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*As the state's shortage of health care workers intensifies, there is a growing need for information about the current supply of and demand for health care professionals. For that reason, this nursing student profile was created to provide Minnesota policy makers, employers, educators, consumers, and others with an overview of current information.*

## Minnesota Nursing Student Profile

### Findings

- Most nursing students were under 25 years of age. On average, LPN students tended to be younger than their RN counterparts.
- Most nursing students were single — 38 percent of all students were married. Close to 40 percent of nursing students reported raising children.
- More male students were enrolled in nursing programs than in the past — 11 percent of all students compared to 5.6 percent for the entire RN workforce and 3.3 percent for the state's LPN workforce.
- Close to two-thirds of all nursing students surveyed reported experiencing an obstacle when entering a nursing program. Nursing students identified finances as their top obstacle to completing their program
- Post-graduation plans for nursing students included entering the nursing workforce and, for about three-quarters of those surveyed, continuing their nursing education in the future.
- Over half of all nursing students, regardless of program, anticipated working within the region of their school after graduation. Eighty percent reported that they expect to work in Minnesota after graduation.

The current (and future) shortage of licensed practical nurses (LPNs) and registered nurses (RNs) in Minnesota has placed a premium on up-to-date and comprehensive workforce data. Minnesota is fortunate to have a number of information gathering efforts currently underway that are designed to fill in pieces of the nursing shortage puzzle. One of these pieces comes from a survey of Minnesota nursing students completed biennially by Minnesota Colleagues in Caring. Using data collected through this survey, along with an overview of the current nursing workforce, this profile provides a detailed outline of the current group of Minnesota nursing students.

### Minnesota Nursing Workforce Overview

What is the current labor market for nursing professionals in Minnesota? An analysis of the state's LPN and RN nursing workforce reveals a very tight labor market; employer demand presently outweighs the available supply of both types of professional nurse. For RNs, demand has increased during the last decade — 20 percent increase in real wages (1990 to 2000), 44

percent growth in employment and 3,260 current openings (Fall of 2001). The number of RN candidates trained in state schools has not increased in the 1990s but remained at approximately 1,500 graduates annually. See Table 1. The RN workforce also continues to age. RNs in Minnesota are three years older than those in the rest of the nation (45.3 versus 42.4). Those working in rural areas are, on average, older than those in urban areas.

### Nursing Occupational Profiles

RNs fill a variety of roles in health care settings, including patient advocate, health educator, direct care provider, and health care administrator. In a patient care setting, they observe, assess, and record symptoms, reactions, and progress; assist physicians during treatments and examinations; administer medications; and assist in convalescence and rehabilitation. LPNs also work in a variety of health care settings, usually under the supervision of a registered nurse or physician. Their duties often include giving prescribed medications, treatments and some injections. They may also monitor equipment, take temperatures and blood pressure, change dressings, maintain patients' charts, perform routine lab work, serve meals, give baths and change bed linens.

Source: "Registered Nurse" and "Licensed Practical Nurse," Bureau of Labor Statistics, *Occupational Outlook Handbook*, 2002-03.

The demand for LPNs, even though their average annual wage did not increase at the same rate as RNs, also remains strong — 37 percent growth in employment (1986 to 1999), 1,581 current openings (Fall of 2001), and projected 15 percent growth in employment between

1998 and 2008. On the supply side, the number of LPN candidates trained in state schools has decreased over the decade to just over 900 graduates in 2000, down from a peak of 1,400 graduates in 1994. See Table 1. Concurrently, more LPNs are choosing to remain in or immediately return to school and pursue RN training.

**Table 1: MN Nursing Program Candidates, 2000**

<b>RN Programs*</b>	<b>Count</b>
Inver Hills-Century College (AD)	145
Anoka-Ramsey Community College (AD)	113
College of St. Catherine - Minneapolis (AD)	112
Normandale Community College (AD)	93
University of Minnesota (BSN)	90
Winona State University (BSN)	86
North Hennepin Community College (AD)	85
Minneapolis Community and Technical College (AD)	77
Rochester Community and Technical College (AD)	73
College of St. Catherine (BSN)	70
Minnesota State University, Mankato (BSN)	69
College of St. Scholastica (BSN)	58
College of St. Benedict/St. John's University (BSN)	51
Northland Community and Technical College (AD)	51
Hibbing Community College (AD)	50
Fergus Fall Community College (AD)	48
Bethel College (BSN)	46
Central Lakes College (AD)	35
Lake Superior College (AD)	35
Riverland Community College (AD)	34
Gustavus Adolphus and St. Olaf Colleges (BSN)	34
Ridgewater College (AD)	25
MN West Community and Technical College (AD)	16
<b>Total</b>	<b>1,496</b>
<b>LPN Programs</b>	<b>Count</b>
Hennepin Technical College	70
Ridgewater College	67
Lake Superior College	64
St. Paul Technical College	59
Northwest Technical College - Detroit Lakes	56
Minneapolis Community and Technical College	53
Alexandria Technical College	52
Anoka-Ramsey Community College	44
Dakota County Technical College	44
Central Lakes College	42
Fergus Fall Community College	42
MN State College-Southeast Technical - Winona	39
Northland Community and Technical College	38
St. Cloud Technical College	31
Northwest Technical College - Bemidji	28
Itasca Community College	23
South Central Technical College - Mankato	23
MN West Community and Technical College - Worthington	21
Mesabi Range Community and Technical College	20
Riverland Community College	20
MN State College-Southeast Technical - Red Wing	18
Rochester Community and Technical College	18
Rainy River Community College	17
South Central Technical College - Faribault	17
MN West Community and Technical College - Pipestone	10
Northwest Technical College - East Grand Forks	2
<b>Total</b>	<b>918</b>

\* Does not include graduates from the Tri-College University Consortium.  
Source: Minnesota Board of Nursing, 2001.

## Minnesota Nursing Student Survey Findings

In fall 2000, Minnesota Colleagues in Caring conducted a survey of undergraduate nursing students. The survey was given to students in practical nursing programs; LPN to associate degree RN programs; generic two-year RN programs; LPN to baccalaureate degree programs, RN to baccalaureate completion programs; and generic four-year RN programs. See Table 2.

**Table 2: Survey Respondents by Nursing Program**

<b>Program type</b>	<b>Students</b>
LPN Diploma	806
LPN Associate Degree	192
<b>LPN Students Subtotal</b>	<b>998</b>
RN Associate Degree	860
RN Baccalaureate Degree	823
LPN to RN Associate Degree	307
RN Associate to Baccalaureate	361
LPN to RN Baccalaureate Degree	13
<b>RN Students Subtotal</b>	<b>2,364</b>
Unidentified Nursing Student Responses	113
<b>Total Nursing Students Responding</b>	<b>3,475</b>

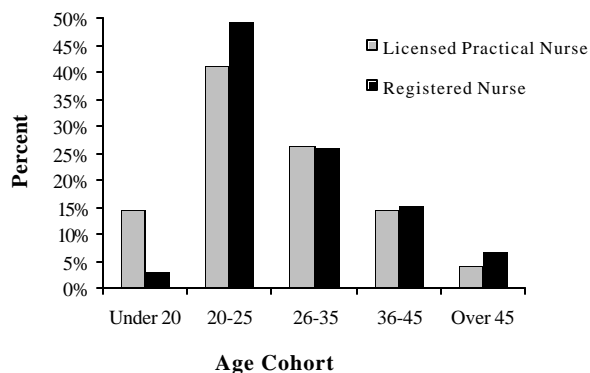
The purpose of the survey was to describe some of the basic demographic characteristics of students in different nursing programs and identify, among other things, 1) barriers students face in seeking a nursing education, 2) their interest in alternative learning options, 3) how they finance their education and 4) their interest in seeking additional nursing education in the future. The results of the survey were based on completed student responses from 25 of 28 of the state's practical nursing programs, 15 of 16 of the associate degree/RN programs and 12 of 14 of the baccalaureate programs.

### Student Demographics

Roughly half of all nursing students, regardless of their general program of study, were under 25 years of age. See Figure 1. On average, LPN students tend to be younger than their RN counterparts. The majority of all nursing students were single — 38 percent of all students were married. RN students were more likely to be single than their LPN counterparts.

Two thirds of RN students reported having no dependent children living with them, compared to only half of all LPN students. One percent of the nursing student

**Figure 1: Age Distribution of Students By Nursing Program Program**



population reported currently expecting a child. On average, LPN students were more likely to raise children while attending school than RN students — 46.8 percent to 33.6 percent respectively. Students who reported dependent children living with them were generally older — 78 percent were over the age of 26.

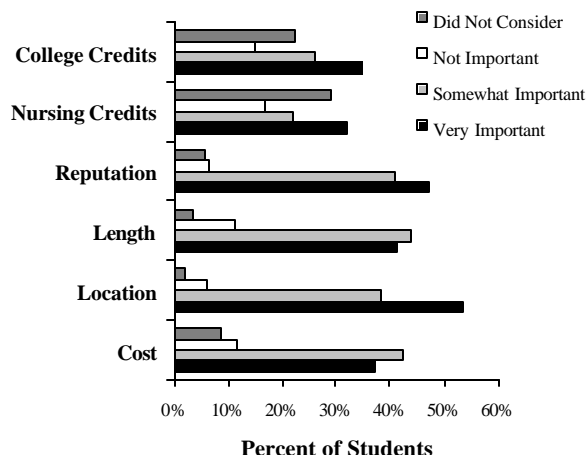
The demographic composition of the state’s nursing student population reveals that females continue to be the largest proportion of nursing students. However, survey findings show that more males were planning a career in nursing. More males were enrolled in nursing programs than in the past. Roughly 11 percent of all students were male compared to 5.6 percent of the entire RN workforce and 3.3 percent for the state’s LPN workforce.

In terms of ethnic and racial diversity, the number of non-white LPN and RN students increased. Of the programs that responded, non-white nursing students comprised 13.9 percent of the LPN student body and 7.8 percent of the RN student body. In some nursing programs, especially those in the metropolitan area, the proportion of non-white students was higher. At present, no reliable data on the racial and ethnic composition of the LPN and RN population currently exists. However, according to findings from the 2000 census, the non-white portion of Minnesota’s population is approximately 12 percent. This rough population and provider contrast suggests that greater diversity exists in the LPN student body compared to the RN student body.

**Educational Profile and Obstacles**

Nursing students reported that location was the most important reason for choosing their program. See Figure 2. Between the two types of nursing programs, 60 percent of LPN students felt that location was very important in choosing a program compared to 51 percent of RN students. This reason was followed by program reputation (47 percent), length (41 percent) and cost (37 percent). It is important to remember that key

**Figure 2: Reason For Choosing Nursing Program (All Students)**



differences at the discrete program level also exist. For example, the majority of baccalaureate students felt that reputation was the most important factor in choosing a nursing program.

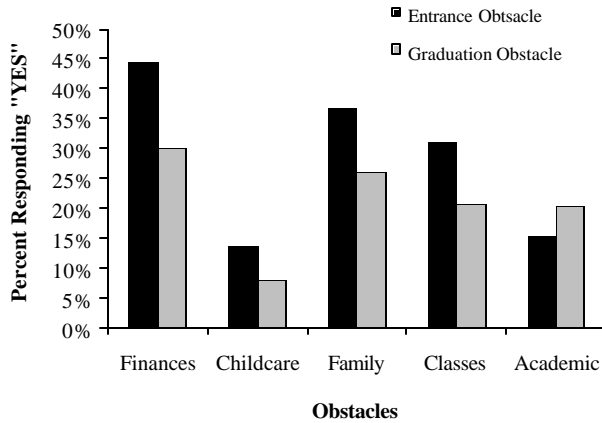
The importance of the transfer of credits was mixed. Still, more RN students than LPN students felt that the transfer of credits was somewhat or very important. For example, 41 percent of RN students indicated that the transfer of liberal arts credits was very important compared to 27 percent for LPNs.

As with other college and university students, nursing students worked and attended classes at the same time. Only 13 percent of the state’s nursing students reported not working while in school. About 60 percent reported working in a part-time position at under 30 hours per week. Of those who reported working, 72 percent work in a health care employment setting, specifically at hospitals (47 percent) and nursing homes (30 percent). At the same time, most nursing students attended school at, or close to, full-time status — 87 percent reported taking over eight credits during the semester they were surveyed.

According to survey findings, most students reported that they fund their nursing education through financial aid (31.2 percent) followed by personal resources (26.6 percent), student loans (21.8 percent), family resources (13 percent) and their employers (7.4 percent). LPN students were more likely than RN students to obtain funding through financial aid based on need — 44 percent of LPN students compared to 26 percent of RN students.

Close to two-thirds of all nursing students surveyed reported experiencing an obstacle when entering their nursing program. Slightly over half of all students

**Figure 3: Nursing Program Obstacles (All Students)**



identified an obstacle to completing their program. When asked if they felt that finances, child care, family responsibilities, courses or academic difficulties were obstacles to entering into and graduating from their nursing program, students identified finances as the top obstacle. See Figure 3. In fact, 45 percent of all students identified finances as the greatest obstacle to entering a program. More LPN students (51.5 percent) than RN students (41.7 percent) reported finances as an obstacle to entering a nursing program.

### Future Plans

Post-graduation plans for nursing students included entering the nursing workforce and, for about three-quarters of those surveyed, continuing their nursing education in the future. Slightly over one-third of all nursing students planned to continue their nursing education immediately or in the next year. Most (40 percent) reported that they would wait before returning to school. Of those who anticipated working upon graduation, slightly over half reported looking for employment locally — 30 minutes to one hour from the school they attended. Sixteen percent reported they will work within their region and another 12 percent indicate that they will work anywhere with the state. Nearly nine of every 10 students reported they would like to work over 30 hours per work. Over 50 percent reported they would like to work 40 hours or more each week.

Survey findings reveal that about half of all nursing students knew where they wanted to practice nursing before entering their program. When asked where they would like to work upon graduation, over half of all nursing students selected a hospital-inpatient employment setting. On average, more RN students than LPN students selected this as their first choice. See Table 3. Choosing to work in a hospital setting generally reflects the larger employment trends of the state’s RN workforce, especially for younger RN graduates. However, for LPN students, their first choice

**Table 3: First Choice of Employment Site by Nursing Program\***

Employment Site	LPN	RN
Hospital-Inpatient	37.3%	58.6%
Hospital-Outpatient	9.6%	8.3%
Long-term Care	9.5%	3.2%
Clinic/ambulatory	12.7%	7.2%
Public Health Nursing	3.3%	5.9%
School Nurse	3.7%	3.2%
College or University	1.4%	1.0%
Visiting Nurse/Parish Nurse	1.4%	1.1%
Independent Practice/Consultant	1.9%	1.6%
Hospice	3.9%	1.9%
Rehabilitation	3.4%	1.7%
Home Care	5.2%	2.9%
Business	1.5%	1.5%
Prison	2.0%	0.7%
Blood Mobile	1.7%	0.5%
Telephone Triage	1.4%	0.7%

\* 20 percent of respondents chose more than one first choice.

does not reflect trends within the state’s LPN workforce. In particular, the number of LPN students whose first choice was hospital employment generally (46.9 percent) was much higher than that seen in the larger workforce (slightly over 25 percent). In fact, one-third of all LPNs in the state work in long-term care settings. Only 1 of every 10 LPN students chose long-term care as their first choice.

### Summary

An imbalance in the supply of and demand for nurses has created a shortage of trained nursing professionals in Minnesota. The supply of nurses trained by the state’s educational institutions, which provide a large portion of Minnesota’s nursing workforce, has not kept pace with the demand for workers. In addition to the need to increase capacity in nursing programs, findings from this profile suggest that students still experience barriers to entering and completing programs. Working to address these obstacles would enhance the state’s ability to continue to train nursing professionals. Findings from this profile also denote a number of positive trends in nursing education, including the growing number of male nursing students and the fact that most nursing students trained in the state plan to stay and work in Minnesota.

**For more information about this profile, please contact Michael Grover by phone at (651) 282-5642 or email at michael.grover@health.state.mn.us.**

This information will be made available in alternative format — large print, Braille, or audiotape — upon request.

Available on the Web at:

[www.health.state.mn.us/divs/chs/workforce.htm](http://www.health.state.mn.us/divs/chs/workforce.htm)