



## Interim Health Services Committee Testimony April 13, 2016 Bismarck, ND

Senator Lee and committee members, thank you for the invitation to present some of the results from our ongoing nursing workforce research today. I am Dr. Patricia Moulton and I am the Executive Director of the ND Center for Nursing. Due to time constraints I plan to present some of the highlights of our 2016 Education, Supply and Demand Chartbook. The full chartbook is available on our website at <http://www.ndcenterfornursing.org/nursing-workforce-research/2016-education-supply-and-demand-chartbook/>

The North Dakota Center for Nursing is a non-profit, 501c3 organization that was developed in 2011 to represent over 18,000 nurses and over 40 nursing organizations across North Dakota. The mission of the North Dakota Center for Nursing is through collaboration to guide ongoing development of a well-prepared and diverse nursing workforce to meet health care needs in North Dakota through research, education, recruitment and retention, advocacy and public policy.

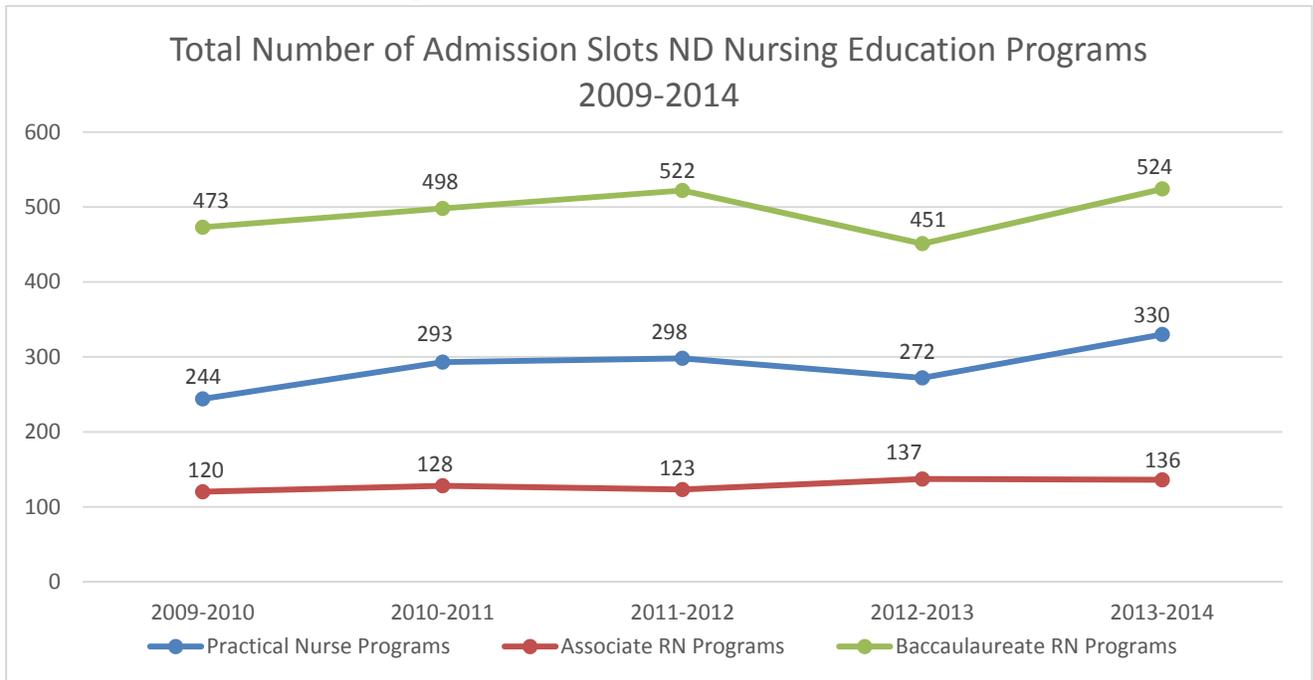
Nursing workforce research efforts have been tracking education, supply and demand trends since 2002. Previous workforce study reports are available at <http://www.ndcenterfornursing.org/nursing-workforce-research/> Workforce studies started with the North Dakota Nursing Needs Study, a legislatively mandated study and has continued with the support of the North Dakota Board of Nursing and through the North Dakota Center for Nursing. Today, I will present policy recommendations and highlights from each of the sections of our chartbook.

### Nursing Education

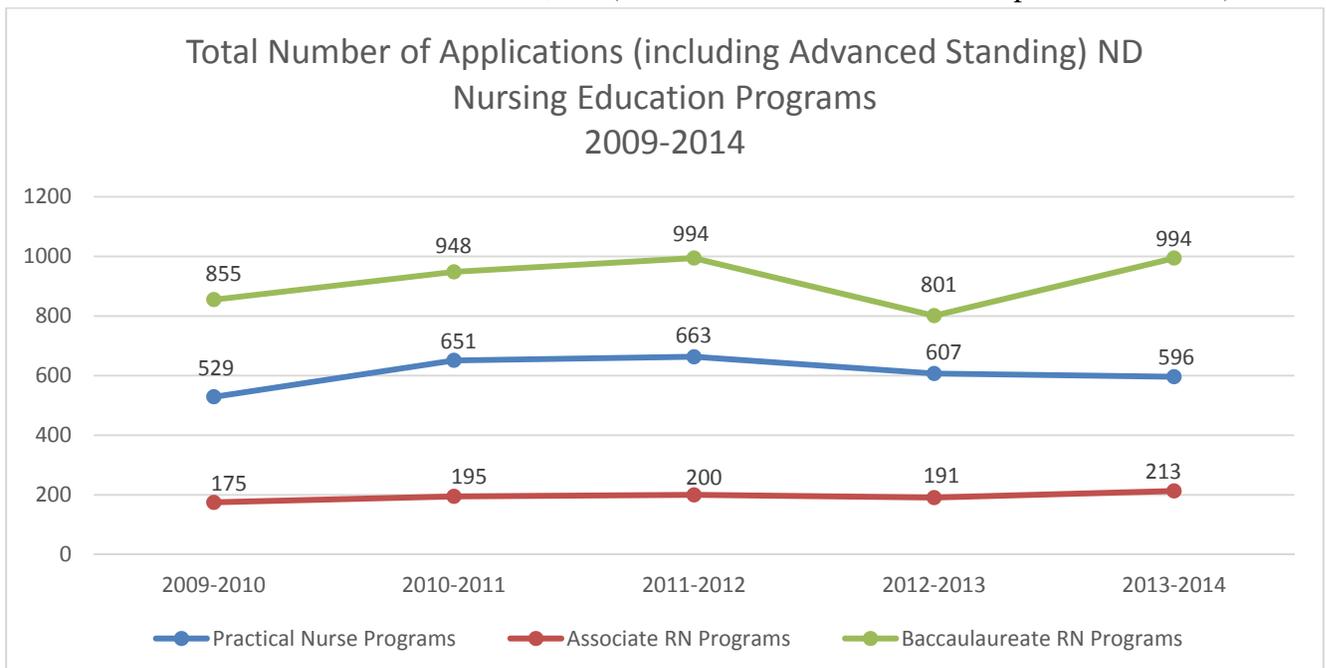
North Dakota currently has sixteen nursing education programs including preparation for LPN, RN, Advanced Practice Nurses and other graduate education programs. There is also a new post-licensure BSN program at Mayville State University that started in Fall of 2014 (NDBON, 2015).



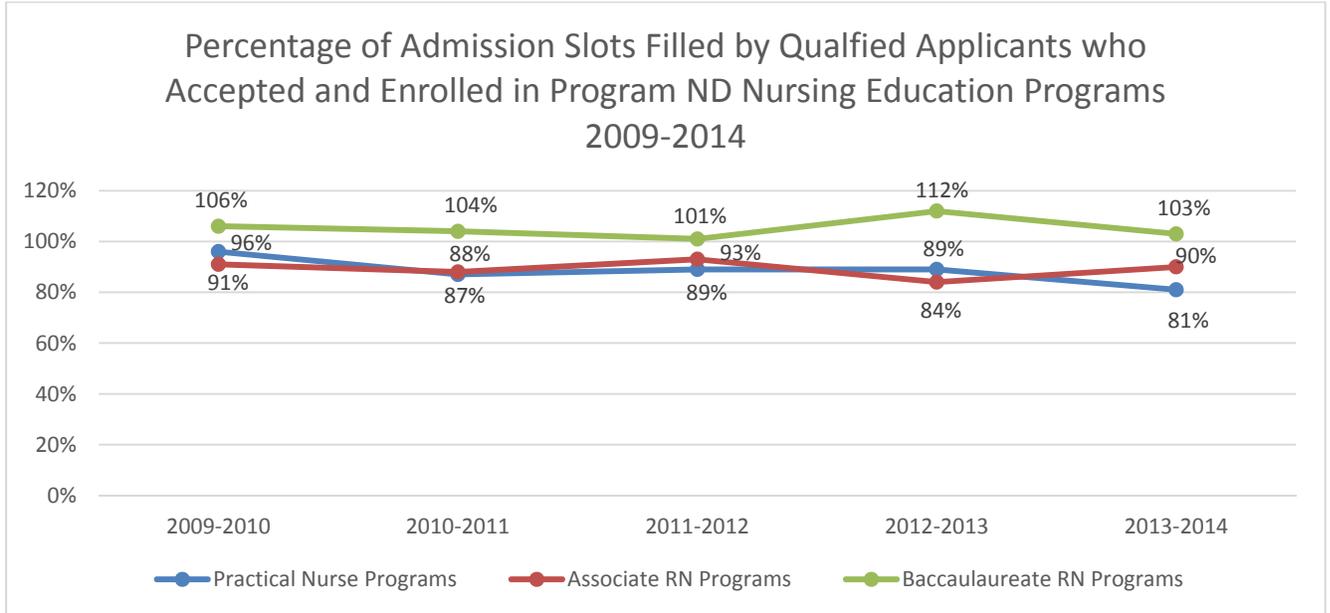
Nursing education programs had a total of 990 admission slots during the 2013-2014 academic year for all Practical Nurse and Registered Nurse programs. This was an increase from 837 slots in 2009-2010 (NDBON Annual Education Reports 2000-2014).



The total number of applications to all programs during the 2013-2014 academic year was 1,803 which is an increase from the 2009-2010 total 1,559 (NDBON Annual Education Reports 2000-2014).

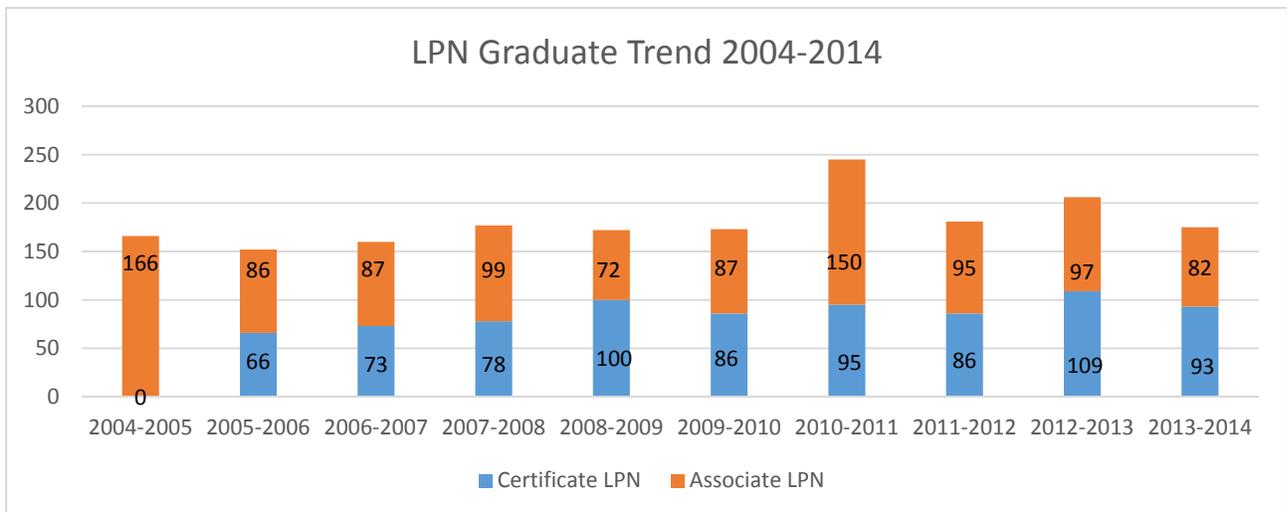


The percentage of admission slots that were filled by qualified applicants who were accepted and then enrolled in ND nursing education programs was 81% for Practical Nurse Programs, 90% for Associate Degree RN programs and 103% for Baccalaureate Degree RN Programs during the 2013-2014 academic year (NDBON Annual Education Reports 2000-2014).



The next three graphs show graduation rates from LPN, RN and graduate programs. There have been increases in all three since the 2003-2004 academic year. I have provided detail about which programs provide which degrees above each graph.

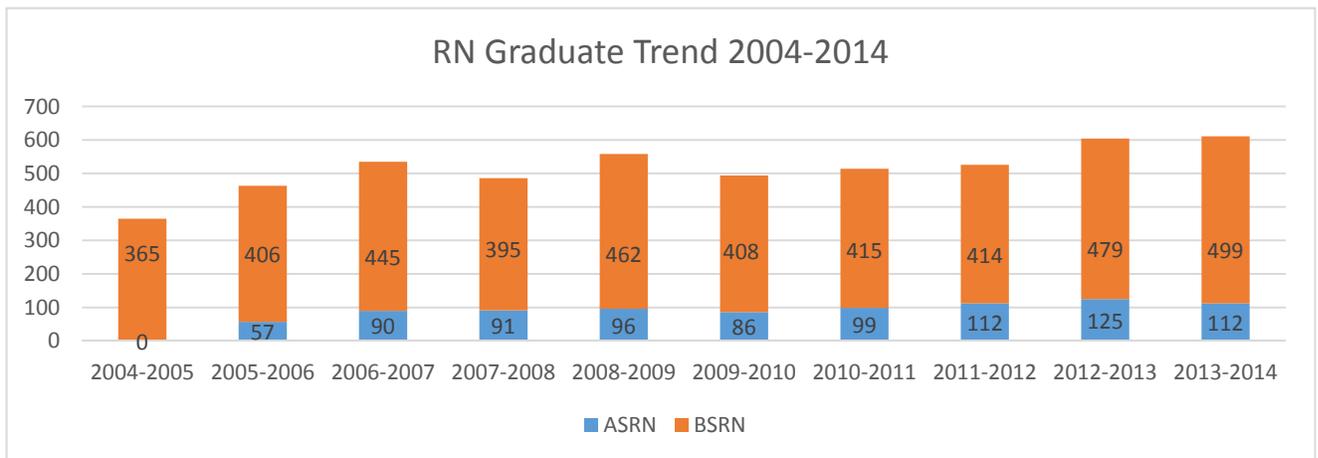
In 2014, four colleges/universities graduated students with a Certificate in Practical Nursing including Bismarck State College, Dakota College at Bottineau, Lake Region State College and Williston State College (Fort Berthold Community College was closed in 2014).



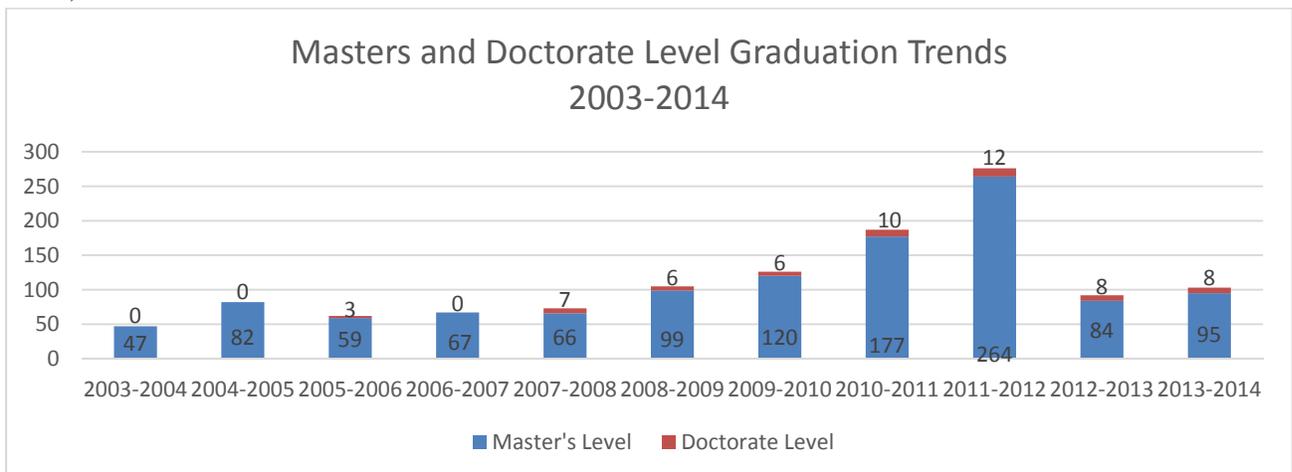
The number of annual graduates from these programs has varied between zero and 109 graduates. In 2014, five college/universities graduated students with an Associate Degree in Practical Nursing including Dickinson State University, North Dakota State College of Science, Sitting Bull College,

Turtle Mountain Community College and United Tribes Technical College. The number of graduates from these programs has varied between 72 graduate to 166 graduates. (NDBON Nursing Education Annual Reports 2004-2014).

In 2014, five colleges/universities graduated students with an Associate’s Degree in Registered Nursing. This included Bismarck State College, Dakota College at Bottineau, Lake Region State College, Williston State College and North Dakota State College of Science. The number of annual graduates has varied from 0 to 125. In 2014, eight colleges/universities graduated students with a Bachelor’s Degree in Registered Nursing. These include Concordia College, Dickinson State University, University of Jamestown, Sanford College of Nursing, Minot State University, North Dakota State University, University of Mary, and University of North Dakota. Annual graduates from these programs varied from 365 to 499. (NDBON Nursing Education Annual Reports 2004-2014).

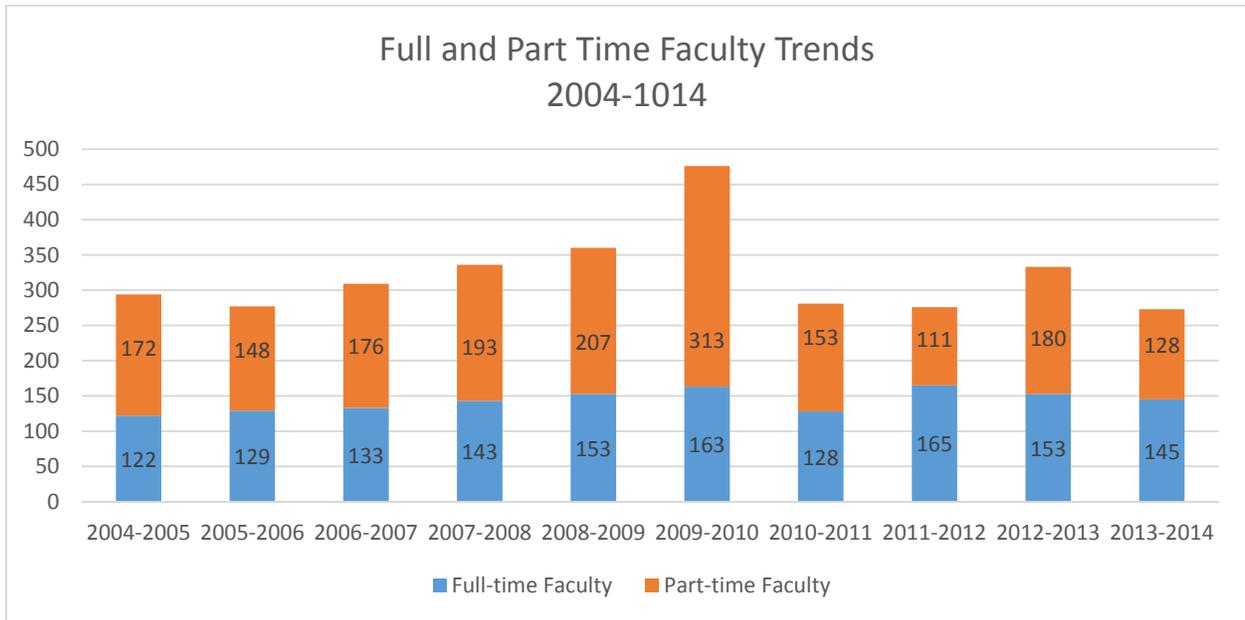


In 2014, three colleges/universities graduated students with a Master’s Degree. This included North Dakota State University, University of Mary and University of North Dakota. One college/university graduated students with a Doctorate degree which was North Dakota State University. There was an increase in both masters and doctorate students through 2012 and both have dropped during the last two years. It is important to note the 2011-2012 master’s degree includes nurse educator and nurse administrator advanced degrees from one program that have not been included in the other years and results in a slightly inflated number for that year. (NDBON Annual Nursing Education Reports 2003-2014).

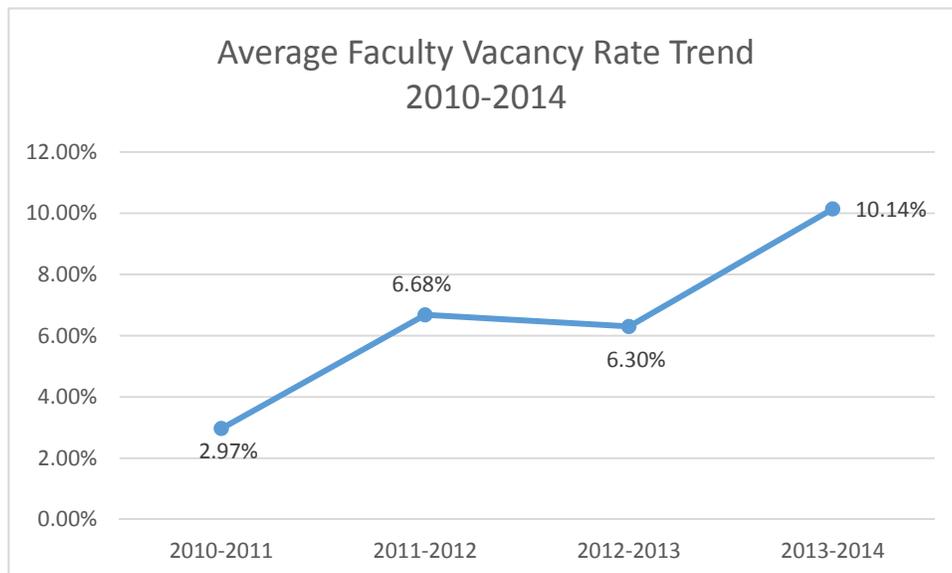


## Nursing Program Faculty

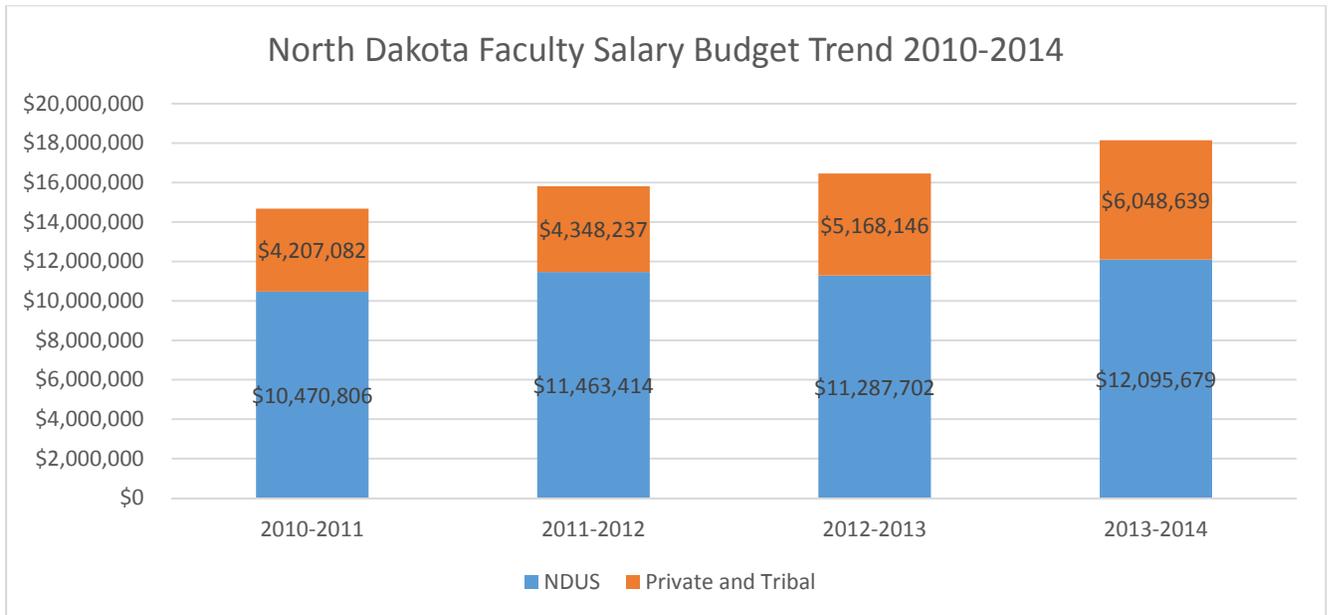
The total number of faculty has varied over the past ten years with a peak of 476 faculty members in 2009-2010. In recent years, there has been a noticeable drop in part-time staff and an increase in full-time nursing faculty. (NDBON Annual Education Reports 2004-2014). Note: faculty numbers include nurse faculty interns and assistants as reported in annual reports.



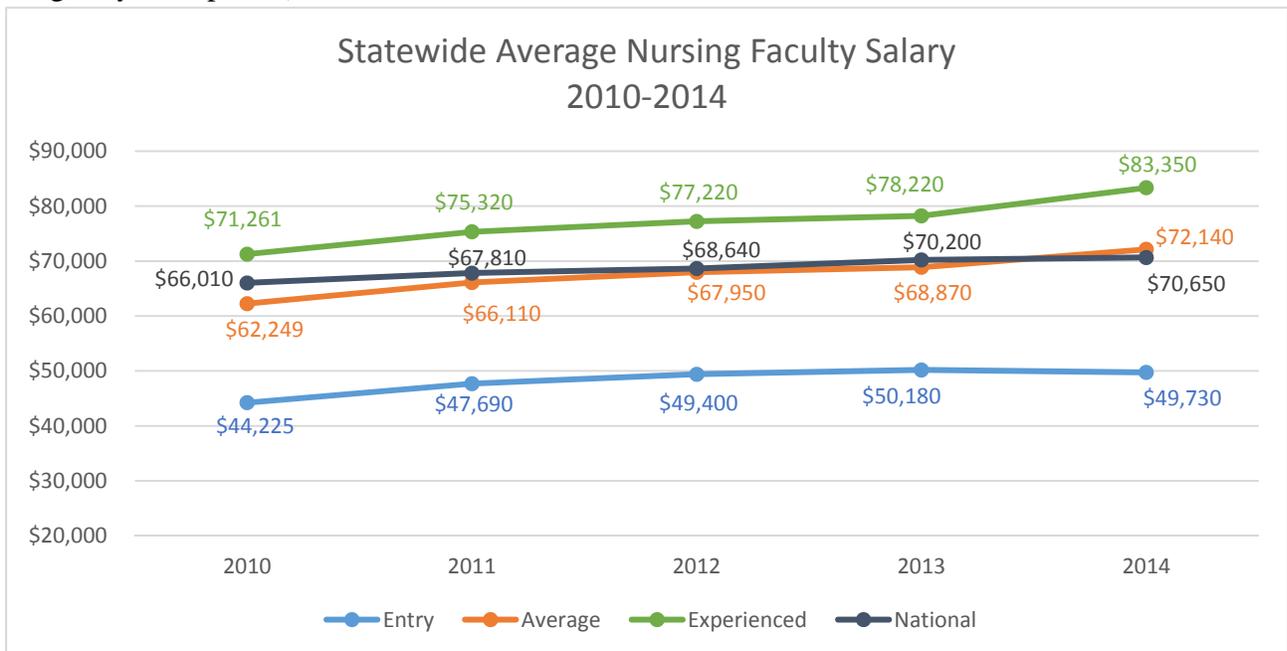
Vacancy rates were calculated using the reported number of vacancies being actively recruited and the total number of faculty FTE for each program. Over the last four years, faculty vacancies have risen from 2.97% to 10.14%. (NDBON Annual Education Reports 2010-2014).



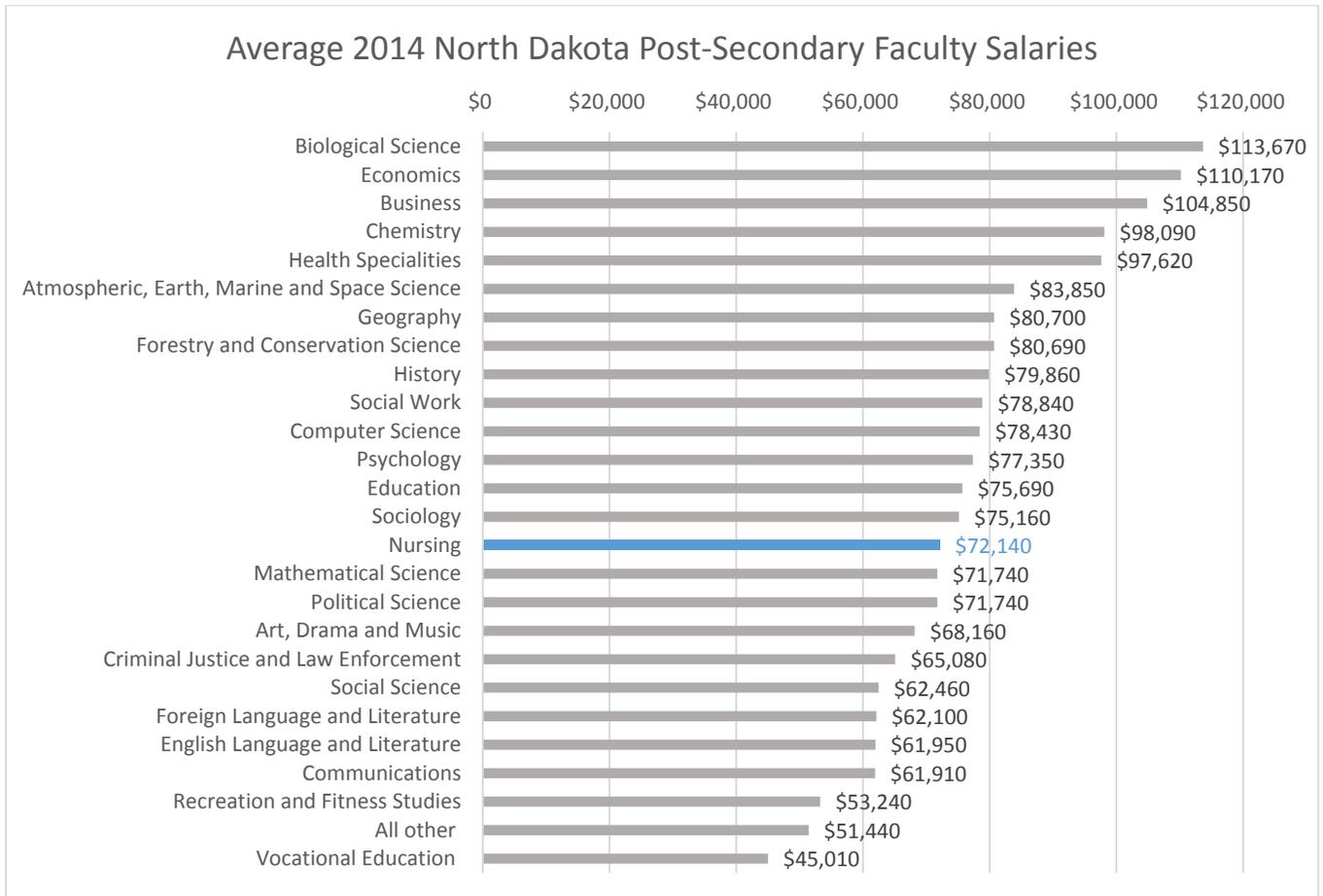
Overall, nursing Education program salary budgets have risen 19% over the last four years. Private and tribal colleges had the greatest change with a 30% increase in salary budget between 2010 and 2014. North Dakota University System funded education programs saw a 13% increase over the same period. (NDBON Annual Education Reports 2010-2014).



Entry level faculty salaries have increased slightly over the last five year with the greatest change in experienced (not based on years of service) faculty salary. In 2014, average ND salary rose slightly above national average salary (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation)



As compared with other post- secondary faculty, nursing faculty have the 15<sup>th</sup> highest salary with a lower salary than other health occupation faculty such as health specialty faculty (Nutrition, Pharmacology, Public Health, and Medicine), social work, and psychology. ND Labor Market Information Center 2014 Employment and Wages by Occupation)



### Nursing Education Summary and Policy Recommendations

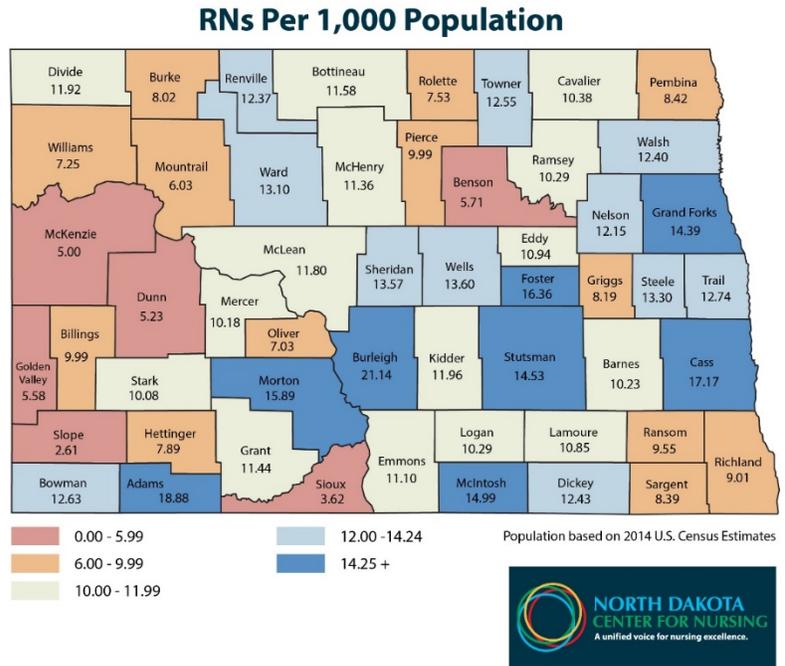
- North Dakota’s sixteen nursing education programs have many more applicants than available admission slots. This is particularly evident in Baccalaureate RN programs that have filled admission slots at above 100% for the past five years. Practical Nurse Programs while also having more applications than slots, only filled 81% of admission slots with qualified applicants that were accepted and enrolled. Greater funding is needed to increase admission slots and increase the number of qualified applicants. In addition, the availability of preceptors is an ongoing barrier to education programs. The ND Center for Nursing is in the final stages of developing a policy brief outlining ways to increase the availability of preceptors for APRN programs.
- There has been an increase in the number of vacant faculty positions across the last four years along with an increase in the use of unqualified faculty over the last three years. This is coupled with differences in program salary budgets between North Dakota University System programs (19% increase) and private/tribal programs (30% increase) over the last four years. Nursing Faculty salary is substantially lower than the national average and is the lowest average salary among North Dakota health care occupation faculty. Greater funding is needed to increase salary and fund recruitment programs for faculty. The ND Center for Nursing is currently developing a policy brief outlining suggestions for increasing recruitment of faculty.

# NURSING SUPPLY

In 2014, North Dakota had 1,389 RNs per 1,000 people which is greater than the national average of 8.43/1,000 people (U.S.

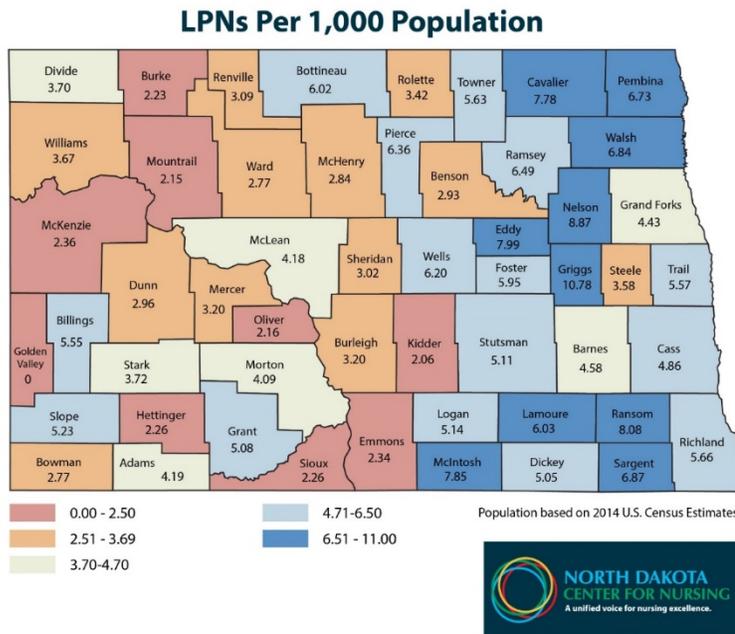
Bureau of Labor Statistics, 2014; U.S.

Census Bureau, 2014). It is important to note that national averages do not take into account differences in health care delivery systems in states with large rural and elderly populations like North Dakota.

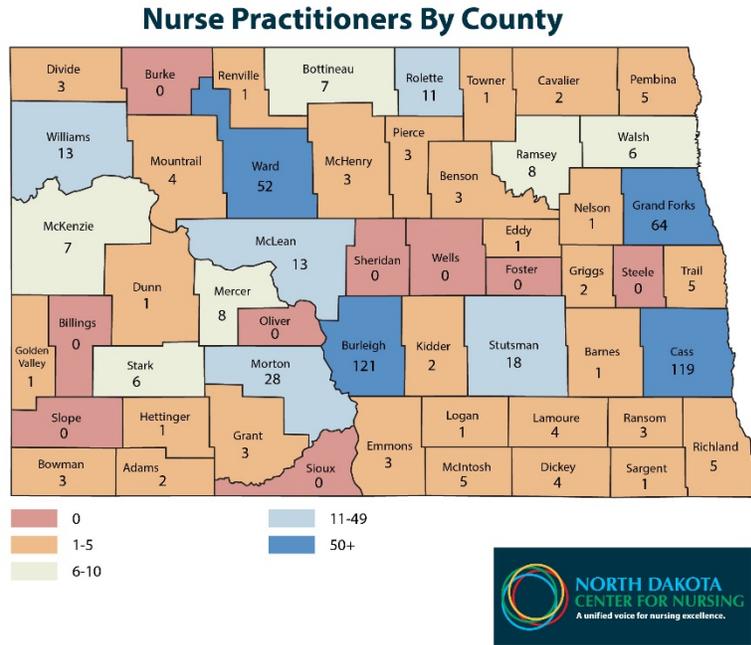


In 2014, ND had 4.23 LPNs per 1,000 people which is more than the national average of 2.18.

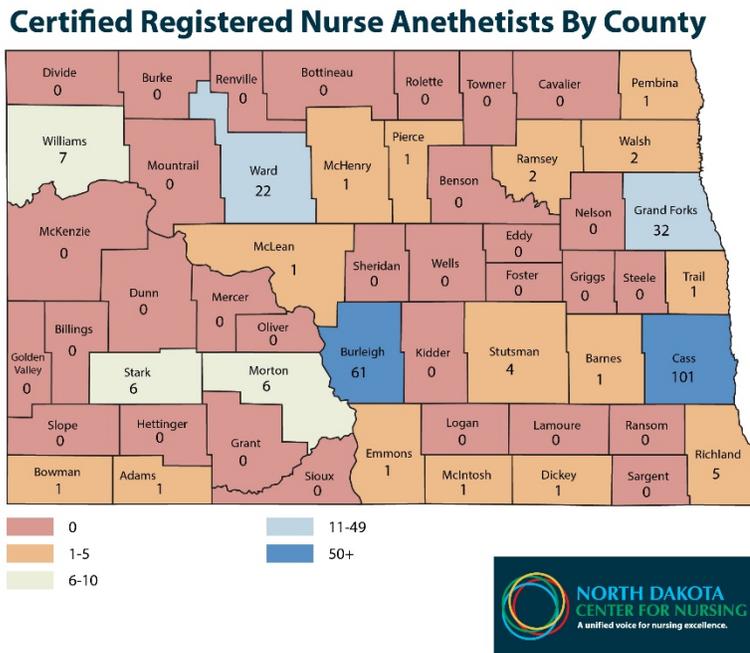
However, the number of LPNs are not evenly distributed throughout the state with the greatest numbers per population in the Eastern portion of the state (NDBON Annual Report 2014, US Census Bureau 2014).



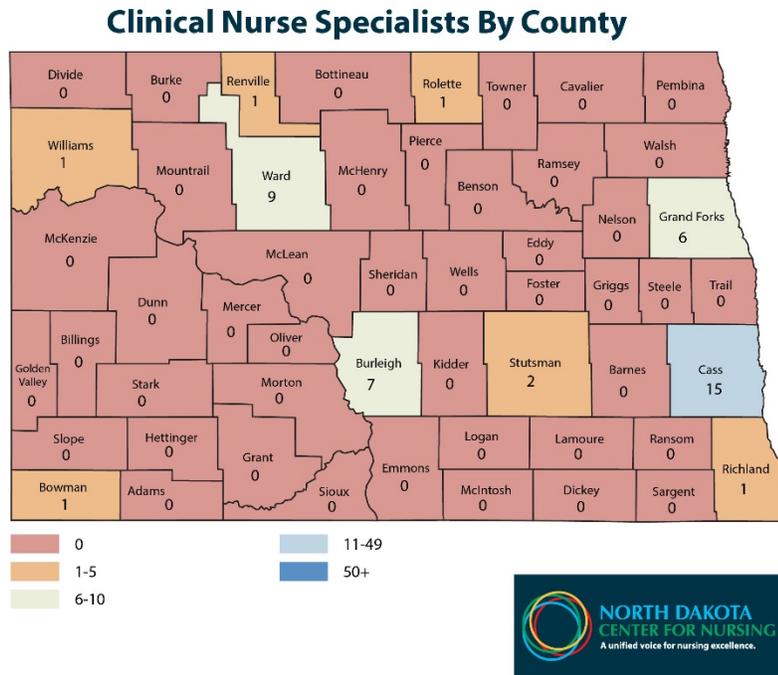
In 2015, North Dakota had a total of 706 Nurse Practitioners as compared to 407 in 2010 (NDBON Annual Report 2011-2012, NDBON 2015 Licensure Data). In 2015, 9 counties had 0 Nurse Practitioners compared to 11 counties in 2010 (Moulton, Johnson & Lang, 2010). (Note. This map includes NP primary work county. Additional counties where NPs work are not reflected in this map).



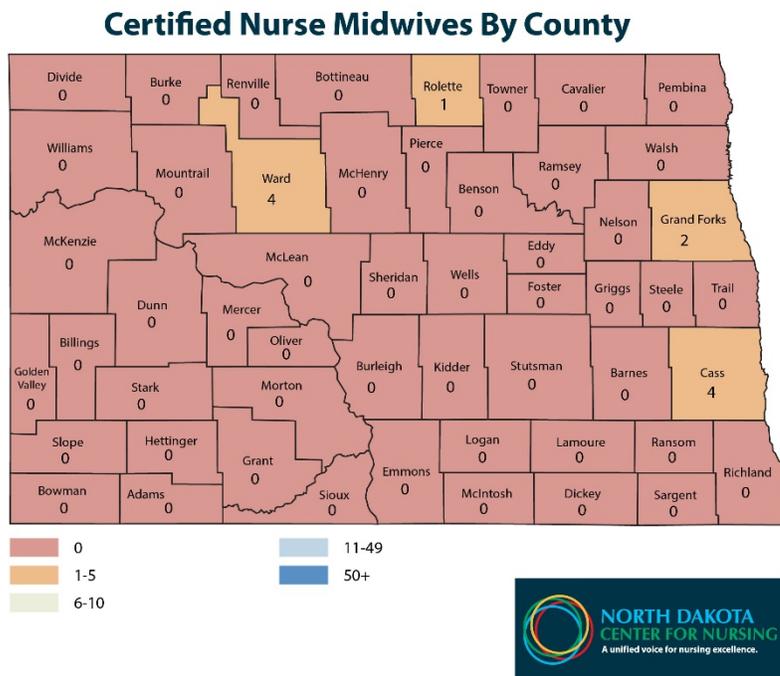
In 2015, there were 321 Certified Registered Nurse Anesthetists as compared to 286 in 2012 (2011-2012 NDBON Annual Board Report, 2015 NDBON Licensure Data). Thirty-one counties currently have 0 CRNAs as compared to 32 counties in 2010 (Moulton, Johnson & Lang, 2010). (Note. This map includes CRNA primary work county. Additional counties where CRNAs work are not reflected in this map).



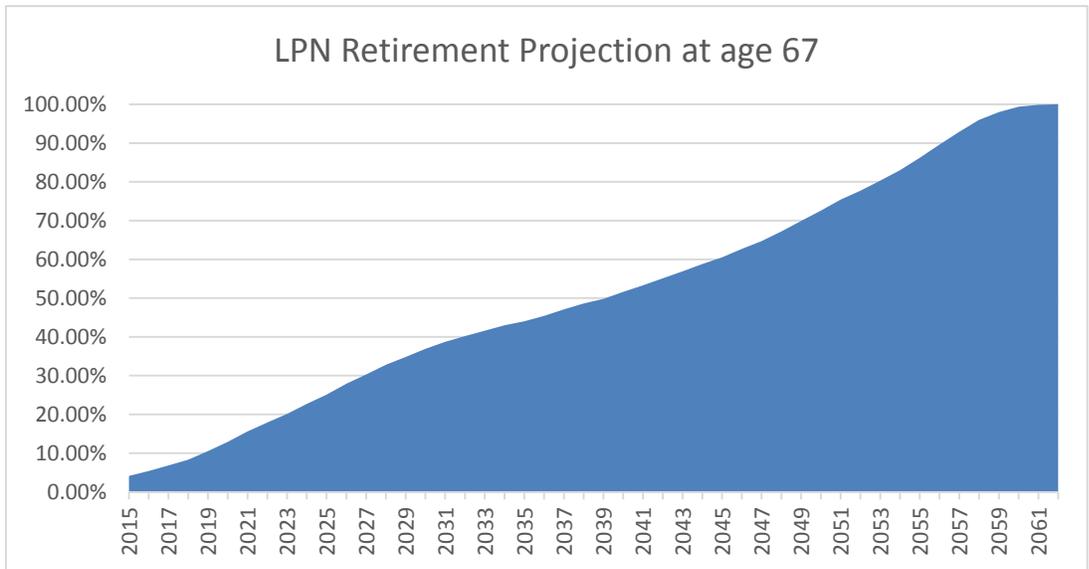
In 2015, there were 55 Clinical Nurse Specialists (NDBON Licensure Data 2015). Forty-four counties have zero Clinical Nurse Specialists. The greatest number of Clinical Nurse Specialists are located in Cass County.



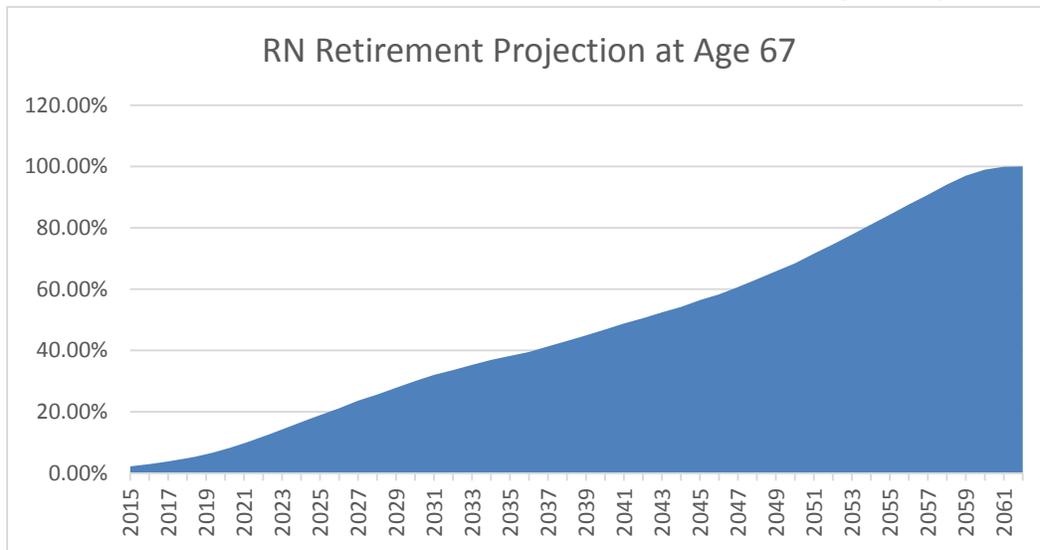
In 2015, there were 17 Certified Nurse Midwives (NDBON Licensure Data 2015) located in four counties (Rolette, Ward, Grand Forks & Cass). The greatest number of Certified Nurse Midwives are located in Cass and Ward counties



Projecting retirement at age 67, it is estimated that 27.9% of current LPNs will have retired by 2026 (NDBON Nurse Licensure Database 2015). North Dakota Nursing Survey results indicate that LPNs would consider delaying retirement if they were able to increase pay, have flexible scheduling and retain benefits while working part-time (Lang & Moulton, 2009)

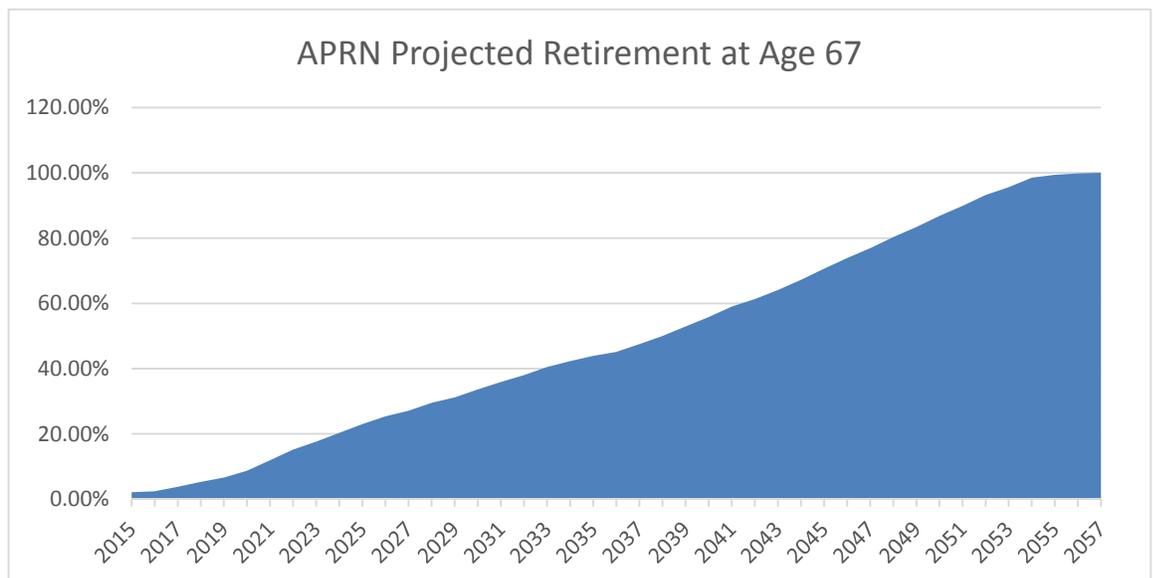


Projecting retirement at age 67, it is estimated that 21.10% of current RNs will have retired by 2026 (NDBON Nurse Licensure Database 2015). North Dakota Nursing Survey results indicate that RNs



would consider delaying retirement if they were able to increase pay, have flexible scheduling and retain benefits while working part-time (Lang & Moulton, 2009)

Projecting retirement at age 67, it is estimated that 25.4% of current APRNs will have retired by 2026 (NDBON Nurse Licensure Database 2015)



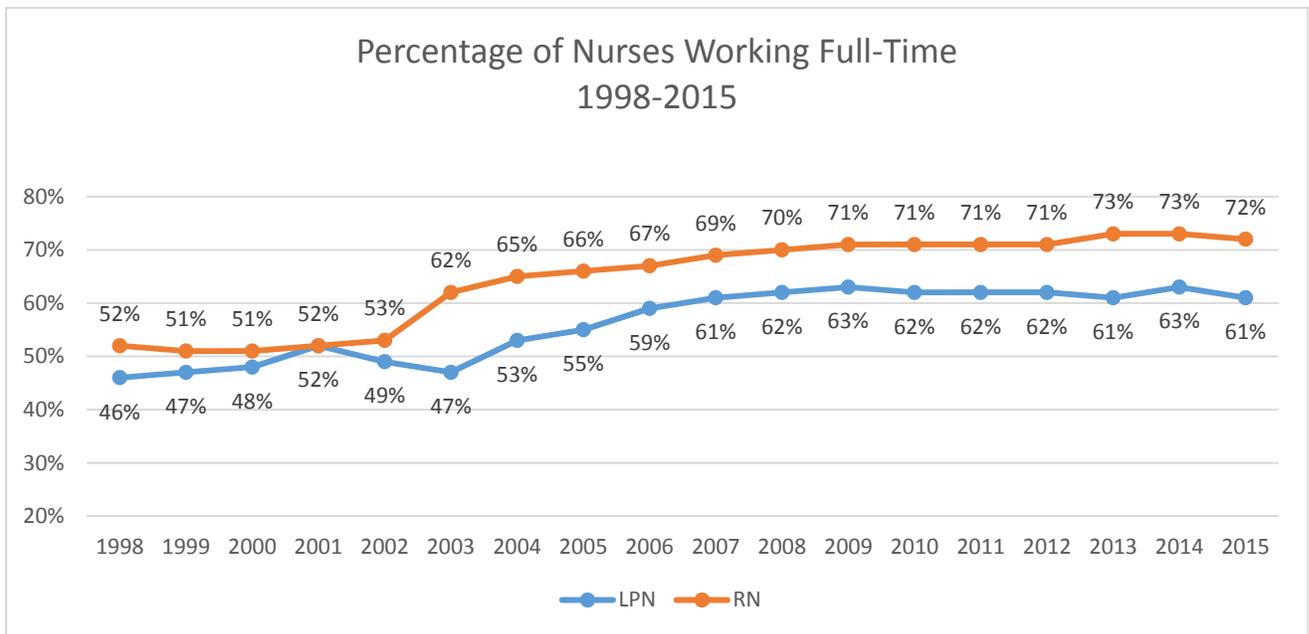
The full Chartbook includes additional demographic information such as age and diversity.

### Nursing Supply Summary and Policy Recommendations

- Many rural counties in the state do not have an adequate supply of nurses. This is especially apparent for Advanced Practice Registered Nurses. Programs to supporting increased recruitment and retention of nurses to rural areas will increase availability of nurses to these areas.
- Nurses serve a critical role in all aspects of health care. The ND Center for Nursing is in the final stages of developing a policy brief related to the role of nurses in behavioral health.

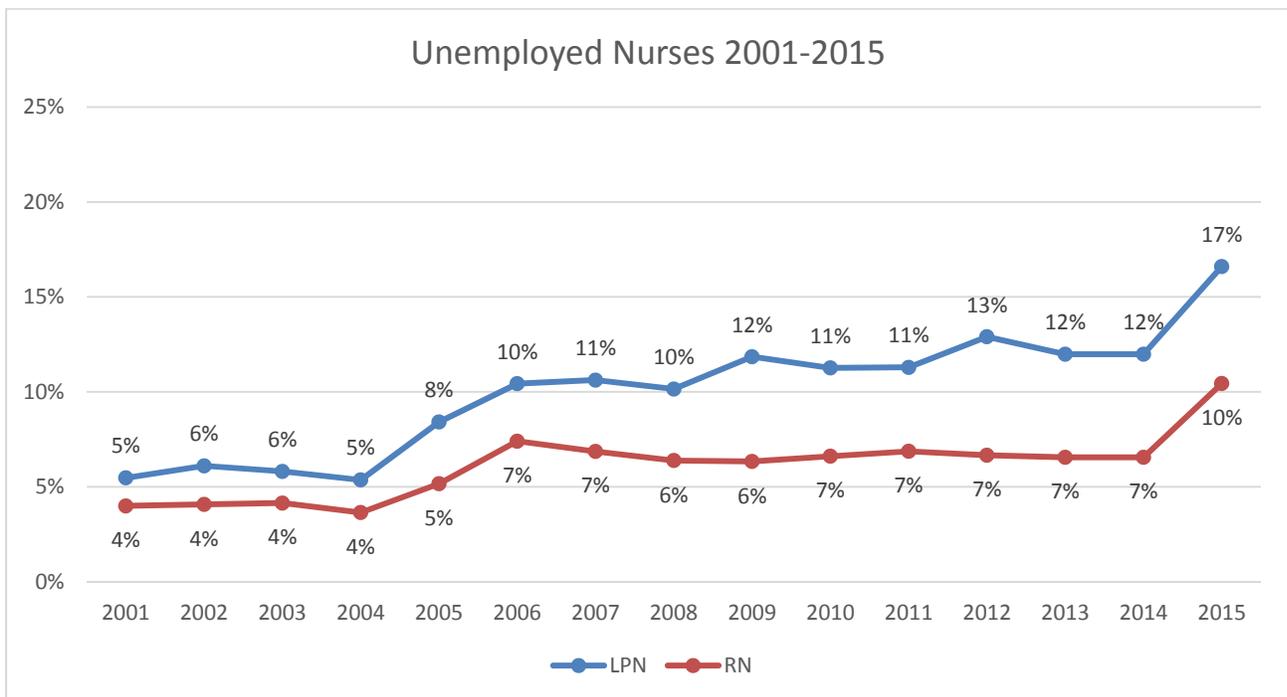
### NURSING DEMAND

The percentage of nurses working full-time has increased and then stabilized over the last five years with a slight dip in 2015 (NDBON Annual Report 1998-2014, NDBON Licensure Database 2015). Nationally, 60% of RNs are employed full-time (Budden, Zhong, Moulton & Cimiotti, 2013).

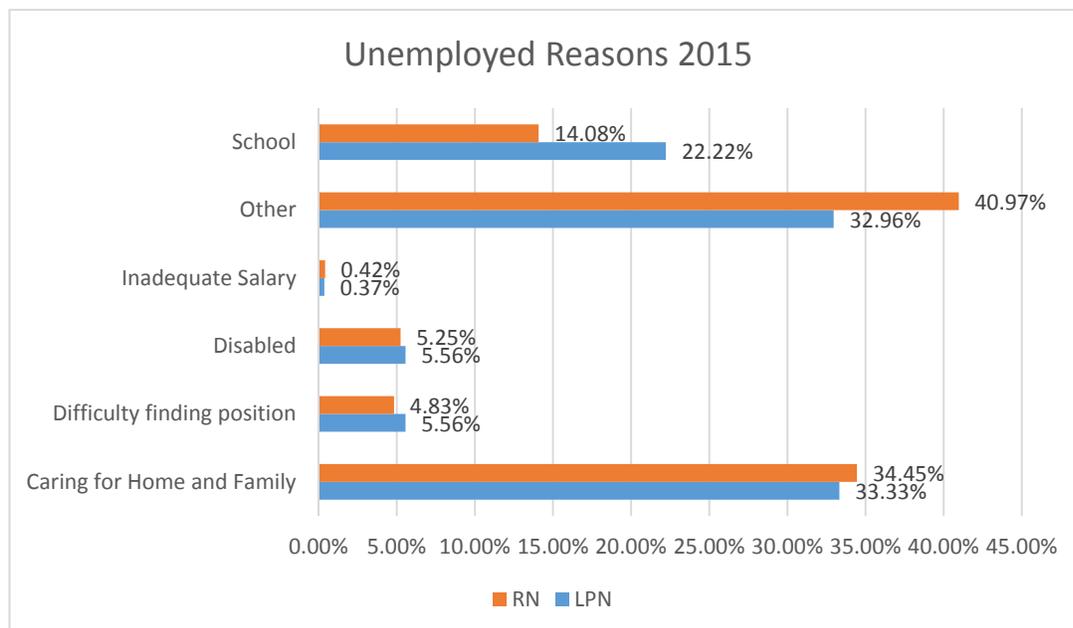


A greater percentage of LPNS are unemployed (NDBON Annual Report 1998-2014, NDBON Licensure Database 2015). Unemployment has increased for both LPNs and RNs in the last year.

In 2013, 3.8% of LPNs were unemployed in national study (Coffman, Chan & Bates, 2015). Seven percent of RNS were unemployed nationally (Budden, Zhong, Moulton & Cimiotti, 2013).



In 2015, of those nurses that indicated they were unemployed, the most frequent reasons were other and



and caring for home and family. A little more than 1/5 of LPNs indicated they were going to school. (NDBON Licensure Database 2015). Nationally, 51% of unemployed RNs indicated they were caring for home and family (Budden, Zhong, Moulton & Cimiotti, 2013).

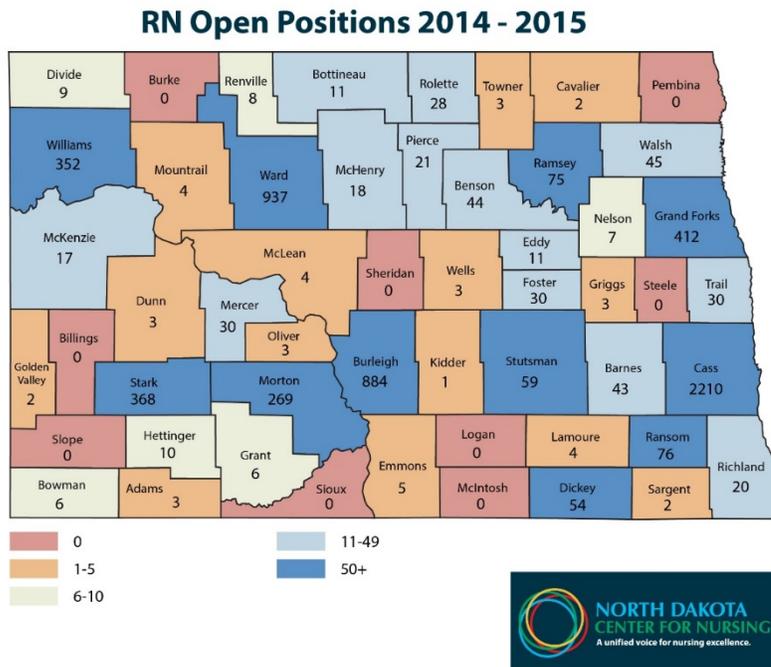
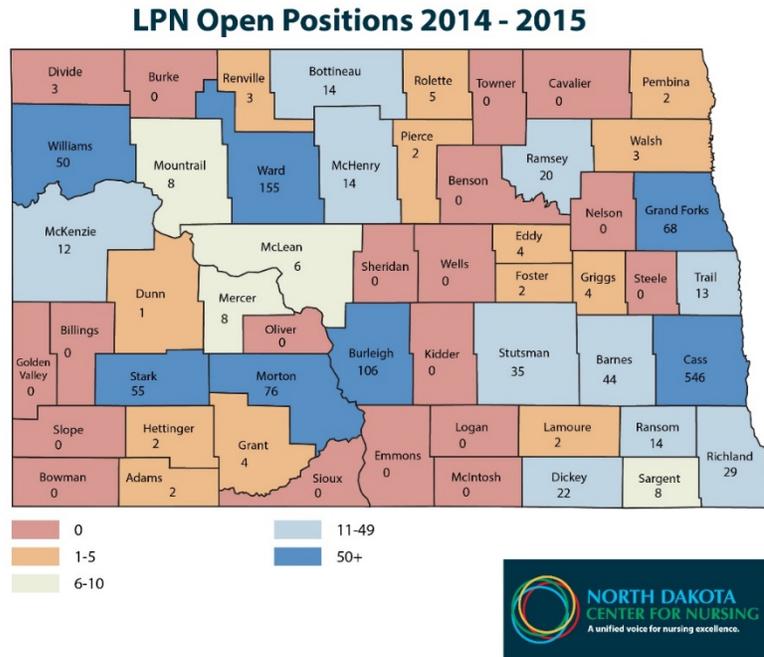
The full chartbook includes additional detail regarding practice settings and areas.

## Job Postings

In addition to job posting information, there are graphs of vacancy and turnover in the full chartbook.

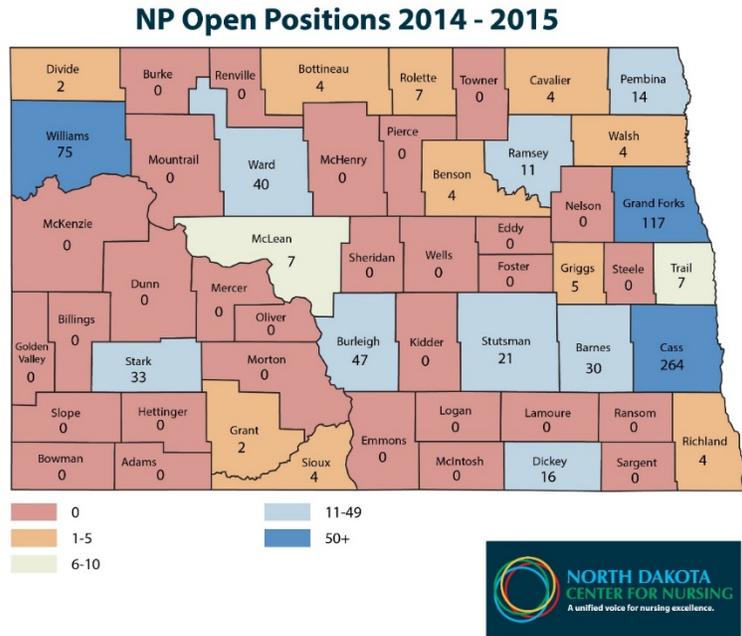
Data from Jobsnd.com (2015), the state's job posting system that pulls job postings from the majority of job postings by employers can be utilized to roughly estimate demand. Job Service North Dakota pulled monthly job openings by O\*net occupation code from July 1, 2014 to June 30, 2015. (Note: Jobsnd data includes flex time, traveling and other positions).

There was an average of 111.8 LPN jobs/month for 2014-2015 which was lower than the 2012 average of 139 jobs/month. Total LPN postings for 2014-2015 was 1,342 jobs. Seven counties had more than 50 LPN job postings over twelve months. Twenty counties had zero job postings for LPNs (Jobsnd.com, 2015).



There was an average of 511 RN jobs/month for 2014-2015. Total RN postings for 2014-2015 was 6,132 jobs. Eleven counties had more than 50 RN job postings over twelve months. Nine counties had zero job postings for RNs (Jobsnd.com, 2015).

There was an average of 60.2 Nurse Practitioner jobs/month for 2014-2015. Total NP postings for 2014-2015 was 722 jobs. Three counties had more than 50 NP job postings over twelve months. Thirty counties had zero job postings for NPs (Jobsnd.com, 2015).



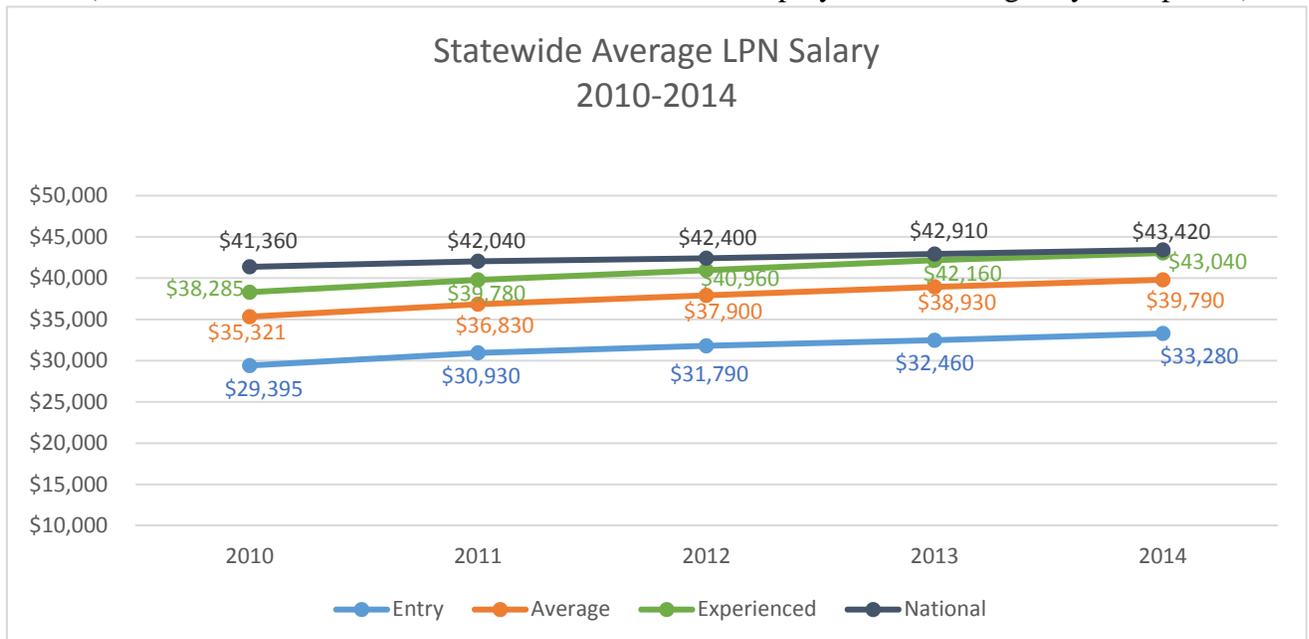
There was also an average of .6 jobs/ month for Nurse Midwives and 3.7 jobs/month for Nurse Anesthetists.

In 2012, there was a monthly average of 441 job openings for RN and APRN jobs (Jobsnd.com, 2012). In 2015, there was a monthly average of 575.5 job openings for RN and APRN jobs combined This is an increase of 134.5 jobs per month or 1,614 jobs per year (Jobsnd.com, 2015).

### Salary

State Labor salary information is available at a state level and by labor region level for LPNs, RNs and NPs (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).

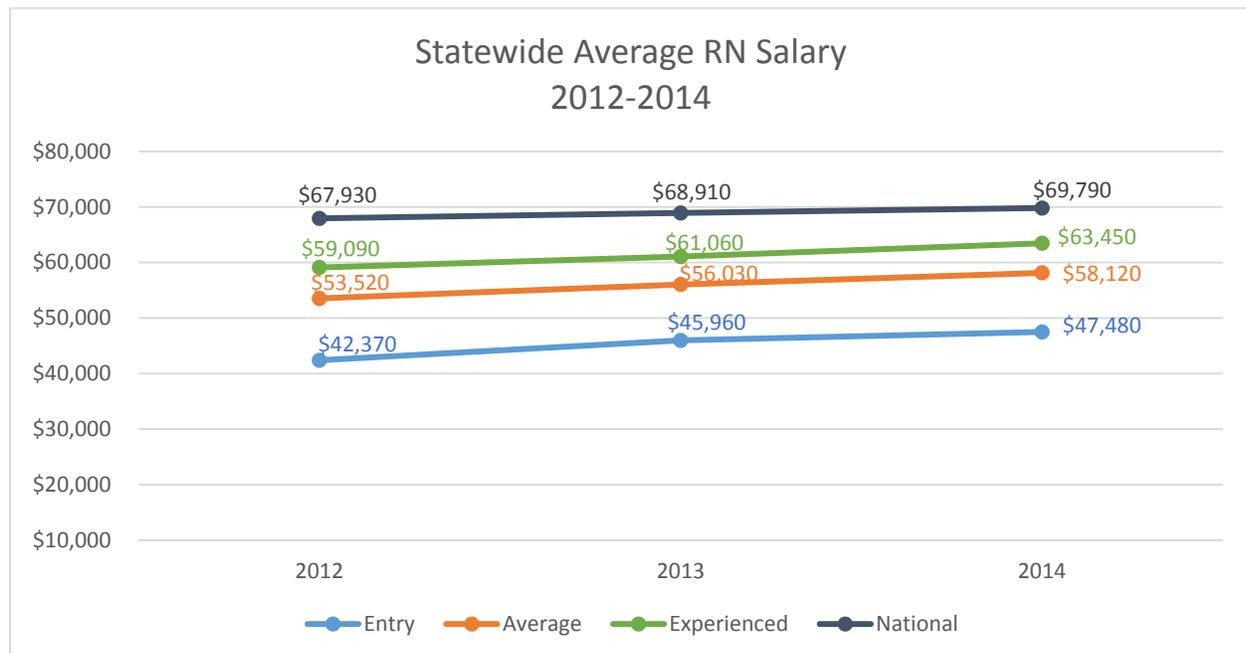
Statewide LPN salary has been below the national average for the last five years, even for experience LPNs (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).



LPNs in the Bismarck area have the largest entry salary of \$36,890. LPNs in the Far West area have the largest average salary of \$42,470 and the largest experienced salary (not based on years of service) is \$47,040 (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).

Licensed Practical and Licensed Vocational Nurses Wage Estimates				
National Average: \$43,420				
		Entry	Average (Mean)	Experienced
North Dakota	Annual:	\$33,280	\$39,790	\$43,040
Total Employment: 3,230	Hourly:	\$16.00	\$19.13	\$20.69
Bismarck, ND MetroSA	Annual:	\$36,890	\$42,230	\$44,900
Total Employment: 450	Hourly:	\$17.74	\$20.30	\$21.59
Fargo, ND-MN MetroSA	Annual:	\$32,560	\$37,890	\$40,560
Total Employment: 1,250	Hourly:	\$15.66	\$18.22	\$19.50
Grand Forks, ND-MN MetroSA	Annual:	\$32,770	\$38,370	\$41,180
Total Employment: 480	Hourly:	\$15.76	\$18.45	\$19.80
Far West Nonmetro Area	Annual:	\$33,330	\$42,470	\$47,040
Total Employment: 240	Hourly:	\$16.02	\$20.42	\$22.62
West Central Nonmetro Area	Annual:	\$35,390	\$42,130	\$45,500
Total Employment: 380	Hourly:	\$17.01	\$20.26	\$21.88
East Central Nonmetro Area	Annual:	\$34,080	\$40,010	\$42,970
Total Employment: 410	Hourly:	\$16.39	\$19.24	\$20.66
Far East Nonmetro Area	Annual:	\$34,680	\$40,340	\$43,17
Total Employment: 250	Hourly:	\$16.67	\$19.40	\$20.76

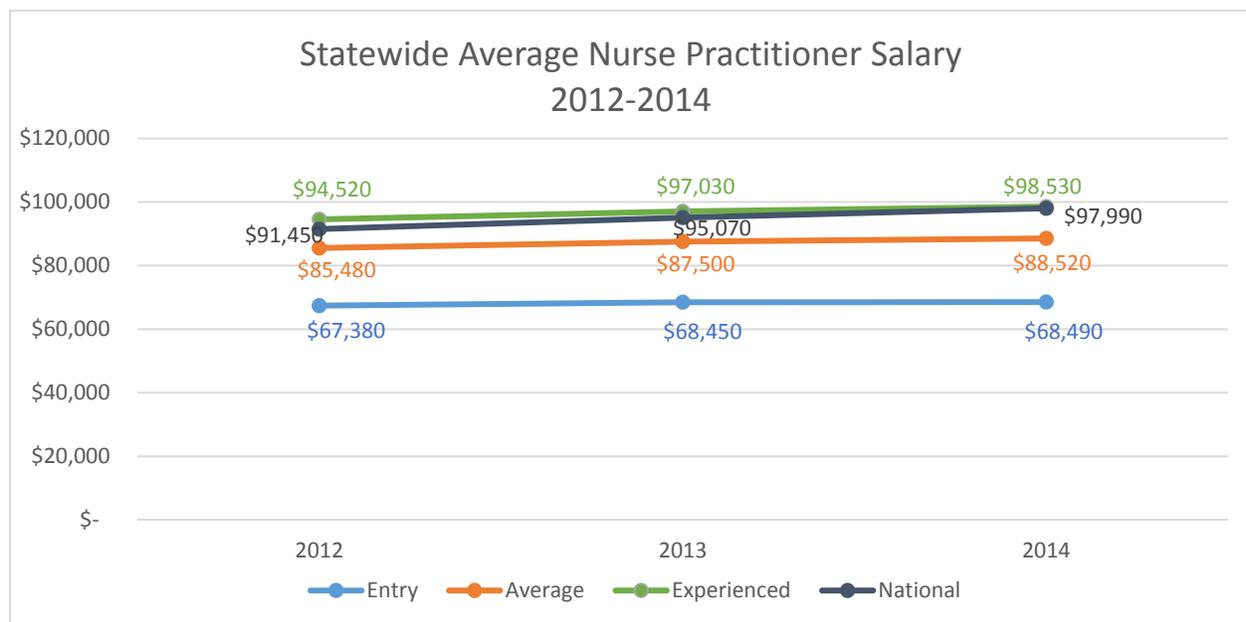
Statewide RN salary has been below the national average for the last five years, even for experience RNs (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).



RNs in the Fargo area have the largest entry level salary of \$51,890 and average salary of \$60,820. The largest experienced salary (not based on years of experience) is in the Far West area at \$67,590 (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).

Registered Nurses Wage Estimates				
National Average: \$69,790				
		Entry	Average (Mean)	Experienced
North Dakota Total Employment: 7,680	Annual:	\$47,480	\$58,120	\$63,450
	Hourly:	\$22.83	\$27.94	\$30.50
Bismarck, ND MetroSA Total Employment: 2,130	Annual:	\$45,750	\$55,760	\$60,770
	Hourly:	\$21.99	\$26.81	\$29.22
Fargo, ND-MN MetroSA Total Employment: 2,580	Annual:	\$51,890	\$60,820	\$65,290
	Hourly:	\$24.95	\$29.24	\$31.39
Grand Forks, ND-MN MetroSA Total Employment: 1,040	Annual:	\$49,320	\$57,750	\$61,960
	Hourly:	\$23.71	\$27.76	\$29.79
Far West Nonmetro Area Total Employment: 420	Annual:	\$44,930	\$60,030	\$67,590
	Hourly:	\$21.60	\$28.86	\$32.49
West Central Nonmetro Area Total Employment: 790	Annual:	\$42,330	\$56,920	\$64,220
	Hourly:	\$20.35	\$27.37	\$30.88
East Central Nonmetro Area Total Employment: 730	Annual:	\$43,450	\$56,060	\$62,370
	Hourly:	\$20.89	\$26.95	\$29.99
Far East Nonmetro Area Total Employment: 340	Annual:	\$47,410	\$56,110	\$60,460
	Hourly:	\$22.79	\$26.98	\$29.07

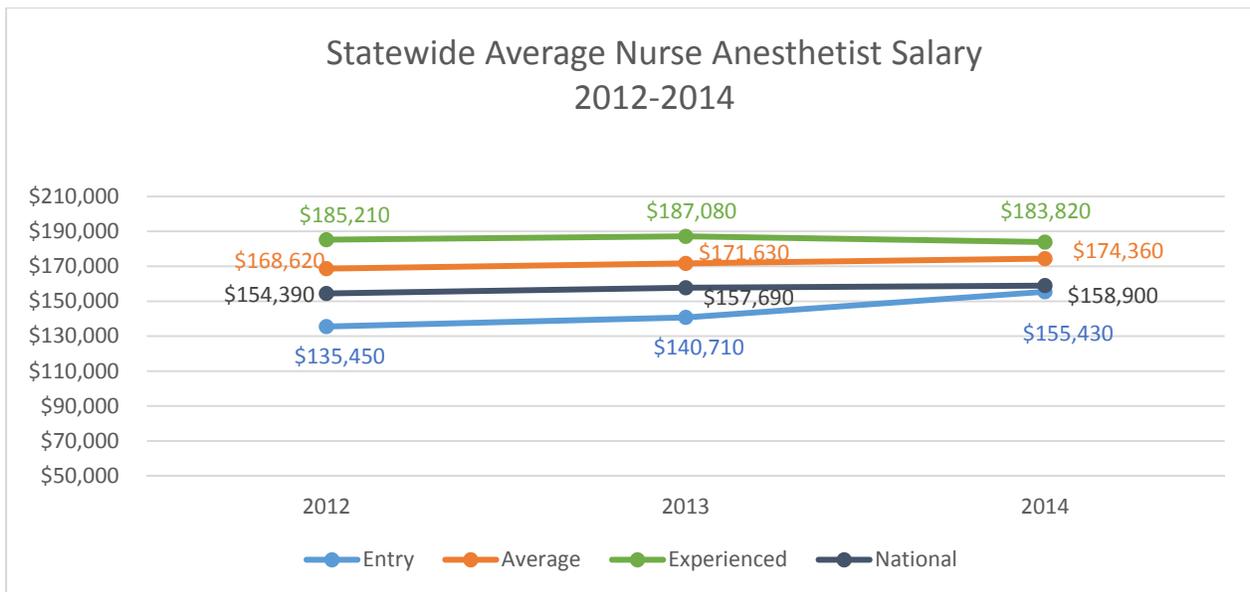
Average statewide Nurse Practitioner salary is below the national average (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).



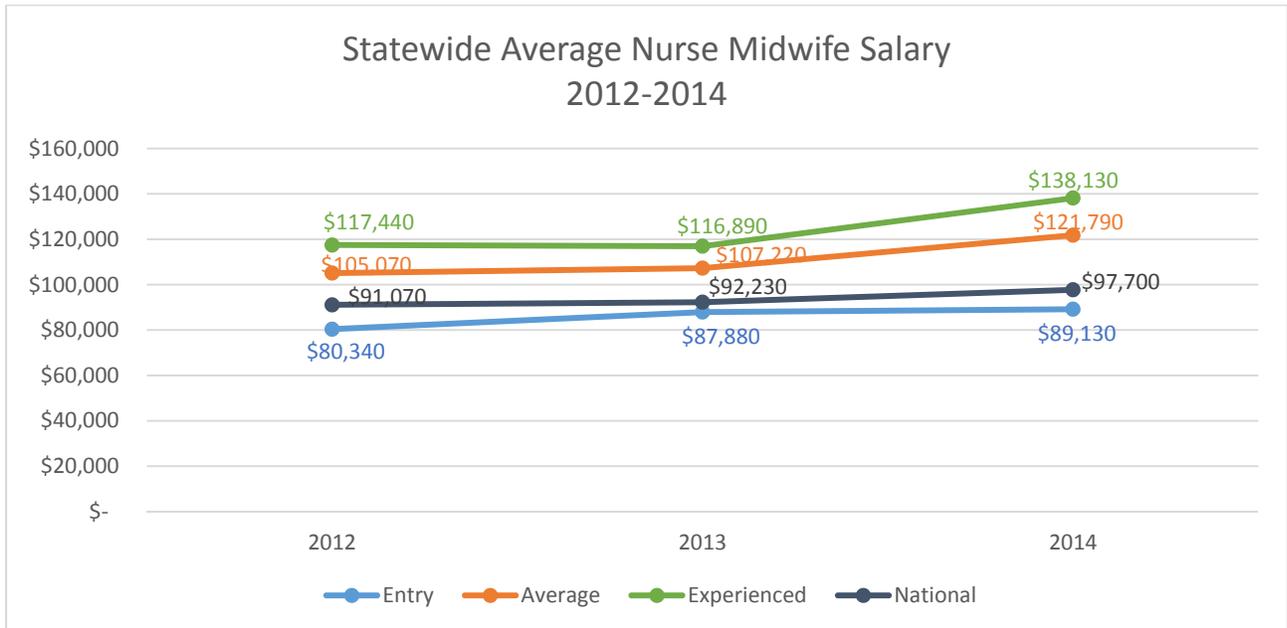
Nurse Practitioners in the Far East area have the largest entry salary of \$79,060 and the largest average salary of \$93,260. Nurse Practitioners in the Far West area have the highest experienced salary (not based on years of service) of \$107,190 (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).

Nurse Practitioners Wage Estimates				
National Average: \$97,990				
		Entry	Average (Mean)	Experienced
North Dakota	Annual:	\$68,490	\$88,520	\$98,530
Total Employment: 7,680	Hourly:	\$32.93	\$42.56	\$47.37
Bismarck, ND MetroSA	Annual:	\$71,500	\$87,650	\$95,730
Total Employment: 2,130	Hourly:	\$34.38	\$42.14	\$46.02
Fargo, ND-MN MetroSA	Annual:	\$68,840	\$87,050	\$96,160
Total Employment: 2,580	Hourly:	\$33.10	\$41.85	\$46.23
Far West Nonmetro Area	Annual:	\$60,260	\$91,540	\$107,190
Total Employment: 420	Hourly:	\$28.97	\$44.01	\$51.53
West Central Nonmetro Area	Annual:	\$67,730	\$92,880	\$105,460
Total Employment: 790	Hourly:	\$32.56	\$44.65	\$50.70
East Central Nonmetro Area	Annual:	\$70,930	\$89,870	\$99,350
Total Employment: 730	Hourly:	\$34.10	\$43.21	\$47.76
Far East Nonmetro Area	Annual:	\$79,060	\$93,260	\$100,350
Total Employment: 340	Hourly:	\$38.01	\$44.83	\$48.25

Average statewide Nurse Anesthetist salary has been consistently above the national average with the entry level salary approaching the national average in 2014 (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).



Average statewide Nurse Midwife salary has been consistently above the national average with a steep increase for average and experienced Nurse Midwives in 2014 (ND Labor Market Information Center 2010-2014 Employment and Wages by Occupation).

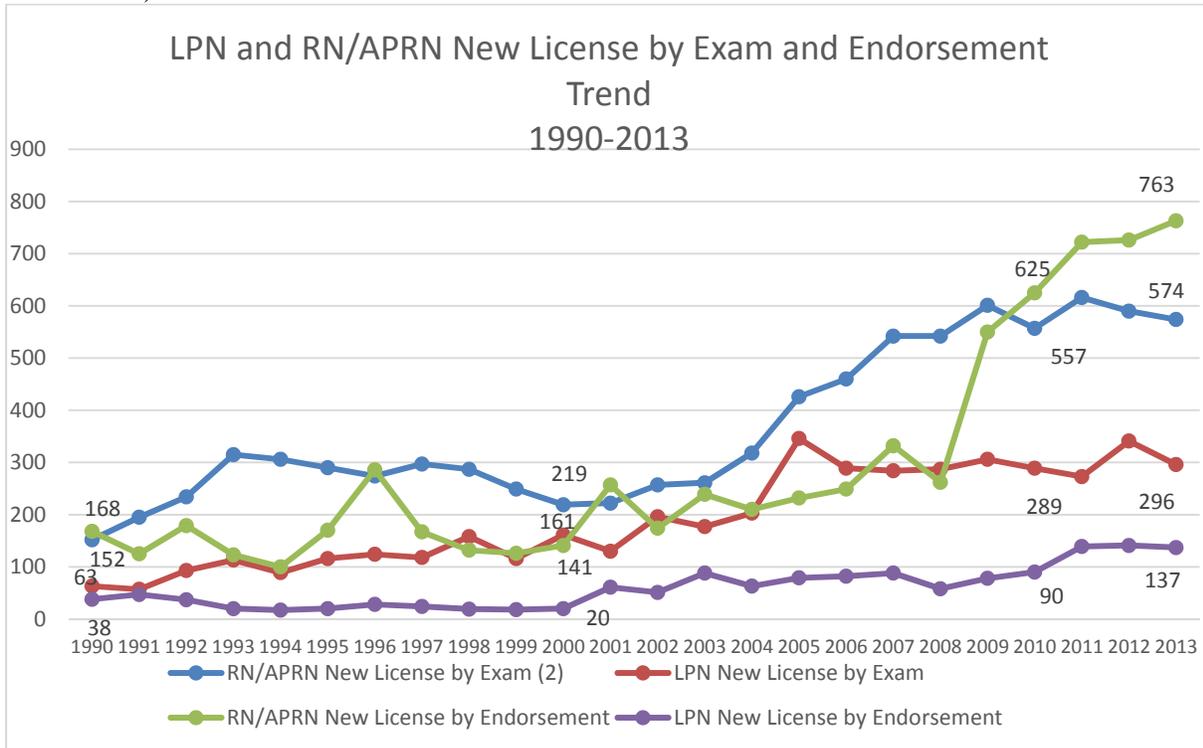


### Demand Summary and Policy Recommendations

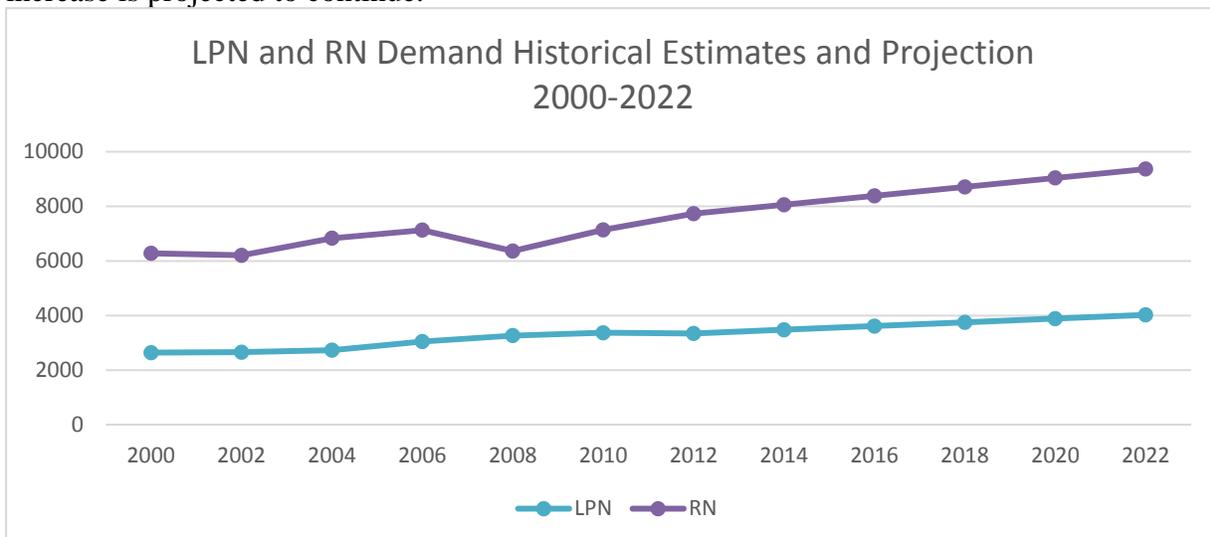
- North Dakota has a large number of unemployed nurses especially in light of the state’s economy and the large number of job openings. Further efforts are needed to encourage unemployed nurses to rejoin the workplace.
- While there are regional differences in salary; statewide LPN, RN and Nurse Practitioner salaries have been below the national average for the last five years. Facilities should examine salary levels in comparison with regional and state salaries in order to increase recruitment and retention of nurses.
- All nursing occupations are classified as “Bright Outlook” or “Exceptional Growth” occupations with a faster than average short term growth rates through 2022.

## FUTURE SUPPLY AND DEMAND

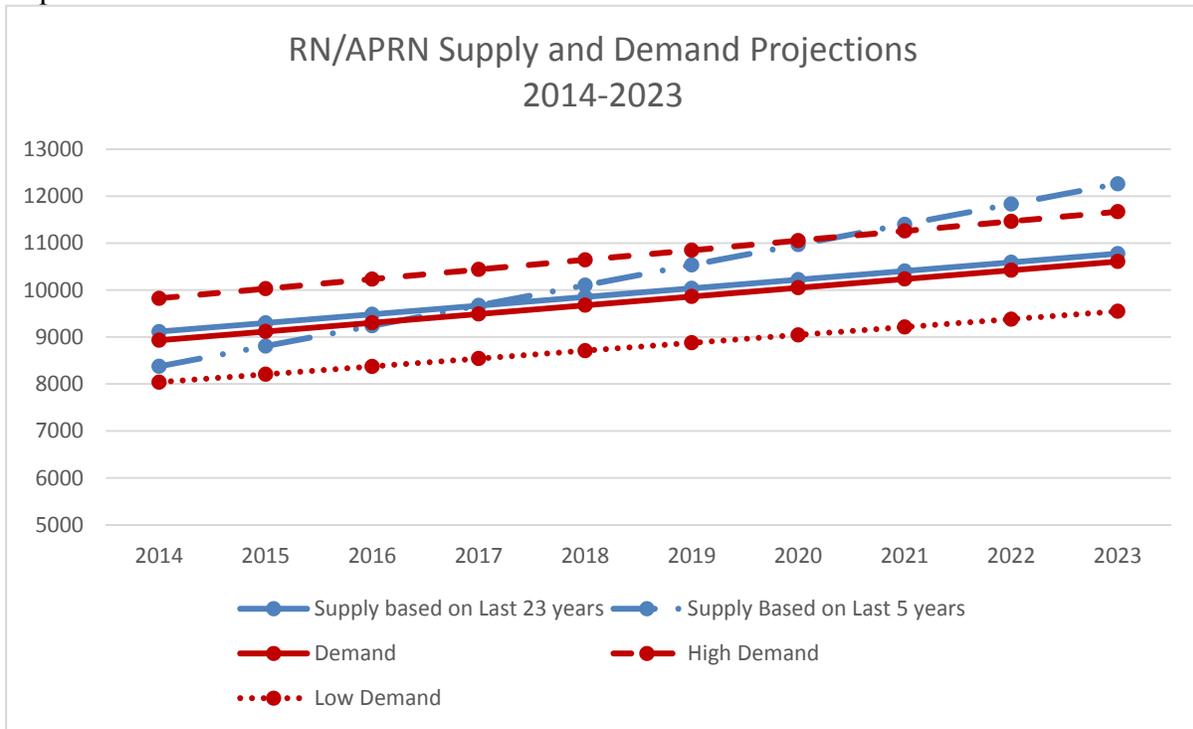
Over the last 10 years there has been increase in the number of new RN/APRN licensed by exam which are typically new graduates from North Dakota. There has been a marked increase in the number of RN/APRN licenses by endorsement since 2008 which are typically nurses moving to North Dakota. There has also been an increase in LPN licenses by exam and indorsement with the greatest number from exam indicating increases in supply are from new graduates. (NDBON Annual Education Report 1990-2013).



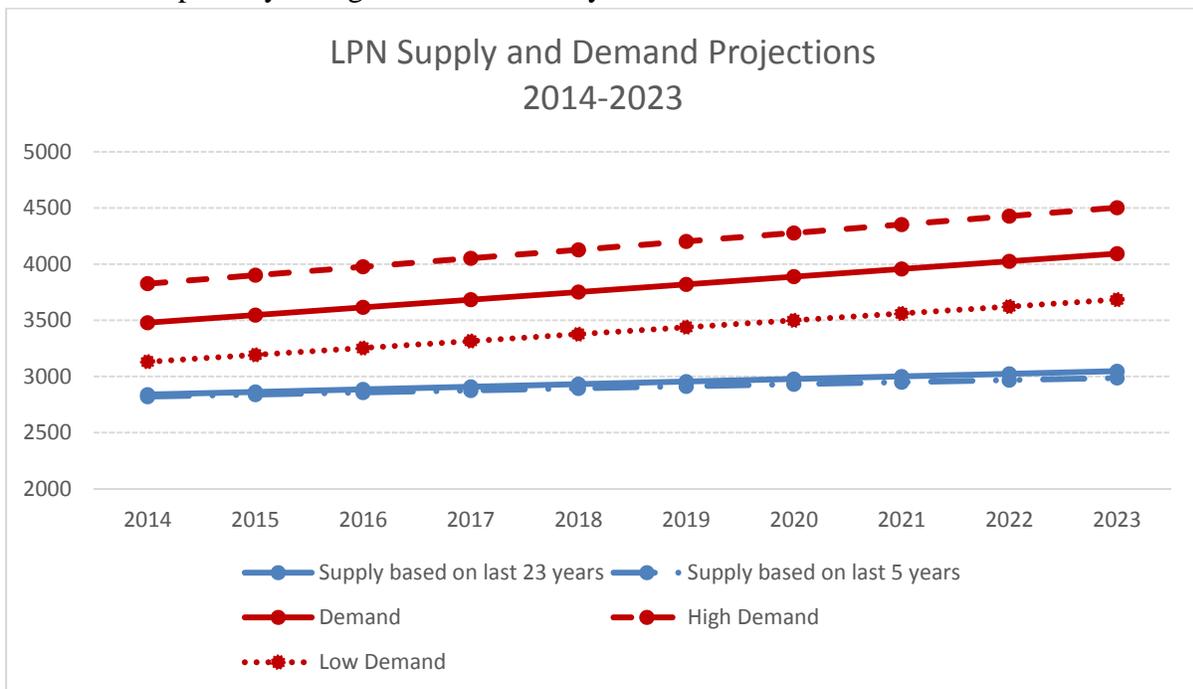
According to the most current ND Labor Market Projections by Job Service of North Dakota (2012-2022 Edition) using a federal demand projection model, RNs experienced small annual increases through 2006 with a one year decline in 2008 and more marked increases from 2010 through 2022 in demand. LPNs have experienced a smaller, but steady increase over the last twelve years and this increase is projected to continue.



Supply and demand of RN/APRNs is projected to stay close to equivalent for the next 10 years when using data from the last 23 years in the projection. When adjusted for supply changes in the last five years, it is projected that the current shortage will continue through 2017 and if supply growth continues at the same rate a healthy supply of RN/APRNs by 2023. The graph also includes estimates of high and low demand in order to emphasize that many factors may influence demand including population shifts, aging and economics which may not be captured in the demand projections. Factors such as continued implementation of the ACA will also increase demand



For the next 10 years, it is projected that there will continue to be a striking statewide shortage of LPNs when compared to demand including high and low demand estimates of demand. This shortage is continues despite any changes in the last five years.



## Projected Supply and Demand Summary Policy Recommendations

- There have been marked increases in the number of RN/APRNs transferring to the state through license endorsement and through exam as graduates of North Dakota programs in the last five years. The greatest number of new LPNs have been by exam as graduates of North Dakota Programs.
- Despite the recent increases in supply, when compared with demand; there is currently a shortage of RN/APRNs for the next several years and there has been and will continue to be a critical shortage of LPNs. Multi-sector actions are needed to ensure a healthy supply of nurses in the changing health care environment and economy of North Dakota.

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