 percent of surveyed nurses) most frequently indicated a preference for part-time work or home and family responsibilities as their reason for working part-time (see Figure 12). Nationally, 30 percent of nurses were employed in part-time positions (Steiger, et al., 2004).

Figure 12: Most Frequently Cited Reasons for Working Part-Time



Comparatively, the number of nurses working part-time decreased between 2003 (33%) and 2004 (24%) and has remained relatively stable through 2005 (25%), 2006 (23%), and 2007 (24%) (Figure 13).

Figure 13: Five-Year Trend: Number of Nurses Working Part-Time



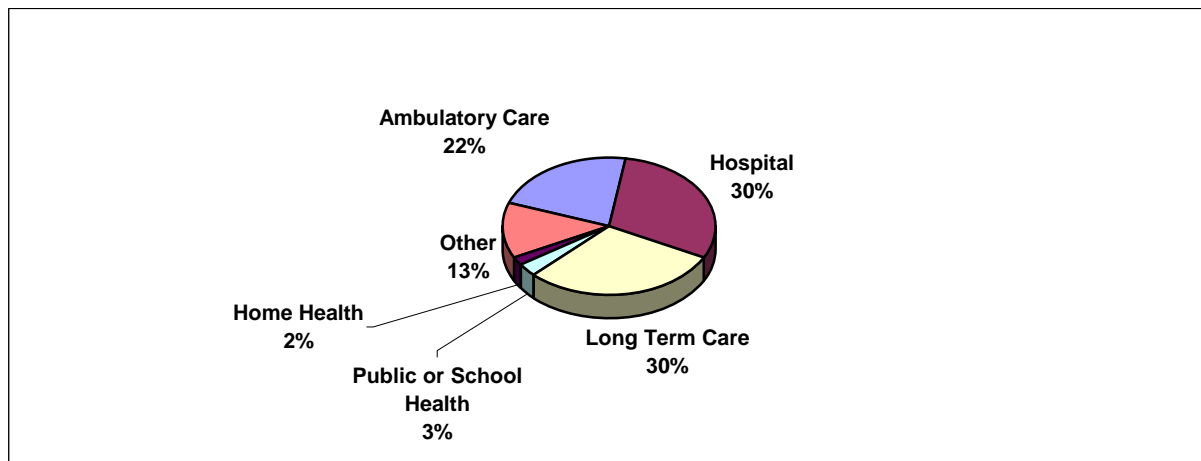
Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Primary Employment Setting

Ninety-three percent (93%) of LPNs, 96 percent of RNs, and 95 percent of APNs were currently employed in nursing.

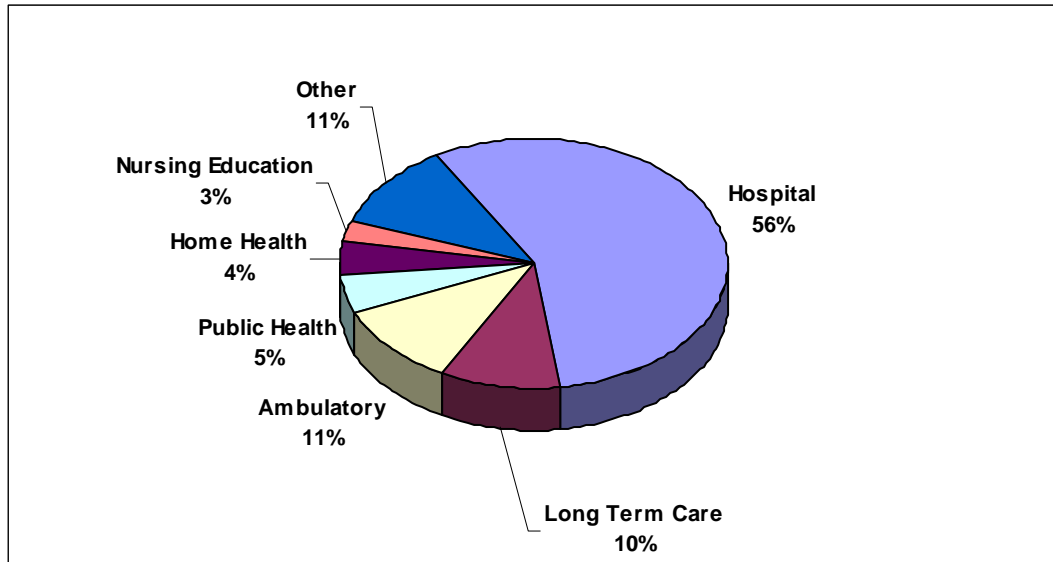
Most LPNs worked in hospital (30%), ambulatory care (22%), and long-term care (30%) settings (see Figure 14).

Figure 14: LPN Primary Employment Setting



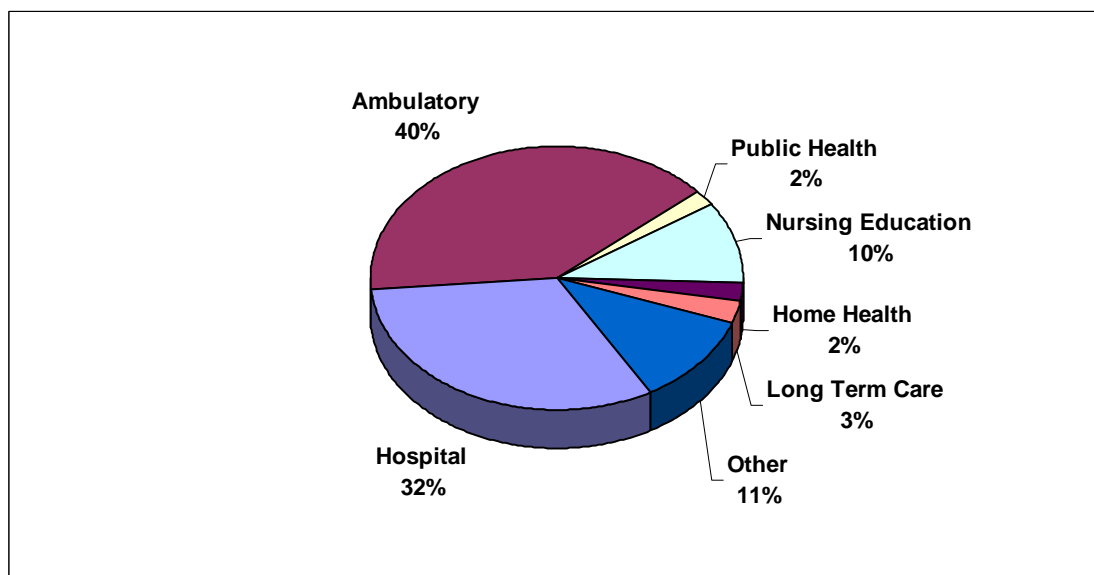
Most North Dakota RNs worked in hospital (56%), ambulatory care (11%), and long-term care settings (10%) (Figure 15). The American Nurses Association Staffing Survey (2001) found that most RNs (70%) worked in hospitals. The National Sample Survey of Registered Nurses (Steiger, et al., 2004) also found that the greatest percentage of RNs (56%) worked in hospitals.

Figure 15: RN Primary Employment Setting



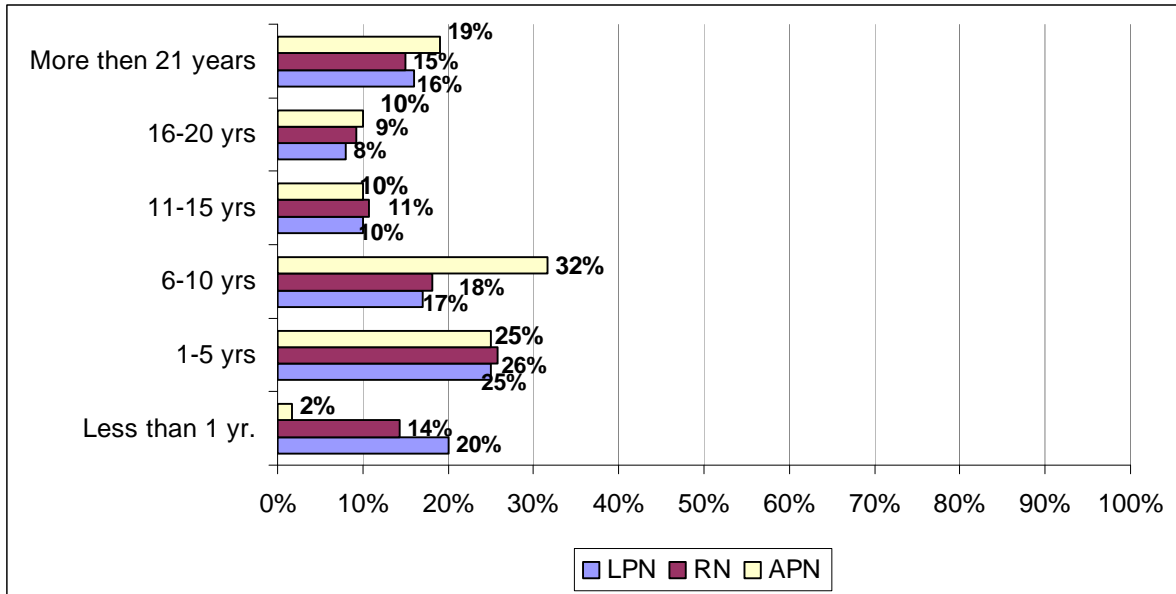
Most APNs worked in ambulatory care (40%), hospital (32%), and nursing education programs (10%) settings (see Figure 16).

Figure 16: APN Primary Employment Setting



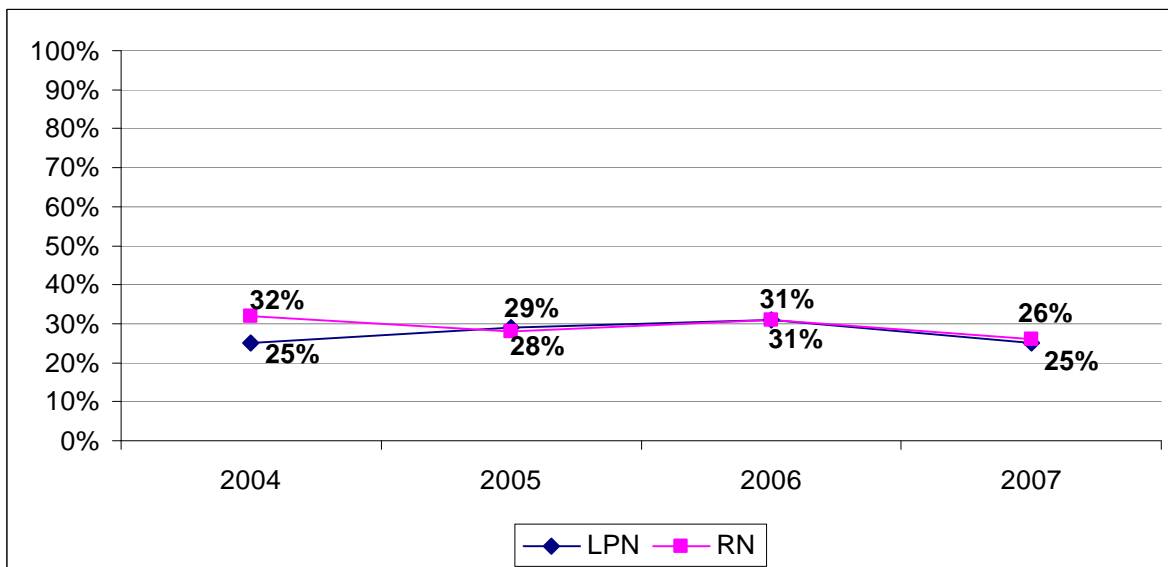
Most LPNs (26%) and RNs (26%) have worked as nurses in their primary work setting between one and five years while most APNs (32%) report working 6-10 years in their primary work setting (see Figure 17).

Figure 17: Number of Years Worked in Primary Nursing Setting



The percentage of RNs who reported working as nurses for one to five years has remained steady over the past few years, decreasing somewhat in 2007. Similarly, the percentage of “new” LPNs has increased each year and has decreased in 2007 (see Figure 18).

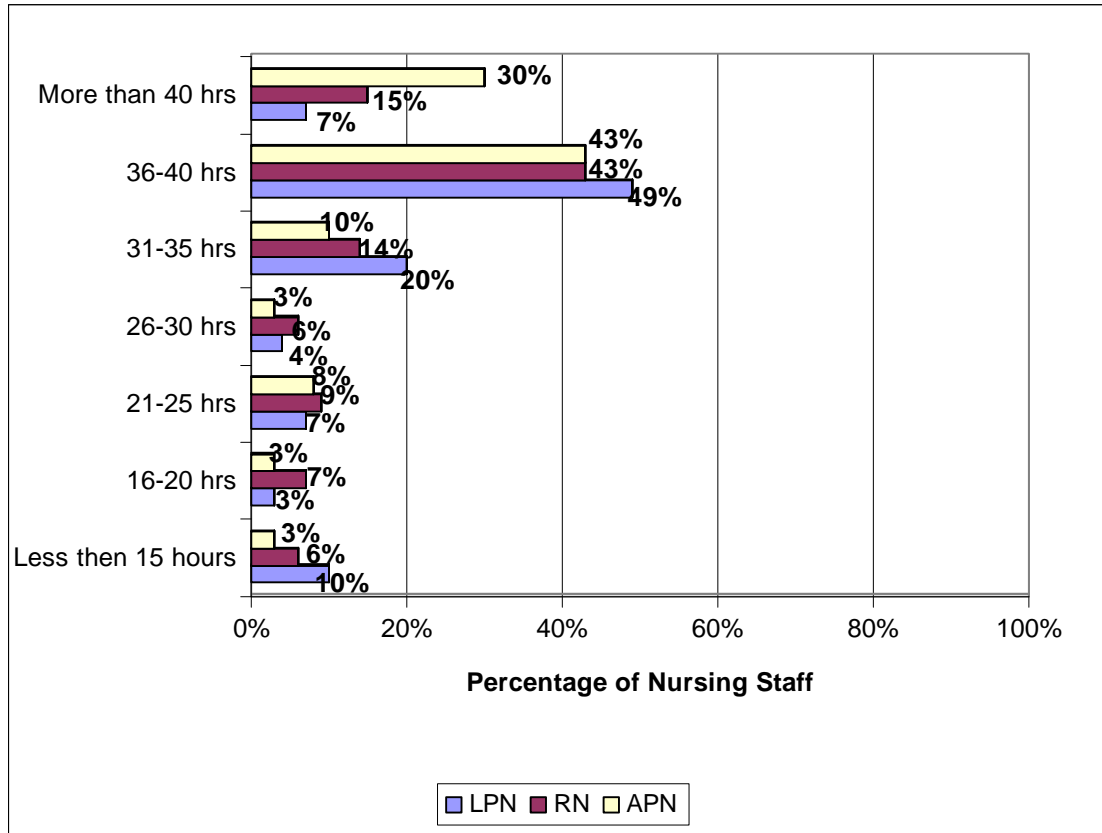
Figure 18: Four-Year Trend: Percentage of Nurses w/ 1-5 Years Worked



Note: Previous years’ data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004) King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

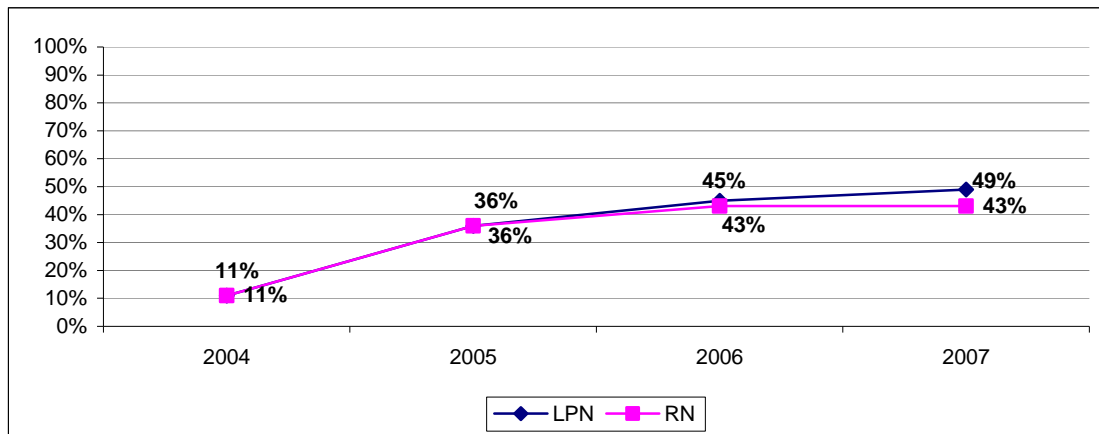
Across all levels, most nurses reported working between 36-40 hours per week in their primary employment setting (see Figure 19).

Figure 19: Number of Hours Worked in Primary Setting



The percentage of RNs working full time (36 or more hours per week) has increased every year since 2004. The percentage of LPNs working full time has also increased in the past, but remained the same from 2006-2007 (see Figure 20). In 2004, the majority of nurses worked between 16 and 20 hours per week. In 2005, 2006, and 2007, the majority worked between 36 and 40 hours per week.

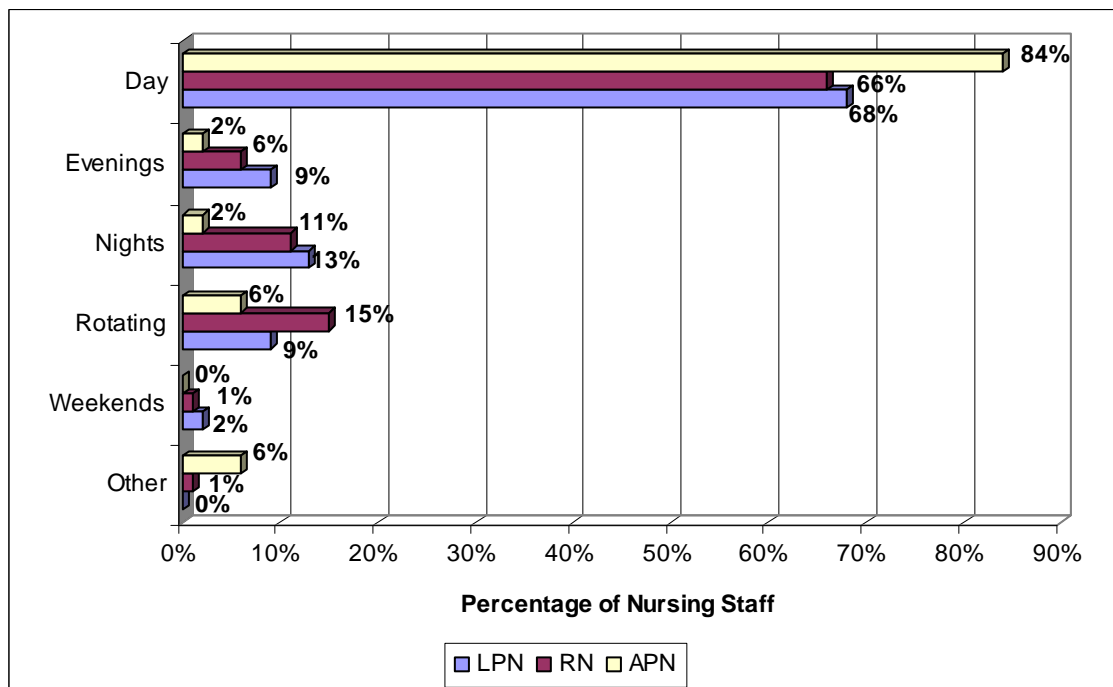
Figure 20: Three-Year Trend: Percentage of Nurses Working 36-40 Hours per Week



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

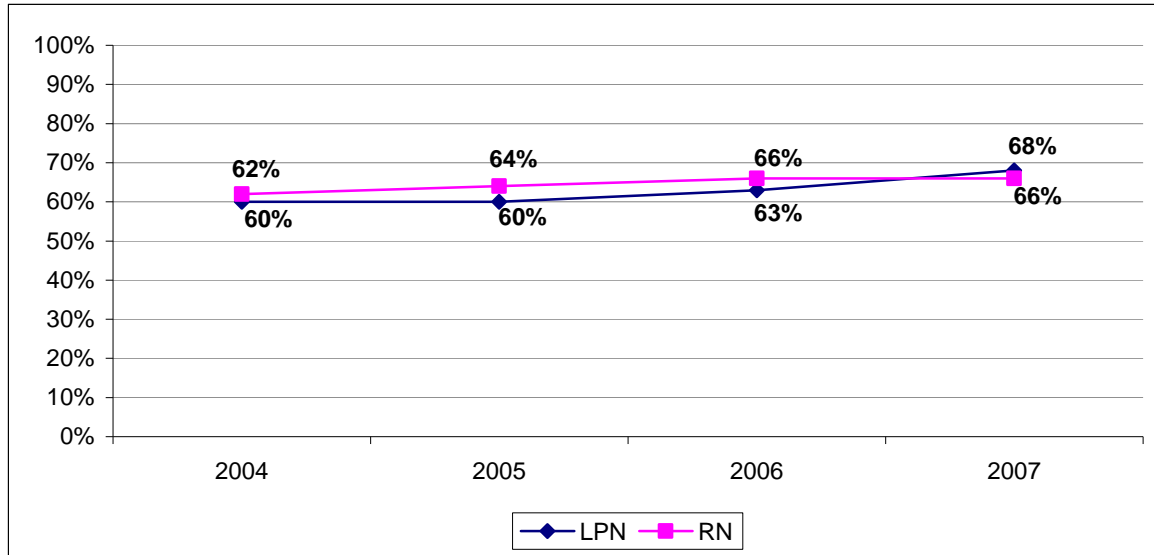
Nurses were asked to report which shift they typically work in their primary employment setting. Sixty-eight percent (68%) of LPNs, 66 percent of RNs, and 84 percent of APNs worked day shifts (see Figure 21).

Figure 21: Shifts Worked in Primary Employment Setting



Over the last four years, the majority of nurses have worked day shift. The percentage of RNs working the day shift has steadily increased by two percent each year. The percentage of LPNs working day shift has also increased from (2005-2007) (see Figure 22).

Figure 22: Four-Year Trend: Percentage of Nurses who Worked Day Shift



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

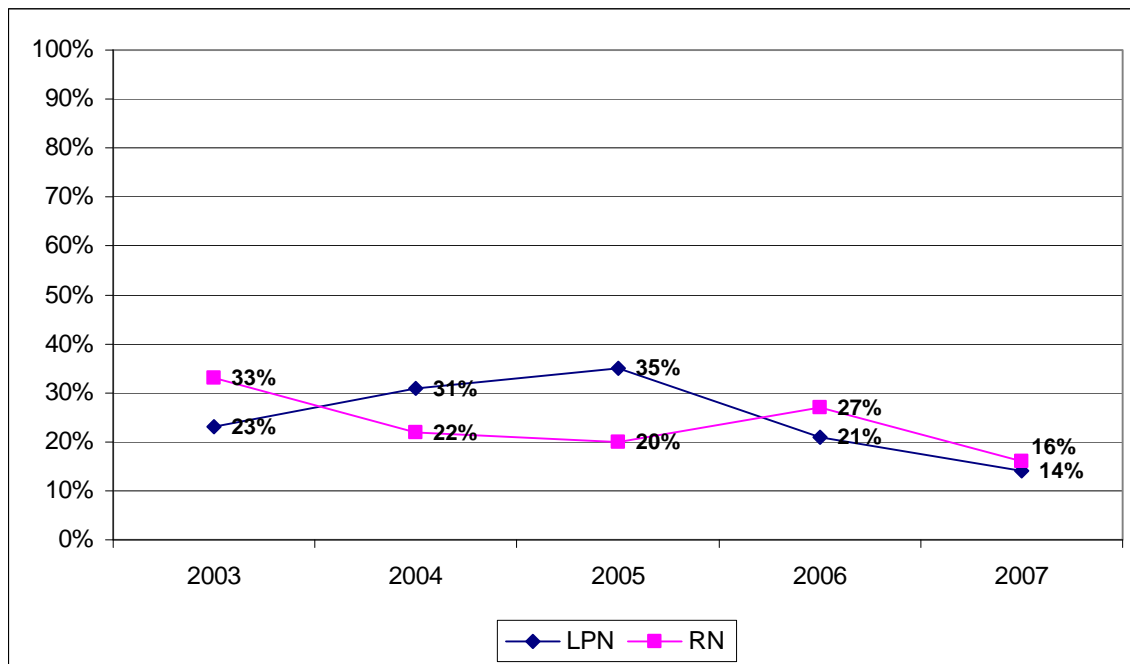


Secondary Employment Setting

Sixteen percent (16%) of RNs, 13 percent of LPNs, and 35 percent of APNs were employed in two nursing jobs. Secondary employment was higher than the national average (American Nurses Association Staffing Survey, 2001) where six percent of RNs had a second job (no national comparison data is available for LPNs or APNs). Clearly, as compared to national rates, many more nurses in North Dakota had a second job. This trend may be driven by lower incomes paid in North Dakota.

The percentage of RNs employed in a second nursing job had decreased from 2003 to 2005, while the percentage of LPNs employed in second jobs had increased. The 2006 data, however, reversed the trend, while in 2007 the percentage of LPNs and RNs employed in a second nursing position decreased (see Figure 23).

Figure 23: Five-Year Trend: Percentage of Nurses with a Secondary Nursing Job

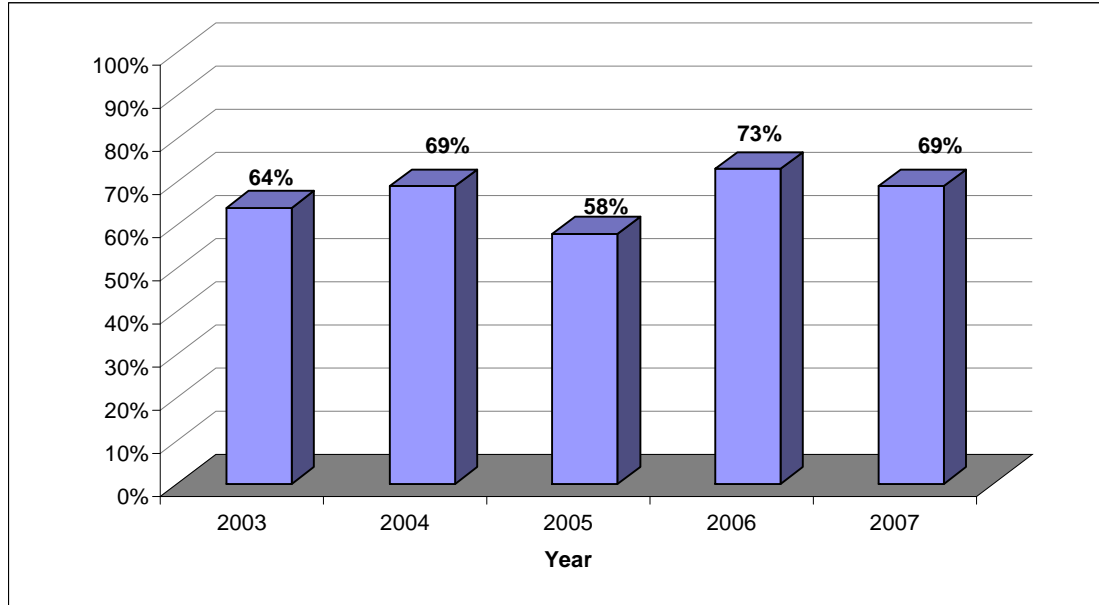


Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Direct Patient Care

Sixty-nine percent (69%) of nurses provided direct care in 2007. This percentage of direct care is comparable to previous years (see Figure 24).

Figure 24: Five-Year Trend: Percentage of Nurses who Provide Direct Care



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Retirement Plans

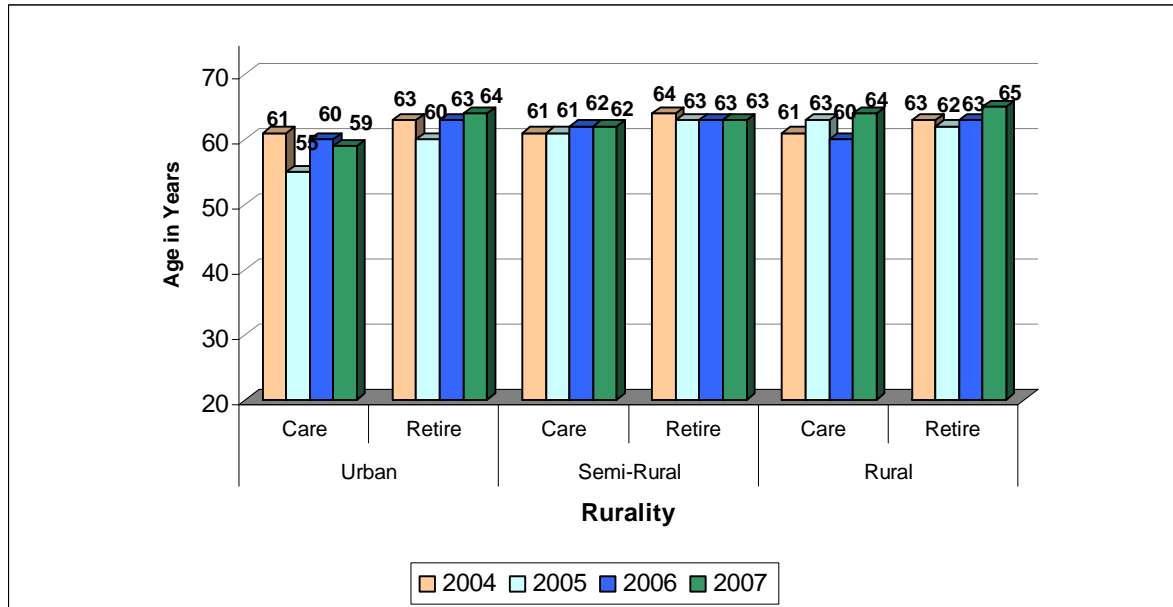
Nurses were asked to estimate the age at which they intend to retire from nursing and the age at which they plan to stop providing direct care (see Table 4). The planned average retirement age was 63 years. Most nurses planned to end direct care several years prior to retirement (mean age of 58). Overall, nurses in urban areas planned to stop providing direct care earlier than nurses in semi-rural and rural areas.

Table 4: Average Age at Which Nurses Plan to Stop Providing Direct Care and Retire from Nursing

Rurality	Urban		Semi-Rural		Rural		Overall	
Nurse Level	Care	Retire	Care	Retire	Care	Retire	<i>Care</i>	<i>Retire</i>
LPN	59	64	62	63	64	65	62	64
RN	57	62	59	62	58	62	58	62
APN	62	62	64	66	64	62	63	63
Overall	59	63	62	64	62	63	61	63

The age at which LPNs plan to stop providing direct care has fluctuated over time in rural and urban areas, while remaining relatively constant in semi-rural areas. Based on rurality, the age at which LPNs planned to retire has increased or remained stable in the last years (see Figure 25).

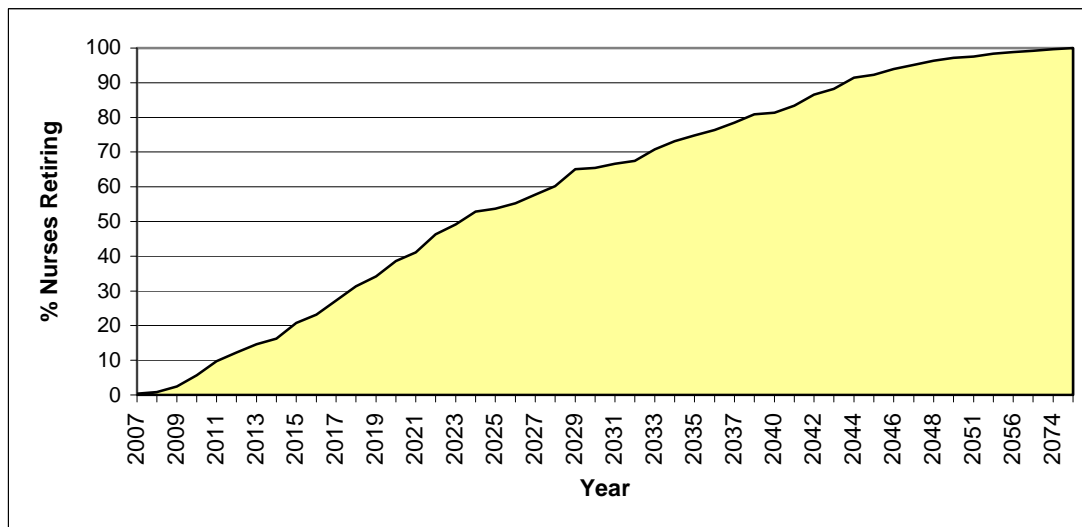
Figure 25: Four-Year Trend: Average Age at Which LPNs Plan to Stop Providing Direct Care and Retire



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

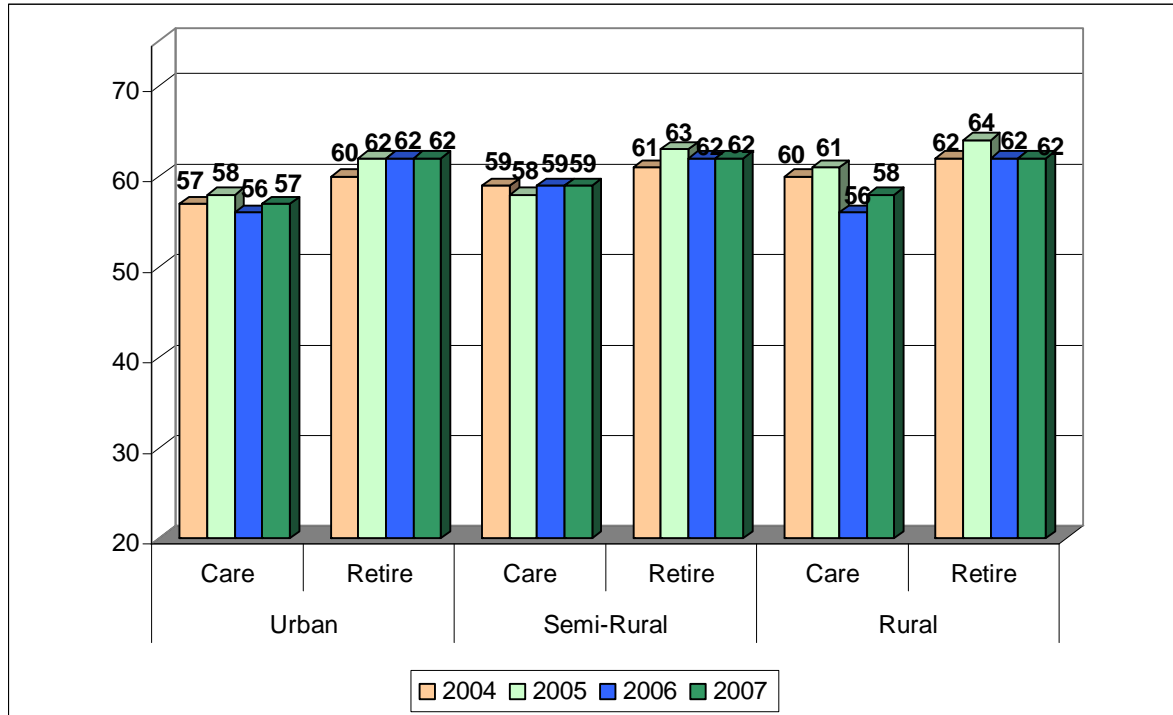
By 2017, 25 percent of LPNs are planning to have retired. Fifty percent (50%) planned to retire by 2024 and 75 percent are planning to enter retirement by 2037 (see Figure 26).

Figure 26: Cumulative Percentage of LPNs Planning to Retire by a Given Year



The age at which RNs planned to discontinue providing direct care has increased for every rurality area from 2006 to 2007. The desired age of retirement has remained constant from 2006 to 2007 (see Figure 27).

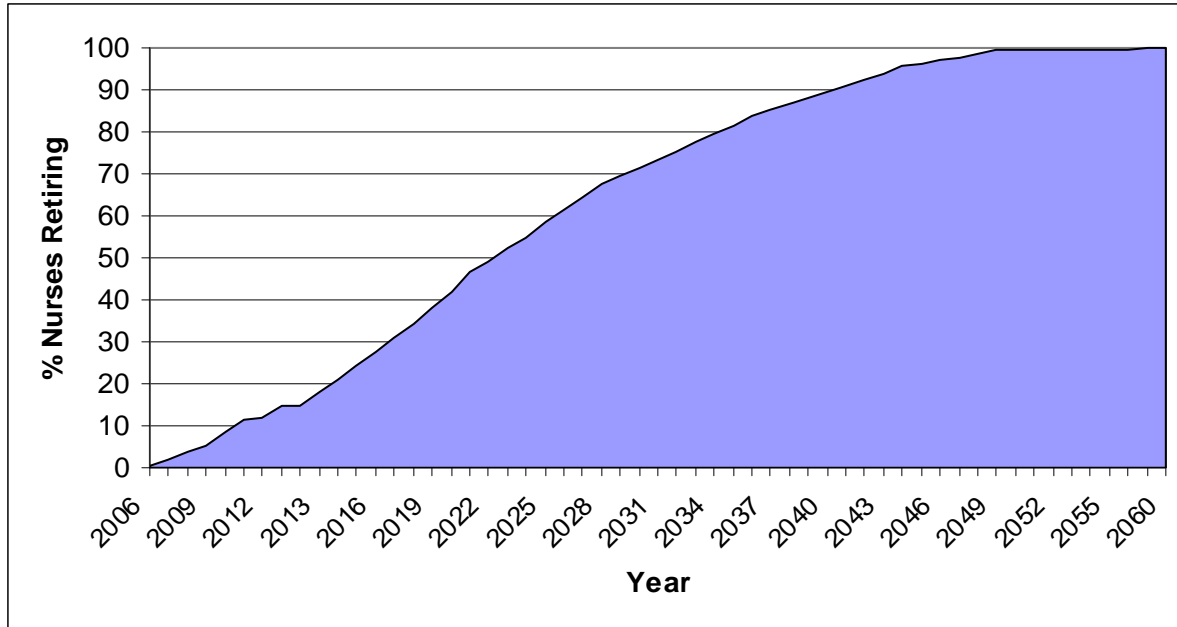
Figure 27: Four-Year Trend: Average Age at Which RNs Plan to Stop Providing Direct Care and Retire from Nursing



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

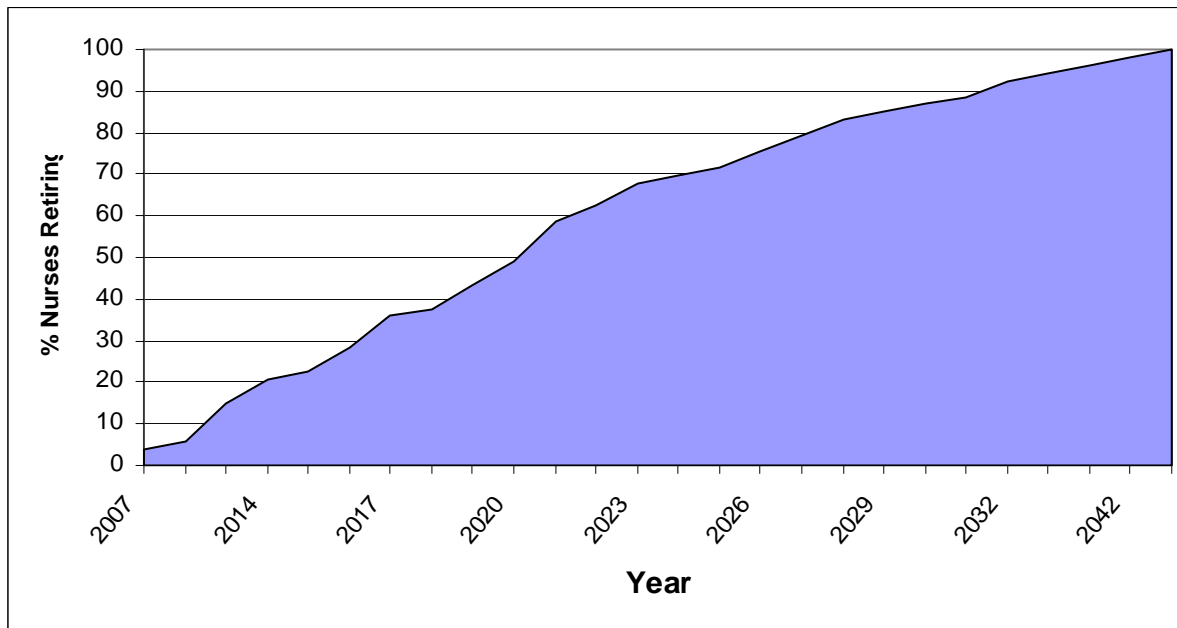
Twenty-five percent (25%) of RNs planned to have retired by 2016, while 60 percent estimated their retirement by 2027 (see Figure 28).

Figure 28: Cumulative Percentage of RNs Planning to Retire by a Given Year



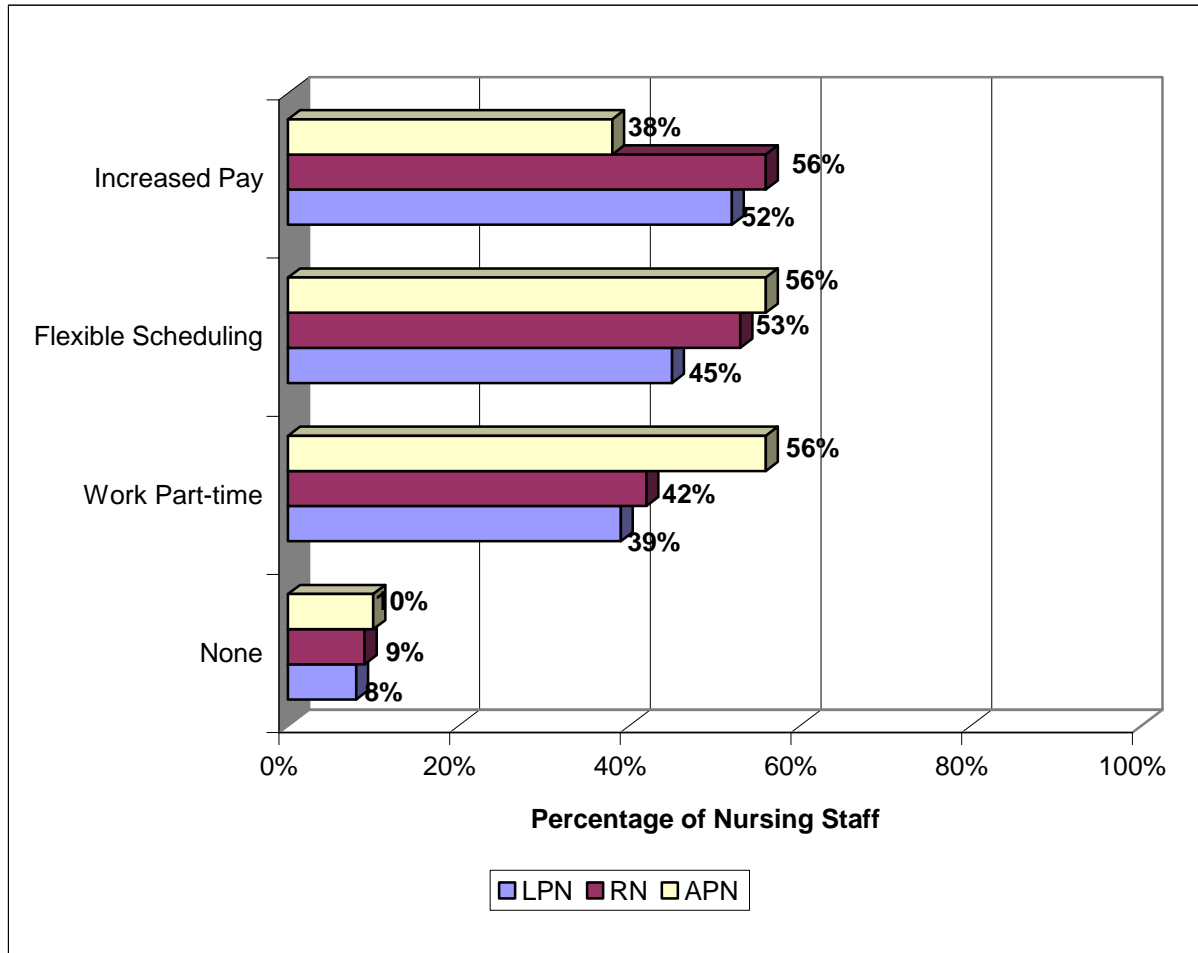
Thirty percent (30%) of APNs planned to retire by 2017 (see Figure 29). This is a considerable loss in a short period of time.

Figure 29: Cumulative Percentage of APNs Planning to Retire by a Given Year



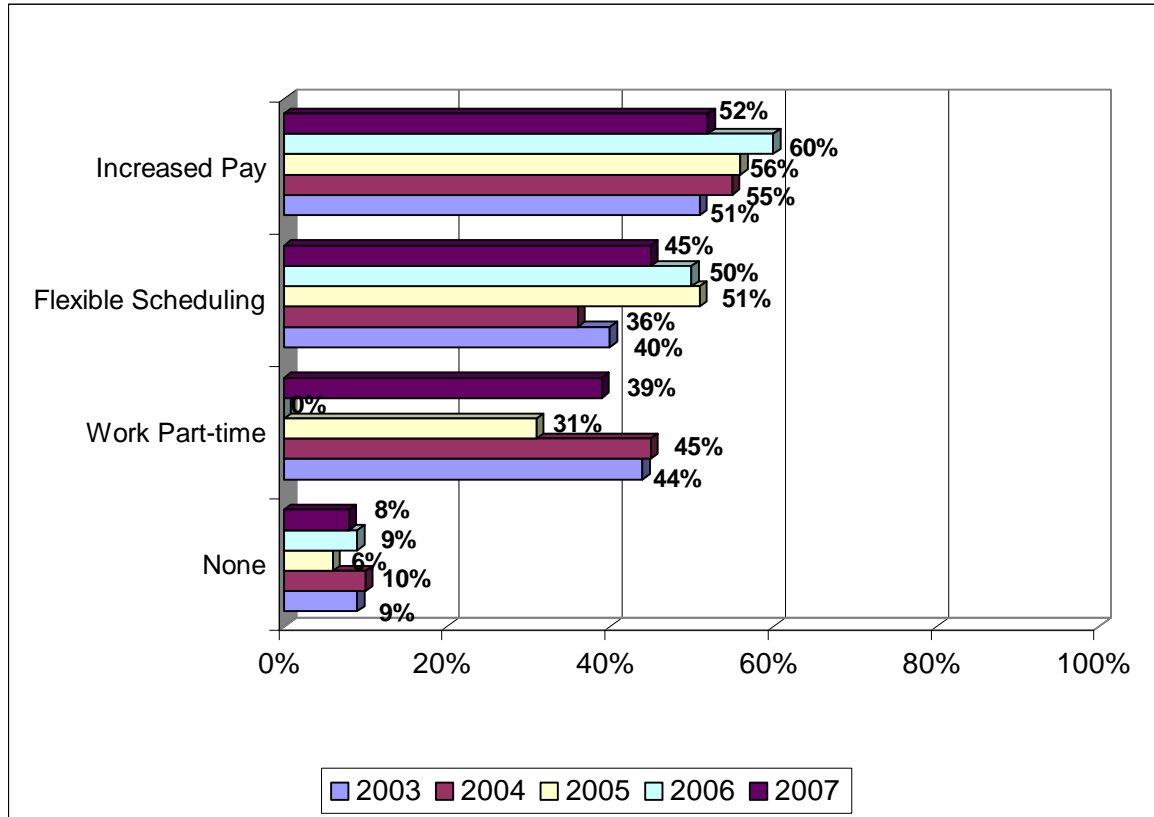
Nurses were asked about workplace change(s) that might encourage them to work longer in the profession (see figure 30). Most LPNs (52%) and RNs (56%) indicated increased pay. Many nurses, particularly APNs also indicated flexible scheduling and ability to work part-time would lead them to consider staying employed.

Figure 30: Workplace Changes That Would Delay Retirement



More LPNs indicated retaining benefits in 2003 compared to yearly data since 2007. More LPNs suggested providing less direct patients care would lead them to stay in their nursing position. Percentage of responses for all other changes decreased or remained relatively stable (see Figure 31).

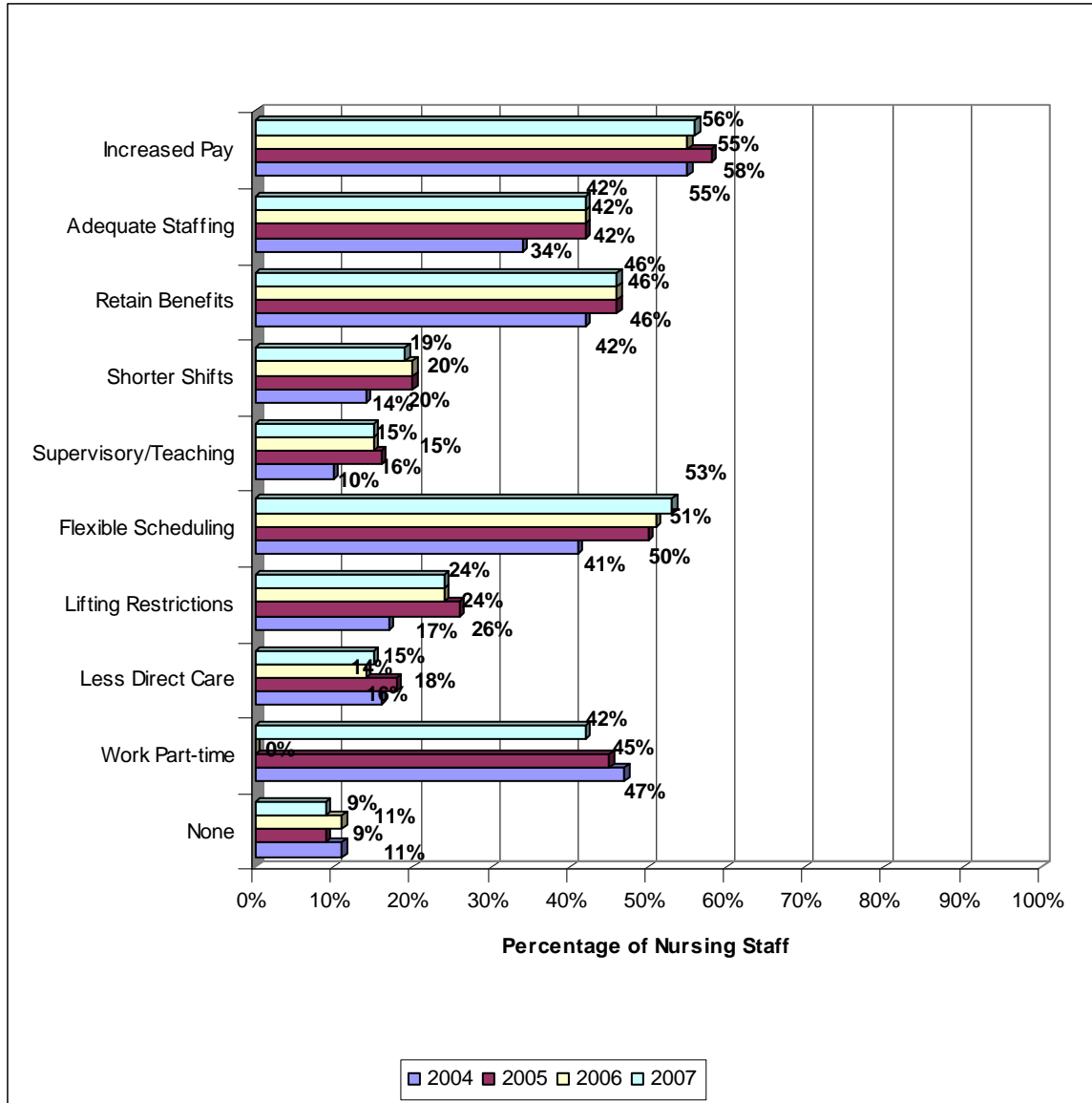
Figure 31: Four-Year Trend: LPN Workplace Changes That Would Delay Retirement



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Overall, RNs indicated that flexible scheduling would delay their expected retirement. Increased pay, adequate staffing, and retention of benefits have consistently been selected as changes that would delay retirement for nurses (see Figure 32).

Figure 32: Four-Year Trend: RN Workplace Changes that Would Delay Retirement



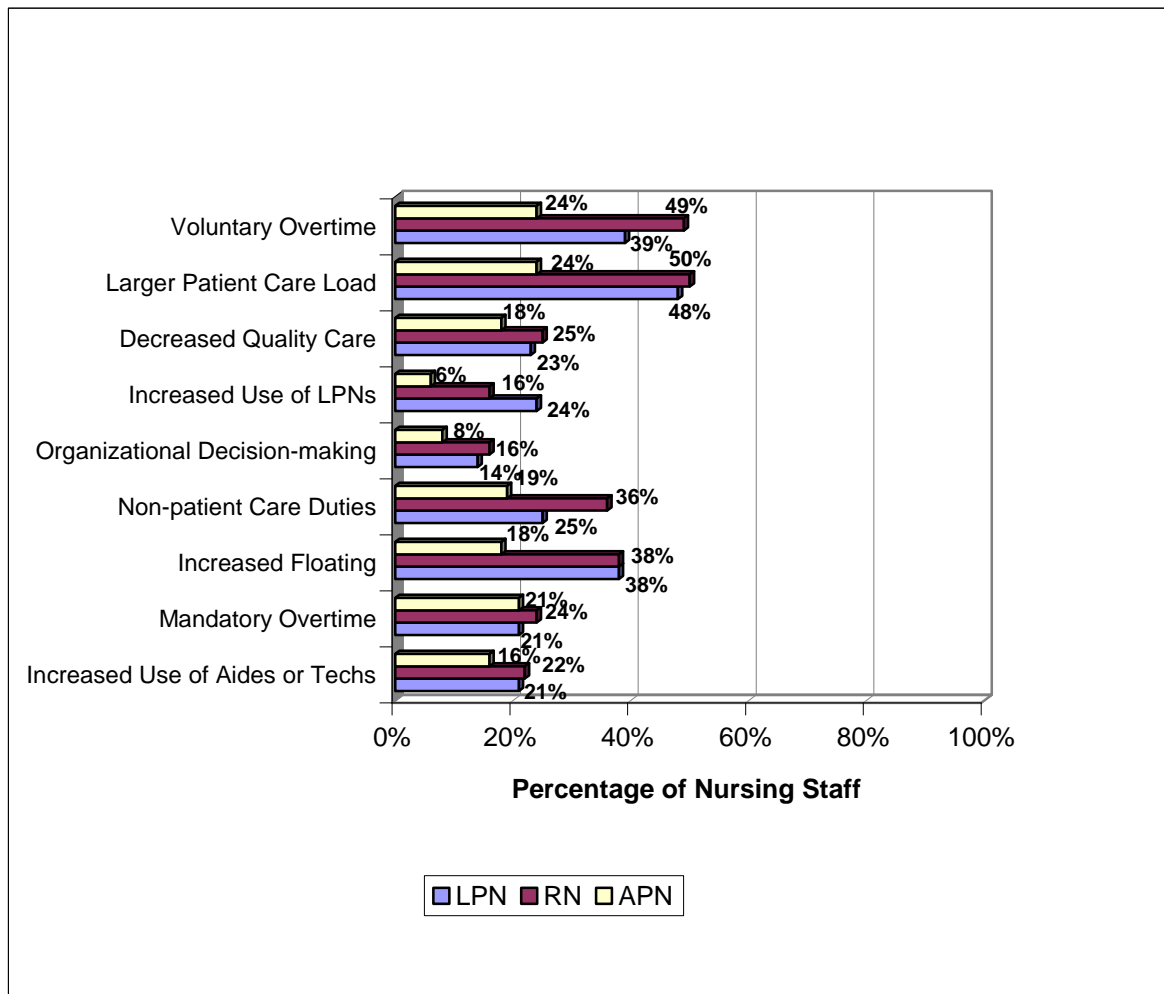
Note: Previous years' data from Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Workplace Environment

Nurses were asked about change(s) in their primary employment setting within the past two years (see figure 33). LPNs (48%), RNs (50%), and APNs (24%) all indicated larger patient care loads over the past two years along with using voluntary overtime to cover staffing needs, increased floating and non-patient care duties.

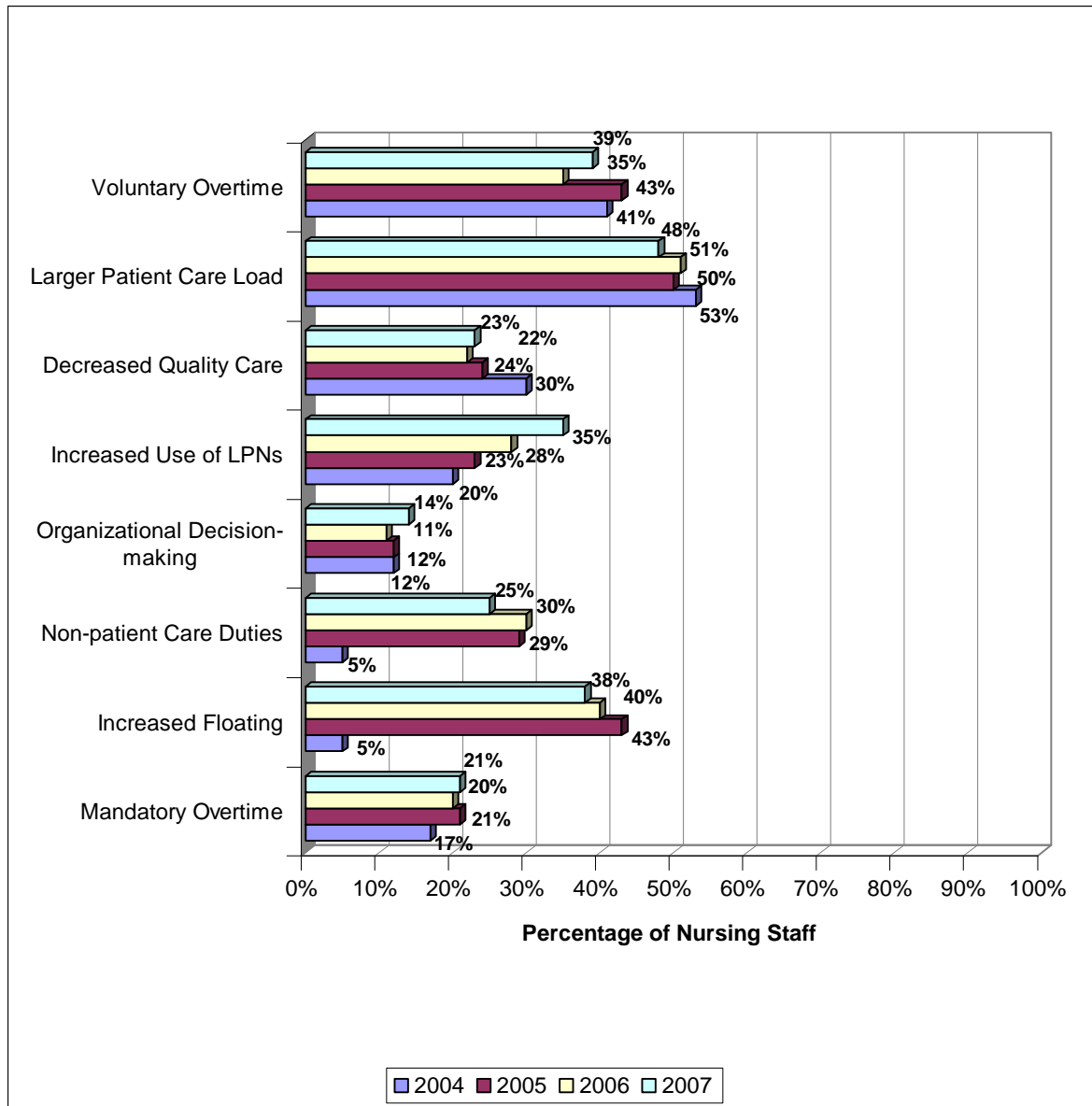
The National Survey of Registered Nurses (Nurseweek & AONE, 2002) found 68 percent of RNs had a greater number of patients, 66 percent had observed increases in overtime or double-shifts and 57 percent had observed increases in the use of agency, internal float pool, or traveling nurses. Also, 56 percent of RNs rated opportunities to influence decisions about workplace organization as fair or poor. The American Nurses Association Staffing Survey (2001) found that more than half of RNs have experienced increased patient care load, 40 percent reported increased use of “floating” between departments, and 30 percent noted mandatory overtime in their work setting in the past two years.

Figure 33: Workplace Changes Observed in the Last Two Years



The percentage of LPNs reporting an increase in patient care load has decreased in 2007. Since 2006, there has been a slight increase in both mandatory and voluntary overtime (see Figure 34).

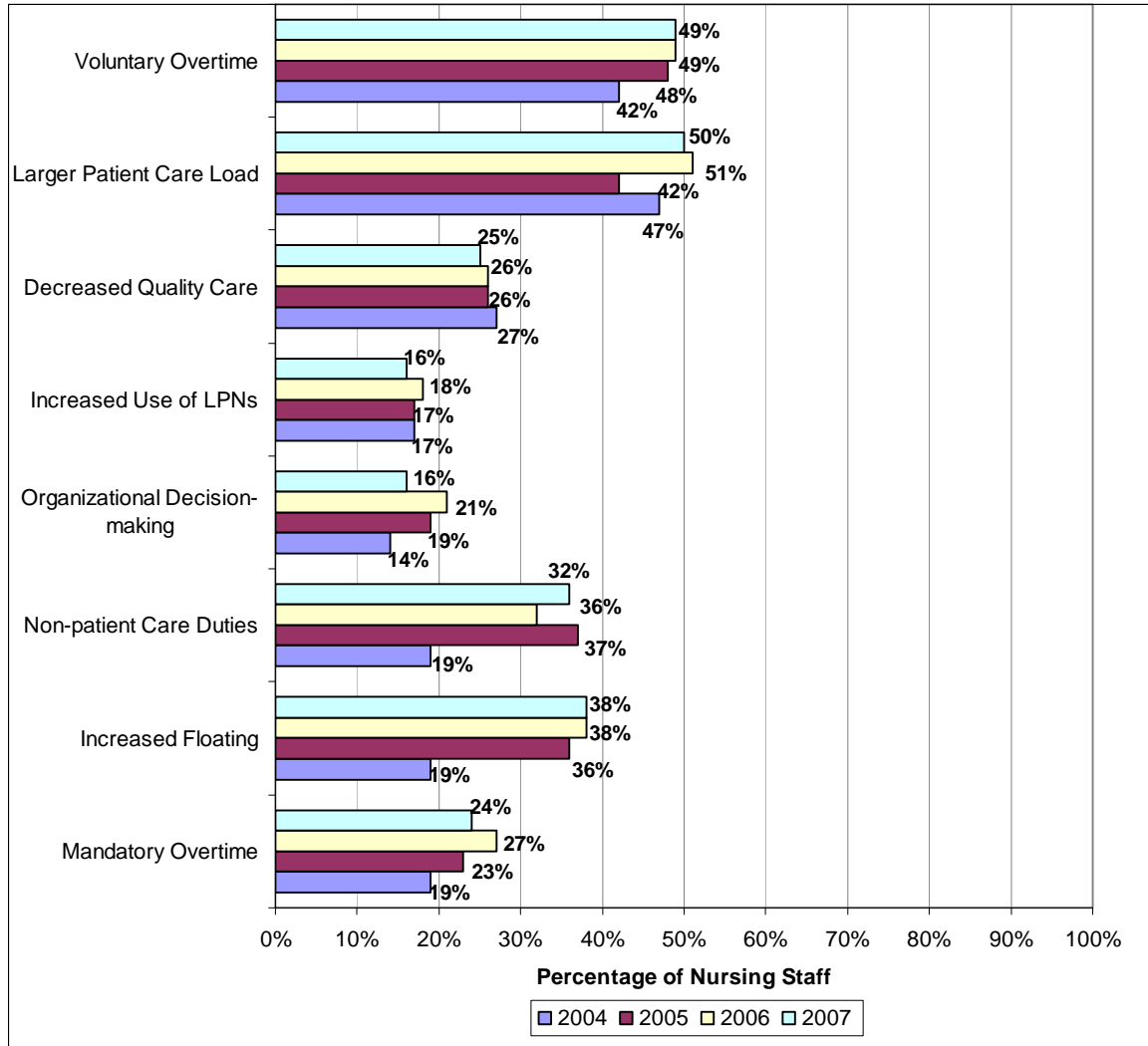
Figure 34: Four-Year Trend: Workplace Changes Observed by LPNs



Note: Previous years' data from Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

The largest percentage of RNs report voluntary overtime and larger patient care loads. RNs reported slightly more non-patient duties in 2007 when compared to 2006. Voluntary overtime and increased floated remained stable from 2006 to 2007 (see Figure 35).

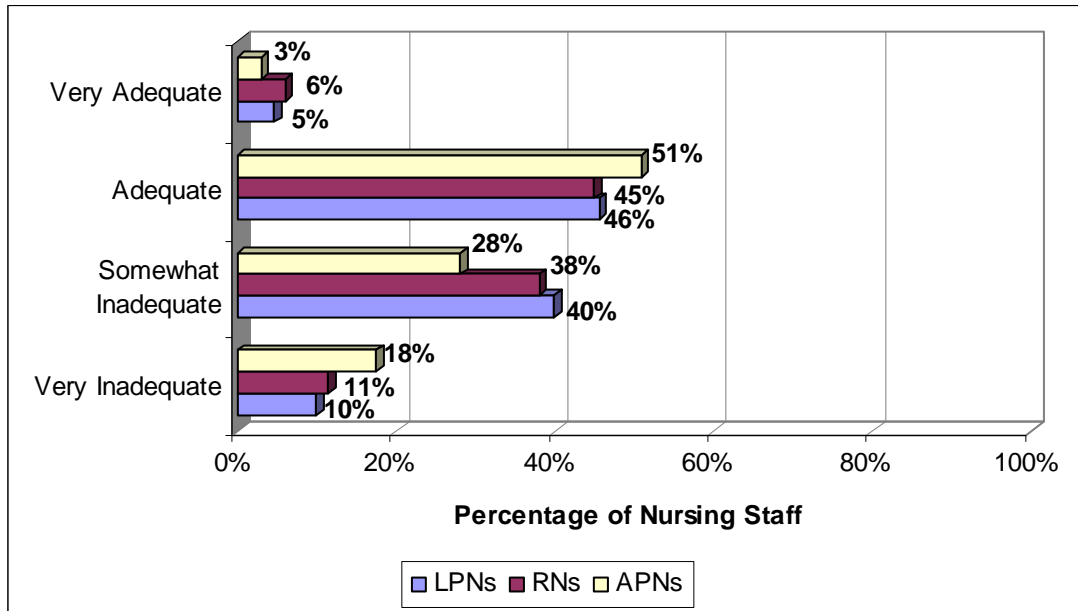
Figure 35: Four-Year Trend: Workplace Changes Observed by RNs



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

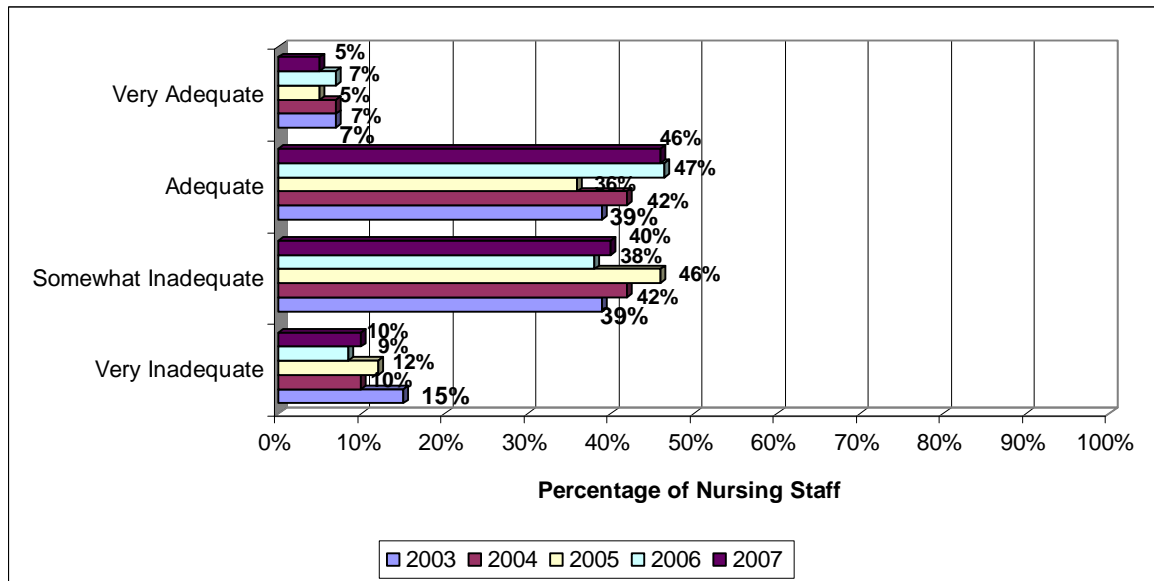
Nurses were also asked to evaluate staffing at their primary setting on a scale from very inadequate to very adequate (see Figure 36). Most LPNs (46%), RNs (45%), and APNs (51%) rated staffing as adequate.

Figure 36: Staffing Adequacy in the Primary Work Setting



From 2006 to 2007, LPN staffing adequacy remained somewhat stable. More LPNs indicated very inadequate and somewhat inadequate staffing since 2006, while adequate and very adequate staffing has decreased (see Figure 37).

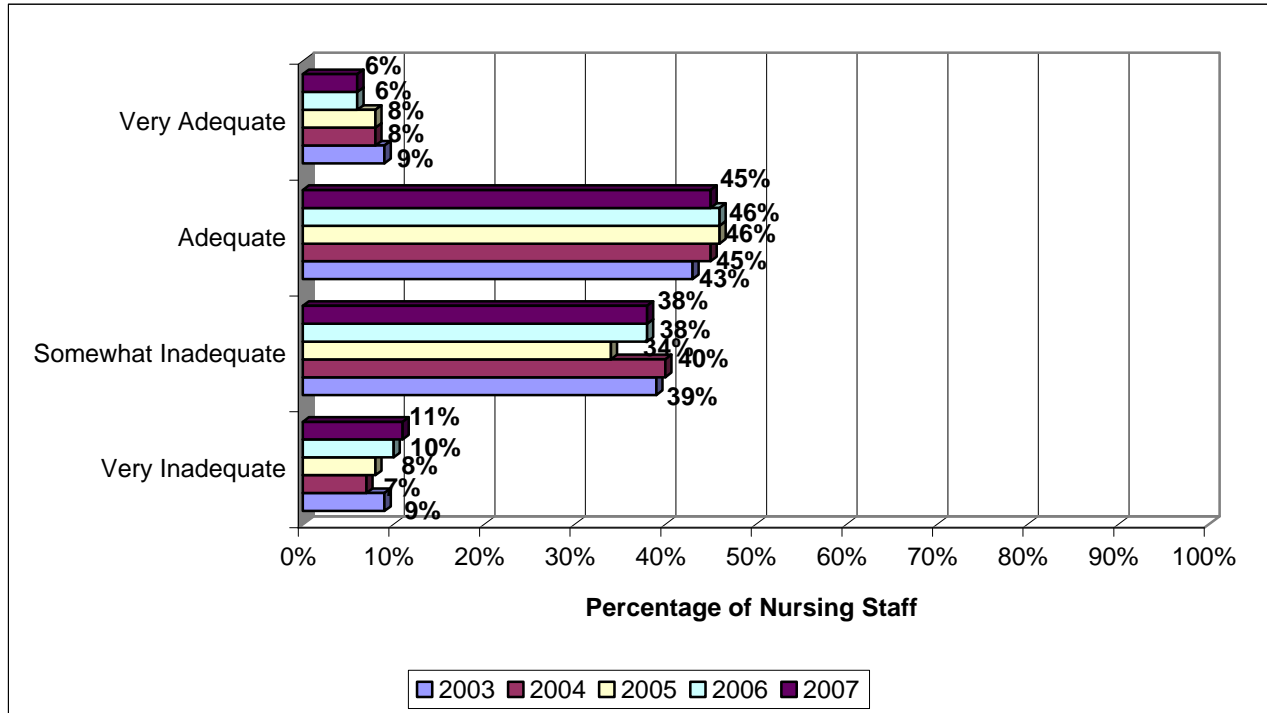
Figure 37: Five-Year Trend: LPN Staffing Adequacy in the Primary Work Setting



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

The percentage of RNs who indicated their staffing as very inadequate has decreased since 2006, while the percentage of RNs indicated their staffing very adequate has dropped steadily since 2003. Similarly, the percentage of RNs who feel staffing is very inadequate has increased steadily since 2004 (see Figure 38).

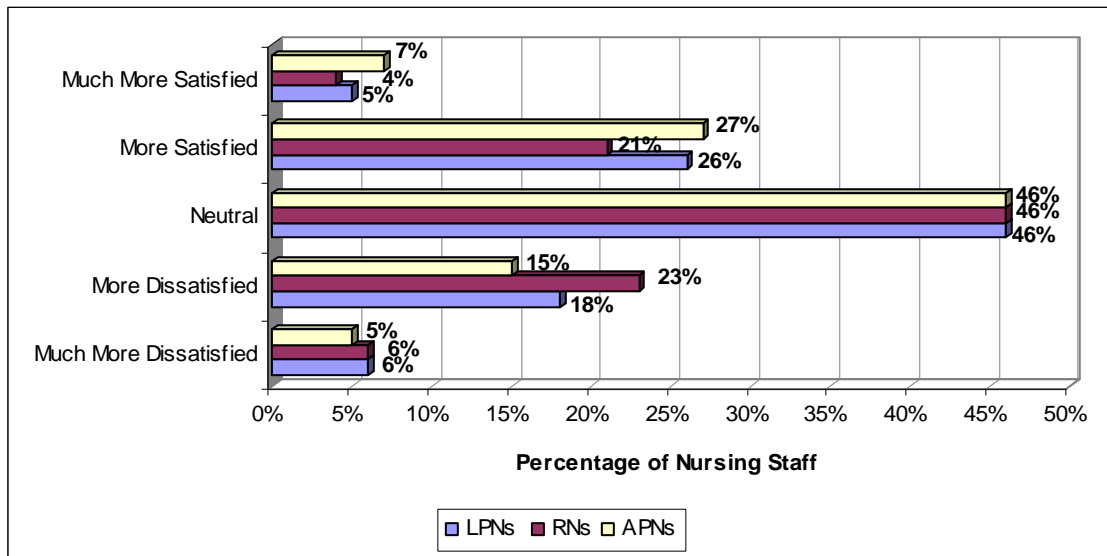
Figure 38: Five-Year Trend: RN Staffing Adequacy in the Primary Work Setting



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

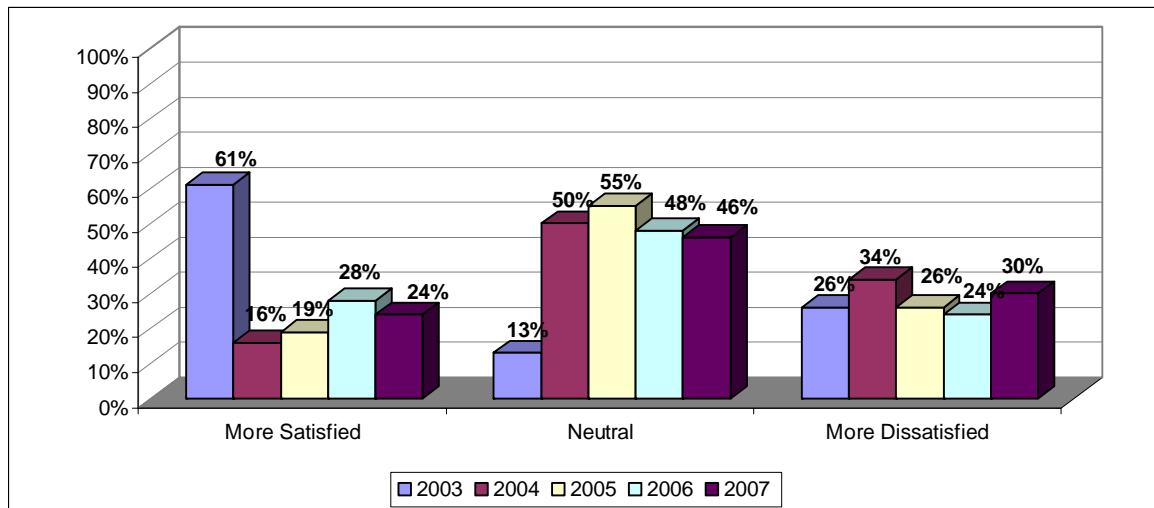
Nurses were asked to rate their overall level of satisfaction with their job this year as compared to last year on a five-point scale from much more dissatisfied to much more satisfied with their job (see figure 39). Most LPNs (46%), RNs (46%), and APNs (46%) reported feeling neither more satisfied nor more dissatisfied than last year. The National Sample Survey of Registered Nurses (Steiger, et al., 2004) found that 76 percent of nurses reported being satisfied in their current position.

Figure 39: Overall Job Satisfaction This Year as Compared to Last Year



Since 2003, substantially fewer LPNs reported feeling more satisfied with their job in the current year compared to the previous year. In 2007, LPNs report more dissatisfaction with their jobs than in 2005 and 2006. Similarly, less LPNs suggest they have a neutral or satisfied feeling regarding their job (see Figure 40).

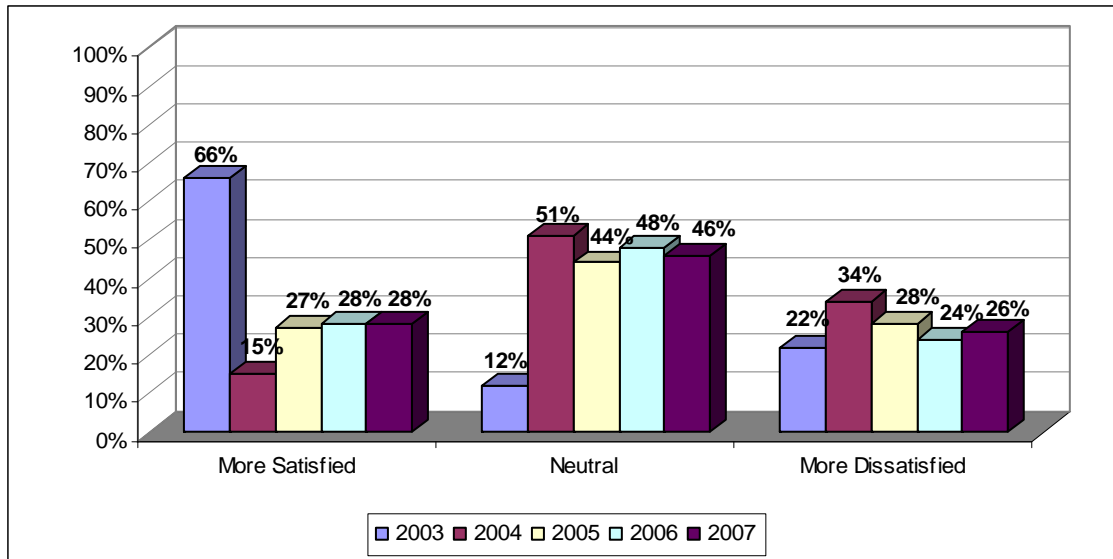
Figure 40: Four-Year Trend: LPN Job Satisfaction as Compared to Last Year



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Since 2003, more nurses shifted from being more satisfied to being neutral or dissatisfied (see Figure 41).

Figure 41: Four-Year Trend: RN Job Satisfaction as Compared to Last Year



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Nurses were also asked to rank agreement with 24 statements regarding work setting and professional role satisfaction on a one to six scale (one = strongly agree to six= strongly disagree). Most of the statements were derived from a nurse job satisfaction index (Stamps, 1997). Lower scores suggest greater satisfaction. The most similar statements clustered together to form five satisfaction scales: pay (5 statements, e.g., “my present salary is satisfactory”), autonomy (7 statements, e.g., “nursing staff has sufficient control over scheduling”), professional role (5 statements, e.g., “if I had the decision to make again, I would go into nursing”), direct care (4 statements, e.g., “I have sufficient time for direct patient care), and power structures (3 statements, e.g., “nurses are encouraged to participate in decision making...”)

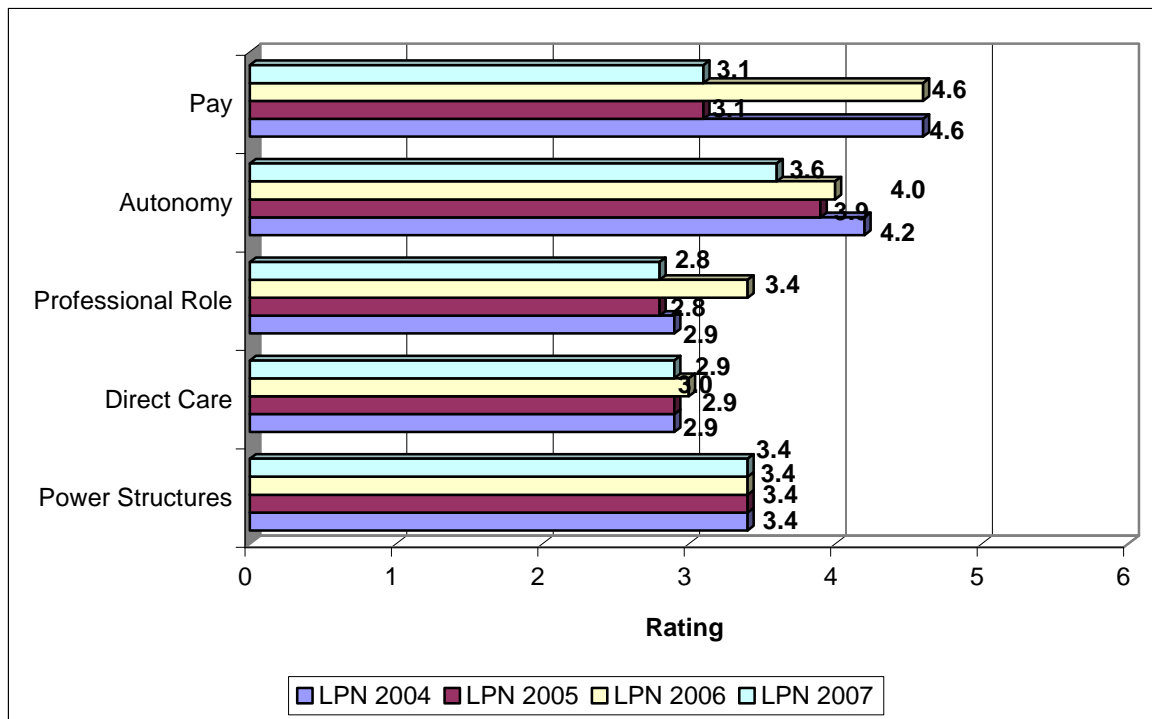
Nurses were most satisfied with the professional role (2.9) aspect of their work setting and least satisfied with the power structure (3.6) (see Table 5).

Table 5: Average Ratings of Satisfaction on Work Setting Scales

Scale Name & Nurse Level	LPN	RN	APN	Overall
Pay	3.1	3.2	3.1	3.1
Autonomy	3.6	3.4	3.5	3.5
Professional Role	2.8	2.8	3.0	2.9
Direct Care	2.9	3.1	2.9	3.0
Power Structures	3.4	3.6	3.8	3.6

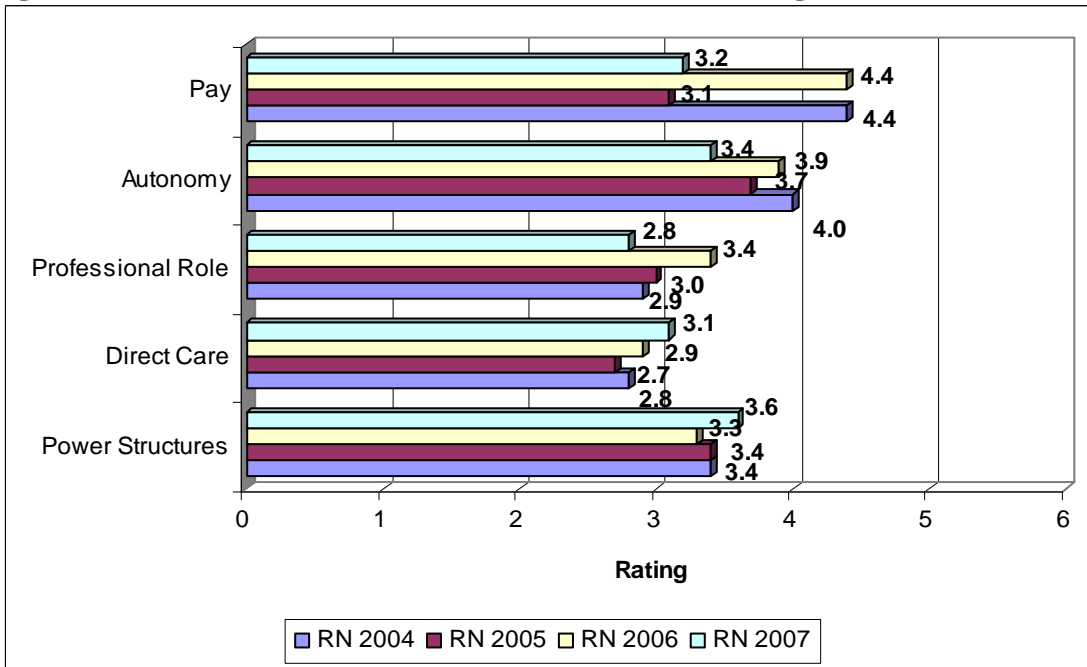
In 2007, LPNs had an increase in satisfaction (lower scores) for nearly all components of the satisfaction rating. Satisfaction with the power structure in the work environment has remained unchanged for 4 years. Overall, LPNs were more or equally satisfied in 2007 than previously. RNs were less satisfied (greater scores) in the realm of direct care and power structure compared to previous years, but were more satisfied across pay, autonomy, and professional roles (see Figures 42 and 43).

Figure 42: Four-Year Trends: Satisfaction for Work Setting Scales for LPNs



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006). Note: Lower scores indicate more satisfaction; higher scores indicate less satisfaction.

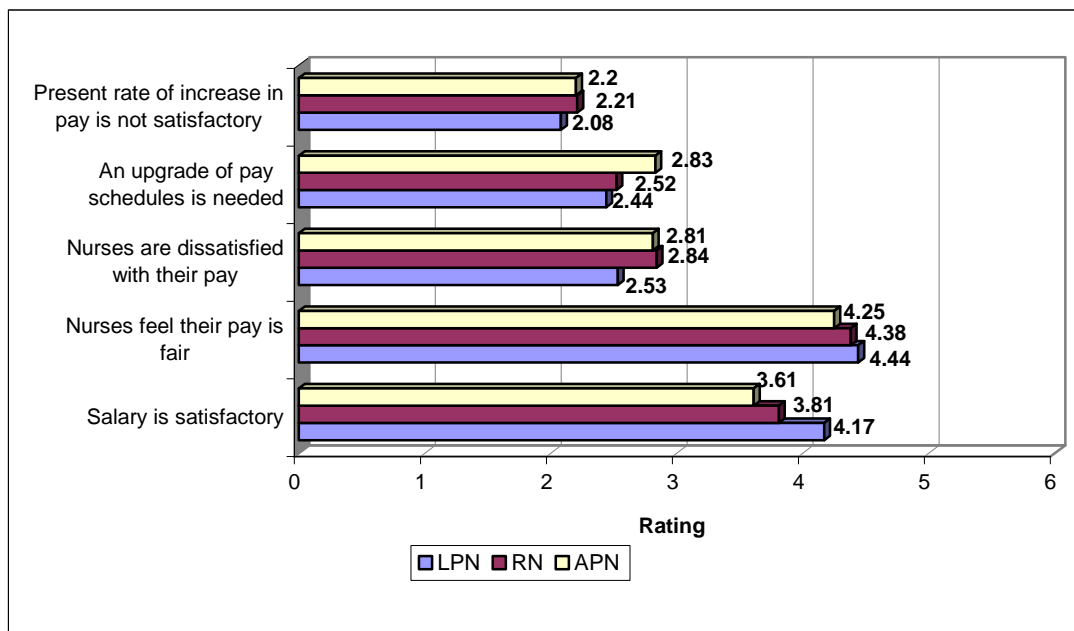
Figure 43: Four-Year Trends: Satisfaction for Work Setting Scales for RNs



Note: Previous years' data from Moulton, Christman, Dannewitz, Park, and Wakefield (2003); Bennett, Moulton, and Wakefield (2004); King, Moulton, and Wakefield (2005); and Moulton and Hanson (2006).

Questions that were collapsed into the pay scale are presented in Figure 44. Nurses most strongly agreed with the statement “Present rate of increase in pay is not satisfactory”.

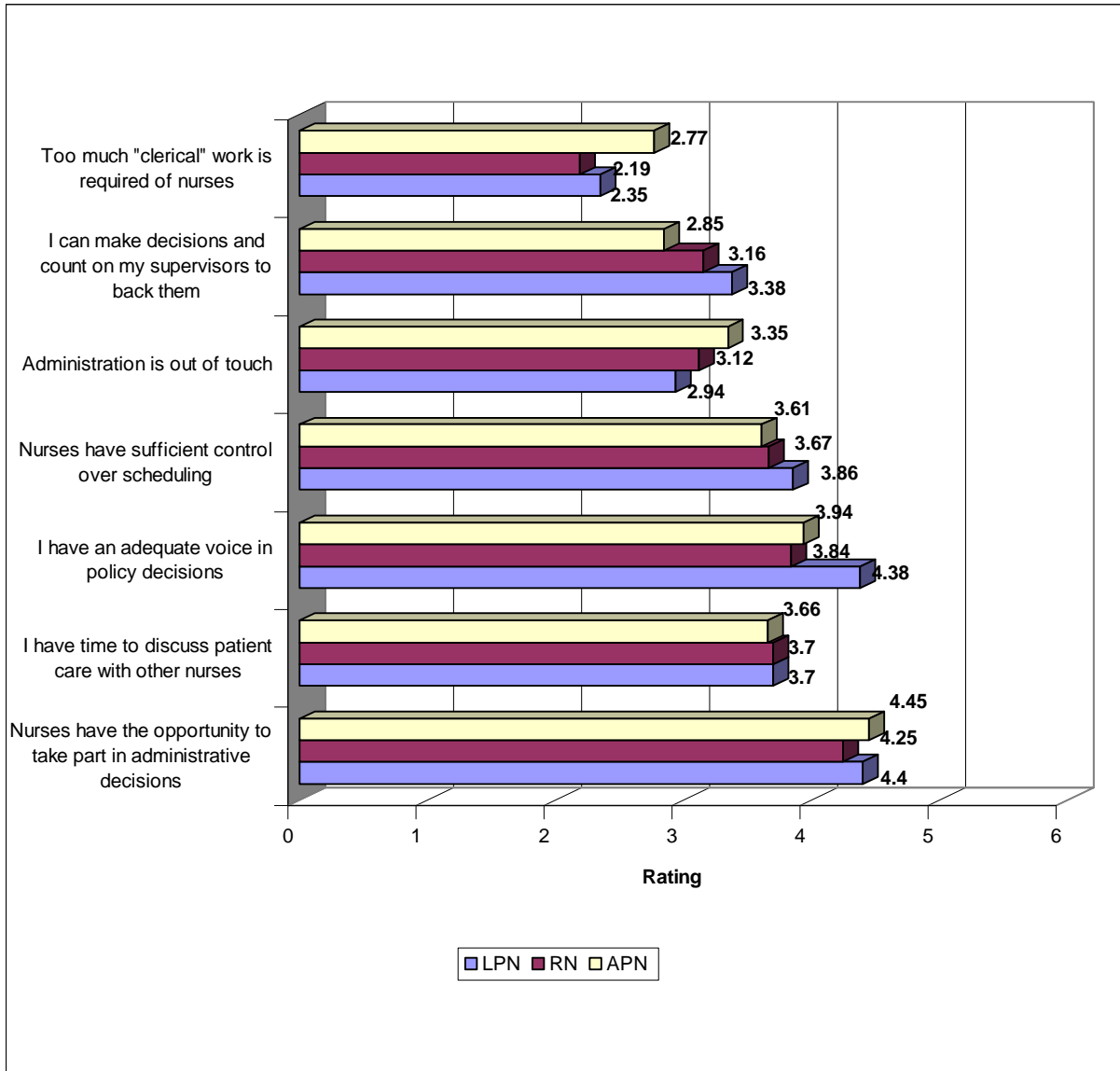
Figure 44: Individual Questions for Work Setting Scales (Pay)



Note: Lower scores indicate greater agreement with the statement.

Nurses most strongly agreed (lower score) with the statement “Too much clerical work is required of nurses” regarding autonomy (see Figure 45).

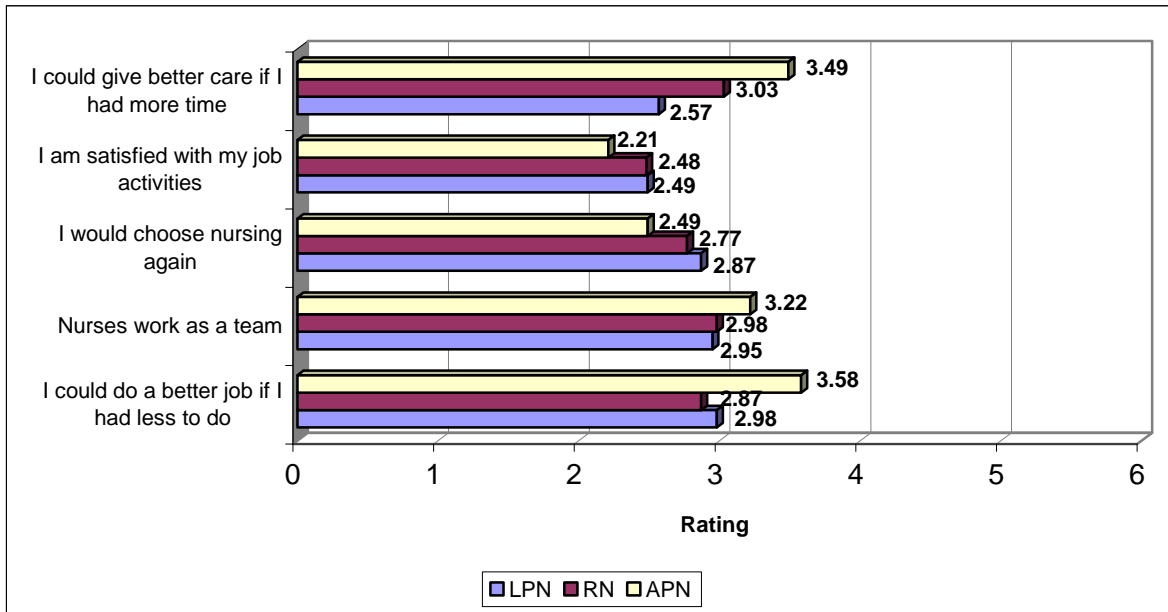
Figure 45: Individual Questions for Work Setting Scales (Autonomy)



Note: Lower scores indicate greater agreement with the statement.

Nurses most strongly agreed that they are satisfied with their job activities (see Figure 46).

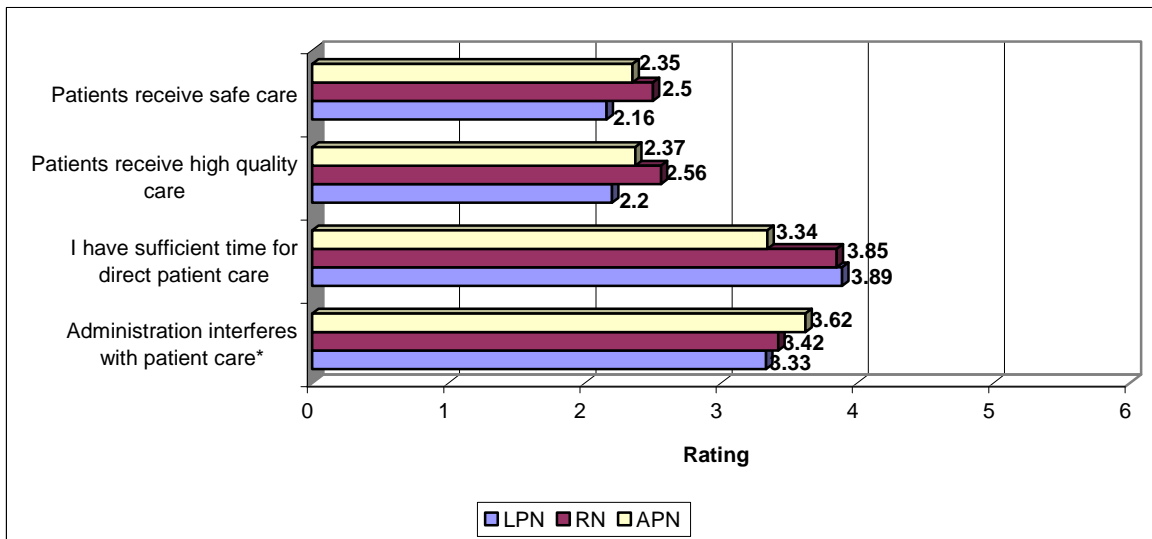
Figure 46: Individual Questions for Work Setting Scales (Professional Role)



Note: Lower scores indicate greater agreement with the statement.

Nurses most strongly agreed that “Patients receive high quality care” and “Patients receive safe care” (see Figure 47).

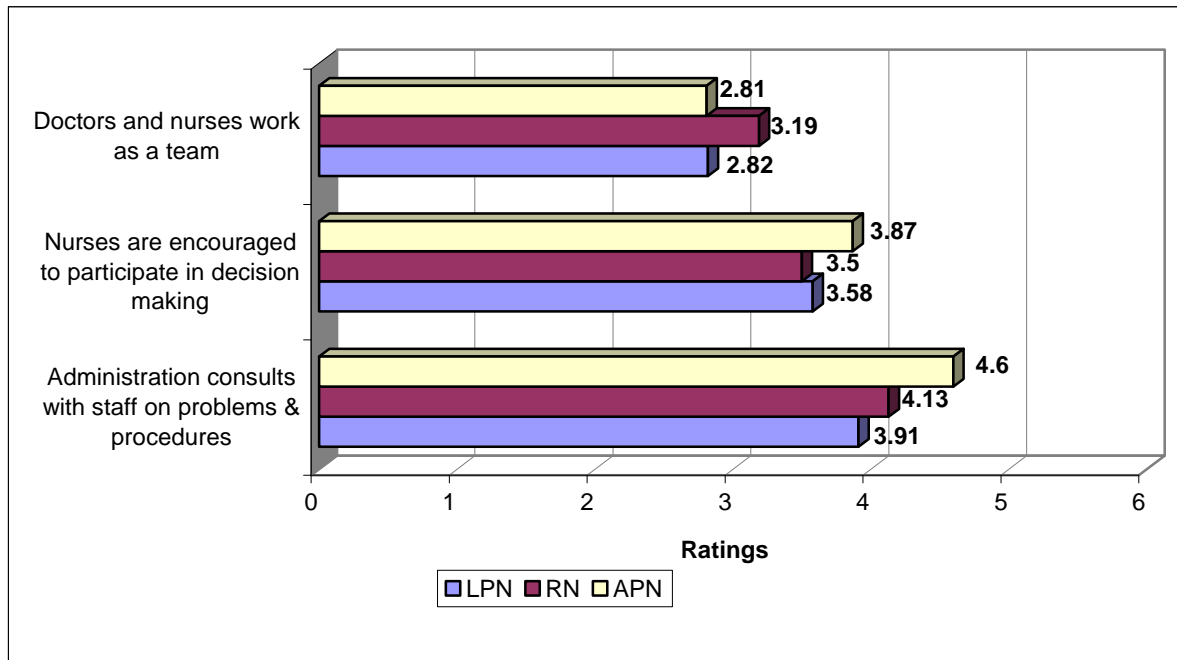
Figure 47: Individual Questions for Work Setting Scales (Direct Care)



Note: Lower scores indicate greater agreement with the statement.

With regard to the power structure at their facility, nurses most strongly agreed that “Doctors and nurses work as a team” (see Figure 48).

Figure 48: Individual Questions for Work Setting Scales (Power Structure)

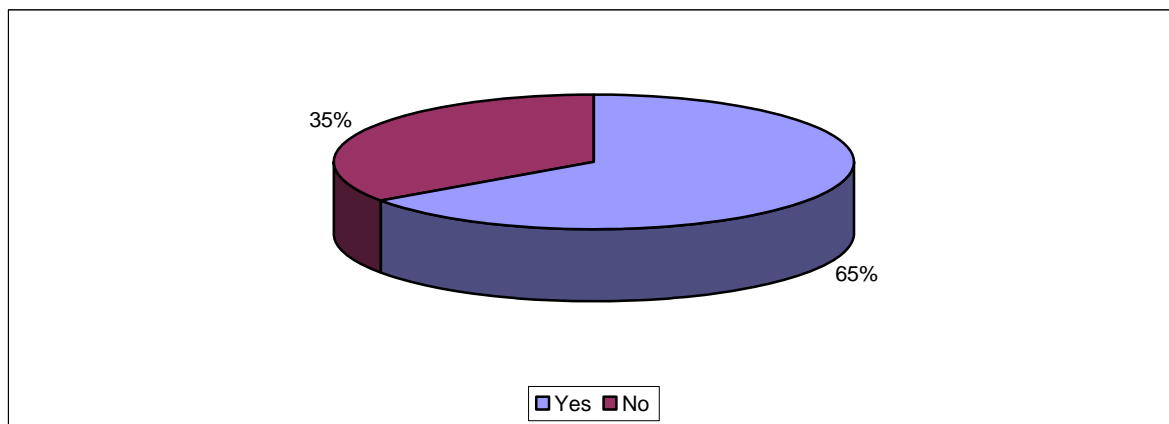


Note: Lower scores indicate greater agreement with the statement.

Continuing Education

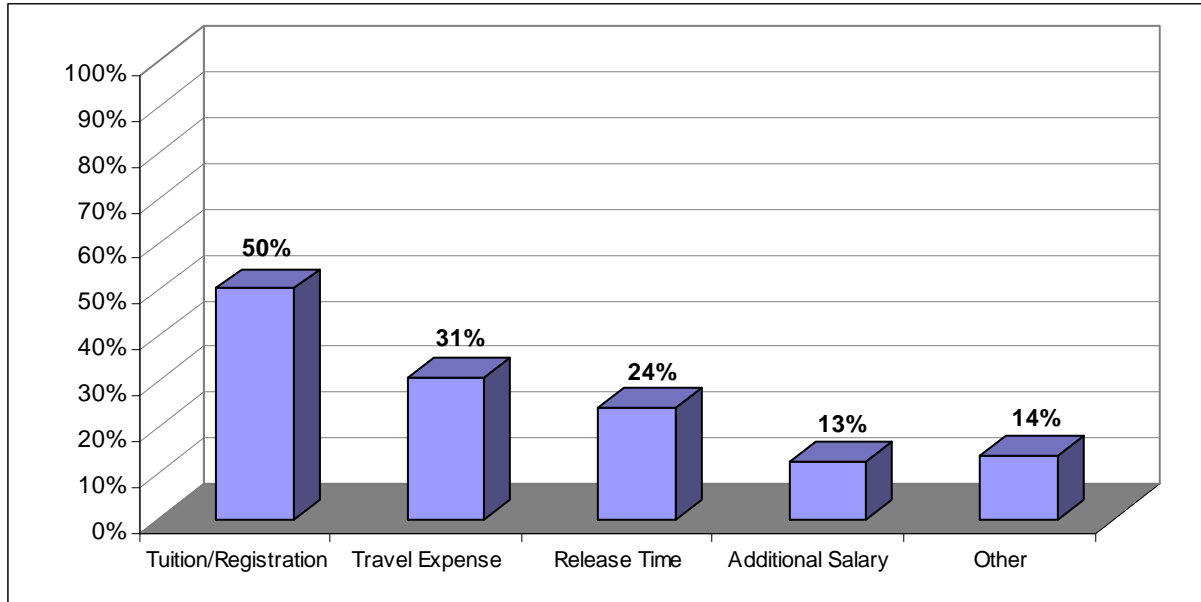
Nurses were asked several questions about continuing education availability and support for receiving this education. Thirty-five percent (35%) of nurses identified that their facility provided financial support for continuing education (CE) (see Figure 49).

Figure 49: Financial Support for Continuing Education (CE) from Workplace.



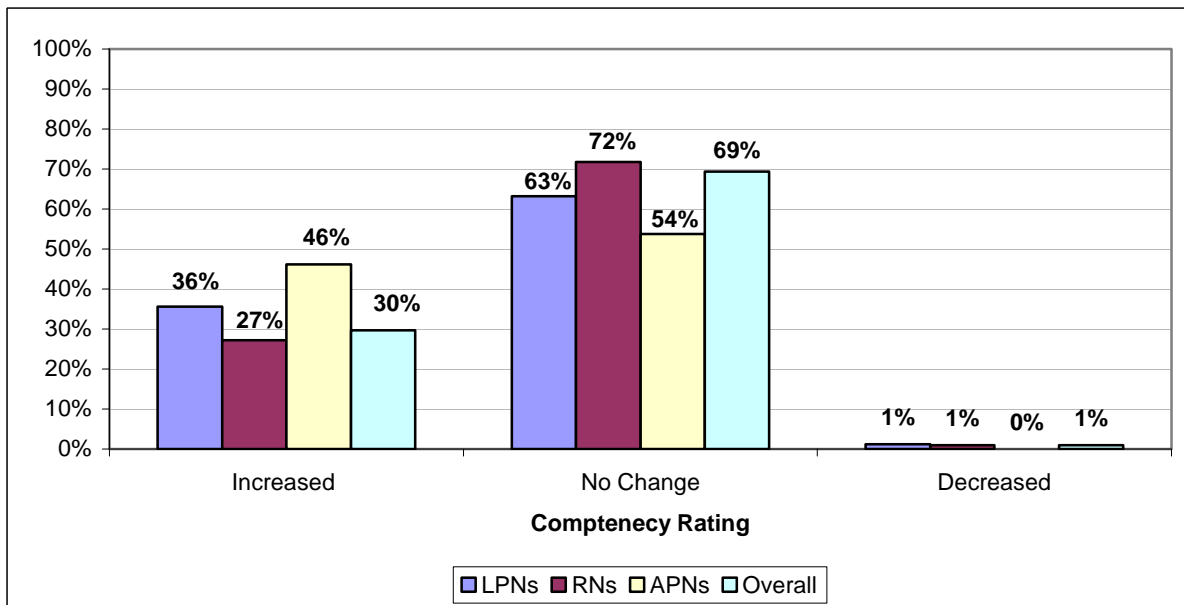
Nurses were asked what type of support their facility provided for CE. Fifty percent (50%) indicated their facility covers tuition and/or registration costs (see Figure 50).

Figure 50: Types of Support for Continuing Education



Nurses were asked how mandatory CE has impacted the competency of nurses. Most nurses suggested there has been no change in nurse competency (see Figure 51).

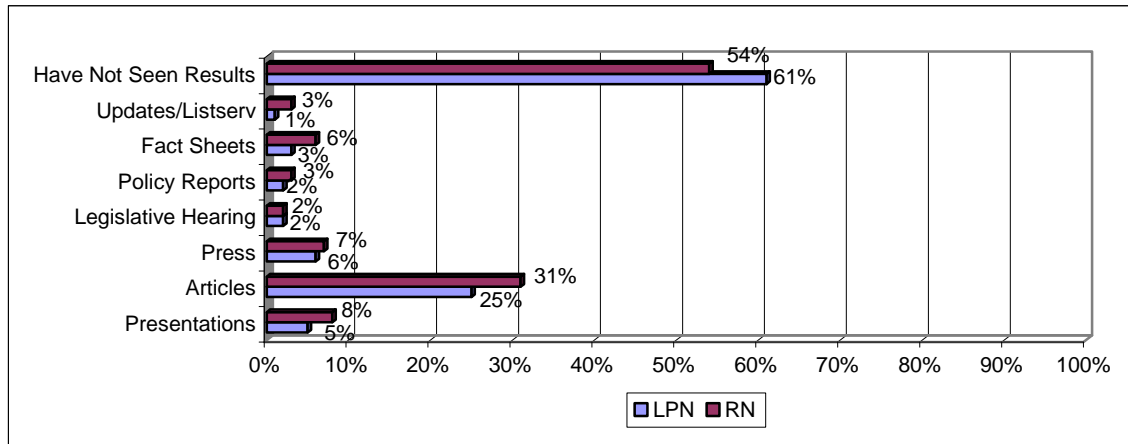
Figure 51: Nurses Perception of the Competency of Nurses since the Implementation of Mandatory Continuing Education



IMPACT AND USE OF THE NURSING NEEDS STUDY

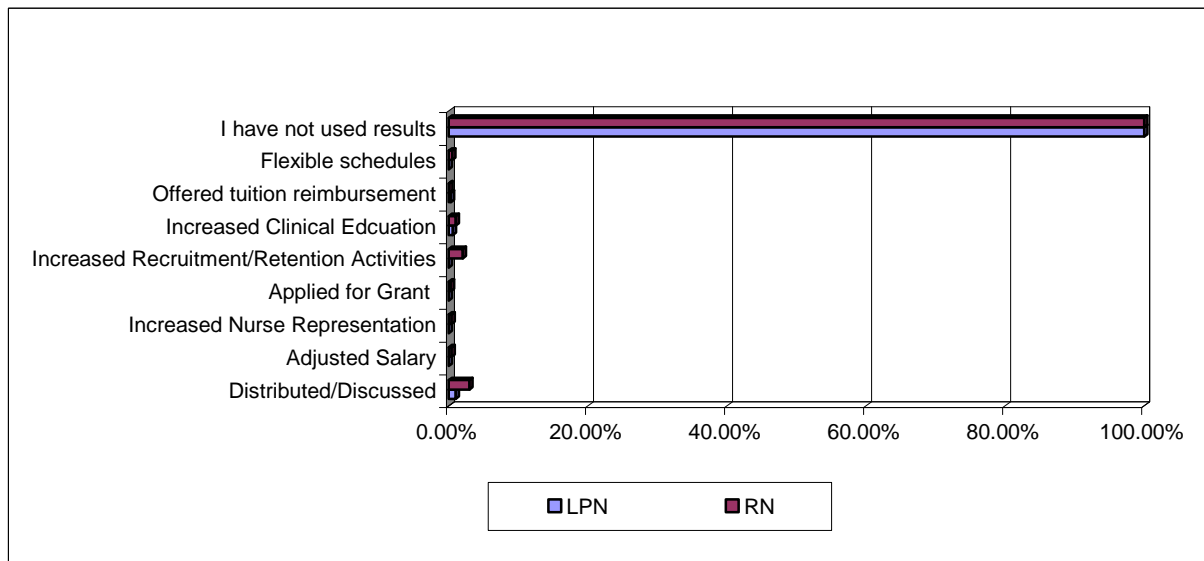
Nurses were asked to indicate how they have seen the results of the Nursing Needs Study. The majority of nurses have not seen the results of the study (see Figure 52). About one-third of nurses have seen results articles in professional newsletters (e.g., North Dakota Board of Nursing Dakota Nurse Connection, North Dakota Nurses Association Prairie Rose, and The Informer).

Figure 52: Ways in which the Nursing Need Study has been Disseminated



Nurses were also asked to indicate how they have used the results of the Nursing Needs Study. All respondents indicated that they had not utilized the results of the study. A few nurses did indicate that their facility has used the results to increase recruitment/retention activities, increase clinical education and have distributed or discussed the results (see Figure 53).

Figure 53: Use of the Nursing Needs Study



SURVEY CONCLUSIONS AND POLICY RECOMMENDATIONS

Overall, income for LPNs has decreased, while income for RNs has increased. However, rural RNs reported an income 13 percent lower than that reported by RNs in urban settings. This large difference emphasizes the need to work toward equivalent pay scales across areas of the state. Additionally, nurses in North Dakota reported incomes substantially less than the national average across each nursing level.

Education of the next generation of nursing staff will be an essential element to transitioning new nurses into the field. Though still higher than 2004's numbers, the percentage of nurses who reported interest in a faculty role remained steady at 19 percent for RNs, and decreased slightly for LPNs to 9 percent. Barriers to a faculty position have not changed markedly as a personal lack of interest and a lack of interest in obtaining the required education continued to represent that majority reason for not teaching at the post-high school level.

Nurses' expected age to end direct care and retire from nursing emphasize workforce concerns. The average age of LPNs was 42 and the average age of RN is 44, which are both similar to the average age of nurses in the U.S. Most LPNs and RNs have been working in their primary nursing setting for 1-5 years, while most APNs reported working in their primary work setting for 6-10 years. Nurses in urban areas plan to stop providing direct care earlier than nurses in semi-rural and rural areas. Additionally, 25-30 percent of RNs, LPNs, and APNs plan to retire in the next 10 years. Nurses cited increased pay, flexible scheduling, and ability to work part time as the changes that would most likely delay retirement.

Compared to last year's data, more LPNs and RNs reported being more dissatisfied with their nursing job than the previous year. Nurses remain satisfied with their autonomy in their nursing positions. Steps taken by facilities to improve these situations would likely result in higher job satisfaction among nurses, which could prevent early retirement for many nurses. The majority of nurses indicated that their workplace provided financial support for continuing education. Most nurses received tuition and/or registration and travel expense support. Overall, nearly 70 percent of nurses indicated they feel there has been no change in competency since the implementation of mandatory continuing education.

Specific Policy Recommendations

- Increase recruitment and retention rates among under-represented populations.
- Continue working toward equivalent pay scales for nurses working in rural and urban areas.
- Implement recruitment, retention, and education programs designed to address the loss of one-third of the APN workforce in the next 10 years.
- Design programs to retain older nurses in order to increase the number of years that nurses are working and providing direct care.

LICENSED NURSE SURVEY METHOD

The licensed nurse survey was designed to examine recruitment and retention issues. This survey was developed using the minimum data set from the Colleagues in Caring project (2002) and questions were also derived from the National Sample Survey of Registered Nurses (Spratley et al., 2000), the National Survey of Registered Nurses (Nurseweek & AONE, 2002), the American Nurses Association Staffing Survey (2001), and other state nursing surveys.

Nurses responded to the survey online when renewing for their nursing licenses. Percentages were calculated using the total number of nurses that completed each item and rounded to the nearest percentile. Where possible, data are compared with national numbers. When appropriate, data was also divided by Urban Influence Codes (Ghelfi & Parker, 1997). Urban Influence Codes are used to classify rurality of U.S. counties according to the size of neighboring metropolitan areas, proximity to metropolitan areas, and the population of the largest city within the county. There are 12 Urban Influence Codes including 2 metropolitan county categories and 10 non-metropolitan county categories (U.S. Department of Agriculture, 2003). Due to the rural nature of the state, several of the categories include no counties of North Dakota, and some categories have only a small number of the state's counties included. Therefore, North Dakota counties were collapsed as follows into three larger categories based upon their Urban Influence Codes.

- **Urban counties:** Small metropolitan counties (fewer than one million residents) (four North Dakota counties, 2003 Urban Influence Code = 2).
- **Semi-rural counties:** Non-metropolitan counties with a town of at least 2,500 residents adjacent or not adjacent to a small metropolitan county (36 North Dakota counties, 2003 Urban Influence Code = 3-11).
- **Rural counties:** Counties that do not contain a town with at least 2,500 residents and are not adjacent to a small metropolitan area (13 North Dakota counties, 2003 Urban Influence Code = 12).

Home zip codes were collected for each individual, and the sample represented nurses from urban, semi-rural, and rural areas of North Dakota. A total of 1,449 nurses reported the information necessary to determine the rurality of their geographic area. Of those, 810 were from urban areas, 545 were from semi-rural areas, and 93 were from rural areas (see Table 1).

Table 6: Number of participants by Urban-Rural Status

<u>Nurse Level</u>	Urban	Semi-Rural	Rural	<i>Total</i>
LPN	144	129	26	299
RN	634	395	59	1088
APN	32	21	8	61
<i>Total</i>	810	545	93	1449

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