Center for Rural Health

- Established in 1980, at the University of North Dakota School of Medicine and Health Sciences in Grand Forks, ND
- Focuses on:
  - Education, Training, & Resource Awareness
  - Community Development & Technical Assistance
  - Native American Health
  - Rural Health Workforce
  - Rural Health Research
  - Rural Health Policy
- Web site: http://medicine.nodak.edu/crh
North Dakota Nursing Needs Study

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The North Dakota Health Care Workforce Pipeline

- Supply
  - K-12 Education: Prepare elementary and high school students for careers in health care.
  - Higher Education: Focus on traditional and non-traditional pathways.

- Demand
  - Employee Recruitment: Educate employees on state association and tribal government roles.
  - Employee Retention: Educate employees on state association and tribal government roles.
Future Career Choice of High School Students

High School Student Survey Results, 2006
Area of Healthcare Interest

<table>
<thead>
<tr>
<th>Profession</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Nursing</td>
<td>38%</td>
</tr>
<tr>
<td>Physician</td>
<td>30%</td>
</tr>
<tr>
<td>Physical Therapist</td>
<td>25%</td>
</tr>
<tr>
<td>Chiropractor</td>
<td>20%</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>19%</td>
</tr>
<tr>
<td>Dentist</td>
<td>18%</td>
</tr>
<tr>
<td>Lab Radiology/Med Tech</td>
<td>16%</td>
</tr>
<tr>
<td>Physician's Assistant</td>
<td>11%</td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>9%</td>
</tr>
</tbody>
</table>

High School Student Survey, 2006

Recruitment Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Percent who Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer pays tuition if work for them</td>
<td>61%</td>
</tr>
<tr>
<td>This profession would be in high demand</td>
<td>51%</td>
</tr>
<tr>
<td>Jobs have starting salary &gt; 30k</td>
<td>50%</td>
</tr>
<tr>
<td>Guaranteed a job in ND after college</td>
<td>49%</td>
</tr>
</tbody>
</table>

High School Student Survey, 2006
Thoughts on Increasing Interest in Nursing

- Nurses should go to elementary school classes to expose children early to the nursing profession and to continue this exposure in high school with career fairs (nurses representing a variety of fields).

- Offer more health career classes in which students could receive CNA training or job shadowing experience.

- Offer tours of a wide variety of health care facilities including hospitals, nursing homes and public health.

Nursing Student Focus Groups, 2003
Future Plans of High School Students

High School Student Survey, 2006

Reasons for Choosing Current Program

Nursing Student Survey, 2004
Nursing Student Demographics

- The average age of nursing students is 29 years for LPN, 25 years for RN and 40 years for APN students.
- Approximately 40 percent of nursing students are married.
- About one-half have children with 25% having three or more children.
- About one-half of nursing students are also employed in addition to going to school with almost 1/3 working more than 20 hours/week.

Nursing Student Survey, 2004
### Nursing Program Technology Use

<table>
<thead>
<tr>
<th>Technology</th>
<th>Number of Programs that Utilize</th>
<th>How Often is the system Used</th>
<th>How Many Students can use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Conferencing</td>
<td>75%</td>
<td>Average of 2 classes per semester</td>
<td>20 to 150</td>
</tr>
<tr>
<td>Video Streaming</td>
<td>25% will have begun use by 2006</td>
<td>Trial use only</td>
<td>N/A</td>
</tr>
<tr>
<td>Web Based Asynchronous Programs</td>
<td>57%</td>
<td>Average of 8 classes per semester</td>
<td>15-35</td>
</tr>
<tr>
<td>Simulations</td>
<td>81%</td>
<td>Average of 2 courses per semester</td>
<td>5 to 20</td>
</tr>
</tbody>
</table>

Nursing Program Use of Technology Study, 2005

### Issues in Expanding Clinical Sites

- Availability
- Difficulty in Scheduling Students
- Faculty Time

Faculty Focus Groups, 2004
**LPN Clinical Education 2003 and 2006**

Facility Survey, 2006

**RN Clinical Education 2003 and 2006**

Facility Survey, 2006
Retirement of Nursing Faculty

Cumulative Percentage of Faculty Planning to Retire

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>2003</td>
<td>0</td>
</tr>
<tr>
<td>2004</td>
<td>20</td>
</tr>
<tr>
<td>2005</td>
<td>40</td>
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<td>2006</td>
<td>60</td>
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<td>2007</td>
<td>80</td>
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<tr>
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<td>2018</td>
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<tr>
<td>2019</td>
<td>320</td>
</tr>
<tr>
<td>2020</td>
<td>340</td>
</tr>
<tr>
<td>2021</td>
<td>360</td>
</tr>
</tbody>
</table>

Faculty Survey, 2003

Interest in Faculty Position

• One-quarter of high students interested in nursing would like to obtain a Ph.D. in nursing (High School student Survey, 2006)

• 60% of nursing students indicated an interest in a future faculty position, the majority of these students were APN students (Nursing Student Survey, 2004)

• 16% of licensed nurses indicated an interest in a faculty position (Licensed Nurse Survey 2006).
High School Student Future Work Location

The North Dakota Workforce Pipeline

Supply

K-12

Higher Education

Employer Recruitment

Employer Retention

Demand

Employer Recruitment

Encourage graduates to seek employment in North Dakota.

What are the roles of
Educators, Employers,
State agencies
State/local
Government/public policy

Location

ND urban city
ND semi-rural city
ND rural town
MN, SD, or MT
other state
uncertain

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

High School Student Survey, 2006
Nursing Student Future Work Location

- Urban North Dakota: 36%
- Semi-rural North Dakota: 7%
- Rural North Dakota: 13%
- Minneapolis: 3%
- Other Minnesota: 3%
- South Dakota: 4%
- Montana: 1%
- Other state: 1%
- Outside of United States: 4%

Nursing Student Survey, 2004

Nursing Student Future Work Setting

- Ambulatory care: 65%
- Home health care: 4%
- Ambulatory care: 14%
- Occupational health: 11%
- Nursing education: 4%
- Long term care: 6%
- Hospital: 54%
- Public/community health: 14%
- School health: 13%

Nursing Student Survey, 2004
Current Supply

Number of LPNs

<table>
<thead>
<tr>
<th>Year</th>
<th>LPNs</th>
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<tbody>
<tr>
<td>2004</td>
<td>3,125</td>
</tr>
<tr>
<td>2005</td>
<td>3,112</td>
</tr>
<tr>
<td>2006</td>
<td>3,161</td>
</tr>
<tr>
<td>2007</td>
<td>3,469</td>
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</table>

Number of RNs

<table>
<thead>
<tr>
<th>Year</th>
<th>RNs</th>
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</thead>
<tbody>
<tr>
<td>2004</td>
<td>8,191</td>
</tr>
<tr>
<td>2005</td>
<td>7,623</td>
</tr>
<tr>
<td>2006</td>
<td>8,408</td>
</tr>
<tr>
<td>2007</td>
<td>8,832</td>
</tr>
</tbody>
</table>

North Dakota Board of Nursing Database

Change in RN Supply

Change in LPN Supply


The North Dakota Workforce Pipeline

Supply

Demand

K-12

Higher Education

Employee Recruitment

Employer Retention

What are the roles of:
- Educators
- Employers
- State associations
- State boards
- State Government/
  public policy
Five-Year Average Age Trend

Cumulative Retirement Rate
Nursing Staff Representation in making 2003 and 2005

Facility Survey, 2005

2007 Starting Hourly Wage by Education

Facility Survey, 2007
2007 Starting Salary

Comparison of Starting Wage by Year
2007 Average Hourly Wage by Education

Facility Survey, 2007

2007 Average Salary

Facility Survey, 2007
Comparison of Average Wage by Year

Facility Survey, 2007

Number of Nurses Working Part-Time

Licensed Nurse Survey, 2007
Nurses with a Second Nursing Job

Licensed Nurse Survey, 2007

Vacancy Rate Five Year Trend

Facility Survey, 2007

5-Year LPN = 6.2%      5-Year RN = 7%
RN Change in Vacancy Rates
Facility Survey 2002 and 2007

LPN Change in Vacancy Rates
Facility Survey 2002 and 2007
### Turnover Rates Five Year Trend

- **2003:** 14% (LPN), 15% (RN)
- **2004:** 18% (LPN), 20% (RN)
- **2005:** 21% (LPN), 20% (RN)
- **2006:** 17% (LPN), 12% (RN)
- **2007:** 31% (LPN), 19% (RN)

- **5-Year LPN:** 19.6%
- **5-Year RN:** 17.8%

Facility Survey, 2007

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### RN Turnover Map 2007

Note: Turnover rate includes all responding health care facilities within each county (hospital, long-term care, clinic, home health and public health). Source: North Dakota Nursing Needs Study: Facility Survey Results 2007

Facility Survey, 2007
Note. Turnover rates include all responding health care facilities within each county (hospital, long-term care, clinic, home health, and public health). Source: North Dakota Nursing Needs Study; Facility Survey Results 2007

Facility Survey, 2007

Impact

Licensed Nurses

Health Care Facilities

Licensed Nurse Survey and Facility Survey, 2007
CONCLUSIONS

• Targeted programs should market nursing to children in order to increase interest.

• Efforts should be increased to recruit and retain nursing faculty.

• Persistent shortage in nurses is worsening for LPNs, continues to be a problem for RNs.

• Salary inconsistency should be addressed by individual facilities. Examine creative salary and benefit packages. Also examine workplace characteristics such as nurse representation.

For more information contact:

Center for Rural Health
University of North Dakota
School of Medicine and Health Sciences
Grand Forks, ND 58202-9037

Tel: (701) 777-3848
Fax: (701) 777-6779

http://medicine.nodak.edu/crh

Connecting resources and knowledge to strengthen the health of people in rural communities.