



Center for  
Rural Health  
University of North Dakota  
School of Medicine & Health Sciences

<http://medicine.nodak.edu/crh>

## Current Status of the Health Care Workforce in North Dakota

Patricia Moulton, Ph.D. and Mary Amundson, M.A.

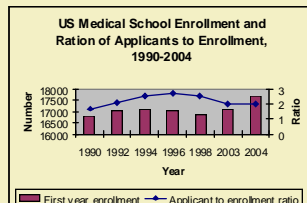
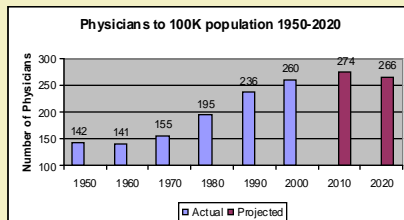
Dakota Conference on Rural and Public Health

March 21, 2007

Mandan, ND

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

### National Health Care Challenges



### Medicine

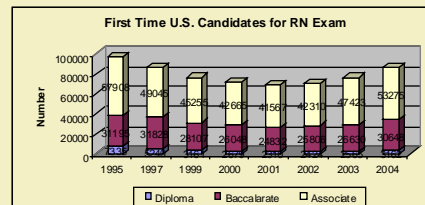
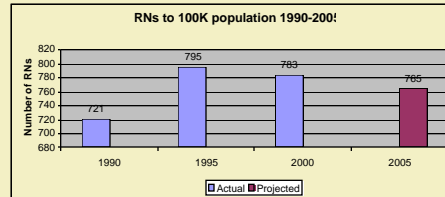
- Perception of growing shortage in physicians
- Growing pressure from AAMC and others for more allopathic medical schools

Source: Lohr KN, Vanselow NA, Detmer DE. The Nation's Physician Workforce: Options for Balancing Supply and Requirements. National Academy Press, Washington DC: 1996. 4. JAMA, September 7, 2005 - Vol. 294, 9, 1069 . Analysis by Center for the Health Professions, Health Workforce Tracking Initiative, 2006

## National Health Care Challenges

### Nursing

- Short run improvement in situation
- Real shortage out 2010 and beyond with retirement and increasing demand
- Difficulty in generating new capacity

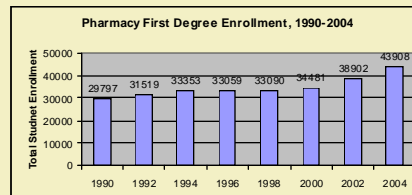
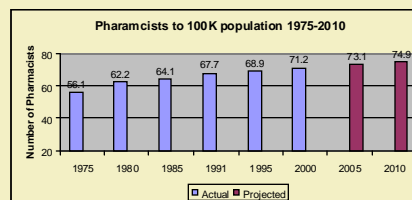


Source: National Council of State Boards of Nursing, September 2005, Center for the Health Professions, UCSF. 2005; Analysis by Center for the Health Professions, Health Workforce Tracking Initiative, 2006.

## National Health Care Challenges

### Pharmacy

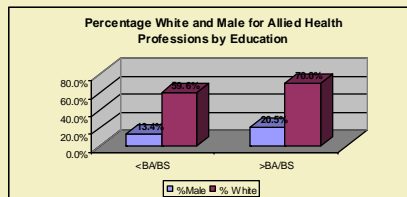
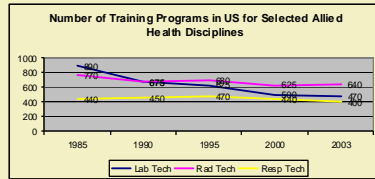
- Growing capacity
- New practice demands
  - Clinical Pharmacy
  - Retail growth
  - Medicare Part D
  - Aging population
  - More chronic care
  - New expensive biologics



Source: Bureau of the Health Professions, HRSA, DHHS, The Pharmacist Workforce: A Study of the Supply and Demand for Pharmacists, Washington, DC: DHHS, 2000; American Association of Colleges of Pharmacy, September 2005; Analysis by Center for the Health Professions, Health Workforce Tracking Initiative, 2006

## National Health Care Challenges

### Allied Health

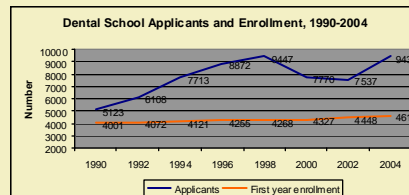
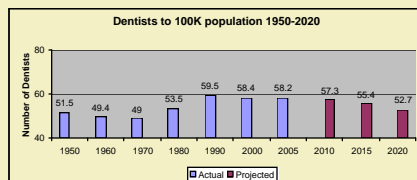


- Stealth shortage
- Pressing need in
  - Radiological Techs
  - Respiratory Techs
  - Laboratory Medicine
  - PT
  - OT
  - Pharmacy Techs
- Limited new partnerships emerging

Source: Health Workforce Solutions, Robert Wood Johnson Foundation, 2005; Analysis Center for the Health Professions, 2006.

## National Health Care Challenges

### Dentistry



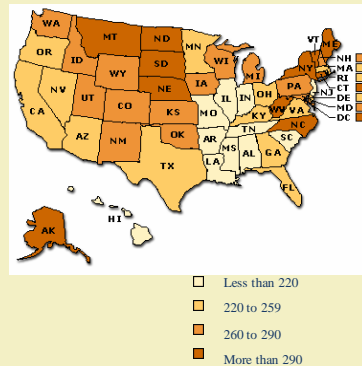
- Growing demand for education
- Modest growth in education capacity
- Vast under service needs in specific populations
- Need new practice model

Source: Bureau of Health Professions, HRSA, DHHS. Data from the Eighth Report to Congress 1991; American Dental Education Association, September 2005; Analysis by Center for the Health Professions, Health Workforce Tracking Initiative, 2006.

## North Dakota Health Care Challenges

**Supply Is Currently Below The National Average For:**

Physicians  
 Dentists  
 Dental Assistants  
 Podiatrists  
 Pharmacy Technicians & Aides  
 Emergency Medical Service &  
 Paramedics  
 Radiology Technicians

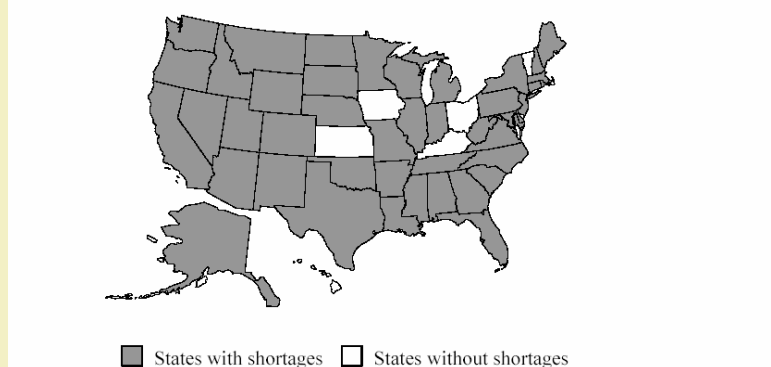


Sources: Kaiser Family Foundation State Health Facts.org, Bureau of Labor Statistics, State Occupational Employment and Wage Estimates, May 2005; New York Center for Health Workforce Studies (2006). [The United States Health Workforce Profile](#).

## North Dakota Health Care Challenges

**Future Nursing Supply will be at Crisis Levels by 2020**

Map 2: States with Projected Shortages of FTE Registered Nurses in 2020



Source: [Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020](#) U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, National Center For Health Workforce

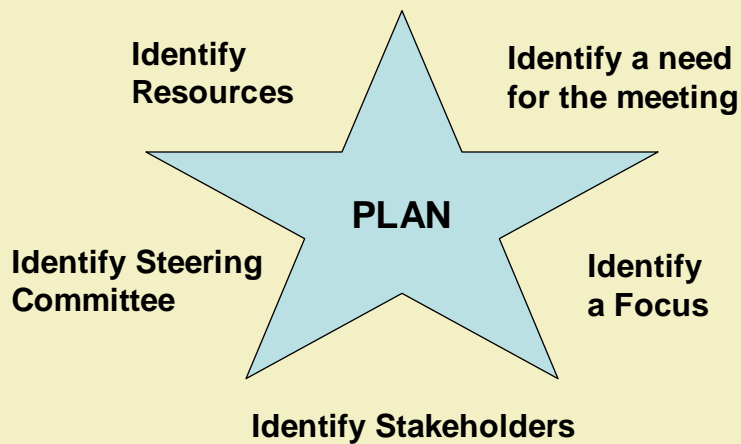
## North Dakota Health Care Challenges

### Percent Growth (2004-2014) of Health Care Occupations in North Dakota

Occupation	% Growth	Occupation	% Growth
Dentists	-2.7%	Dental Hygienists	18.3%*
Pharmacists	10.4%	EMS and Paramedics	11.6%
Family Practitioner	7.6%	Physician Assistant	25.4%*
Registered Nurses	19.8%*	Licensed Practical Nurses	4.1%
Occupational Therapists	13.0%	Physical Therapists	13.1%
Medical and Clinical Laboratory Technologists	14.1%	Medical and Clinical Laboratory Technicians	12.9%

Source: Job Service of North Dakota 2004-2012 North Dakota Employment Projections.

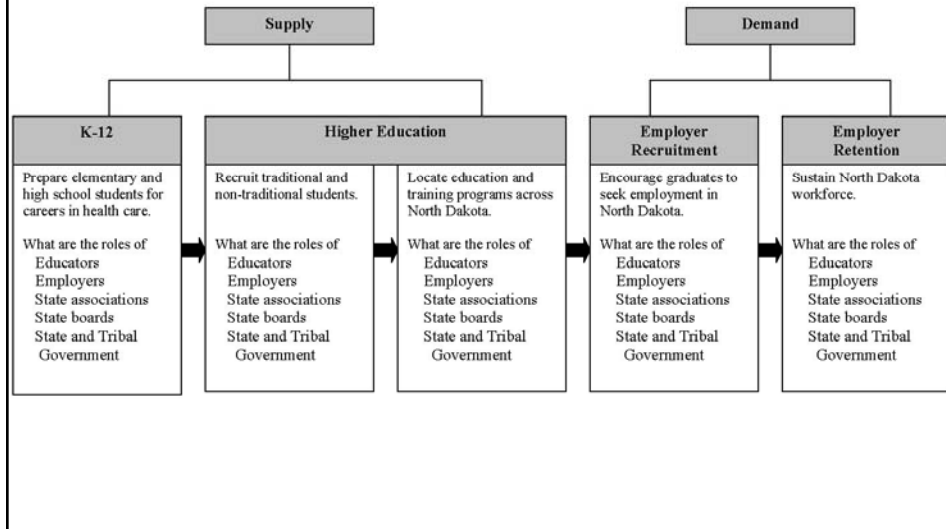
## *Health Care Summit Process*



## Health Care Summit Objectives

- Share action-oriented plans from other rural states
- **Consider current and projected characteristics of the health workforce in ND and the US**
- **Describe selected efforts underway in ND to expand, recruit, and retain the workforce**
- Develop immediate and long-term strategies to address the health workforce needs of ND
- Inform the development of a statewide plan through collaboration

### The North Dakota Health Care Workforce Pipeline



## K-12

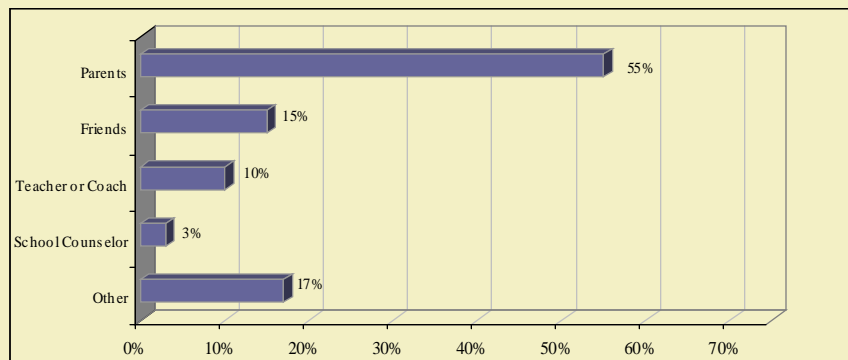
*Prepare elementary and high school students in basic science and exposure to role models.*

2005 Fall Enrollment for ND

- Kindergarten-8th Grade- 70,830
- Ninth grade- 12th Grade- 34,551

## K-12

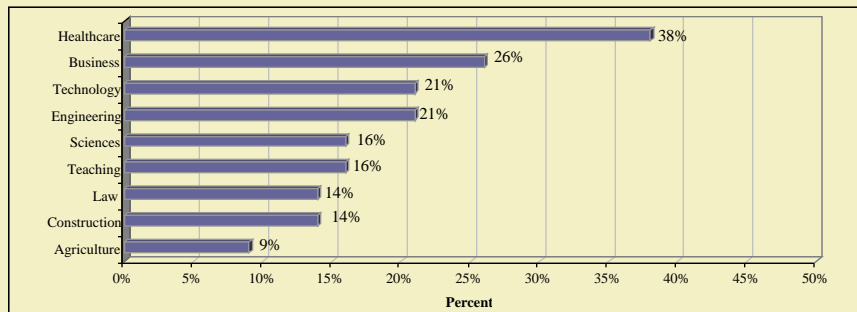
**Most Important Source in Choosing Future Career—  
High School Students**



Source: Hanson, B., Moulton, P., Rudel, R. & Plumm, K. (2006). High School Student Survey Results. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota.

## K-12

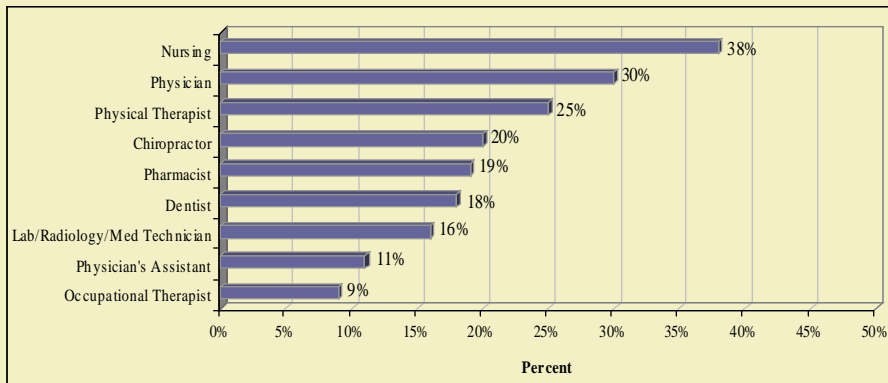
### High School Student: Future Careers



Source: Hanson, B., Moulton, P., Rudel, R. & Plumm, K. (2006). High School Student Survey Results. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## K-12

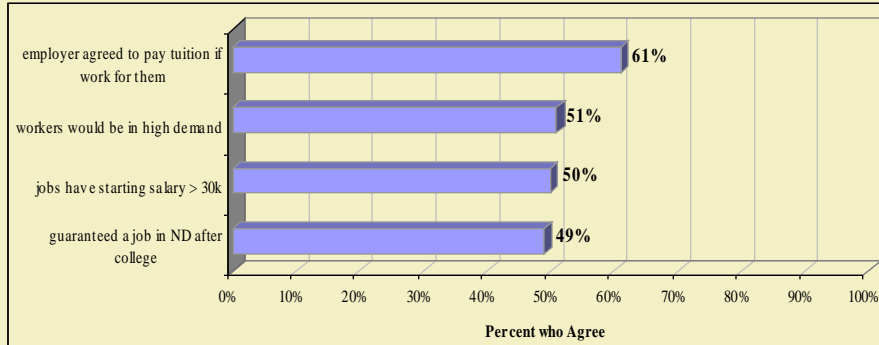
### High School Student Area of Health Care Interest



Source: Hanson, B., Moulton, P., Rudel, R. & Plumm, K. (2006). High School Student Survey Results. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## K-12

### High School Student Scenarios that would Encourage Healthcare Careers



Source: Hanson, B., Moulton, P., Rudel, R. & Plumm, K. (2006). High School Student Survey Results. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## Summit Workgroup: K-12

### Goal

Increase students' exposure to health care professions through education and business partnerships, scholarship consortia's, associations, industry, and education buy-in.

### Action Steps

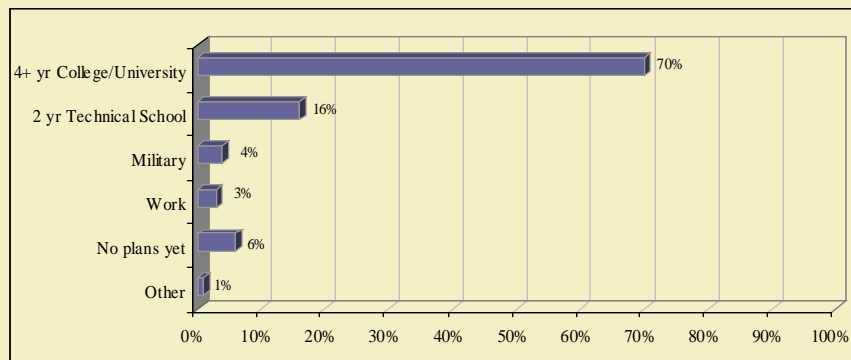
- Curriculum plan and workshop to engage parents
- Develop programs that utilize existing community resources (health professionals)
- Health care providers/departments adopt a K-12 class
- Develop a tool kit for elementary school students
- Standardize requirements for experiences
- Develop pilot programs

## Higher Education - Students

*Recruit traditional and non-traditional students  
from across North Dakota*

## Higher Education - Students

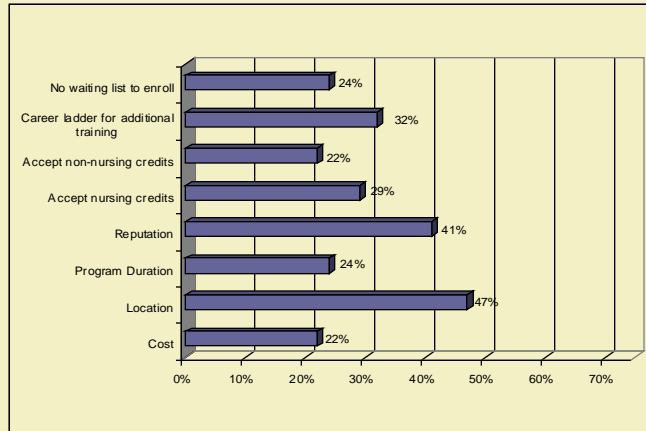
### Post-High School Graduation Plans



Source: Hanson, B., Moulton, P., Rudel, R. & Plumm, K. (2006). High School Student Survey Results. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## Higher Education - Students

### Most Important Factors in Choosing Education Program- Nursing Students



Source: Moulton, P. & Speaker, K. (2004) Student Survey Results Report part of the North Dakota Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences

## Summit Workgroup: Higher education/students

### Goal

Engage community/education programs to educate prospective students about health care programs.

### Action Steps

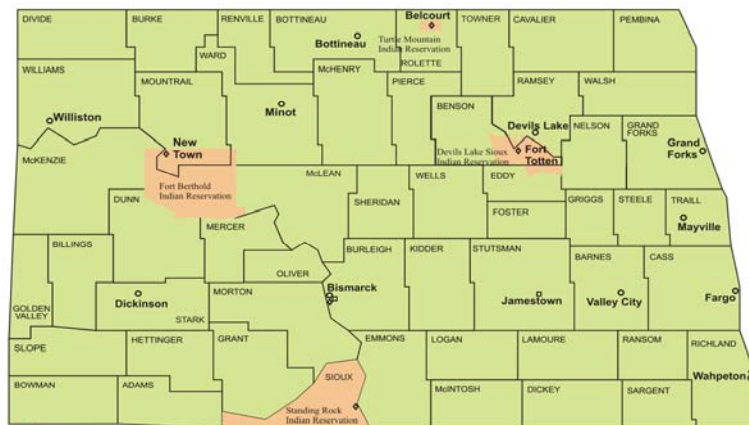
Establish a clearinghouse of existing opportunities; assess what students and parents know about health care opportunities in ND

## Higher Education- Programs

*Locate education and training programs across North Dakota*

## Higher Education- Programs

North Dakota Colleges & Universities



- ◆ North Dakota Tribal Colleges (Cankdesika Cikana Community College, Fort Berthold Community College, Sitting Bull College, Sisseton Wahpeton Community College, Turtle Mountain Community College, & United Tribes Technical College)
- North Dakota University System (Bismarck State College, Dickinson State University, Lake Region State College, Mayville State University, Minot State University, Moorhead State University, Bismarck, North Dakota State College of Science, North Dakota State University, University of North Dakota, Valley City State University, Williston State College)
- North Dakota Private Colleges and Universities (Jamestown College, University of Mary)

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## Higher Education- Programs

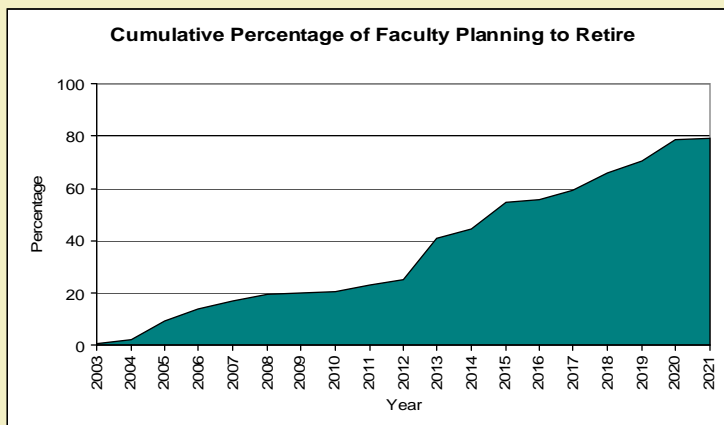
### North Dakota Nursing Program Technology Use

Technology	Number of Programs that Utilize	How Often is the system Used	How many Students can use
Video Conferencing	75%	Average of 2 classes per semester	20 to 150
Video Streaming	25% will have begun use by 2006	Trial use only	N/A
Web Based Asynchronous Programs	57%	Average of 3 classes per semester	15-35
Simulations	81%	Average of 2 courses per semester	5 to 20

Source: King, B. & Moulton, P. (August, 2005). North Dakota Nursing Programs use of Technology: A Statewide Assessment. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## Higher Education- Programs

### Nursing Faculty



Source: Moulton, P., Christman, S., Dannewitz, H. & Wakefield, M. North Dakota Nursing Needs Study: Faculty Survey Results. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## **Summit Workgroup: Higher Education Programs**

### **Goal**

Design rural interdisciplinary education programs for all health care disciplines.

### **Action Step**

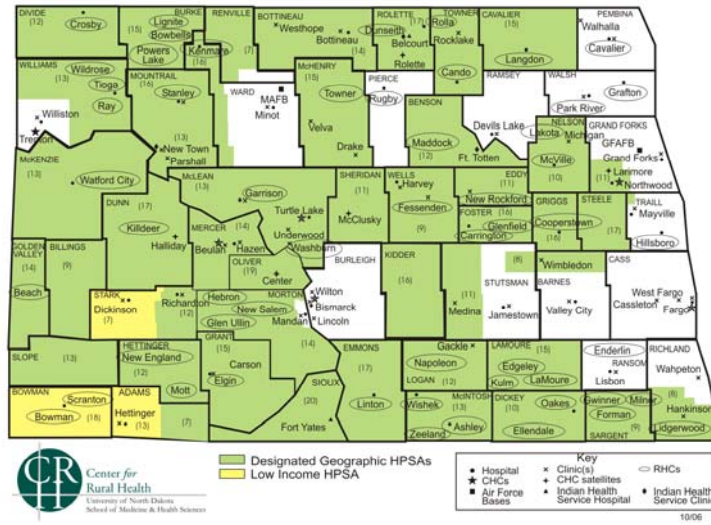
- Provide an opportunity for educational programs to meet at a state-wide conference
- Better education among higher education and health care administration
- Ensure a state-wide commitment to achieving an increase in the number of rural training programs

## **Employer Recruitment**

*Encourage students to seek employment in  
North Dakota*

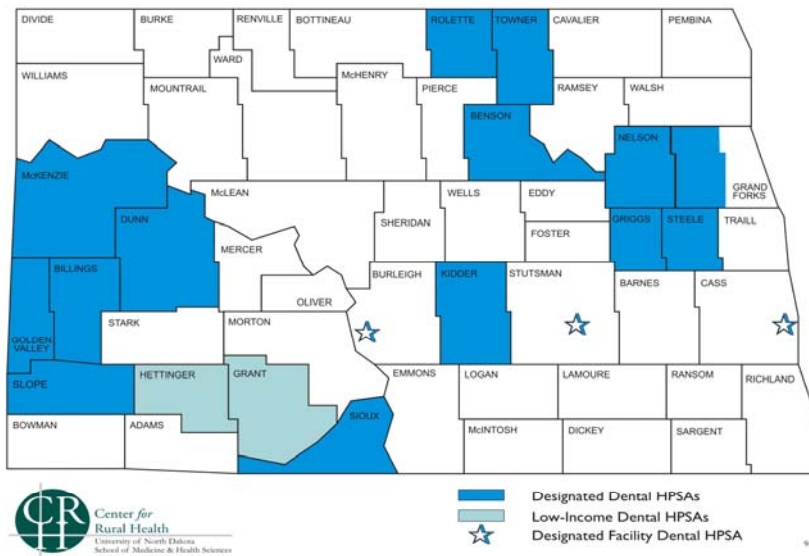
# Employer Recruitment

## North Dakota Health Professional Shortage Areas Rural Hospitals, Clinics, CHCs and RHCs



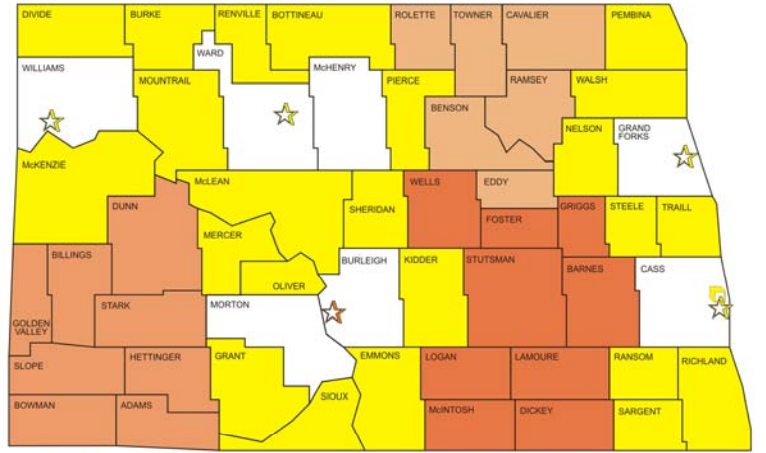
# Employer Recruitment

## North Dakota Dental Health Professional Shortage Areas



## Employer Recruitment

### North Dakota Mental Health Professional Shortage Areas



## Employer Recruitment

### What do we know about the state's physician workforce?

#### National

- average age is 51
- 26% are female
- 11% practice in rural areas

#### State

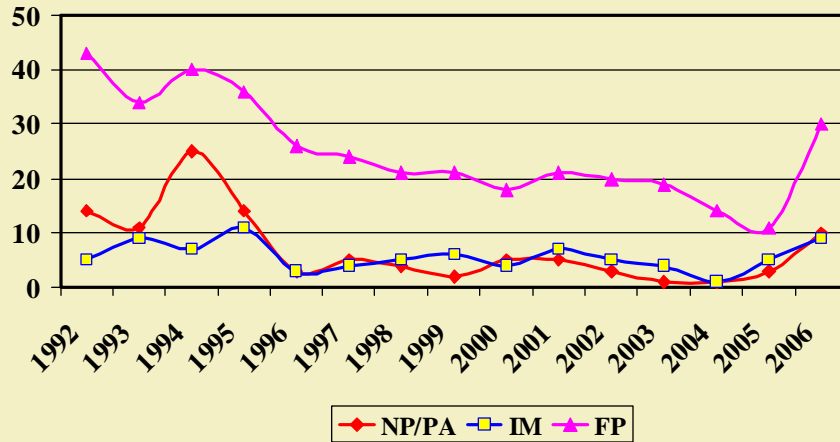
- average age is 49
- 21% are female
- 32% practice in rural areas

*1,461 licensed physicians 2004-05*

**25% will retire by 2015 - 42% by 2020**

Source: Physician Characteristics & Distribution in the US; State Health Workforce Profiles 2004; Amundson, M., Moulton, P., Kruger, G., Speaker, K., Zavalney, B. & Monley, K. [A Survey of North Dakota Physicians](#). Center for Rural Health, School of Medicine and Health Sciences Health Professions Tracking Program.

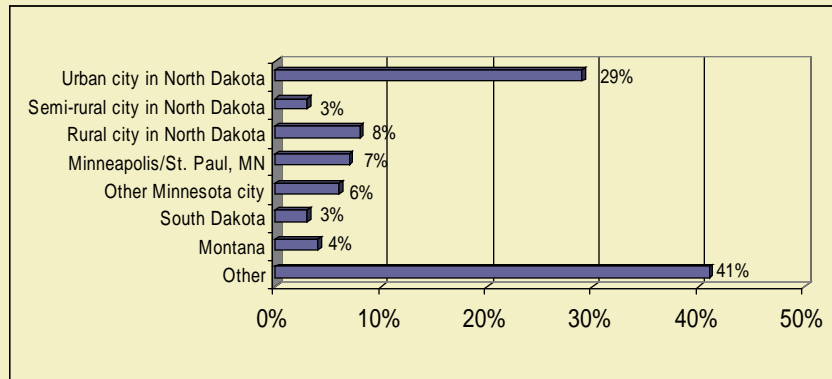
## Primary Care Vacancies in Rural North Dakota 1992 – 2006



NP: Nurse Practitioner    PA: Physician Assistant    IM: Internal Medicine    FP: Family Practice

## Employer Recruitment

### Medical Students & Residents Anticipated Work Location



Source: Moulton, P. & Amundson, M. (2004). *Medical Student and Resident Preliminary Survey Results*. Center for Rural Health, School of Medicine and Health Sciences Health Professions Tracking Program.

## Employer Recruitment

### What do we know about the state's dental workforce?

#### National

- average age is 49
- 80% generalists
- 67% are self-employed

#### State

- average age is 52
- 73% generalists
- 61% self employed

*316 licensed dentists 2004/05*

*Over 60% plan to retire by 2020*

Source: ADA. 1999 Survey of Dental Practice: Characteristics of Dentists in private Practice & Their Patients 2001; Amundson, M., Moulton, P., Beyer, M., Kruger, G., Speaker, K., Zavalney, B. & Monley, K. (2005) North Dakota Dentists Survey Results: Health Professions Tracking Program

## Employer Recruitment

### What do we know about the state's nursing workforce?

#### National

- Average Age: RN= 45, LPN=43
- 5% of Nurses are Male
- 6% of RNs have 2 jobs

#### State

- Average age: RN=44, LPN=42
- 6% of nurses are male
- 27% of RNs have 2 jobs
- Over half of LPNs and RNs have indicated larger patient care loads over the last 2 years

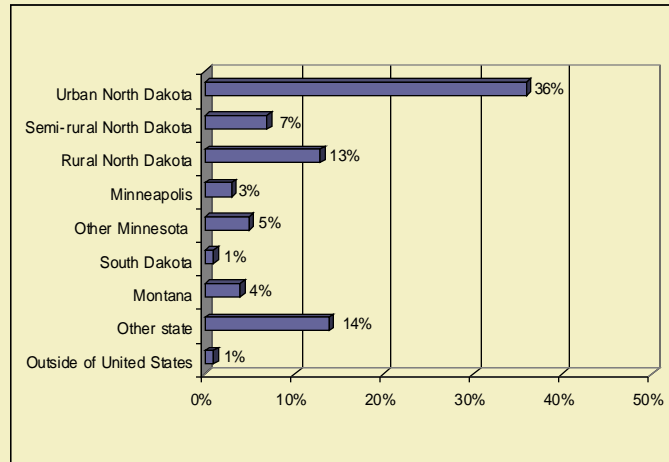
*8,804 Registered nurses (RNs), 3,485 Licensed Practical Nurses (LPNs) and 649 Advanced Practice Nurses (APNs)*

*36% of LPNs, 41% of RNs and 38% of APNs plan to retire by 2020*

Source: North Dakota Board of Nursing 2005-2006 Annual Report. Hanson, B. & Moulton, P. (2006). Four Year Comparison of North Dakota Nurses: Results and Implications. Report of the North Dakota Nursing Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences.

## Employer Recruitment

### Nursing Student Anticipated Work Location



Source: Moulton, P. & Speaker, K. (2004) Student Survey Results Report part of the North Dakota Needs Study. Center for Rural Health, University of North Dakota School of Medicine and Health Sciences

## Summit Workgroup: Employer Recruitment

### Goal

Educate legislators about the “perfect storm” of the aging workforce vs. aging population.

### Action Steps

- Provide information to legislators (CHCs, nursing needs study, workforce environment, etc)
- Develop grass roots effort to inform key members of the appropriations committee of the need for adequately funding the loan repayment programs...
- Build partnerships among key stakeholders to address important issues

## Employer Retention

### *Sustain North Dakota Workforce*

#### Concerns to address:

- Most separations occur within the first 5 years of employment
- Smaller groups have separations within first two years
  - compensation & location were most common reasons
- Highest turnover rate was found among family practitioners

Source: American Medical Group Association, 2004 survey; Cejka Search and American Medical Group Association, 2004.

## Summit Workgroup: Employer Retention

#### **Goal**

Foster a caring, creative, innovative workplace environment.

#### **Action Steps**

- Improve provider retention through sharing best practices, developing coalitions
- Develop a common message to share with legislators
- Health care facilities build/expand relationships with schools; offer programs
- Utilize technology to improve retention of health care providers

## Other Major Themes

- Centralized Information Resource on State Health Professions
  - Support the development of a Health Workforce Tracking Program
    - Collect statewide information on health care providers
    - Analyze current and emerging workforce issues
- Statewide Recruitment and Retention
  - Target matching funds (state/local) to address local/regional workforce issues
  - Strengthen statewide recruitment and retention efforts
- Loan Repayment/Scholarships
  - Increase financial awards for physicians
  - Develop a loan repayment program for nursing allied health, dental assistants/hygienists

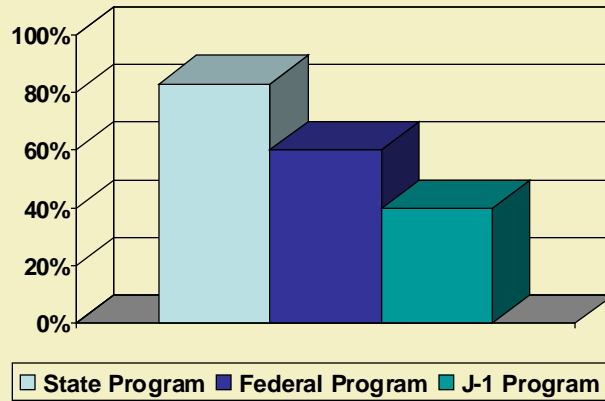


What we do have are State and Federal Loan Repayment Programs (*for some disciplines*)

Outcome: 31 clinicians in the program (1992-2005)  
14 physicians \*\*\*\* 5 nurse practitioners\*\*\*6 physician assistants

What we *don't have* are Tuition Waiver or Scholarship Programs; programs for health professionals

## Outcome of Loan and Obligated Programs 2004



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