



Nebraska Center for Nursing

Annual Report 2010

Department of Health & Human Services



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Welcome Diana Baker

You will notice that this year's annual report is over the signature of Diana Baker, RN, MSN. Diana joined the Nursing Division as the Executive Director of the Nebraska Board of Nursing and as such has the administrative support responsibilities to the Board of Nursing and the Center for Nursing Board. Diana joined the staff about a year ago as the replacement to Dr. Charlene Kelly. Diana came to Nebraska from Utah where she most recently was working with credentialing of nurses, pharmacists and physicians.



She also was an instructor/administrator of an Associate Degree Nursing Program. Prior to that Diana was a staff nurse (both as an LPN and RN) at Immanuel Medical Center in Omaha. She received her RN, her BSN and her MSN from Clarkson College, Omaha.

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EXECUTIVE SUMMARY

The Nebraska Center for Nursing (CFN) has been collecting and analyzing nursing workforce data since the year 2000. This valuable collection of information has allowed the Center to closely monitor the needs for nursing practitioners in the State of Nebraska. Monitoring the status of the nursing workforce in the state of Nebraska is one of the most important objectives of the Nebraska Center for Nursing.

It is expected that all 50 states will experience a shortage of nurses by the year 2015. It is our mission to keep the public and policy-makers informed of our efforts, as well as the severity of the nursing shortage in Nebraska.

According to the national nursing workforce statistics released in July 2009, the nursing shortage is projected to grow to 260,000 RNs by 2025¹. Our own studies conducted at the CFN indicate that the projected demand for registered nurses will exceed the supply in coming years.

One of the major threats to the current and future nursing shortage is the aging of the nursing population which will raise retirement rates to a higher level than the workforce replacement with new nurses. In Nebraska, this major threat will especially impact rural areas, where the current average age of nurses is three years older than in metropolitan areas. Rural areas are also currently threatened by a deeper nursing shortage than urban areas.

Nursing enrollments and graduations have steadily increased since 2001. A 83.4% enrollment increase has been achieved between 2001 and 2009. Graduation rates have increased 93.1% since 2001.

The largest percentage of nurses is employed at hospitals (58%)². Demand there will continue. However, the Center for Nursing predicts more nurses will be needed in other areas as the range of healthcare settings and the delivery of healthcare services expands.

The supply of nurses needs to increase. This has proven to be a slow process; therefore increasing nursing supply is imperative for the State of Nebraska to avoid greater nursing

Nursing professionals represent over 40% of the total health care workforce in the State of Nebraska.

The supply and demand models project a nursing shortage of nearly 5,600 nurses (LPNs and RNs) in the State of Nebraska by 2020.

Rural areas in Nebraska are facing nursing shortages that are more critical than urban areas. It is calculated that over 100,000 inhabitants in rural Nebraska have a lower rate of nurses than those living in metropolitan areas.

¹ Buerhaus, P.I., Auerbach, D.I. & Staiger, D.O. (2009). The recent surge in nurse employment: Causes and implications. *Health Affairs*, 28 (4), w657-w668.

² Based on 2008 RN Renewal Survey.

shortages in the next decade, especially in rural communities. Some of the measures to increase nursing supply are reversing net out-migration trends, getting more men and minorities into nursing, getting more applicants into schools and by increasing graduation rates. The board and staff of the Nebraska Center for Nursing have developed a Strategic Plan 2010-2015 which addresses these needs to deter the nursing shortage. Specific goals and strategies to address these needs can be found in the Appendix.

We invite you to read the information on the pages that follow and learn more about the current status of the nursing workforce in the State of Nebraska.

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ACKNOWLEDGMENTS

The Nebraska Center for Nursing appreciates all the assistance and support that has been provided by the **Nebraska Board of Nursing** to accomplish its goals over the last ten years. Due to their commitment and hard work the State of Nebraska has become a better place for the nursing workforce.

Special thanks to the following **nursing education programs** in Nebraska that provided important information about their nursing students:

- Bryan/LGH College of Nursing
- Central Community College
- Clarkson College
- College of Saint Mary
- Creighton University
- Kaplan University
- Metropolitan Community College
- Midland Lutheran College
- Mid-Plains Community College
- Nebraska Methodist College
- Nebraska Wesleyan University
- Northeast Community College
- Southeast Community College
- Union College
- UNMC College of Nursing
- Western Nebraska Community College

We would like to take this occasion to thank the thousands of **nurses and employers**, whose work provides care and promotes health for Nebraskans across the state. Without their cooperation and support, we would not have the data needed to determine key initiatives to address the nursing shortage in the State of Nebraska.

Nebraska Center for Nursing Board Members 2009-2010



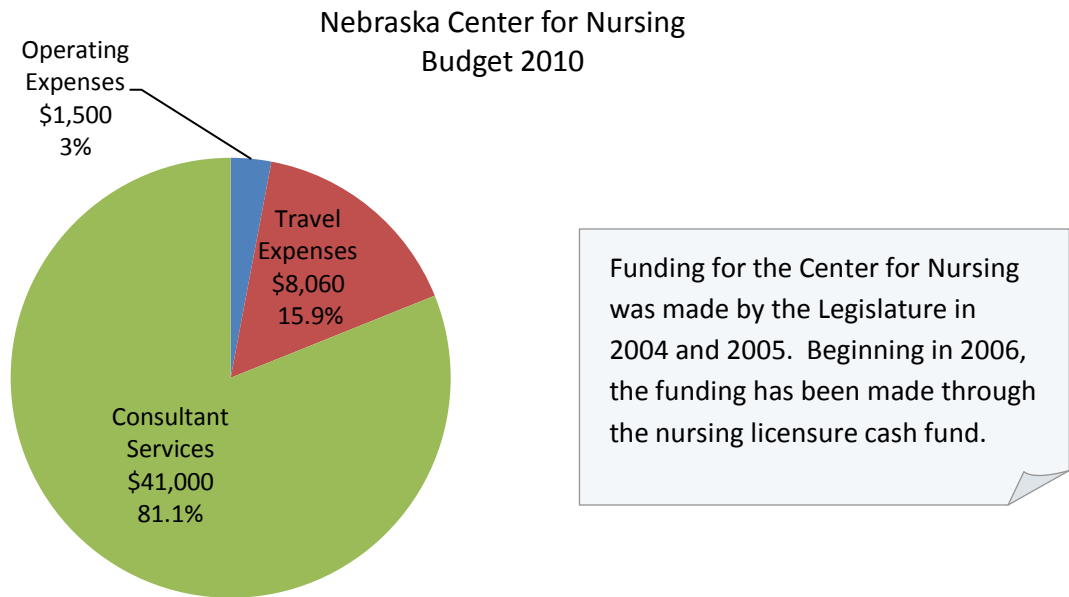
From left to right: Pamela List, Mary Wendl, Nolan Gurnsey, Patricia Lopez, Carol Wahl, Florence Brown, Diane Hoffmann, Linda Hruza, Larry Rennecker, Marilyn Valerio (Immediate Past Chairperson), Steve Pitkin (Chairperson), Terrie Spohn.

Not Pictured: Brendon Polt, Diane Hoffmann, Lela Claussen, Alice Kindschuh

The 16-member volunteer board, appointed by the Governor, is made up of individuals from across the state.

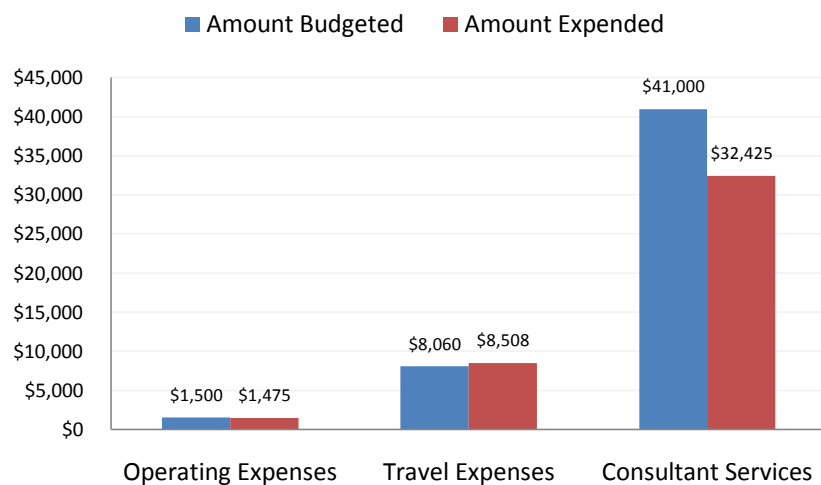
Budget for the Nebraska Center for Nursing

The 2010 budget for the Nebraska Center for Nursing is divided into 3 categories: 1) Operating Expenses, 2) Travel Expenses, and 3) Consultant Services. Operating Expenses include conference registrations, publications, printing, postage, indirect cost allowance and rent. Travel Expenses include vehicle mileage, commercial transportation, meals and lodging. The Consulting Services include personnel who perform independent consultant work for the Center for Nursing (e.g., consulting website, consulting analyst). The chart below depicts the contribution in dollars and percentages that each category contributes to the budgeted expenditures of the Center for Nursing.



Total Budgeted and Actual Expenditures 2010

The bar chart depicts the 2010 budgeted expenditures and actual expenditures for the Nebraska Center for Nursing.



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INTRODUCTION

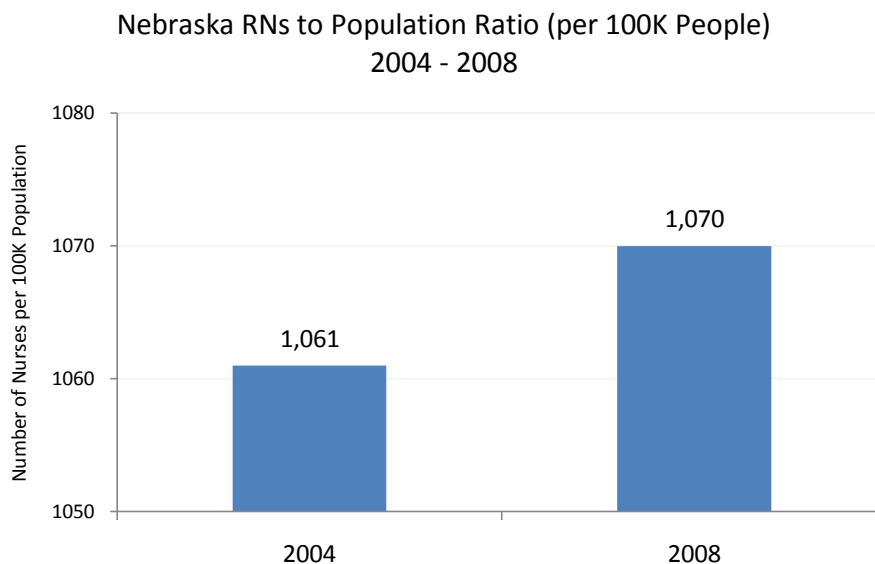
In 2000, the Nebraska Legislature created the Nebraska Center for Nursing to address the nursing shortage. The 16-member board was appointed by the Governor and charged with developing a strategic plan (see Appendix). There was a need for current, comprehensive data about the supply and demand of nurses in Nebraska to enable the Board to satisfy its mandate. Since then, a comprehensive survey (Registered Nursing Workforce Survey) has been mailed and made available on-line on a biennial basis to all Registered Nurses (RNs) in Nebraska in conjunction with the license renewal (on the odd numbered years data is collected for LPNs). This Report summarizes the nursing shortage status at the national, state and county levels, along with projections of nursing demand and supply; the nursing workforce statistics for LPNs and RNs; it presents a long-term study of the enrollment and graduation rates for LPNs and RNs since the year 1989; and it shows an analysis of the current situation of APRNs in the State of Nebraska based on the 2008 Renewal Survey.

NURSING WORKFORCE

Nurses per 100,000 people

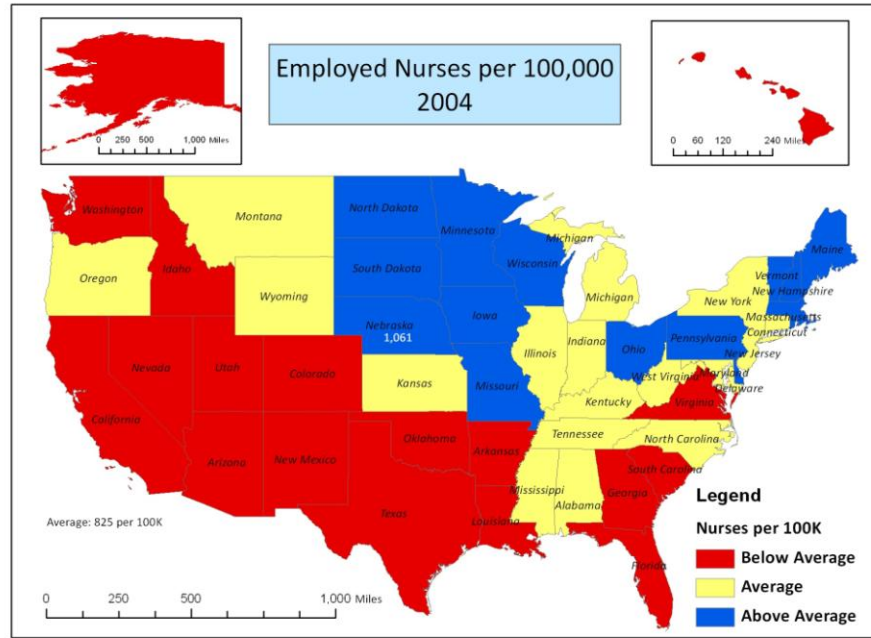
One way to measure the needs for nursing health care professionals is to estimate the number of nurses per total population by geographic area (i.e., state or county level). According to the United States Health Care Profile (2006 and 2010), the estimated national average ratio of RNs to 100,000 population was 825 in the year 2004 and 854 in 2008. For that year, Nebraska's ratio of RNs to 100,000 people was 1,061, lower in comparison to vicinity states such as South Dakota and Iowa. Current estimates based on 2008 data indicate that the number of nurses per 100,000 has increased 0.8% in the State of Nebraska since 2004, which means that the number of nurses in the workforce for Nebraska is not growing at the same rate as the total population does.

The following chart shows the increase in nurses to population ratio between 2004 and 2008 in the State of Nebraska, which represents nearly 1% increase. However, this percentage increase is the lowest in comparison to the vicinity states, which experienced much higher increases, such as South Dakota (10.7%), Missouri (8.7%), Kansas (6.2%), Colorado (6.1%), Wyoming (3.7%), and Iowa (2.2%).

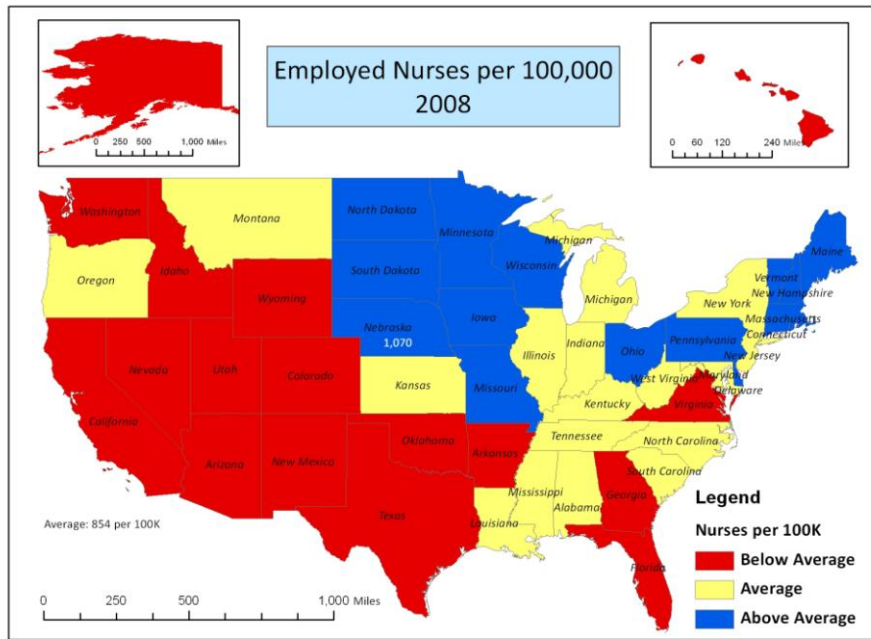


The number of nurses in Nebraska per 100,000 people has increased from 1,061 in 2004 to 1,070 in 2008, an increase of .8%. During the same period, total population in Nebraska increased 2.1%.

This map depicts those states that are below, average or above the national average of nurses per 100,000 people in the year 2004. There are 16 states below average (colored in red), 15 above average (colored blue, including Nebraska) and 19 on average (colored in yellow).

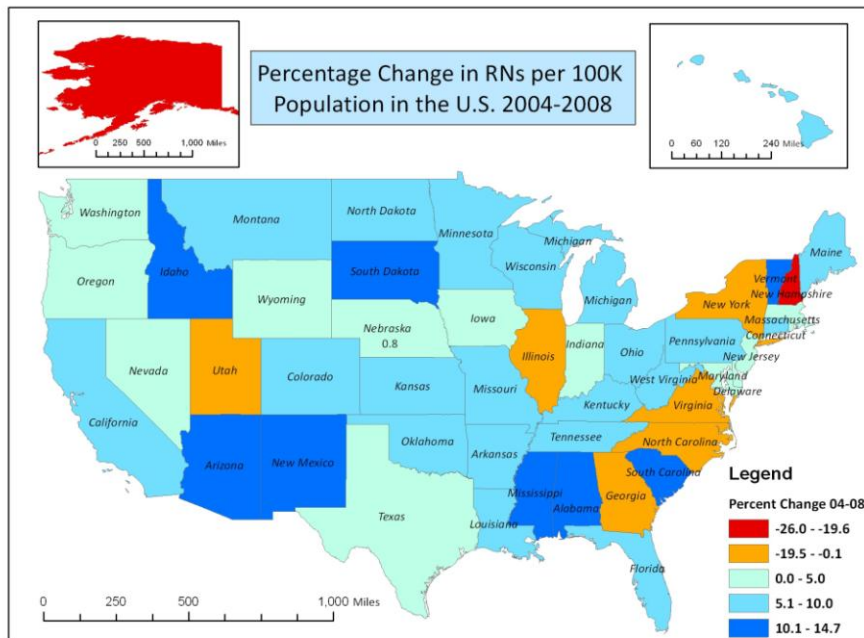


As it can be compared, no major changes occurred at the state level in the year 2008 in comparison to 2004. However, some specific changes did occur, such as in the State of Wyoming where the total number of nurses per 100,000 people worsened in comparison to 2004. But there were positive changes, such as in the case of

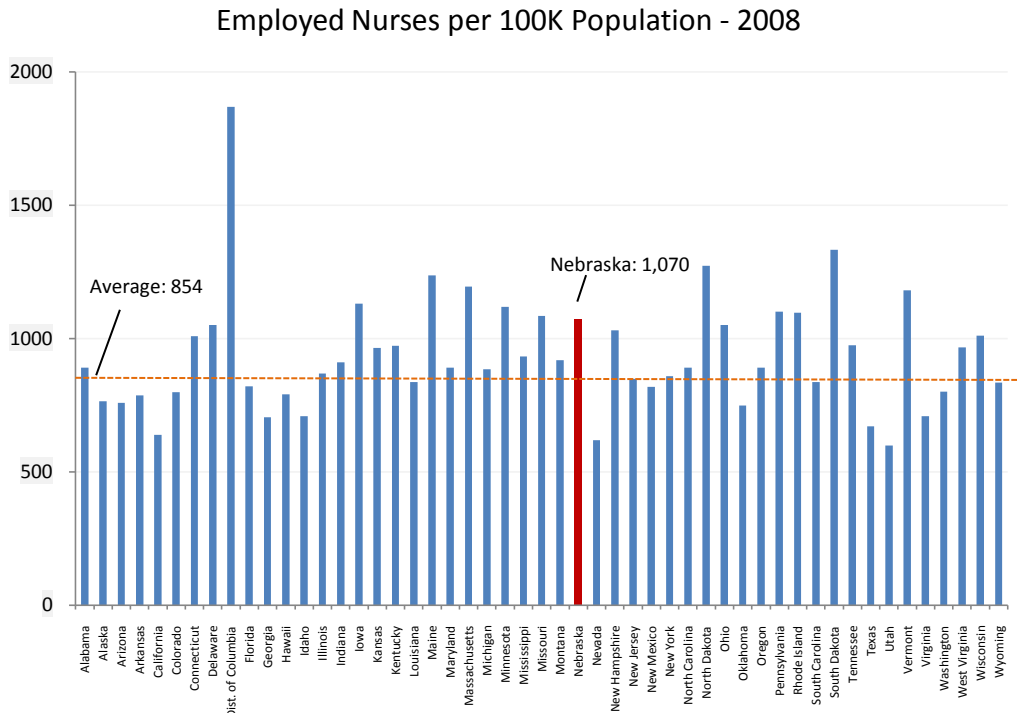


Louisiana and South Carolina, states that changed their status from below average in 2004 to above average in 2008. Also, the State of Connecticut experienced a positive change from average to above average number of nurses per 100,000 people between 2004 and 2008.

When comparing the percentage change of nurses between 2004 and 2008, the State of Alaska experienced the highest decrease in number of nurses per 100,000 people (-26%), followed by New Hampshire (-19.6%). Both states are depicted in red in the map below. Overall, eight states decreased the number of nurses per 100,000 people between 2004 and 2008 (colored in orange and red), and forty-two experienced a positive percentage change (colored pale green to light blue). The states of New Mexico, South Carolina, Vermont, Idaho, Mississippi, Arizona and South Dakota experienced percentage changes above 10% between 2004 and 2008 (colored in blue). The State of Nebraska increased less than 1% the number of nurses per 100K people.



The chart below depicts the number of nurses per 100,000 people per state for the year 2008. An orange line shows the average number of nurses per 100,000 in the United States.

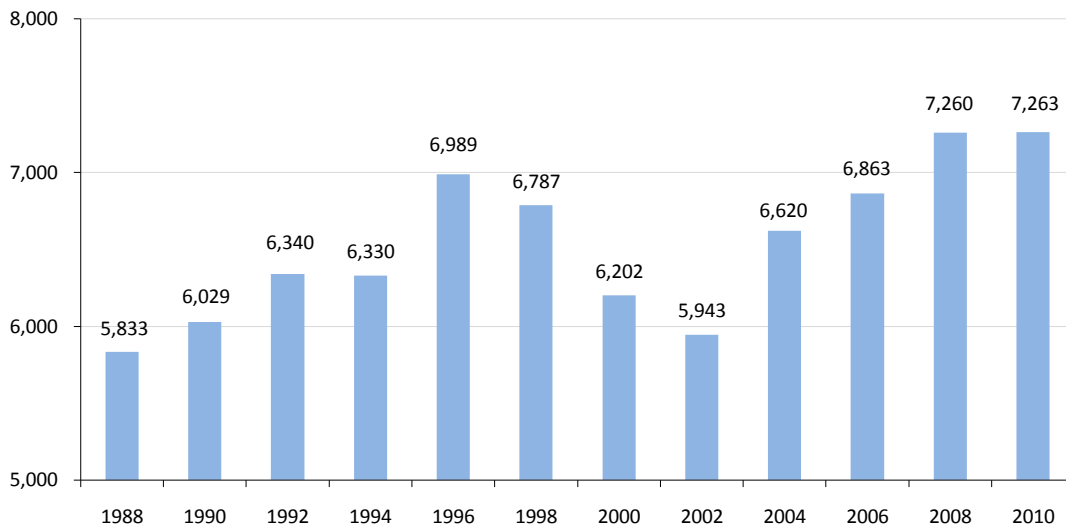


Source: Preliminary Findings: 2008 National Sample Survey of Registered Nurses.

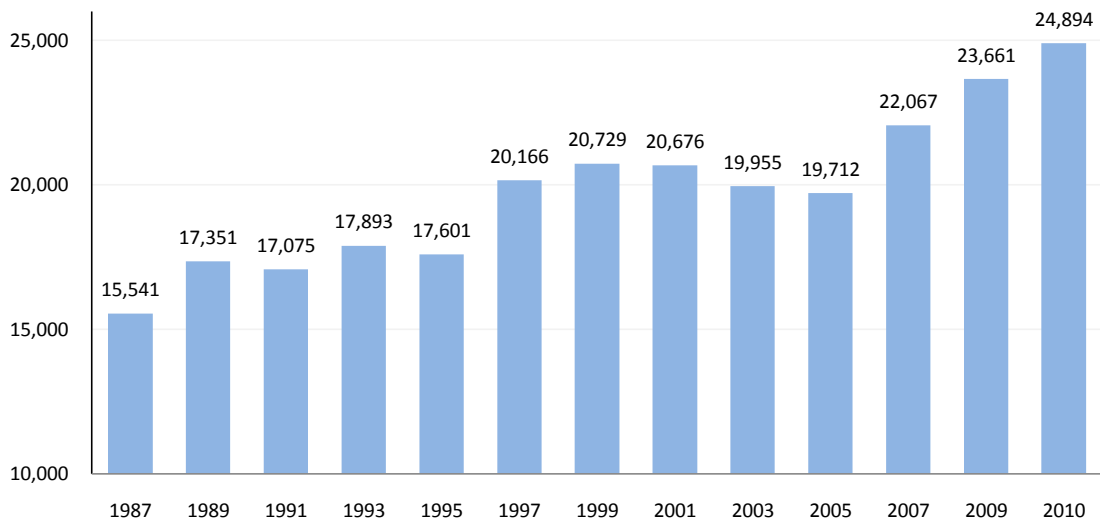
The number of active LPNs and RNs licensed in Nebraska has increased in the last decade, from 5,943 to 7,263 (22% increase) in the case of LPNs, and from 20,676 to 24,894 (20% increase) in the case of RNs, as shown in the charts below. However, those numbers of nurses do not necessarily reflect the total number of RNs and LPNs that are effectively working in Nebraska, since some may have actually been employed in other States, or had not fully been employed as a nurse. That is why the most reliable and accurate source of information to analyze the nursing shortage in Nebraska comes from the nursing renewal surveys.

The most accurate source of information regarding the nursing workforce in Nebraska is obtained from the Nurses Renewal Survey.

Number of Active LPNs in Nebraska
1988-2010



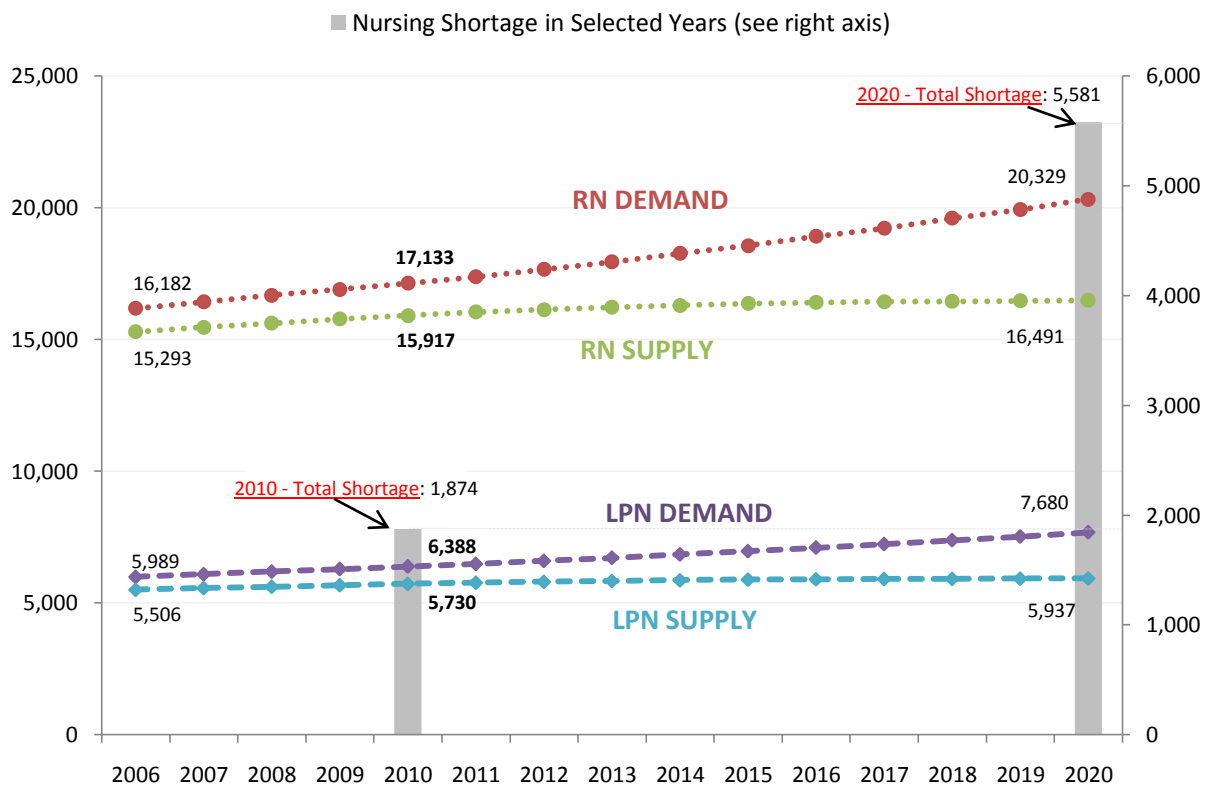
Active Number of RNs Licensed in Nebraska
1987 - 2010



Nursing Shortage

In 2006, the Nebraska Center for Nursing made the first supply and demand projections for nurses in Nebraska. National Center for Health Workforce Analysis (NCHWA) models were used to project supply and demand for full-time equivalent registered nurses (FTE RN) and full-time equivalent Licensed Practical Nurses (FTE LPN) from 2006 through 2020. The projected RN nursing supply and demand for the year 2010 was estimated of 15,917 and 17,133 nurses, respectively, which means a nursing shortage of 1,216 RNs. LPN nursing supply and demand for the same year was estimated of 5,730 and 6,388 respectively, which means a nursing shortage of 658 LPNs. Overall, the projected nursing shortage in 2010 is 1,874 nurses. According to the nursing supply and demand models projected estimates, the State of Nebraska will face a nursing shortage of 5,581 nurses in the year 2020. The following chart illustrates the supply and demand of RNs and LPNs and the nursing shortage.

FTE RN & LPN Estimated Demand and Supply 2006-2010



Nursing Shortage at the County Level

The Nebraska Center for Nursing has been collaborating with the University of Albany, Center for Health Workforce Studies (CHWS)³, New York, to estimate the RN supply as a percent of the demand at the county level. The study has been conducted at the national level, and Nebraska has been selected among other 20 states to pilot their methodology. CHWS has used and adapted HRSA's nursing demand and supply models to be applied at the county level. Thus, the nurse demand model at the county level is calculated based on the following indicators:

- 1) Estimate health care utilization in different settings (obtained from Area Resource File – ARF)
- 2) Estimate current national RN staffing by setting (obtained from the 2000 NSSRN)
- 3) Calculate national RN staffing intensity for each setting
- 4) Apply national RN staffing intensity ratios to measures of utilization for each county, and
- 5) Calculate overall demand for each setting at the county level.

Once the nurse demand is calculated at the county level, the nursing shortage is estimated as follows:

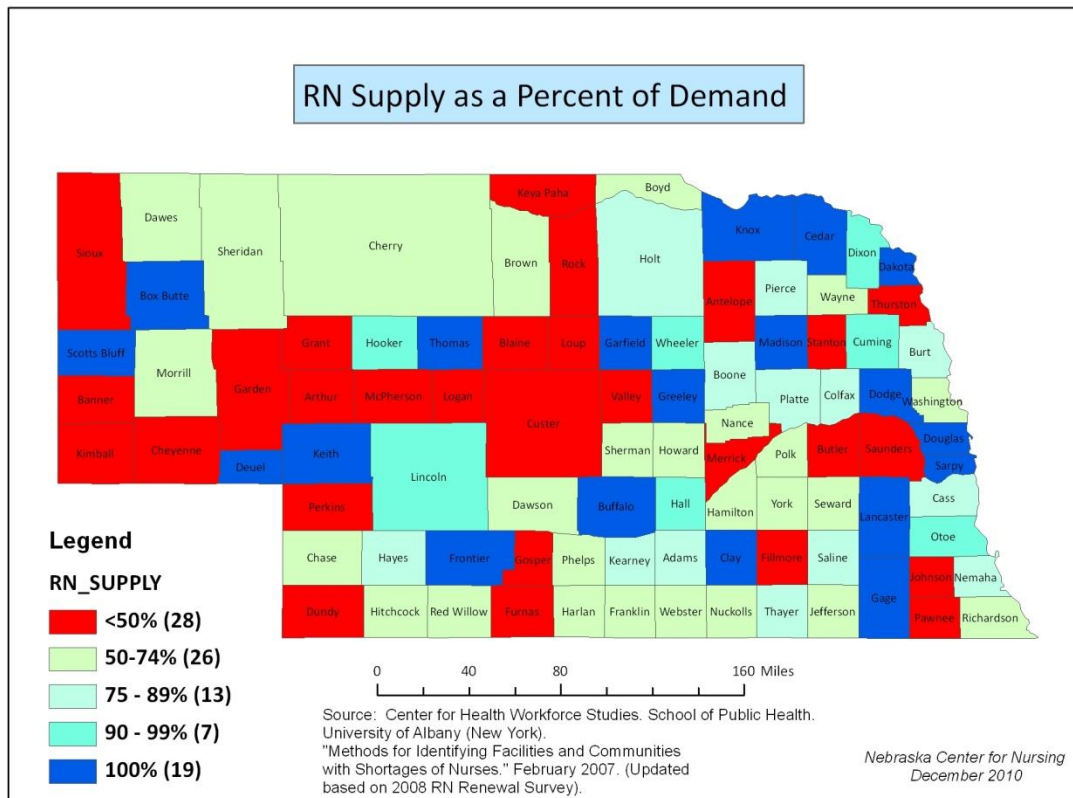
$$\text{RN Shortage} = \text{RN demand county} (-) \text{RN supply county}$$

Results are standardized as a percent of demand. The results can be grouped into intervals or categories as follows:

- Category 1: < 50% of the nursing demand is satisfied
- Category 2: 50% -74%
- Category 3: 75% - 89%
- Category 4: 90 – 99%
- Category 5: 100% (all nursing demand is satisfied)

Results obtained by CHWS were updated using the Nebraska 2008 Renewal RN Survey, and then mapped and tabulated. The Nebraska RN shortage at the county level reveals that nineteen counties have their nursing demand satisfied, and twenty-eight counties have less than 50% of their nursing demand satisfied. As it was expected, most of the frontier counties in Nebraska show nursing shortages and metropolitan counties (i.e., Lancaster, Douglas) show that the supply of nurses satisfies a 100% of the nursing demand. The map below shows the Nebraska RN demand as a percentage of the supply per county. Counties colored in Red are experiencing a severe nursing shortage, and those counties colored in blue show that their current supply of nurses satisfies the demand at 100%. See table below for more details about Nebraska nursing shortages and total population estimates as of 1 July 2008.

³ Center for Health Workforce Studies (2007). *Toward a method for identifying facilities and communities with shortages of nurses*. Unpublished manuscript, School of Public Health, University of Albany, New York, Retrieved from <ftp://ftp.hrsa.gov/bhpr/nursing/nurptsummary.pdf>



Those counties that have less than 50% of their nursing demand satisfied represent 6.7% of the total population of Nebraska⁴ ($n = 118,602$). Those counties with 100% nursing demand satisfied represent 66% of the population of Nebraska ($n = 1,177,322$). Counties with more than 50% but less than 99% of their nursing demand satisfied represent 27.3% of the total population in Nebraska ($n = 487,508$).

The following table summarizes the nursing demand as a percentage of the demand at the county level along with the total estimated population as of 1 July 2008.

Two-thirds of the population in Nebraska do not face a nursing shortage in the counties where they live ($n = 19$). Less than 7% of the population in Nebraska face a serious nursing shortage in the counties where they live, most of them located in frontier counties ($n = 28$).

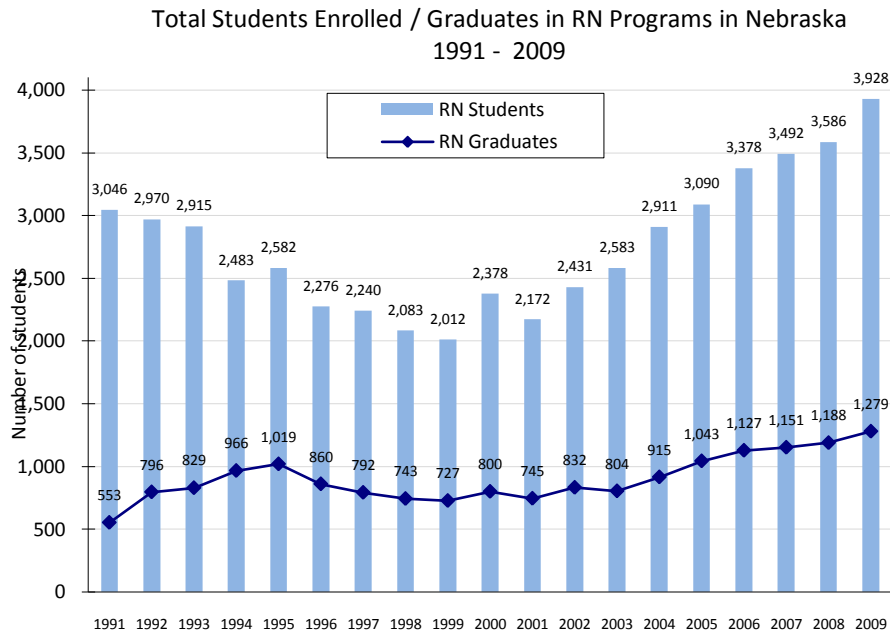
⁴ According to the U.S. Census Bureau the total estimated population for Nebraska as of 1 July 2008 was 1,783,432 inhabitants. (<http://www.dnr.state.ne.us/databank/census/pop1.html>).

Nebraska RN Supply as a Percentage of Demand and Estimated Population by County

COUNTY	RN Supply as % of Demand	Estimated Population 1 July 2008	COUNTY	RN Supply as % of Demand	Estimated Population 1 July 2008	COUNTY	RN Supply as % of Demand	Estimated Population 1 July 2008
Antelope	50	6,679	Cherry	74	5,609	Nemaha	89	7,085
Arthur	50	338	Dawes	74	8,724	Pierce	89	7,231
Banner	50	735	Dawson	74	24,665	Platte	89	32,072
Blaine	50	428	Franklin	74	3,103	Saline	89	13,771
Butler	50	8,326	Hamilton	74	9,300	Thayer	89	5,104
Cheyenne	50	9,965	Harlan	74	3,322	Cuming	99	9,306
Custer	50	10,842	Hitchcock	74	2,836	Dixon	99	6,293
Dundy	50	2,002	Howard	74	6,593	Hall	99	56,401
Fillmore	50	6,001	Jefferson	74	7,405	Hooker	99	736
Furnas	50	4,645	Morrill	74	4,989	Lincoln	99	35,582
Garden	50	1,765	Nance	74	3,550	Otoe	99	15,549
Gosper	50	1,926	Nuckolls	74	4,467	Wheeler	99	807
Grant	50	604	Phelps	74	9,127	Box Butte	100	11,043
Johnson	50	4,499	Polk	74	5,122	Buffalo	100	45,354
Keya Paha	50	836	Red Willow	74	10,704	Cedar	100	8,407
Kimball	50	3,534	Richardson	74	8,294	Clay	100	6,270
Logan	50	735	Seward	74	16,758	Dakota	100	20,174
Loup	50	619	Sheridan	74	5,337	Deuel	100	1,880
McPherson	50	514	Sherman	74	2,994	Dodge	100	35,872
Merrick	50	7,700	Washington	74	19,812	Douglas	100	502,032
Pawnee	50	2,602	Wayne	74	9,274	Frontier	100	2,584
Perkins	50	2,884	Webster	74	3,508	Gage	100	23,035
Rock	50	1,508	York	74	14,199	Garfield	100	1,710
Saunders	50	20,034	Adams	89	33,238	Greeley	100	2,290
Sioux	50	1,287	Boone	89	5,446	Keith	100	7,821
Stanton	50	6,310	Burt	89	7,023	Knox	100	8,498
Thurston	50	7,102	Cass	89	25,598	Lancaster	100	278,728
Valley	50	4,182	Colfax	89	9,989	Madison	100	34,020
Boyd	74	2,090	Hayes	89	1,005	Sarpy	100	150,467
Brown	74	3,149	Holt	89	10,233	Scotts	100	36,554
Chase	74	3,629	Kearney	89	6,479	Thomas	100	583

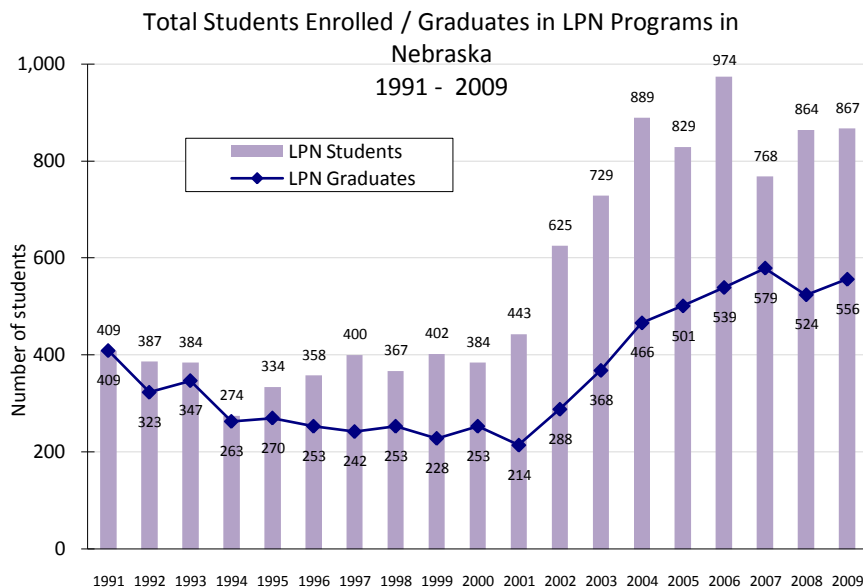
Nursing Enrollment and Graduation Trends

During the last eight years, enrollment in nursing colleges in Nebraska has steadily increased. From 2001 through 2009, over 1,700 new students have been added to RN programs, and over 400 have been added to LPN programs, reversing the negative trends from the last decade.



Today's enrollments and graduations in nursing education are historically high in the State of Nebraska. *An 83.4% enrollment and 91.3% graduation increase has been achieved between 2001 and 2009 (RNs and LPNs).*

Losses in RN nursing enrollment from 1991 through 1999 were recovered in just four years during the present decade (2001-2005). This positive trend has continued over the years 2006-2009.



Total RN Graduates has steadily increased since 2001. On average, a 7.2% growth rate of new graduates has been achieved in the last eight years.

Total LPN Graduates steadily grew from 2001 to 2007 (18% average growth). In 2008 LPN Graduation decreased 9.5% in comparison to 2007.

As it can be seen in the charts above, the year 2001 represents a breaking point in terms of an increased number of students graduated and enrolled in nursing programs. A *chi-square* analysis was performed to determine if the rate of students enrolled vs. graduated in nursing program substantially changed

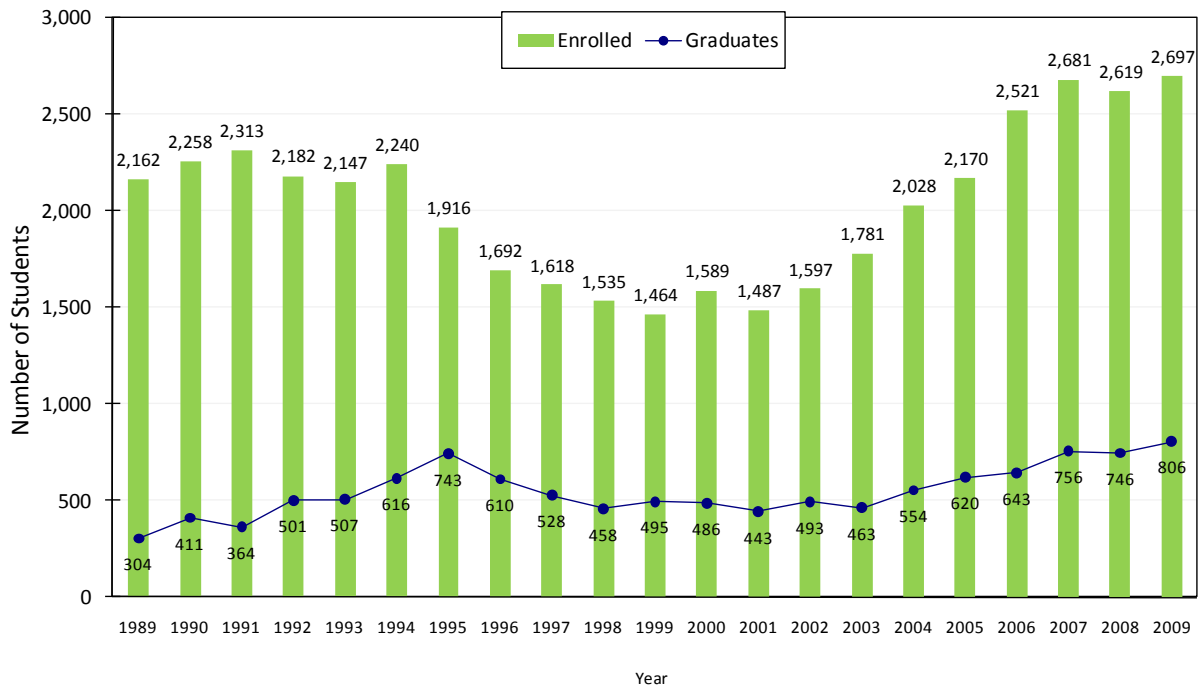
between 1991-2000 and 2001-2009. Results indicate that changes in enrollment/graduation rates were statistically significant for LPNs, but not for RNs. LPN enrollment/graduation rate increased from 1.3 in the first decade to 1.7 in the last decade. In contrast, RN enrollment/graduation rate slightly changed (no significant statistical differences were found), from 3.1 in the first decade to 3.0 in the last decade. See tables below that show enrollment/ graduation rates for both RNs and LPNs in each time period.

Registered Nurses Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1991-2000	3.1
2001-2009	3.0
$\chi^2 = 1.029, p > .05$	

Licensed Practical Nurses Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1991-2000	1.3
2001-2009	1.7
$\chi^2 = 80.209, p < .0001$	

The chart below shows the number of students enrolled and graduated from baccalaureate degree programs in Nebraska (1989-2009). The chart replicates the overall RN enrollment/ graduation trends, but baccalaureate rates show a significant statistical difference between periods, from an average 3.8 (1989-2000) to 3.5 (2001-2009), which means that in the last decade more baccalaureate students are graduating in comparison to total number of students. The table below shows the *chi-square* results of the analysis.

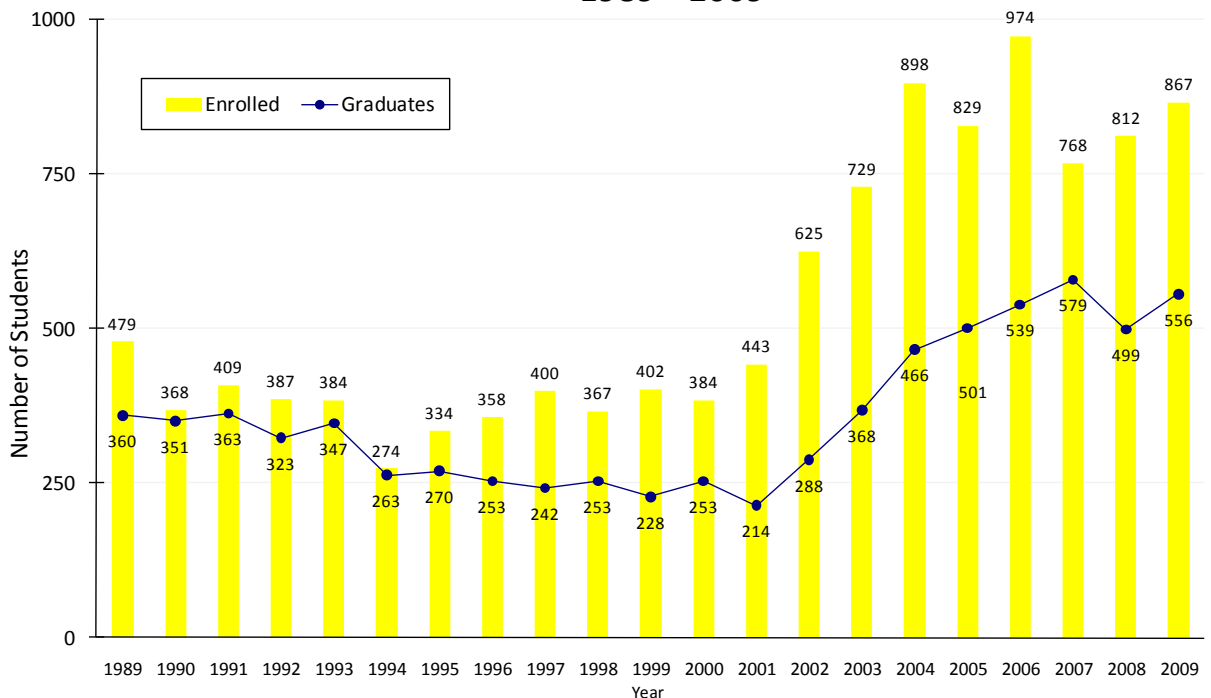
Baccalaureate Degree Nursing Programs in Nebraska
Number of Students Enrolled / Graduates
1989 - 2009



Baccalaureate Nurses Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1989-2000	3.8
2001-2009	3.5
$\chi^2 = 14.237, p < .0001$	

The chart below shows the number of students enrolled and graduated in practical nursing programs from 1989 to 2009. It is interesting to observe that during the first period 1989-2000 no major changes occurred in terms of number of students enrolled or graduated, however in the second period from 2001-2009 total numbers substantially increased. *Chi-square* results show that in fact the enrollment/graduation rate between 2001-2009 was statistically significant higher in comparison to the first period 1989-2000 (1.3 vs. 1.7). See table below for more details.

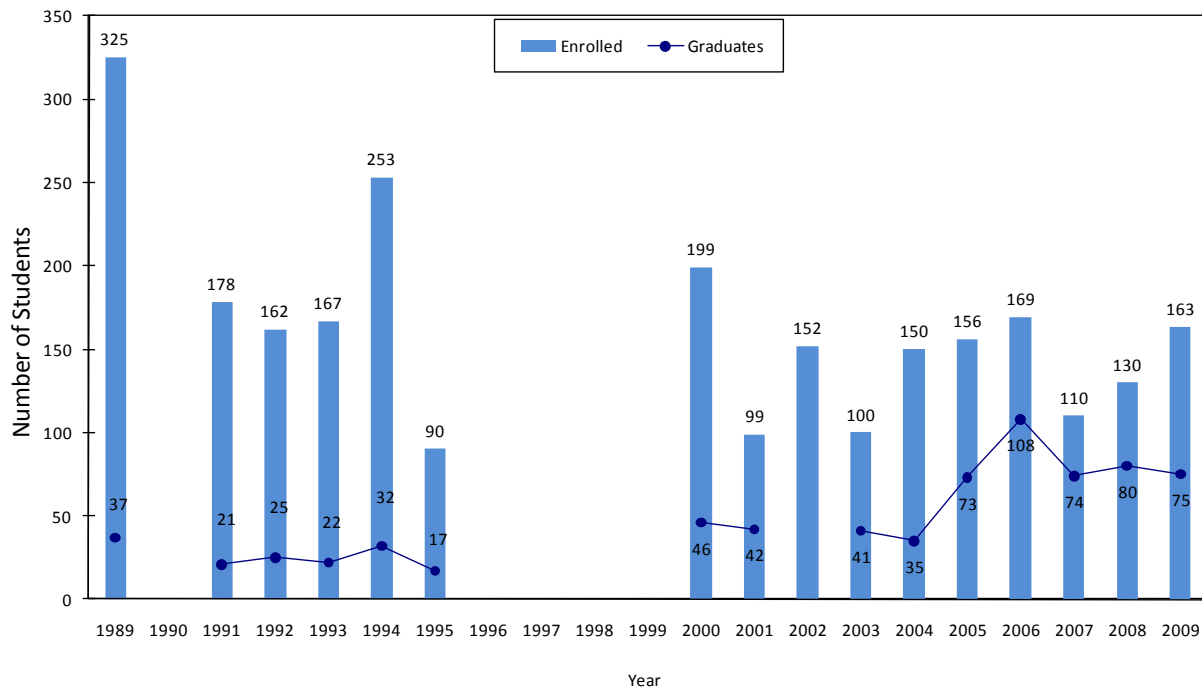
**Practical Nursing Programs in Nebraska
Number of Students Enrolled / Graduates
1989 - 2009**



Practical Nursing Programs Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1989-2000	1.3
2001-2009	1.7
$\chi^2 = 93.146, p < .0001$	

The chart below shows the total number of students enrolled and graduated in BSN Completion Programs in Nebraska from 1989 to 2009. Although significant peaks in enrollment were shown in specific years (i.e., 1989; 1994; 2000) those increases did not necessarily mean a higher number of graduates. Over the years, the enrollment/ graduate rates has changed from 6.9 between 1989-2001 to 2.2 between 2001-2009⁵. See table below for more details.

**BSN Completion Programs in Nebraska
Number of Students Enrolled / Graduates
1989 - 2009**

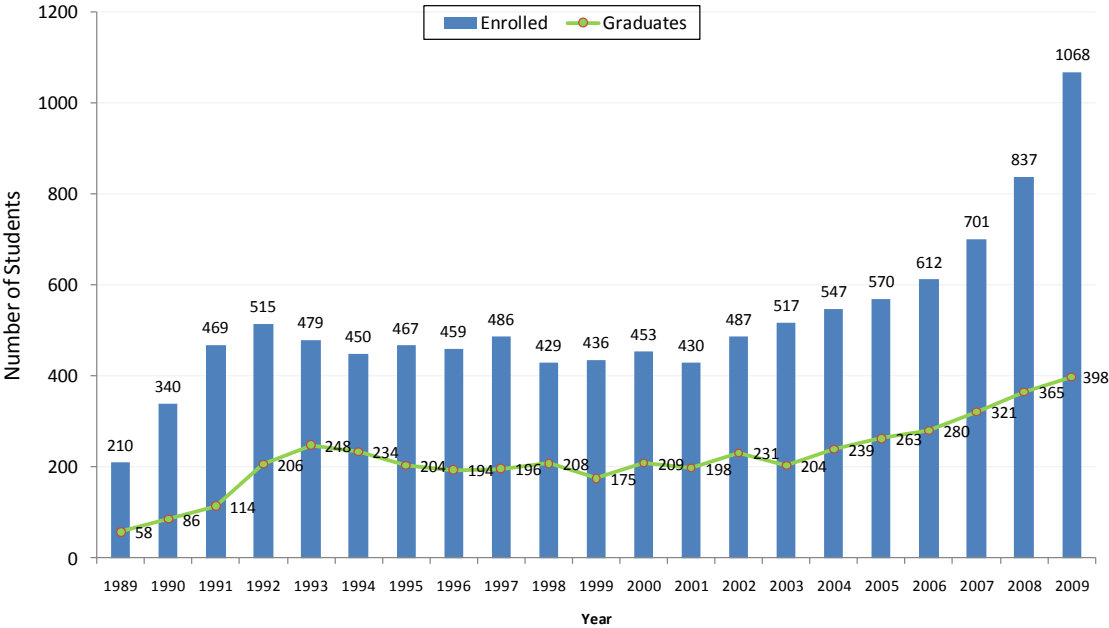


⁵ Years 1990, and between 1996 and 1999 were not reported by schools. Graduates from year 2002 were not reported, therefore that year was not included in analysis.

BSN Completion Programs - Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1989-2000	6.9
2001-2009	2.2
$\chi^2 = 162.109, p < .0001$	

Associate Degree Programs have shown a systematic increase of enrollees and graduates since the year 2001. No significant changes in enrollment/graduation rates were found between periods (1989-2000 vs. 2001-2009). See table below for more details.

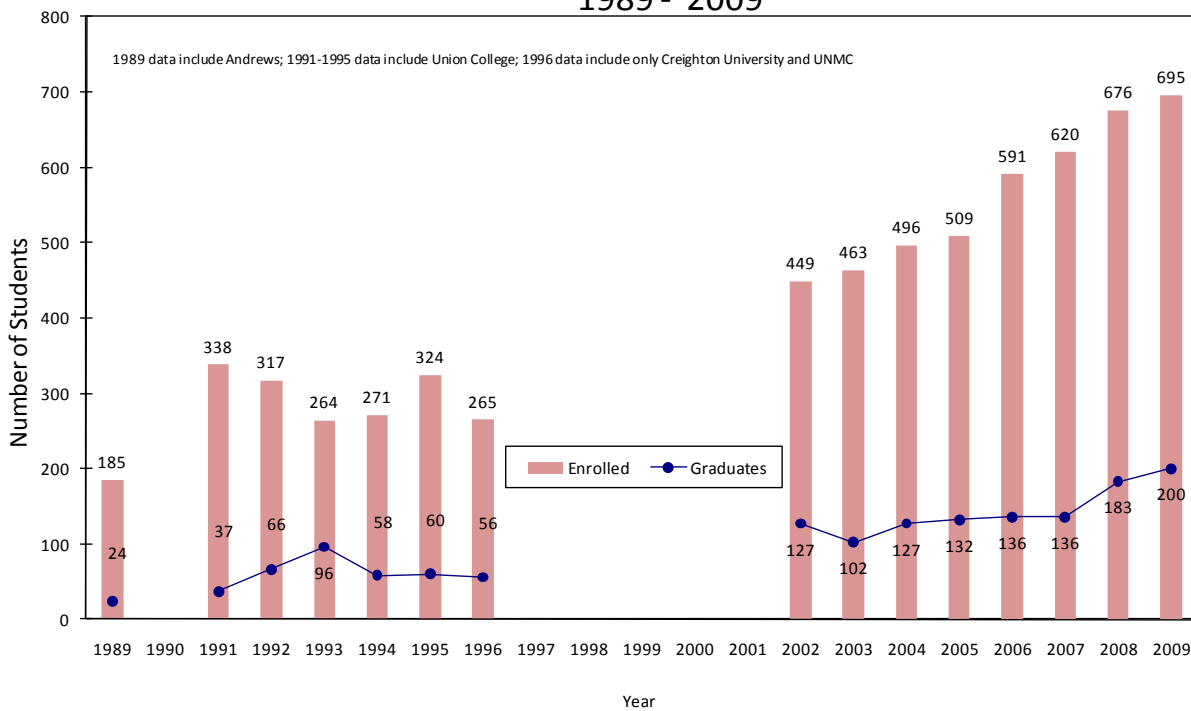
**Associate Degree Nursing Programs in Nebraska
Number of Students Enrolled / Graduates
1989 - 2009**



Associate Degree Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1991-2000	2.3
2001-2009	2.3
$\chi^2 = 0.112, p > .05$	

The enrollment/graduation rates in MSN Programs in Nebraska has also changed over the years. Between 1989 and 1996 the MSN enrollment/graduation rate was 4.9 which decreased to 3.9 from 2002 to 2009⁶. These changes were statistically significant (see table below for details).

**MSN Programs in Nebraska
Number of Students Enrolled / Graduates
1989 - 2009**

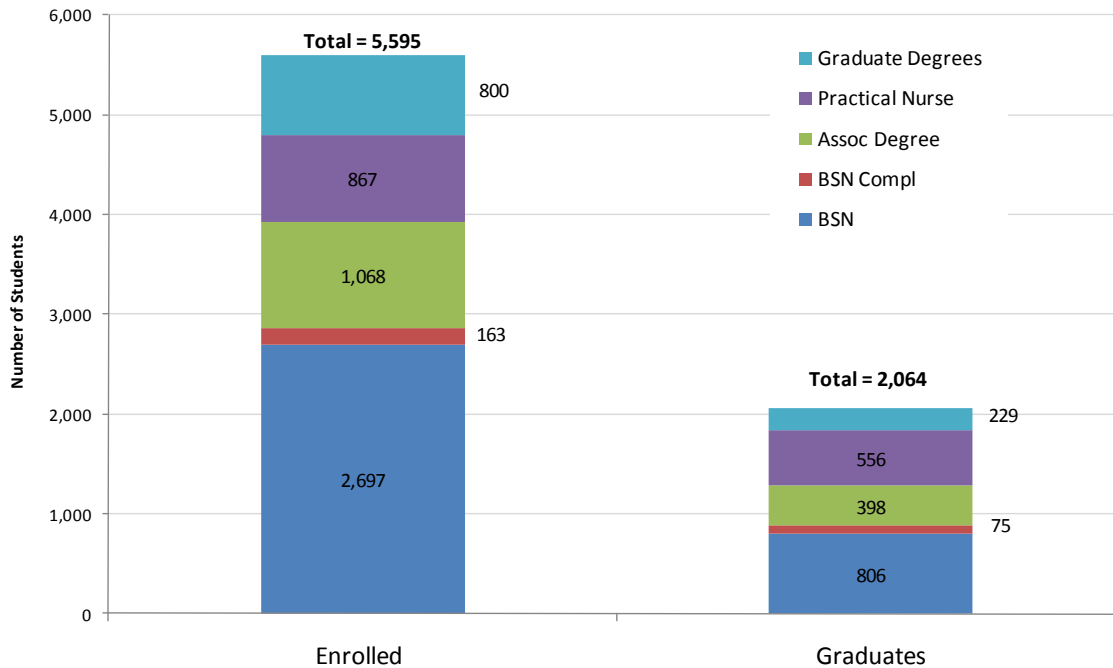


⁶ Years 1990, and between 1997 and 2001 were not reported by schools.

MSN Programs Changes in Enrollment/ Graduation Rates	
Period	Enrolled/ Graduates
1989-1996	4.9
2002-2009	3.9
$\chi^2 = 12.483, p < .0001$	

The chart below shows the current number of nursing students enrolled and graduated in the year 2009. Overall enrollment/graduation rate for the year 2009 is 2.7. See table below for specific rates by level. Nurse students enrolled in a baccalaureate program represent nearly half of all students enrolled in nursing programs in Nebraska (48.7%), followed by Associate Degree Programs (19.1%), Practical Nurse (15.5%), Graduate Degrees (14.3), and BSN Completion (2.1%).

**Nursing Schools in Nebraska
Number of Students Enrolled / Graduates by Level
2009**



Number of nursing students enrolled and graduated by level in 2009

Level	Enrolled	Graduates	Enrolled/Graduate
Practical Nurse	867	556	1.6
Associate Degree	1,068	398	2.7
BSN Completion	163	75	2.2
Baccalaureate	2,697	806	3.3
Graduate Degrees	800	229	3.5
Total	5,595	2,064	2.7

APRNs in the State of Nebraska

Data analyzed about APRNs in the State of Nebraska is based on the 2008 RN Renewal Survey. Demographic variables, including gender, age, and race/ethnicity are analyzed along with setting characteristics of the APRNs who work in Nebraska.

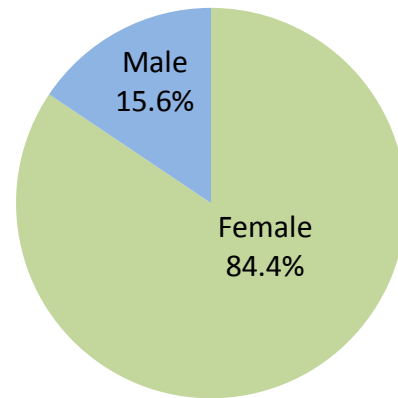
Demographics

Gender: Nearly sixteen percent of APRNs in Nebraska are male, which is three times the current male presence in the nursing profession in Nebraska.

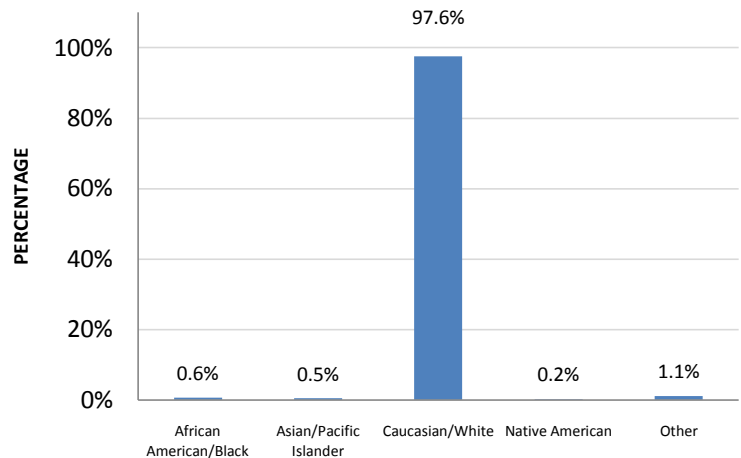
Age: Average age is 46.1 years (SD = 10.8, min = 22, max = 76). Average age for males is 50.7 and for females is 45.3. Differences between genders were statistically significant ($p < .05$).

Race/ Ethnicity: Nearly 98% of all APRNs are White/Caucasian, followed by African American/Black (0.6%), Asian/ Pacific Islander (0.5%), and Native American (0.2%). 1.5% of APRNs indicated that they were of Hispanic origin⁷.

Gender



Race / Ethnicity

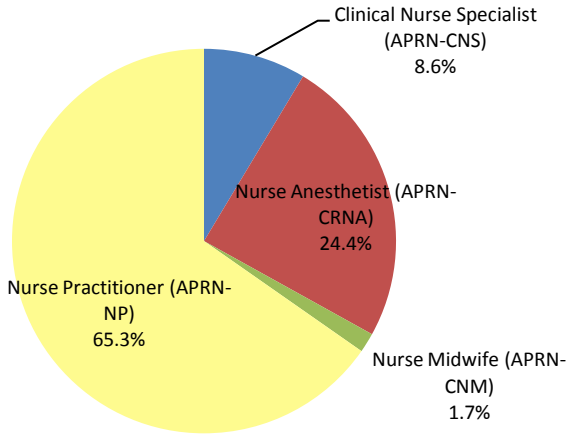


⁷ Hispanic origin is considered an ethnicity and not a race.

APRNs Specialties

Two-thirds of APRNs are licensed as Nurse Practitioners (65.3%), one-fourth are Nurse Anesthetists (24.4%). Lower percentages were found for Clinical Nurse Specialist (8.6%), and Nurse Midwife (1.7%). See next chart.

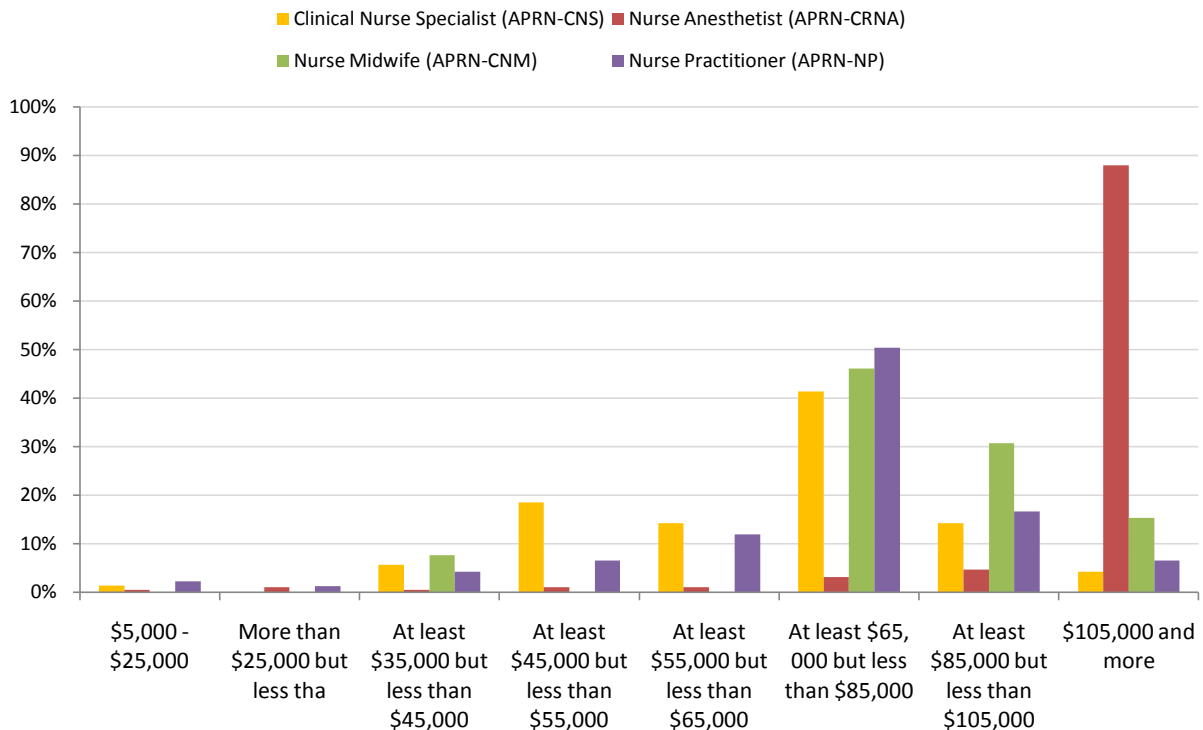
Percentage Licensed in an Advanced Practice Role



Salary

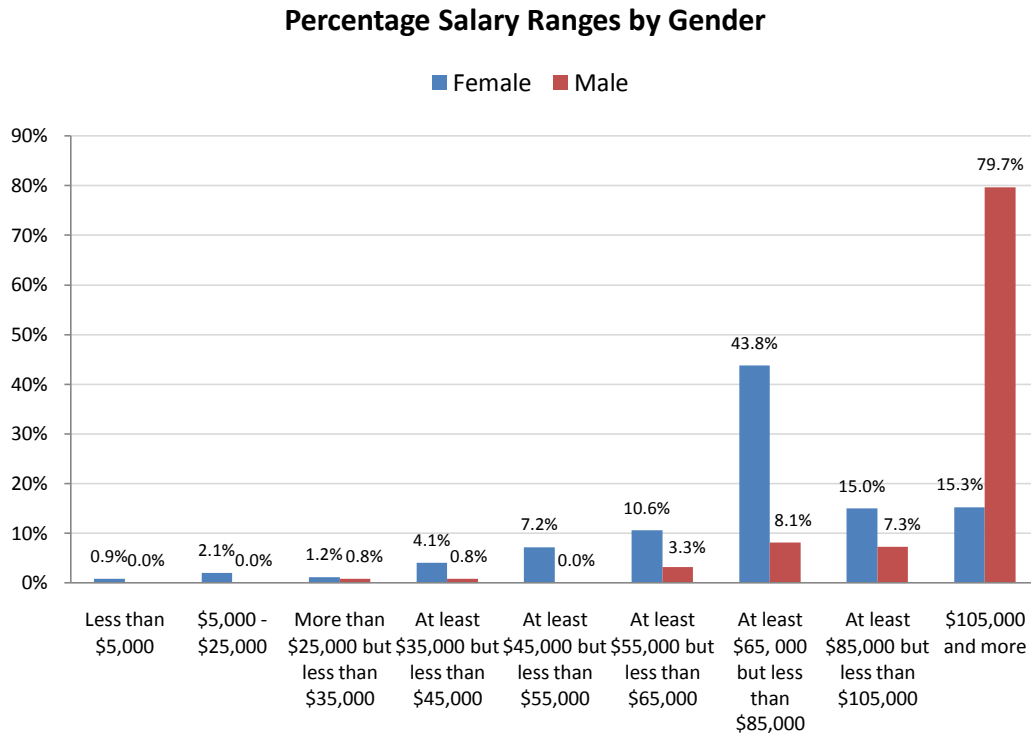
Nearly 40% of APRNs earn a salary at least \$65,000 but less than \$85,000 and one-fourth earn a salary above \$105,000. Nearly 90% of Nurse Anesthetists (APRN-CRNA) earn a salary of \$105,000 and more.

Percentage Salary Range by Type of APRN



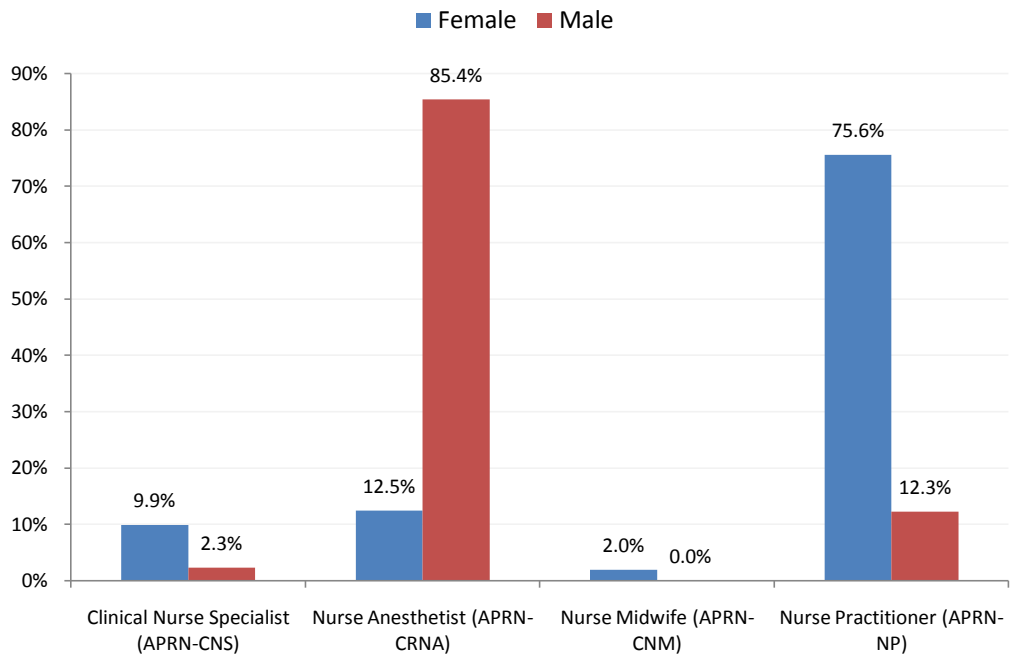
Gender differences:

Nearly 80% of male APRNs earn a salary of \$105,000 or more, in comparison to 15% of females in the same salary range. Most female APRNs receive a salary at least \$65,000 but less than \$85,000.

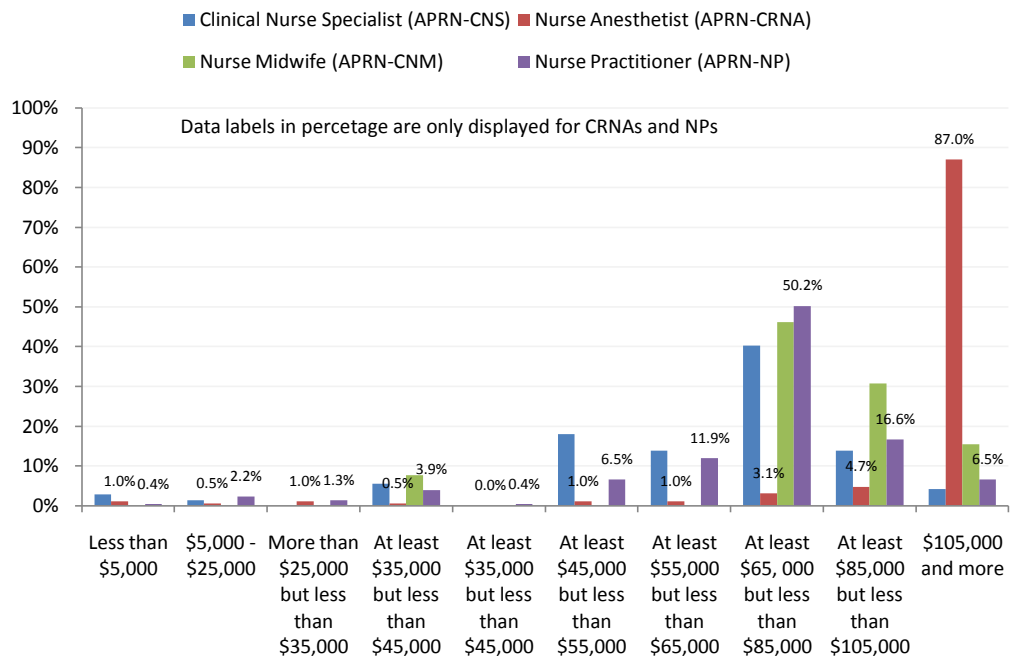


The majority of male APRNs (85.4%) work as Nurse Anesthetist (APRN-CRNA), in comparison to female APRNs who prefer that specialty by only 12.5%. Over three-quarters of female APRNs (75.6%) work as Nurse Practitioners (APRN-NP) in comparison to only 12.3% of male APRNs. The fact that male APRNs earn significantly more than female APRNs is explained by the fact that over 80% of those employed as CRNAs earn \$105,000 or more per year. See charts below for details.

Percentage Specialty by Gender

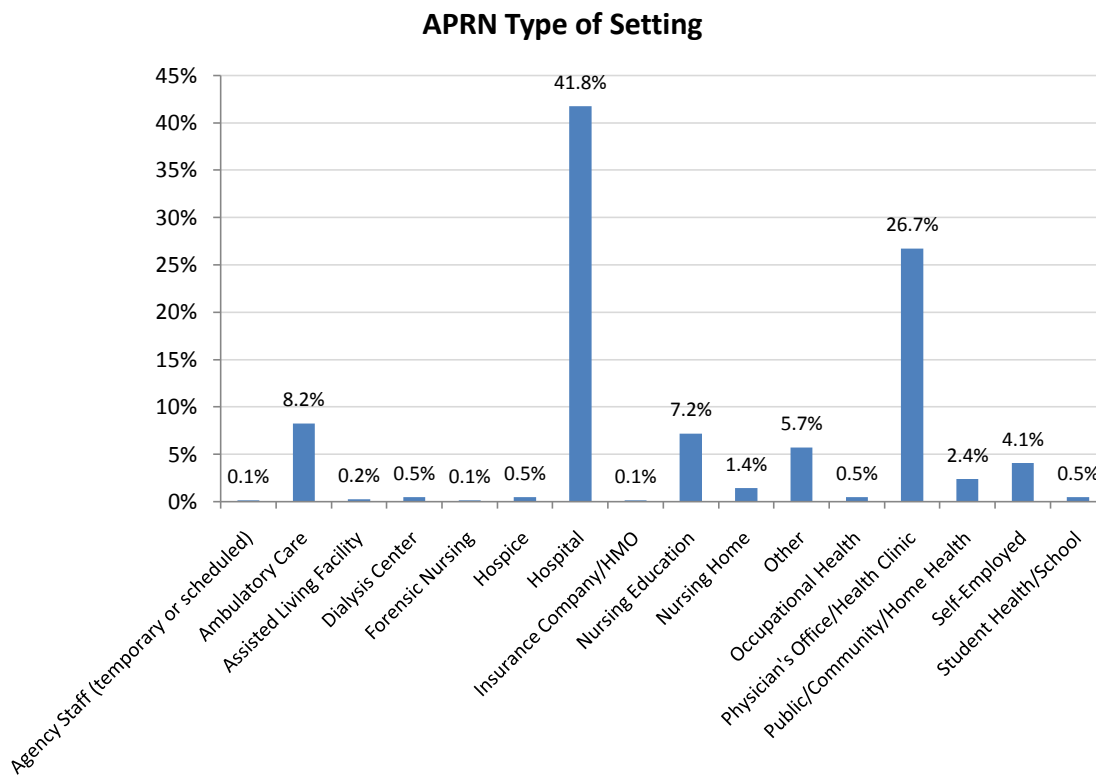


Salary vs. APN Specialty



Type of setting

Nearly two-thirds of APRNs work in Hospitals (41.8%) or in Physician's office/ Health Clinic (26.7%). Lower percentages are shown for Ambulatory Care (8.2%) and Nursing Education (7.8%). Most Clinical Nurse Specialists and Nurse Anesthetists work in Hospitals (47.9% and 82.3%, respectively), while Nurse Midwives and Nurse Practitioners mostly work in Physician's Office/Health Clinic (64.3% and 40.3%, respectively). Moreover, nearly one-fourth of Clinical Nurse Specialists work in Nursing Education (26.8%), and nearly 30% of Nurse Practitioners work in Hospitals. See chart and table below for more details.

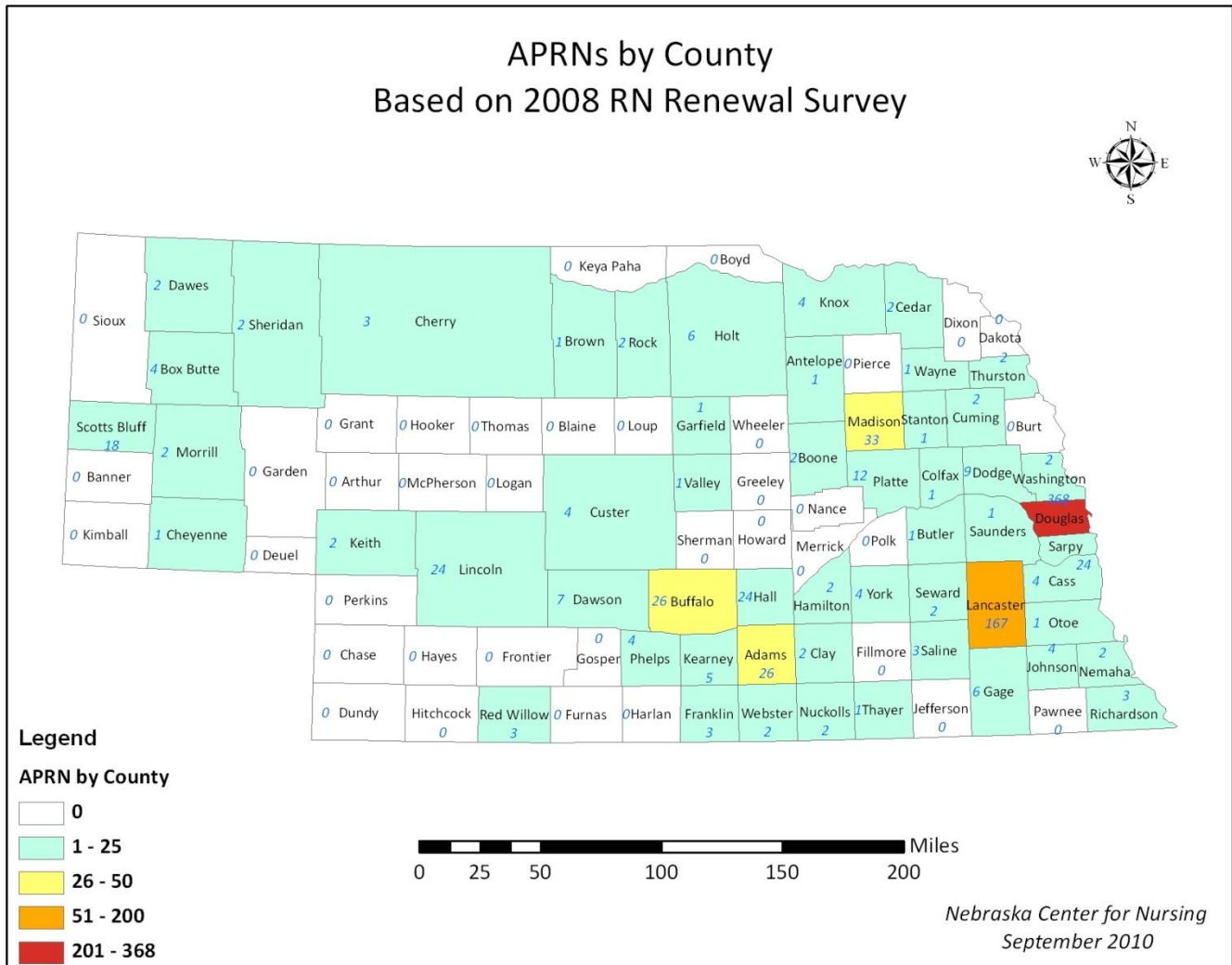


Type of Setting by APRN Specialty

TYPE OF SETTING	Clinical Nurse Specialist (APRN-CNS)	Nurse Anesthetist (APRN-CRNA)	Nurse Midwife (APRN-CNM)	Nurse Practitioner (APRN-NP)
Agency Staff (temporary or	0.0%	0.5%	0.0%	0.0%
Ambulatory Care	9.9%	4.2%	0.0%	10.3%
Assisted Living Facility	0.0%	0.0%	0.0%	0.4%
Dialysis Center	0.0%	0.5%	0.0%	0.6%
Forensic Nursing	0.0%	0.0%	0.0%	0.2%
Hospice	2.8%	0.0%	0.0%	0.4%
Hospital	47.9%	82.3%	14.3%	29.8%
Insurance Company/HMO	0.0%	0.0%	0.0%	0.2%
NULL	1.4%	1.6%	0.0%	1.0%
Nursing Education	26.8%	1.0%	7.1%	7.3%
Nursing Home	1.4%	0.0%	0.0%	2.1%
Other	0.0%	0.0%	0.0%	0.2%
Occupational Health	0.0%	0.0%	0.0%	0.8%
Physician's Office/Health Clinic	2.8%	1.0%	64.3%	40.3%
Public/Community/Home	2.8%	0.0%	0.0%	3.4%
Other	0.0%	0.0%	0.0%	0.2%
Self-Employed	4.2%	8.9%	14.3%	2.3%
Student Health/School	0.0%	0.0%	0.0%	0.8%
TOTAL	100% (n = 71)	100% (n = 192)	100% (n = 14)	100% (n = 524)

Geographic Location of APRNs

The map below depicts the total number of APRNs by county based on 2008 RN Renewal Survey. As the map shows, Douglas and Lancaster counties represent nearly two-thirds (63.5%) of the total APRNs in the State of Nebraska (colored red and orange, respectively). According to the data obtained from the survey, thirty-eight rural counties from Nebraska do not have any Advanced Practice Nurse⁸.



⁸ Maps depicting location of APRNs by specialty are also available at the ZIP-Code level upon request.

Total Number of APRNs by Specialty per County											
County	CRNA	CNS	CNM	NP	TOTAL	County	CRNA	CNS	CNM	NP	TOTAL
Adams	10	2	2	12	26	Deuel	0	0	0	0	0
Antelope	0	0	0	1	1	Dixon	0	0	0	0	0
Arthur	0	0	0	0	0	Dodge	5	1	0	3	9
Banner	0	0	0	0	0	Douglas	61	42	4	261	368
Blaine	0	0	0	0	0	Dundy	0	0	0	0	0
Boone	2	0	0	0	2	Fillmore	0	0	0	0	0
Box Butte	1	0	0	3	4	Franklin	0	0	0	3	3
Boyd	0	0	0	0	0	Frontier	0	0	0	0	0
Brown	0	0	0	1	1	Furnas	0	0	0	0	0
Buffalo	10	2	0	14	26	Gage	3	0	0	3	6
Burt	0	0	0	0	0	Garden	0	0	0	0	0
Butler	1	0	0	0	1	Garfield	0	0	0	1	1
Cass	1	0	0	3	4	Gosper	0	0	0	0	0
Cedar	0	0	0	2	2	Grant	0	0	0	0	0
Chase	0	0	0	0	0	Greeley	0	0	0	0	0
Cherry	2	0	0	1	3	Hall	10	1	0	13	24
Cheyenne	1	0	0	0	1	Hamilton	1	0	0	1	2
Clay	0	0	0	2	2	Harlan	0	0	0	0	0
Colfax	0	0	0	1	1	Hayes	0	0	0	0	0
Cuming	1	0	0	1	2	Hitchcock	0	0	0	0	0
Custer	1	0	0	3	4	Holt	3	0	0	3	6
Dakota	0	0	0	0	0	Hooker	0	0	0	0	0
Dawes	1	0	0	1	2	Howard	0	0	0	0	0
Dawson	6	0	0	1	7	Jefferson	0	0	0	0	0

Total Number of APRNs by Specialty per County											
County	CRNA	CNS	CNM	NP	TOTAL	County	CRNA	CNS	CNM	NP	TOTAL
Johnson	1	0	0	3	4	Platte	6	0	0	6	12
Kearney	2	0	0	3	5	Polk	0	0	0	0	0
Keith	2	0	0	0	2	Red Willow	3	0	0	0	3
Keya Paha	0	0	0	0	0	Richardson	1	0	0	2	3
Kimball	0	0	0	0	0	Rock	0	0	0	2	2
Knox	0	0	0	4	4	Saline	1	0	0	2	3
Lancaster	25	19	4	119	167	Sarpy	7	2	0	15	24
Lincoln	8	1	0	15	24	Saunders	0	0	0	1	1
Logan	0	0	0	0	0	Scotts Bluff	7	0	1	10	18
Loup	0	0	0	0	0	Seward	0	0	0	2	2
McPherson	0	0	0	0	0	Sheridan	1	0	0	1	2
Madison	11	3	1	18	33	Sherman	0	0	0	0	0
Merrick	0	0	0	0	0	Sioux	0	0	0	0	0
Morrill	0	0	0	2	2	Stanton	0	0	0	1	1
Nance	0	0	0	0	0	Thayer	0	0	0	1	1
Nemaha	2	0	0	0	2	Thomas	0	0	0	0	0
Nuckolls	1	0	0	1	2	Thurston	0	0	0	2	2
Otoe	1	0	0	0	1	Valley	1	0	0	0	1
Pawnee	0	0	0	0	0	Washington	1	0	0	1	2
Perkins	0	0	0	0	0	Wayne	1	0	0	0	1
Phelps	1	0	1	2	4	Webster	0	0	0	2	2
Pierce	0	0	0	0	0	Wheeler	0	0	0	0	0
						York	2	0	0	2	4

CONCLUSIONS and RECOMMENDATIONS

Since its creation, the Nebraska Center for Nursing has focused its efforts on decreasing the nursing shortage through stimulating nursing student enrollment, motivating new generations of faculty nurses to stay in the State by offering scholarships, and by encouraging men and minorities to pursue nursing careers in Nebraska. While these efforts have made a positive impact on decreasing the nursing shortage the Center continues to develop additional strategies to meet the demand. The board and staff of the Nebraska Center for Nursing have developed a strategic plan for the years 2010-2015 with specific goals, tactics and strategies to address these needs. See Appendix for a detailed review of these initiatives. Some of the indicators that support the need to continue addressing the nursing shortage in the State of Nebraska are as follow:

- The number of nurses per 100,000 people in Nebraska has increased from 1,061 in 2004 to 1,070 in 2008, less than 1% increase which does not match the natural growth of the population in Nebraska. The State of Nebraska experienced lower increases in comparison to the neighbor states during the study period (e.g., South Dakota grew 10.4%). As the population ages, its medical care increases, and baby boomer nurses retire at higher rates every year, the gap between supply and demand will widen in Nebraska.
- Enrollments of nursing students along with graduation rates have steadily increased since the year 2001; however, this increase has not greatly impacted the total nursing workforce available in Nebraska. Therefore, at this rate of enrollment and graduation the nursing workforce is not being replaced as nurses retire, abandon their nursing career, or migrate out of the state at higher rates.
- Inhabitants in rural Nebraska experience the most critical nursing shortages in the State, which is exacerbated when analyzing APRN data. It is estimated that over 100,000 people living in frontier counties have a lower rate of nurses per inhabitant (50% or less of the nursing demand is satisfied) in comparison to metropolitan areas.
- Previous supply and demand models developed by HRSA were focused on calculating nursing shortage projections at the state level, which misrepresented the nursing situation in underserved areas. Recent developments have been focusing on narrowing down the geographic scale of the projections by calculating the supply and demand of nurses at the county level. The Nebraska Center for Nursing will continue supporting the study conducted by the Center of Health Care Studies, University of Albany, to refine these models for an accurate and up to date estimation of the nursing shortage.
- A recommendation from the supply and demand study was that one of the most effective and fastest way to decrease the nursing shortage (at least in the short term) was to increase RNs full-time equivalents with the existing nurses. After three years of implementation of the

models, it seems quite plausible that this recommendation is one of the most effective, as the rate for RN FTE is currently nearly 80%⁹, which gives space to increase FTEs among RNs.

⁹ Based on 2008 RN Renewal Survey.

APPENDIX

Strategic Plan to Address the Nursing Shortage: 2010-2015

VISION STATEMENT

There will be a sufficient supply of competitively compensated nurses providing leadership in care in a differentiated practice environment that consistently meets the needs of health care consumers in Nebraska.

Introduction

The board and staff members of The Nebraska Center for Nursing (CFN) have developed a set of four goals to be accomplished between the year 2010 and the year 2015. The main objective of these goals is to address the nursing shortage that currently affects the State of Nebraska. Succinctly, the goals identified by the CFN are as follow:

1. Increase recruitment of new nurses.
2. Increase retention of the current nursing workforce.
3. Increase enrollment capacity of the nursing education programs.
4. Sustain the work of the Nebraska Center for Nursing.

Each goal has been defined by its expected outcomes during the 2010-2015 period and through specific strategies and tactics to address them. It is necessary to consider that identifying strategies and tactics for each goal is an ongoing and permanent process taken by the board and staff members of the CFN. On the following pages, strategies and tactics for each goal are explained in detail.

Goal 1- Recruitment

Recruit new nurses for the state through examination and endorsement in order to ensure an adequate nursing workforce in Nebraska, in terms of numbers, diversity, educational mix and geographic distribution.

Expected Outcomes:

*By 2015, the Nursing Supply and Demand Projection Model will indicate that Nebraska has 18,567 (17,133) FTE Registered Nurses.

*By 2015, the number of licensed nurses and students enrolled in nursing programs from ethnic minorities in Nebraska will increase by 50% from 917 to 1,375.

*By 2015, graduation rates from nursing education programs in Nebraska will reflect increased enrollments.

*By 2015, the number of men licensed as nurses and male students enrolled in nursing programs in Nebraska will increase by 25% from 980 to 1,225.

*Geographic distribution of nurses will more closely reflect the population distribution.

Strategy # 1:

Continue to conduct surveys to assess nursing demand and nursing supply.

Tactics:

- Conduct a nursing demand survey to assess vacancy rate by type of facility, type of position and geographic location. Work to increase participation rate of Omaha hospitals.
- Conduct an environmental scan at each CFN board meeting to identify health care and workforce trends that will affect nursing supply and demand.
- Monitor national and international trends that could jeopardize licensing standards.

Strategy # 2:

Develop creative mechanisms to attract a diverse group of students to nursing as a strong career option.

Tactics:

- Plan and implement strategies to ensure that junior high school and high school counselors have current and accurate information on appropriate preparation for nursing education, types of educational programs available, nursing roles, the need for nurses and earning potential and opportunities available in nursing.
Update presentation and take to junior high and high school students in metropolitan and rural areas to project nursing as a valuable career.
- Plan for Center for Nursing board members to attend career days at metropolitan and rural junior high and high schools.
- Coordinate planning for a focus group of practicing male nurses to identify strategies to address stereotypes and recruit more men into nursing.

- Publish an article in Men in Nursing magazine promoting nursing as a positive career choice in Nebraska.
- Partner with community organizations to provide information on a career in nursing to minority students.
- Secure a place on the agenda for the 2012 Minority Health Conference.
- Develop and distribute a tool kit on nursing recruitment strategies for rural areas.
- Distribute Center for Nursing book covers to school nurses to direct attention of students towards nursing as a career.

Strategy # 3:

Explore causes for the documented gap between increased enrollment in nursing education programs and subsequent numbers of graduates.

Tactics:

- Work with members of the Nebraska Assembly of Deans and Directors to identify potential causes of the identified gap.
- Determine if additional focused data collection is needed and work with programs to develop strategies to improve graduation rates.

Goal 2 - Retention

Identify and promote known successful strategies for retention of nurses in the workforce.

Expected Outcomes:

*The out migration of nurses will be decreased by 50 per year.

*The non-renewal of RN licenses will decrease from 5.9% in 2006 to 4.9% in 2015.

*The non-renewal of LPN licenses will decrease from 12% in 2008 to 10% in 2015.

*By 2015, the CFN will sponsor/co-sponsor three activities/strategies that promote the image of nursing.

*By 2015, the CFN will sponsor/co-sponsor implementation of three activities/strategies designed to increase nursing retention.

Strategy # 1:

Following each license renewal period, determine the percentage of nurses who did not renew their licenses.

Strategy # 2:

Conduct a random survey of nurses who did not renew their licenses to determine reasons for non-renewal.

Tactics:

- Implement a survey to determine reasons for 2011 LPN non-renewal and 2012 RN non-renewal.
- Analyze survey results.

Strategy # 3:

Based on survey results, develop strategies to retain nurses in the workforce as evidenced by reduction in percentage of non-renewal of licenses.

Tactics:

- Survey Nebraska nursing employers to determine strategies utilized to retain nursing staff, including 62+ year-old nurses.
- Conduct a literature review of current retention strategies.
- Add position paper on Retention of Older Nurses to the CFN website.
- Develop a retention tool kit for “101 Ways to Retain Nurses” integrating strategies from the employer survey, literature review and Magnet concepts. Include strategies to promote retention of 62+ year-old nurses.
- Develop a listing of possible positions (e.g., volunteer positions, mentoring positions) that 62+ year-old nurses might pursue to meet practice hour requirements for license renewal. Add list to the CFN website and publish in Nursing News.

Strategy # 4:

Promote a positive image of nursing.

Tactics:

- Send out a press release asking the public to nominate and send in stories about a “Nurse Who Makes a Difference”.
- Send a letter and certificate to each nominee acknowledging their nursing accomplishments.

Strategy #5:

Conduct a random survey of nursing faculty

Tactics:

- Implement a survey to determine reasons for faculty who are leaving teaching.

Goal 3 - Enrollment

Maintain enrollment capacity of Nebraska's nursing education programs and promote academic progression.

Expected Outcomes:

*By 2015, there will be an adequate pool of qualified faculty to support the optimum capacity of nursing education programs.

*By 2015, nursing education programs will have funding, faculty and clinical and classroom resources sufficient to produce graduates at all levels to meet Nebraska's nursing needs.

Strategy # 1:

Identify methods to increase funding for faculty education.

Tactics:

- Monitor and work with legislators in seeking funding for the faculty scholarship fund.
- Collaborate with individual agencies for funding sources.
- Keep nursing programs informed of educational opportunities and post on the Center for Nursing Website.
- Support nursing programs and clinical agencies collaboration to create partnerships to provide adequate clinical instructors/experiences.

Strategy # 2:

Implement procedures to recruit, maintain and utilize faculty to the fullest extent possible.

Tactics:

- Assist nursing programs to develop best practices for mentoring new faculty for retention and job satisfaction
- Develop a place on the Center for Nursing Website for posting adjunct faculty needs and availability
- Monitor retirement age of faculty on a continuous basis

Strategy # 3:

Increase the availability of laboratory and clinical facilities to all nursing programs.

Tactics:

- Encourage implementation of student passport and clinical scheduling programs
- Encourage nursing programs to supplement education by utilizing simulation

Goal 4 - Sustainability

Sustain the work of the Nebraska Center for Nursing.

Expected Outcomes:

*Projection model data continues to demonstrate a declining gap between demand and supply of nurses in Nebraska.

*Interventions are systematically identified and implemented to ensure adequate supply of nurses to meet Nebraska health care needs.

Strategy # 1:

Disseminate data to ensure that stakeholders, policy-makers and decision-makers are accurately and broadly informed.

Tactics:

- Disseminate CFN annual reports that include the vision, strategic plan, current projection data and accomplishments.
- Present to diverse groups based on information from the projection model data and seek input, collaboration.

Strategy # 2:

Form alliances with stakeholders to meet the outcomes for Goals 1 – 4 of the Strategic Plan.

Tactics:

- Mobilize coordinated efforts between stakeholders to increase synergy to address the nursing shortage.
- Work collaboratively with the AARP/RFJ Center to Champion Nursing in America Nebraska team.

Strategy # 3:

Seek external funding to support activities beyond the basic operations funded through licensure fees.

Tactics:

- Through the CFN Foundation actively identify and seek external funding sources.
- Foster relationships with potential donors and seek a match between CFN needs and donor interests.

Strategy # 4:

Maintain staff to support activities of the CFN and ensure outcome achievement.

Tactics:

- Maintain contract agreement with researcher.