North Dakota High School Student Survey Results

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EXECUTIVE SUMMARY

Background

Nationally, it is projected that over 4.0 million jobs will be generated in health care by 2018 due to an aging population and advances in medical technology (Woods, 2009). Within North Dakota, health care and social assistance is largest industry with an estimated 55,598 workers (Job Service North Dakota, 2011). Health care facilities are economic drivers in our communities and are a vital part of North Dakota’s future growth. Ensuring that each North Dakotan has access to high quality care will be even more important as health care reform is implemented. An important component of ensuring an adequate health care workforce for the future is increasing awareness about health professions in K-12 students when they are making critical future choices.

This study examining high school student’s perceptions and future plans was funded by the North Dakota Nursing Needs Study, a longitudinal study of the education, supply and demand of nurses funded by the North Dakota Board of Nursing. This study was also funded by the North Dakota Area Health Education Center (ND AHEC) located at University of North Dakota School of Medicine and Health Sciences Center for Rural Health as a part of a federally-funded state health workforce planning effort.

Results

In this report, results from a survey of 602 high school students are compared with findings from a 2006 high school student survey (Hanson, Moulton, Rudel & Plumm, 2006).

• Future Plans for Education

Almost 2/3 of students plan to attend a four-year college which is a slight decrease as compared to 2006 and about 1/5 of students plan to attend a technical school which is an increase from 2006. Most students plan to stay in North Dakota to attend a college/university. Those that do plan to stay in North Dakota most frequently indicated that they want to stay near home. Students that do not plan to stay in North Dakota indicated a variety of reasons including characteristics of North Dakota colleges, the desire to experience new opportunities, environmental factors such as weather and the cost of going to college in North Dakota.

• Future Plans for Employment

Sixty-three percent of students indicate that they plan to work in North Dakota which is an increase from the 2006 and 2002 studies. Although, almost half of students plan to seek employment in an urban area of North Dakota. Those planning to work in North Dakota indicated that they plan to stay because their family lives in North Dakota and because it is a safe place to live and raise a family. Those that plan to work outside the state indicated that there were bigger cities and more job opportunities. Living in a safe environment was cited as a reason by students that plan to work in a rural area.
Future Career Plans

Twenty-eight percent of students indicated an interest in medical/health care careers which is a decrease as compared to 2006. Of these students, 34% plan to be a nurse, 22% a physician, 22% a physical therapist and 22% a social worker. The greatest influence for deciding a future career is a personal attraction to the career, availability of jobs and salary potential. Many students indicated that incentive programs including the payment of tuition in exchange for working in North Dakota, working in a high need area in North Dakota or working for a particular employer would influence their career choice. For those students planning to go into nursing, almost half plan to become a registered Nurse and work in a hospital.
Health personnel shortages can negatively impact health care quality, through reduced health care access, increased stress on providers, and the use of under-qualified personnel. Also, shortages can contribute to higher costs by raising compensation levels to attract and retain personnel and by increasing the use of overtime pay and expensive temporary personnel. Workforce shortages, while a problem for the entire health care system, are likely to be most severe for rural/frontier regions and medically needy population groups such as the elderly. Ninety-two percent of North Dakota’s 53 counties are health professional shortage areas. North Dakota also has the highest proportion of residents aged 85 and older, the age group with the greatest need for health care services. In North Dakota, this group is predicted to double in size by 2020.

An important part of the future health career pipeline is K-12 students and in particular high school students who are in the midst of making decisions about college and career choice. The largest percentage of 2010 North Dakota high school students taking the ACT test indicated an interest in health sciences and allied health fields (21%). Twenty-one percent of North Dakota high school students indicated that they were undecided (see Figure 1). Nationally, 20% of high school students indicate an interest in a health science or allied health field and 19% indicate undecided or no response. North Dakota has a significant pool of high school students that have not yet decided on their future career (or may have more than one career in mind) that may be recruited into a health care occupation. (ACT Profile Report, 2010). Over the last five years, interest in health professions has been between 16% and 21% (ACT Profile Reports 2006, 2007, 2008, 2009).

Figure 1: 2010 ND ACT High School Profile: Career and Educational Aspirations

![Figure 1: 2010 ND ACT High School Profile: Career and Educational Aspirations](image)
SURVEY RESULTS

The 2011 high school survey yielded responses from 602 high school students from 11 counties across North Dakota. For more information about the sample see the methodology section at the end of this report. Results from the current survey are compared with two previous high school student studies. The first was a study by the North Dakota Health Care Association in 2002 which studied a sample of high school students and their career perceptions and drivers. The second study was a part of the North Dakota Nursing Needs study in 2006 (Hanson, Moulton, Rudel, & Plumm, 2006) which sampled high school students and asked similar questions to the present study. These studies are compared with the current results throughout this report and will be referred to as the 2002 and 2006 studies. Although all three studies are compared in this report, it is important to note that each study had different sample sizes and differences in representation of all students in North Dakota. In addition, questions were asked slightly different, some with differing amounts of potential responses. With these limitations noted, the results still provide an overall picture of the perceptions of high school students regarding their future planning and changes over the last nine years.

Future Plans for Education

The greatest numbers of students plan to attend a four-year college (61%) or attend a technical school (19%). The percentage of students has decreased for four-year colleges and increased for technical schools since 2006 (see Figure 2). These findings are comparable to results from the 2002 study that found approximately two-thirds of North Dakota high school students plan to pursue higher education at a four-year college.

Figure 2: Post-High School Graduation Plans

[Bar chart showing graduation plans for 2006 and 2011]
Most students (82%) plan to continue their education which is an increase from 2006 when 73% planned to stay in North Dakota. This is also an increase over the 62% reported by the 2002 study.

Students were also asked why they plan to go to college in North Dakota. The most commonly cited reason for planning to stay in North Dakota (47%) was a desire to stay near home (see Figure 3).

**Figure 3: Reasons for In-State Education**

<table>
<thead>
<tr>
<th>Reason</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Assistance</td>
<td>19%</td>
<td>36%</td>
</tr>
<tr>
<td>In-state Tuition/Cost of Attendance</td>
<td>25%</td>
<td>36%</td>
</tr>
<tr>
<td>Academic Reputation</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Relatives want me to stay in ND</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Want to Stay Near Home</td>
<td>5%</td>
<td>47%</td>
</tr>
<tr>
<td>Teacher/counselor advised me to stay in ND</td>
<td>5%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Students were also asked to respond to the open-ended question “When you think of North Dakota as a possibility to obtain higher education, what is the ONE thing that would discourage you from going to college in North Dakota?” Text responses were reviewed for consistent themes.

A few students indicated that nothing could discourage them from attending a North Dakota college/university (13%).

I want to go to college in North Dakota to stay close to family and get better work experiences.

Four main themes emerged from student responses including (1) characteristics of North Dakota colleges/universities, (2) a desire for new experiences out-of-state, (3) North Dakota characteristics, and (4) money.

Thirty-four percent of students indicated that characteristics of North Dakota college/universities as compared to out of state colleges discourage them from staying in North Dakota. Reasons cited included: there are not many colleges to choose from, there are not as many degree options, there are larger, better and higher ranked colleges with better reputations available out of state and that they offer higher quality education. A few students

My particular major is the main reason I decided to go out of state. In North Dakota the schools that offered my major were either too expensive, or didn’t give the type of education I was looking for.
also indicated that North Dakota colleges did not offer the degree program they are interested in (i.e. optometry, veterinary medicine).

Twenty-three percent of students indicated that they would like to pursue education out-of-state in order to experience new things. Many of these responses mentioned living in North Dakota for their entire lives and simply wishing to experience life in another state. Others said that they felt North Dakota life was boring and larger cities would provide more opportunities, activities, and cultural diversity.

Nineteen percent of students indicated North Dakota characteristics such as cold weather and the lack of job opportunities in North Dakota due to lack of large cities.

Eleven percent of students indicated that they are discouraged from pursuing an education in North Dakota because of money. This included the overall cost of attending a North Dakota college including tuition and books, the lack of scholarships and the potential salary for their chosen career in comparison with the cost of education.

Future Plans for Employment

The greatest percentage of students (41%) plans to seek employment in an urban area of North Dakota after completing their education and is an increase from 29% in 2006. The percentage of students (16%) that are uncertain as to the geographic location in which they wish to work has declined since 2006 (see Figure 4). The 2002 study reported that 48 percent of students planned to seek employment somewhere in North Dakota (sum of all three North Dakota categories) after obtaining their desired education. In 2006 this was 46% and in 2011 it has risen to 63%.

Figure 4: Location of Future Employment
Of those students who plan to work in North Dakota, most plan to do so because their family lives in North Dakota (58%), it is a safe place to live (47%), raise a family (42%) and has a low cost of living (37%) which was similar to 2006 (see Figure 5).

**Figure 5: Reasons for Planning to Work in North Dakota**

![Figure 5](image)

Students who do not plan to work in North Dakota indicated that there are bigger cities, more job opportunities and the opportunity for variety in work as reasons for leaving North Dakota. All reasons were greatly reduced in frequency as compared to 2006 (see Figure 6).

**Figure 6: Reasons for Planning to Work Outside of North Dakota**

![Figure 6](image)
High school students indicated that a safe environment (47\%) was the main reason they plan to work in a rural area (see Figure 7). Many also indicated that a rural area allowed for more independence/freedom, better working conditions and a low cost of living. There was a large decrease in the number of students indicating pay and benefits as a reason for working in a rural area from 2006 to 2011.

**Figure 7: Reasons for Planning to Work in a Rural Area**

![Bar chart showing reasons for planning to work in a rural area with percentages for 2006 and 2011. The main reasons include safe environment, better working conditions, and low cost of living.](image)
Future Career Plans

When asked about the field of their future career plans, students indicated in 2011, 28% indicated medical/health care and 25% indicated engineering or arts, design, entertainment, sports. The least chosen areas were finance (3%) and transportation (4%) (see Figure 8). The 2006 study found a greater percentage interested in medical/health care (38%). The 2002 study found that 23% of students were interested in health care.

Figure 8: Field of Future Career

Sixteen percent of students had taken a health care related course such as certified nursing assistant training. Of those students, 17% planned to go into a health care career and of those, 24% plan to go into a nursing career (see Table 1). There was a significant difference indicating that those that attended a health care related course were significantly less likely to go into a nursing career.

Table 1: Attendance in a Health care Related Course and Future Career Plans

<table>
<thead>
<tr>
<th></th>
<th>Plan to go into a Health care Career (n=161)</th>
<th>Plan to go into Health care and into a Nursing Career* (n=68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attended a Health care Related Course</td>
<td>17%</td>
<td>24%</td>
</tr>
<tr>
<td>Did Not Attend a Health care Related Course</td>
<td>83%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Note: * = X^2 (1) = 6.42, p = .012
Of those that chose health care as a field, 34% indicated plans to become a nurse, followed by an interest in becoming a physician, physical therapist or social worker (each 22%) (see Figure 9). This is similar to 2006 and to the 2002 study that indicated students interested in health care were most likely to express interest in careers as a doctor, physical therapist, and nurse.

**Figure 9: Area of Health care**
Students were asked to identify the most important influence on their decisions about future career plans. A personal attraction to the career, availability of jobs and salary potential were ranked as most important factors in selecting a career for both future health care and non-health care students (see Figure 10). Opinions or experience of teachers, counselors and parents was ranked less frequently. These results are comparable with findings from the 2006 and 2002 studies where students rated teachers and counselors as least influential.

**Figure 10: Most Influence on Plans for Future Career: Health Care vs. Non-health Care**

Similar results were found between future nursing and non-nursing students. Future nursing students were influenced slightly less by the cost of education and salary potential and slightly more by job availability as compared to non-nursing students (see Figure 11).

**Figure 11: Most Influence on Plans for Future Career: Nursing vs. Non-Nursing Career**
Of those students who plan to go into a health care field other than nursing, the most common reason was a dislike for nursing settings (26%) which is an increase since the 2006 study (see Figure 12).

**Figure 12: Reasons for Not Planning on Nursing**

![Figure 12](image)

Of those planning to go into nursing, 43% chose hospital as the employment setting in which they would most like to work. This was much less than in 2006 with students indicating a wider variety of potential employment settings (see Figure 13).

**Figure 13: Desired Employment Setting for Nurses**

![Figure 13](image)
Figure 14 indicates that almost half of the students interested in nursing, plan to become a registered nurse (48%) with no students indicating an interest to become a licensed practical nurse (see Figure 14).

Figure 14: Highest Degree Planned

High school students were also asked whether incentive programs would influence their selection of careers. Over half of both health care and non-health care students agreed or strongly agreed that incentive programs would influence their career choice, especially an incentive program to work in North Dakota (see Figure 15). This is similar to 2006 when 61% of high school students indicated that employer paid tuition would be a strong incentive to choose a particular career. The 2002 study also found that students were most likely to agree that having college tuition paid in exchange for work would increase the likelihood of choosing a health care career.

Figure 15: Influence of Incentive Programs on Career Choice
Similar results were found for both future nursing and non-nursing students. The greatest influence was an incentive to work in North Dakota (see Figure 16).

**Figure 16: Influence of Incentive Programs on Career Choice**
SURVEY CONCLUSIONS & POLICY RECOMMENDATIONS

The percentage of North Dakota’s high school students that plan to pursue higher education at a four year college or university or technical college in North Dakota has increased since 2006. Reasons given in 2006 included affordability and reputation. However, in 2011 the primary reason for staying in North Dakota is a desire to stay near home. Affordability and reputation was cited in 2011 as reasons to go out of state along with environmental (weather, jobs) and the desire to have new experiences. Sixty-three percent of students indicate that they plan to work in North Dakota which is an increase from the 2006 and 2002 studies. However, most of this increase is found in students planning to work in urban cities.

Students cited health care as a desired field for a future career more often than any other area, and many students were interested in nursing. However, overall the percentage of students looking at health care has decreased since 2006. Students did indicate that incentive programs would influence their career choices. A few students had attended a health career related course, such as CNA training. However, those that had attended a course were less likely to indicate that they planned to go into health care careers and specifically nursing.

Specific Policy Recommendations

- Increase the availability of incentive programs such as tuition reimbursement and loan repayment to students interested in health careers and in nursing. These programs can be tailored to target future providers to particular areas of high need in North Dakota.

- Increase dissemination of accurate information regarding health care careers and specifically nursing as a career, including the wide variety of setting and schedule options and desire for both males and females in the health care workforce.

- Continue or increase affordability and good academic reputation to draw North Dakota students to North Dakota colleges and universities. Disseminate information about the affordability and reputation of North Dakota colleges and universities to high school students.

- Encourage the development of programs to expose students to the benefits of a career in health careers including nursing, starting in grade school.

- Ensure students that participate health care opportunity classes or other trainings, such as certified nursing assistant training, receive a positive experience and the broad array of health care opportunities is discussed.

- Increase opportunities for high school students to experience rural health care settings through health care opportunity classes or other experiences such as job shadowing.
HIGH SCHOOL STUDENT SURVEY METHOD

The high school student survey was designed to examine education and career plans of North Dakota’s high school students (grades 10-12). The survey was developed using questions from multiple journal articles (Buerhaus, et al., 2005; Grossman & Northrop, 1993; Stevens & Walker, 1993), the 2006 Nursing Needs Study High School Student Survey (Hanson, Moulton, Rudel & Plumm, 2006) and the North Dakota Health care Association Study of Health care Career Perceptions (2002).

A stratified sample of schools representing urban and rural counties was selected to represent the state. All schools in each of the selected counties were contacted and were asked if they would be willing to participate in the study. Sixteen schools agreed to participate and were mailed surveys and scannable answer sheets to distribute to all students in their school. Nine schools returned surveys representing students from 11 counties (see Figure 17).

Figure 17: Counties included in High School Student Survey

North Dakota High School Survey Participants
In the sample, respondents were Caucasian (84%) followed by 4.2% Hispanic and 4.8% American Indian. The 2006 sample was less diverse with 92% Caucasian students. Slightly more respondents were male (54%) and few respondents were freshmen (see Table 2).

**Table 2: Number of Respondents by Sex and High School Class**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Freshmen</th>
<th>Sophomores</th>
<th>Juniors</th>
<th>Seniors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
<td>63</td>
<td>54</td>
<td>200</td>
<td>318</td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>50</td>
<td>83</td>
<td>128</td>
<td>261</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>113</td>
<td>137</td>
<td>328</td>
<td>579</td>
</tr>
</tbody>
</table>

Data was analyzed using SPSS 16.0. Due to problems with the scanning process, many variables were recoded into new variables in order to derive the results in this report. Percentages were calculated using the total number of students that completed each item and rounded to the nearest percentile. Several percentages were calculated using only those students that the question applied to. For example, question #14 which was to be filled out only by students planning to go into nursing were analyzed using only those students that had indicated an interest in a nursing career in question #12 rather than the full population of answers.
References


