

# DENTAL THERAPY AND THE ECONOMIC, SOCIAL AND POLITICAL TRENDS IN ORAL HEALTH PRACTICE

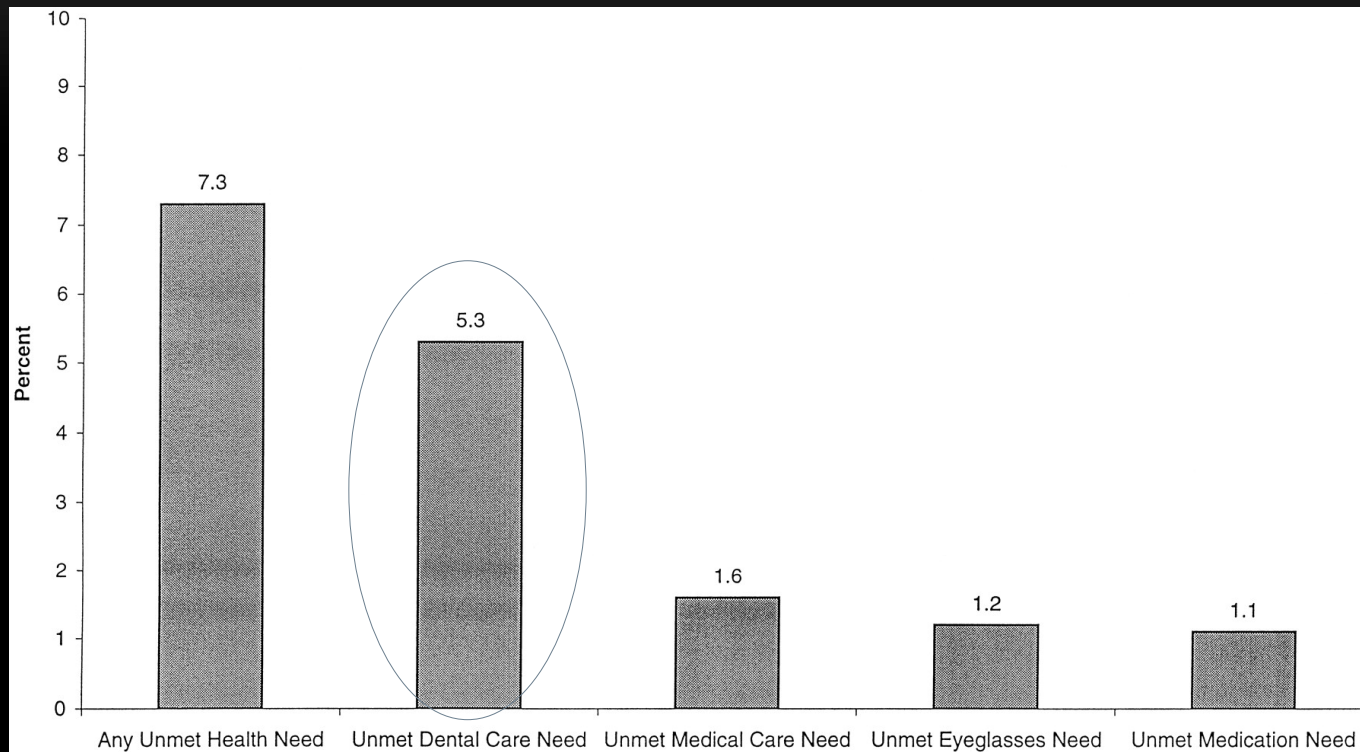
Leon A. Assael DMD  
Dean and Professor  
Developmental and Surgical Sciences  
University of Minnesota  
School of Dentistry





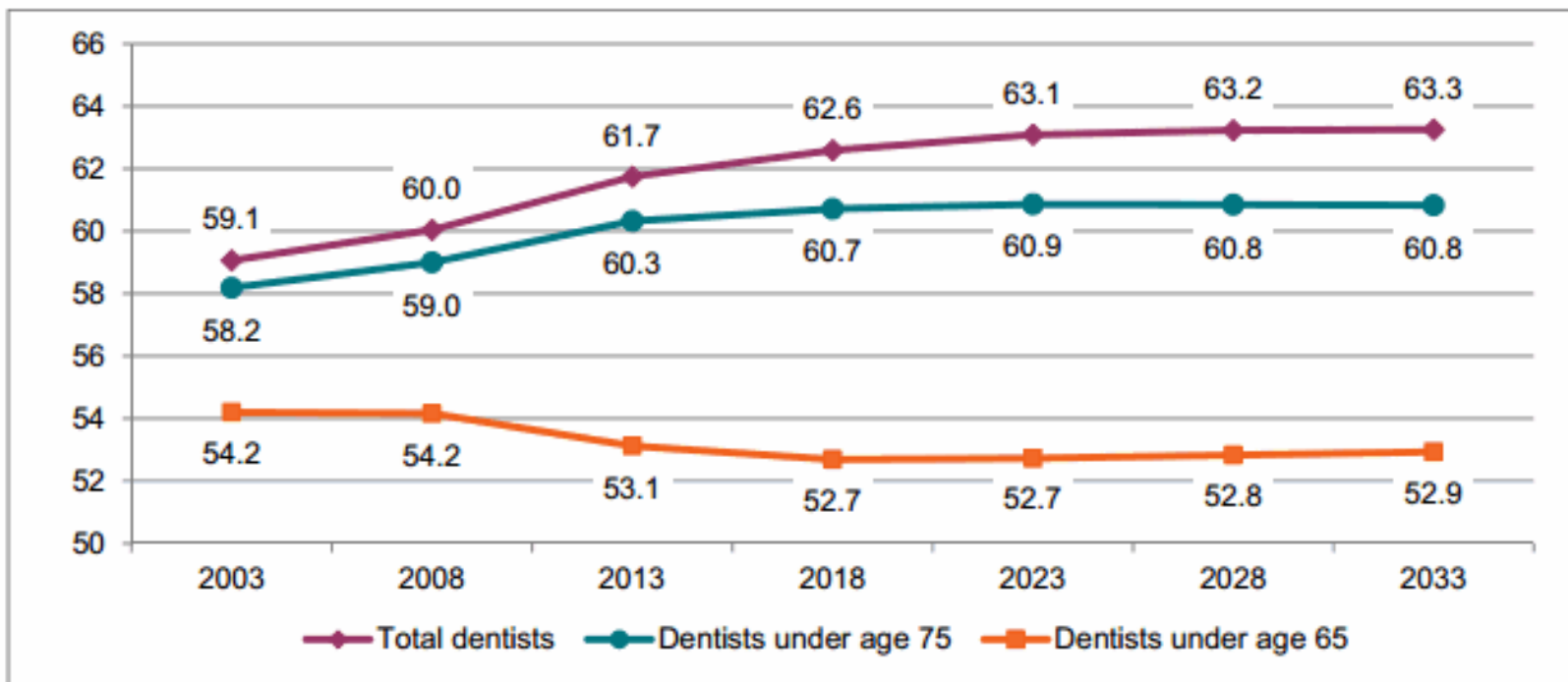
EVEN MOTHER NATURE LOVES THE MAROON AND GOLD !

# Dental Health: The most frequent unmet health need in children



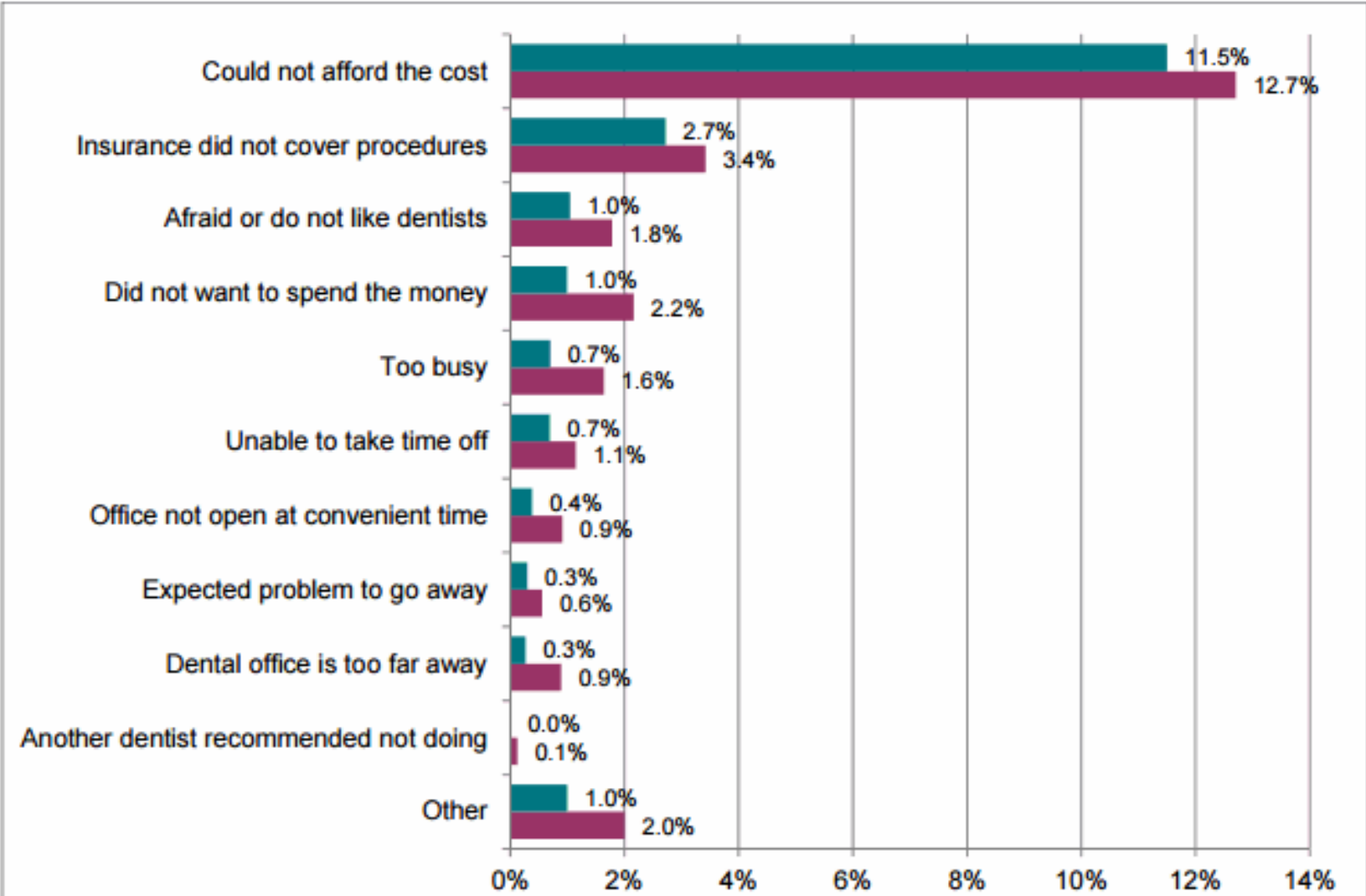
W. et al. Pediatrics 2000;105:933

**Figure 4:** Historical and Projected U.S. Dentists per 100,000 Population, by Age Group, Baseline Scenario

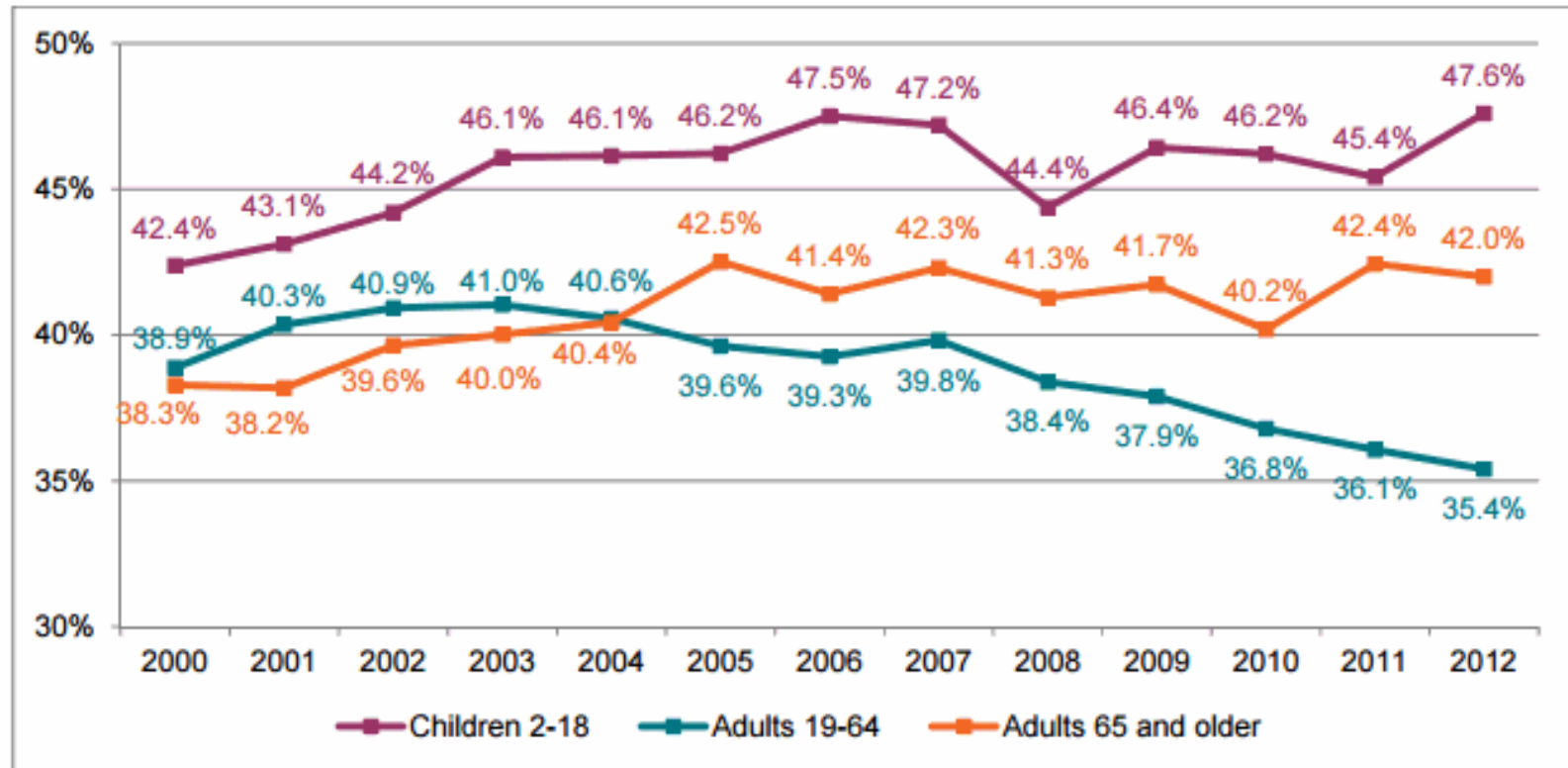


**Source:** ADA Health Policy Institute analysis of ADA masterfile; U.S. Census Bureau, Intercensal Estimates and National Population Projections. **Notes:** Data for 2003, 2008, and 2013 are based on the ADA masterfile. Results after 2013 are projected. Assumes (a.) U.S. total annual dental school graduates will increase linearly to 2018 and then remain flat (b.) future outflow rates are same as 2008-2013 historical percentages.

**Figure 2:** Reasons for Not Obtaining Needed Dental Care

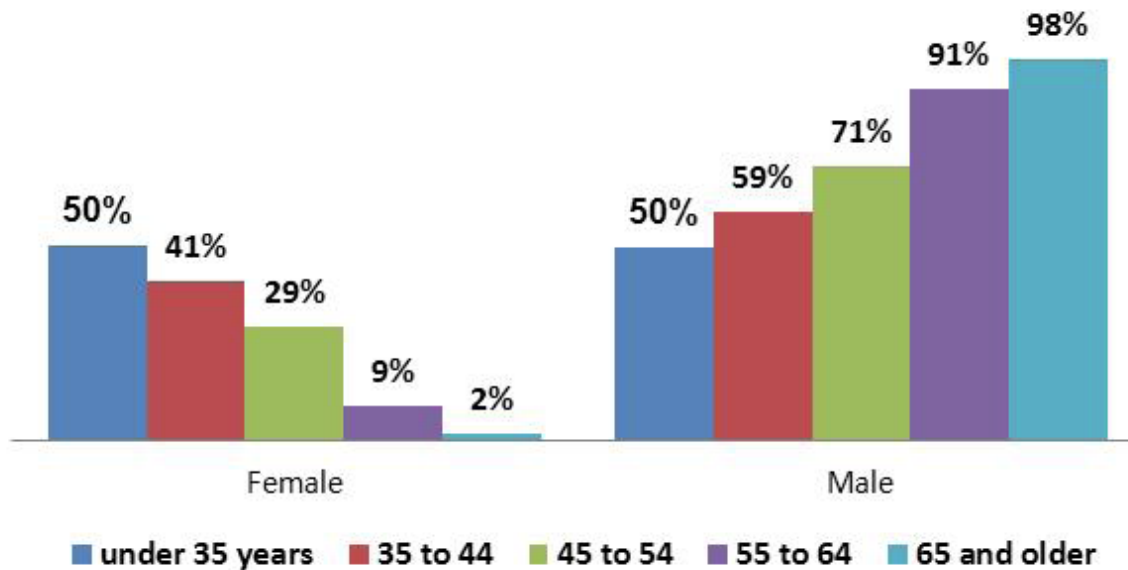


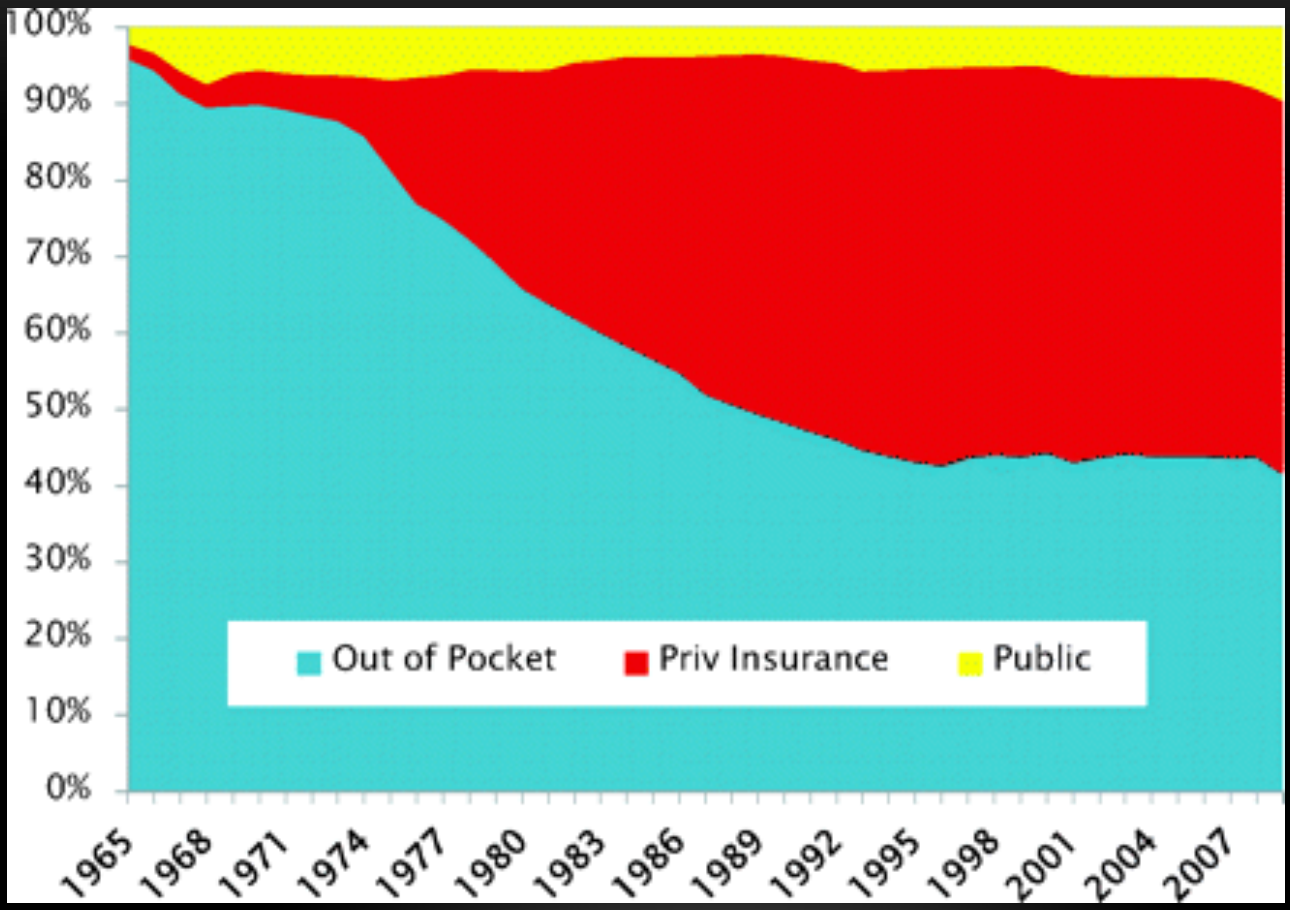
**Figure 1: Percentage of the Population with a Dental Visit in the Year, 2000-2012**



**Source:** Medical Expenditure Panel Survey, AHRQ. **Notes:** For children ages 2-18, changes were statistically significant at the 1% level (2000-2012) and at the 10% level (2011-2012). Among adults ages 19-64, changes were statistically significant at the 1% level (2003-2011). For adults 65 and older, changes were significant at the 5% level (2000-2012). Changes from 2011 to 2012 among adults 19-64 and the elderly 65 and above were not statistically significant.

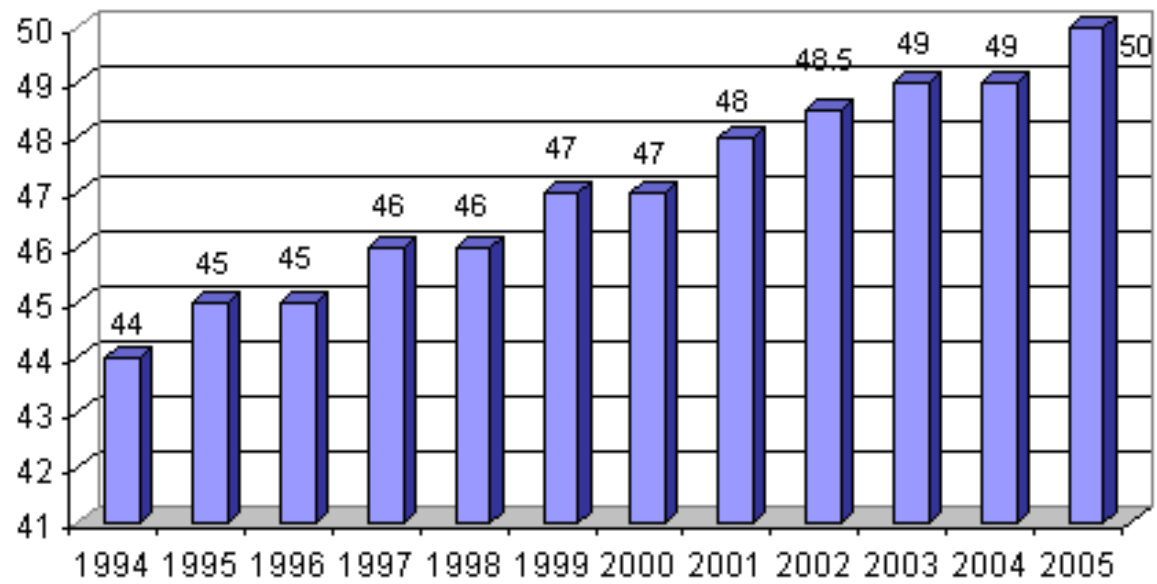
**Graph A**  
**Dentists Practicing in Minnesota by Age Group & Gender 2009-2010**



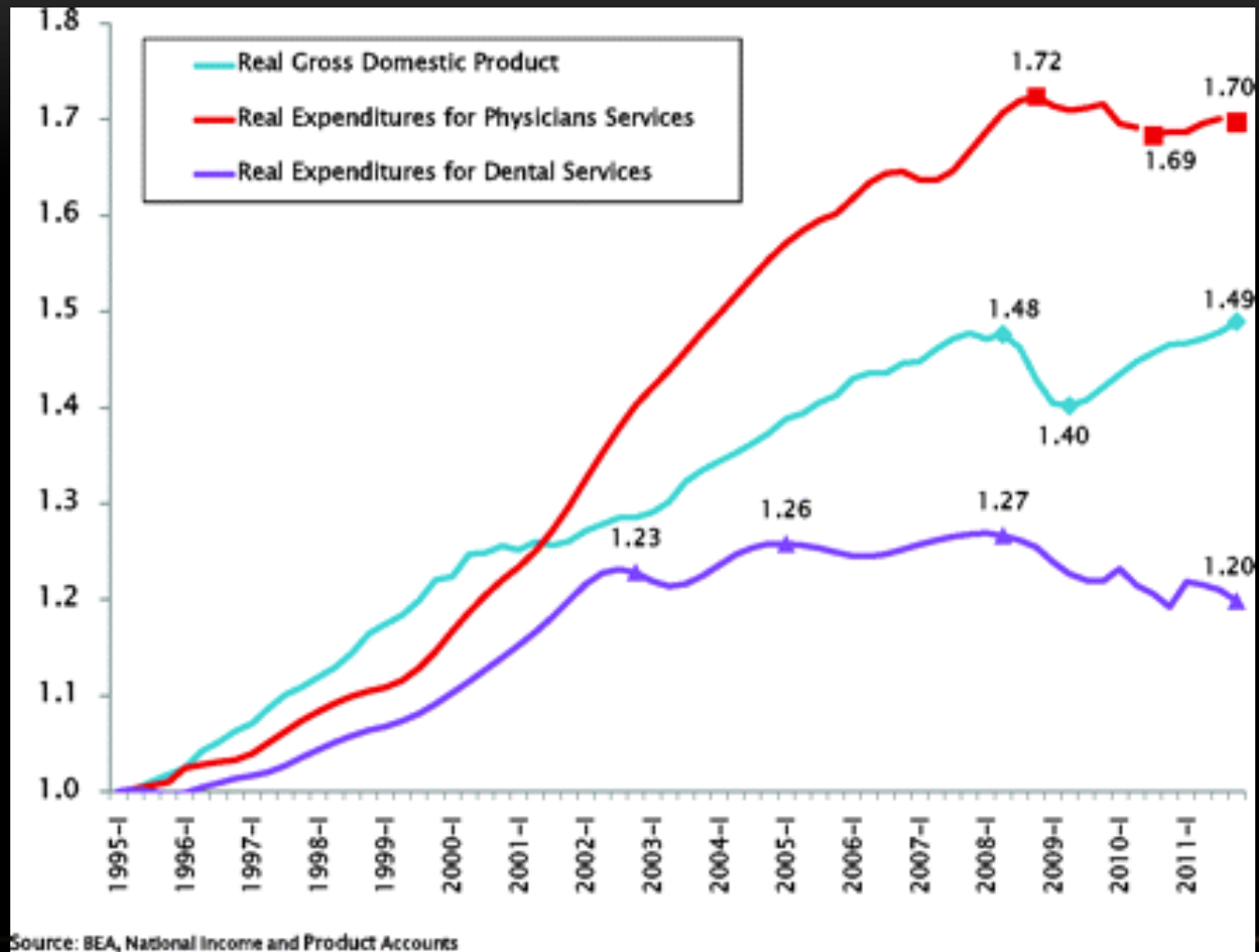




### Median age of active Minnesota dentists

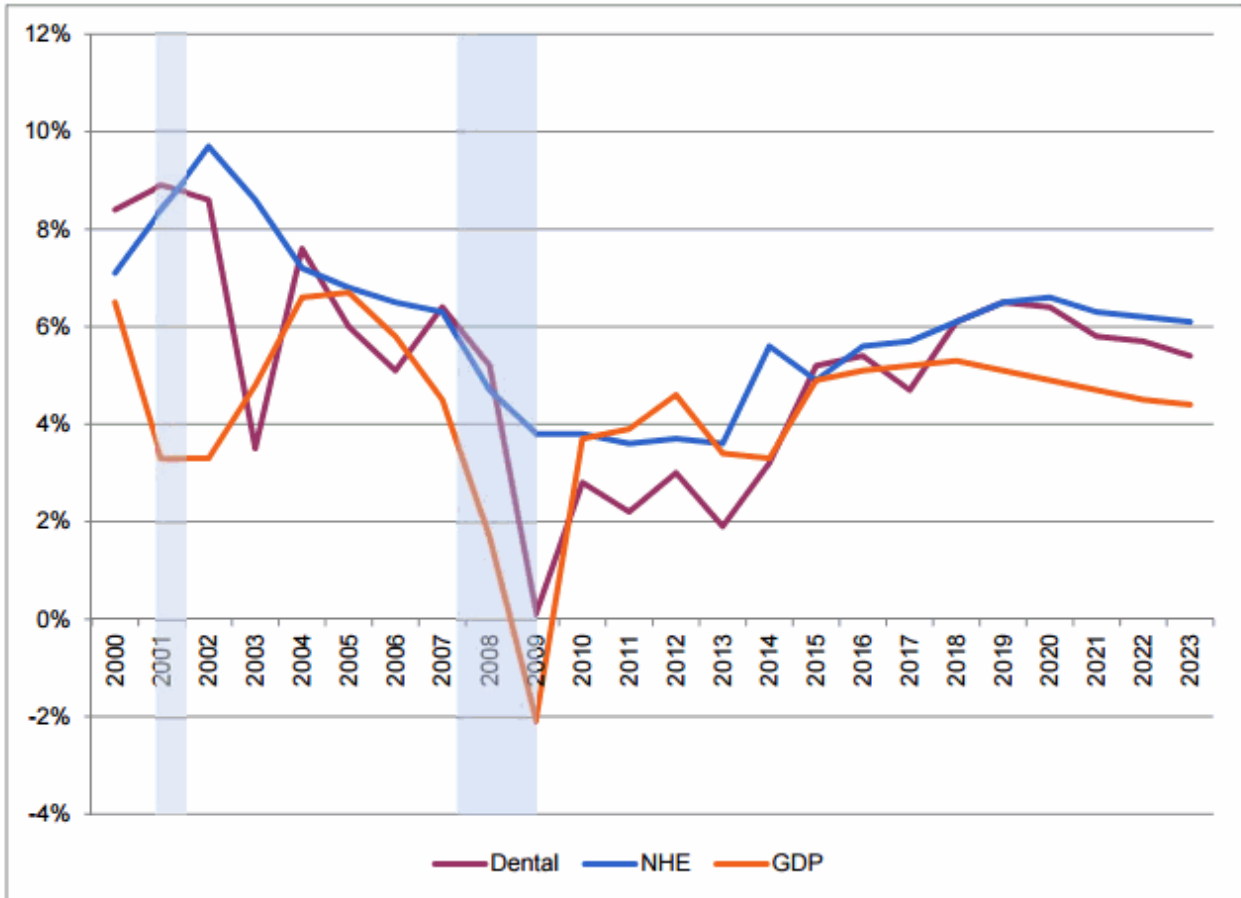


# UP TILL NOW!



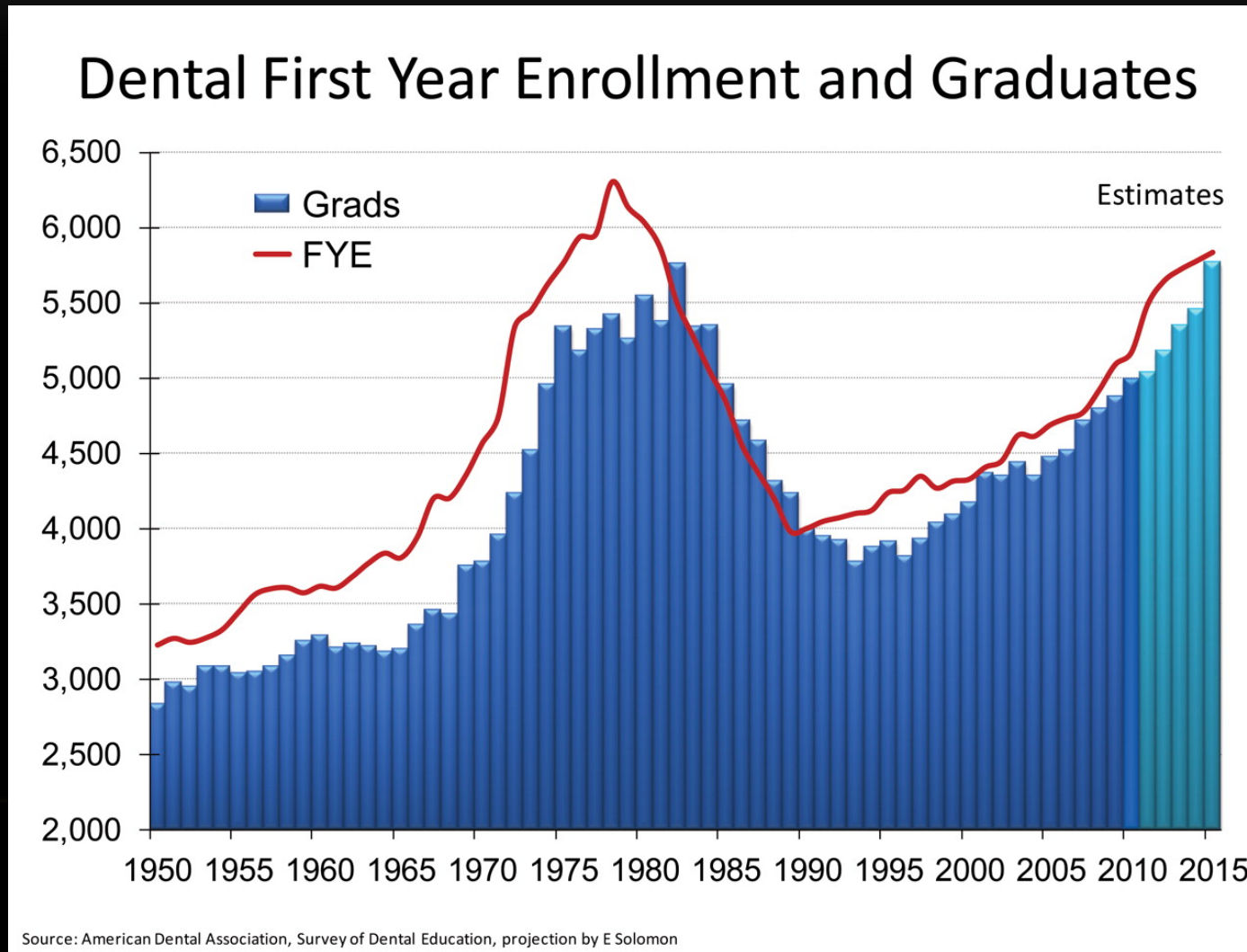
# THE FUTURE DENTAL SPENDING WILL EXCEED ECONOMIC GROWTH 2015-2025!

**Figure 1:** Annual Growth Rates for Gross Domestic Product, National Health Expenditures, and Dental Expenditures, 2000-2023

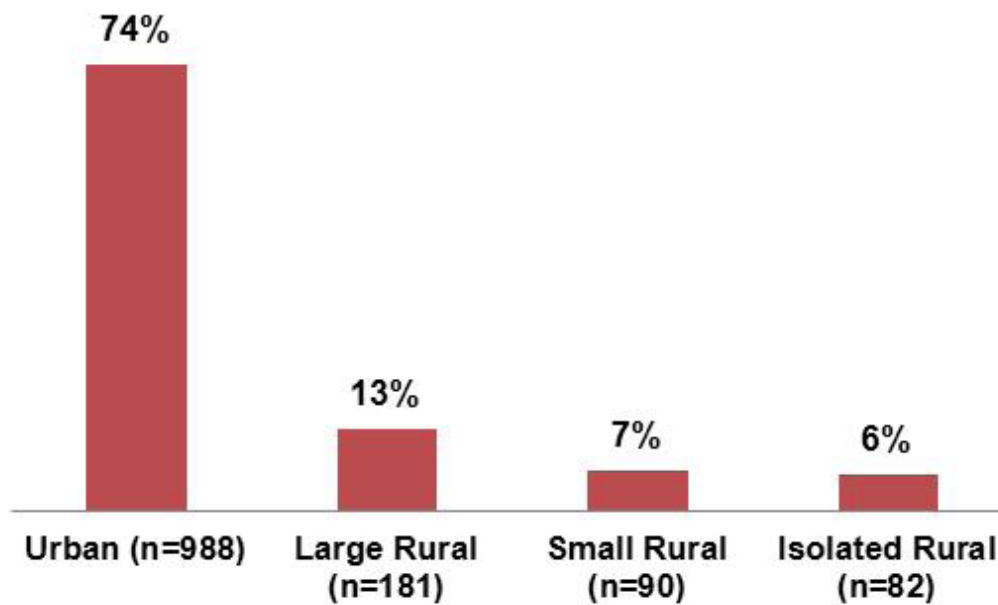


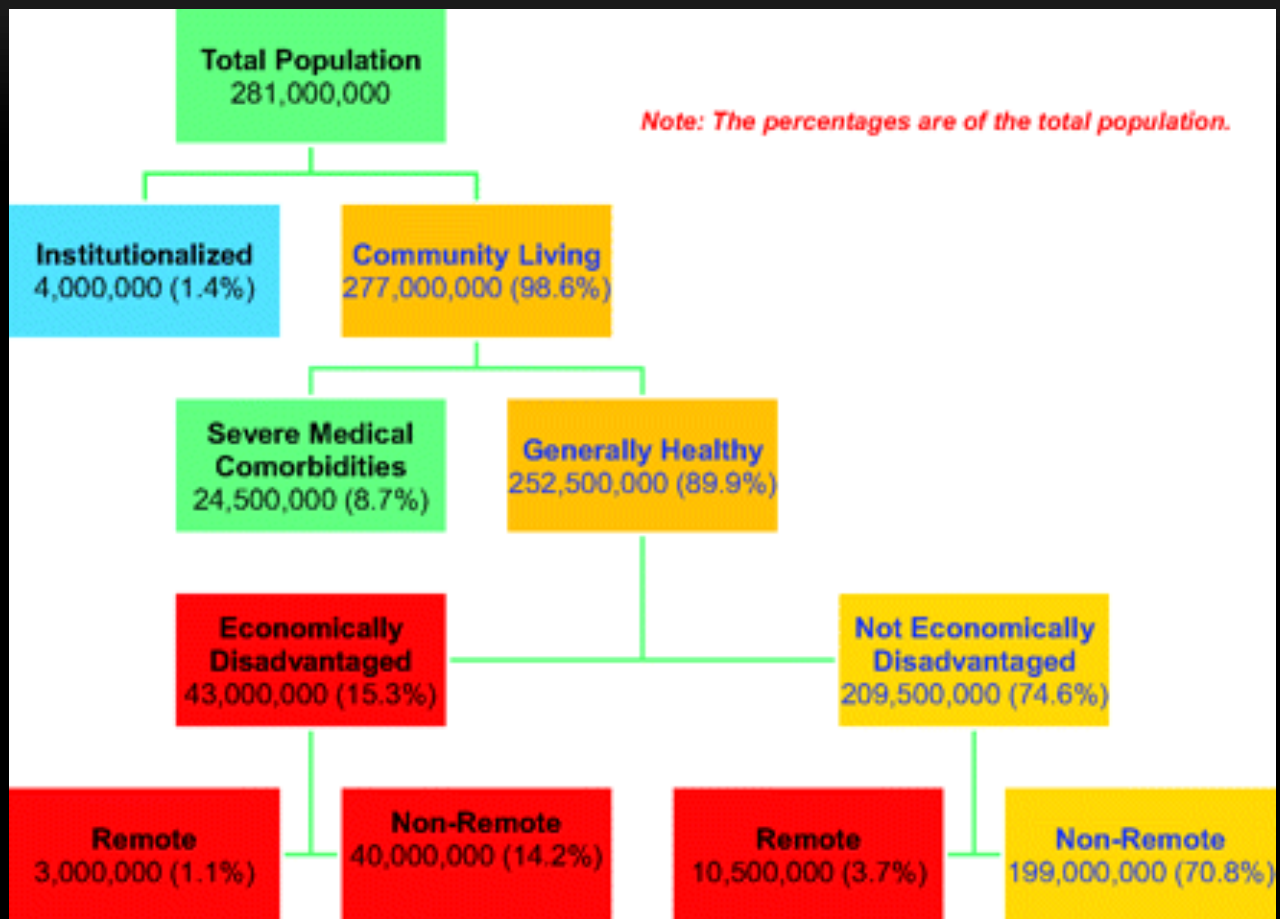
Source: Centers for Medicare & Medicaid Services. Note: Numbers for 2013-23 are projections.

AND, WHATEVER THE ADA TELLS YOU,  
THE WORKFORCE CAN'T COVER IT, HRSA REPORTS  
MODERATE TO SEVERE SHORTAGE OF DDS IN 2050

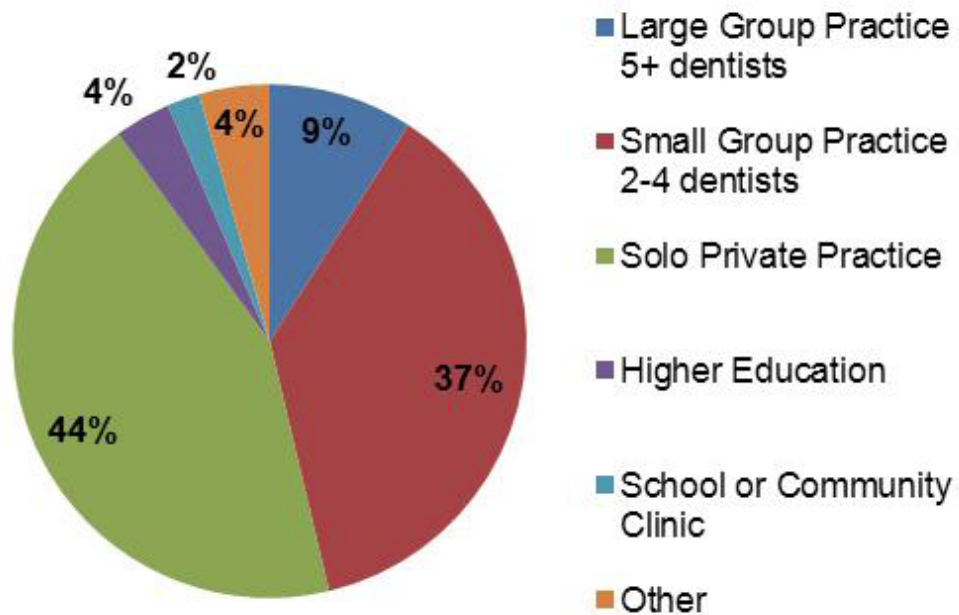


**Graph C**  
**Distribution of Dentists by Rural-Urban**  
**Commuting Areas, Minnesota 2009-2010**

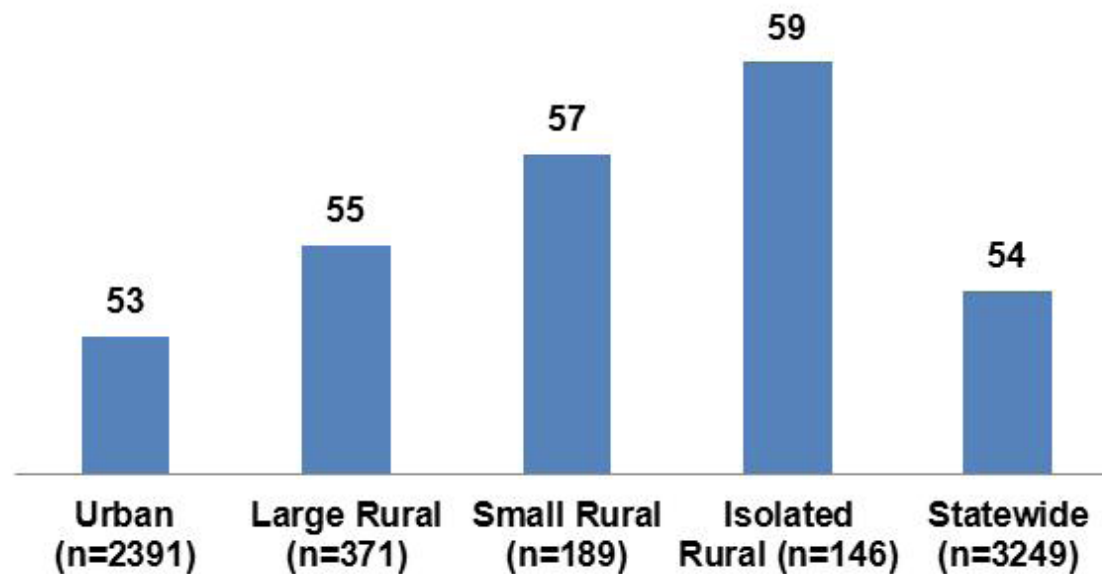




**Graph E**  
**Practicing Dentists by Primary Work Setting**  
**Minnesota, 2009-2010**

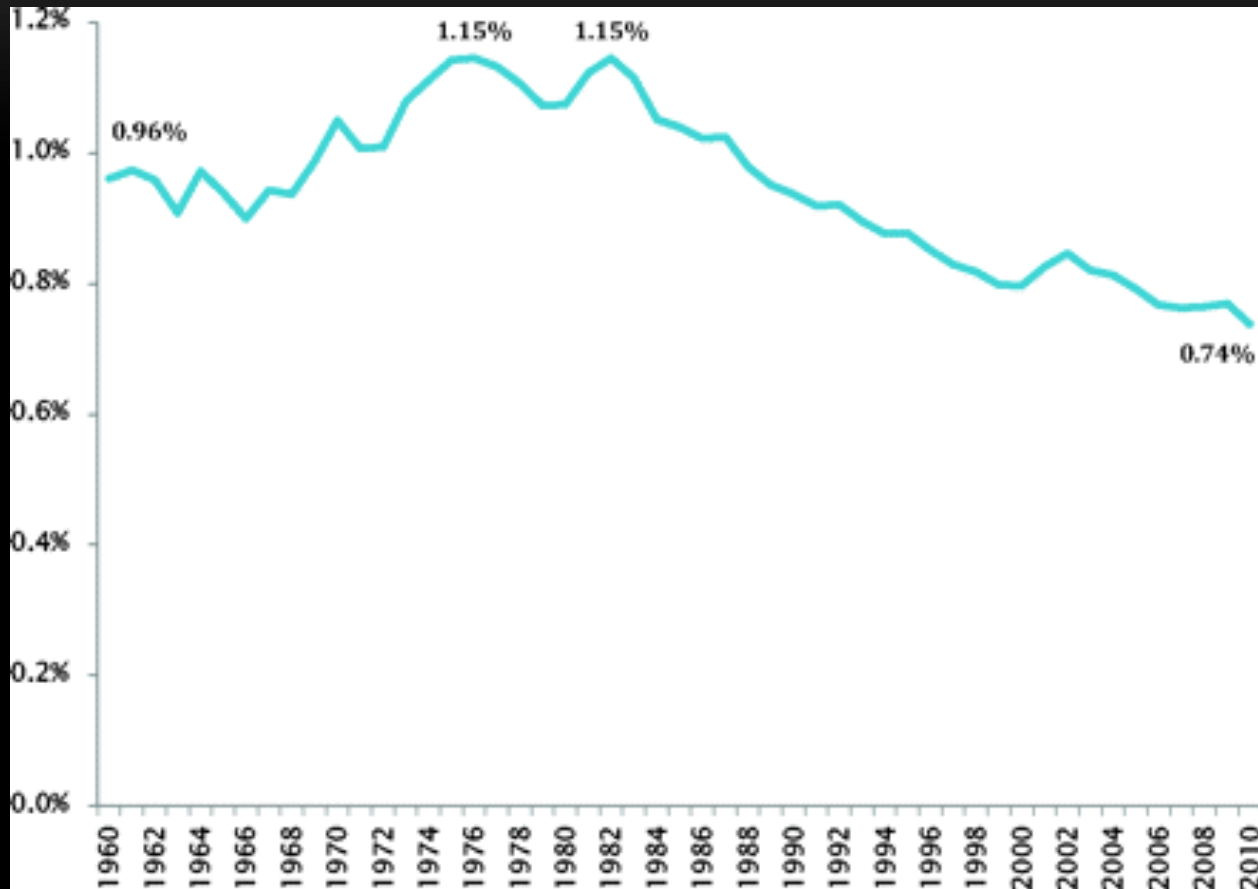


**Graph D**  
**Median Age of Dentists by Rural-Urban**  
**Communing Areas, Minnesota 2009-2010**

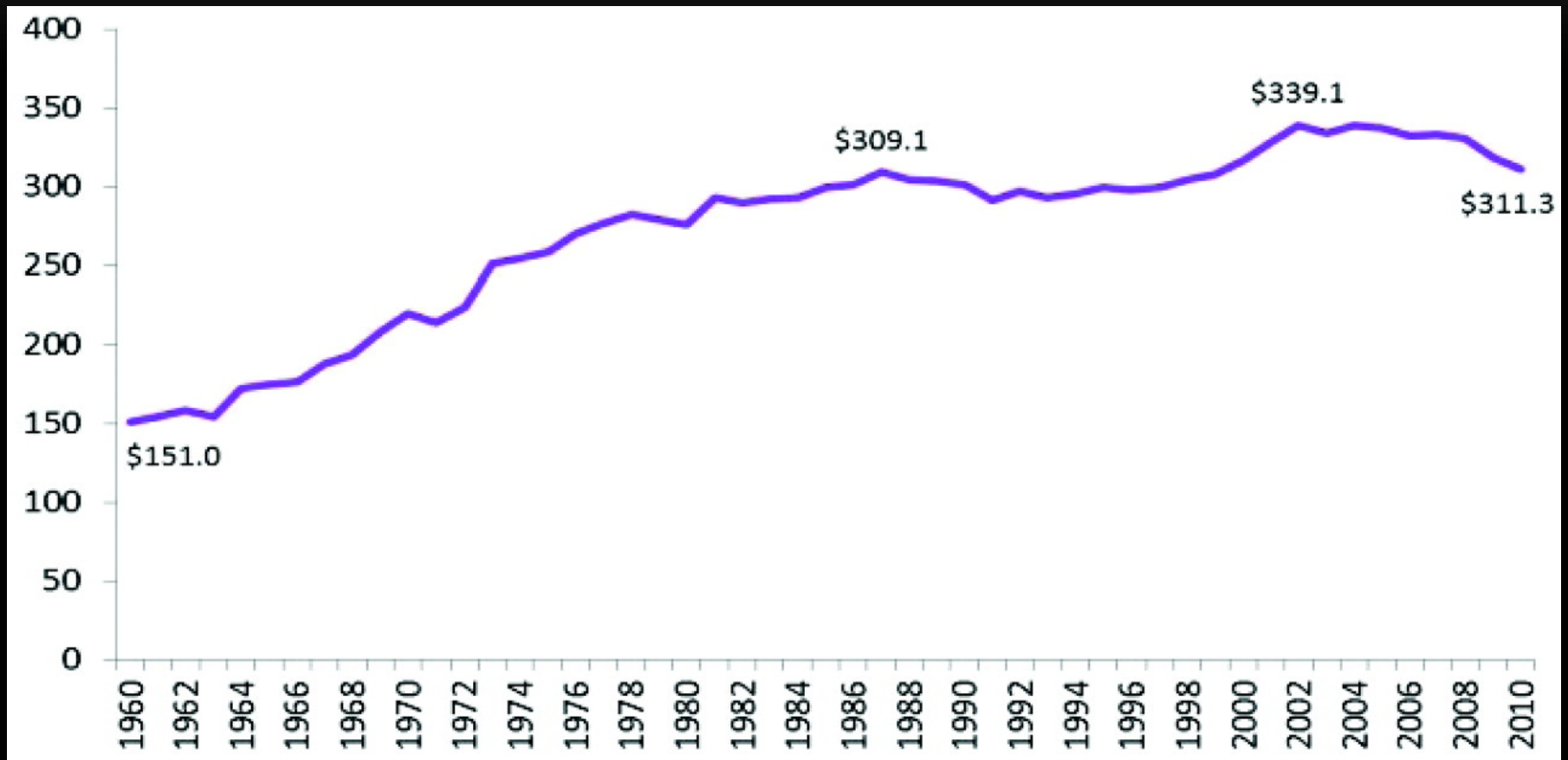




# DENTAL EXPENSES AS % GDP

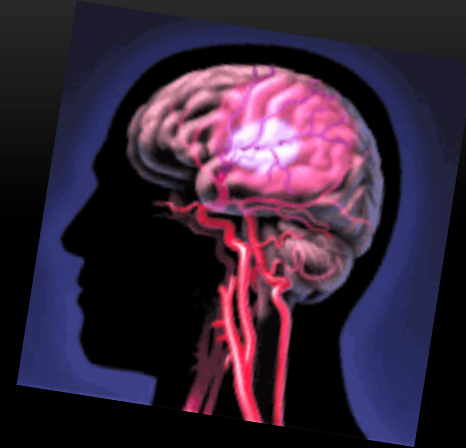


# REAL PER CAPITA DENTAL EXPENDITURES



# PERIODONTAL DISEASE ASSOCIATED WITH SYSTEMIC DISEASES

- Premature low birth weight babies
- Myocardial Infarction
- Senile dementia
- Stroke



# COMPLICATIONS OF PRE-TERM BIRTH

- Complex cluster of problems, including death
  - Acute respiratory, gastrointestinal, immunologic, central nervous system, hearing and vision problems
  - Motor, cognitive, visual, hearing, behavioral, social-emotional, health and growth problems
- Societal costs: \$26.5 billion/year; \$51,600/child
  - Medical care, maternal delivery costs, early intervention services (emotional, physical, developmental, speech/language)

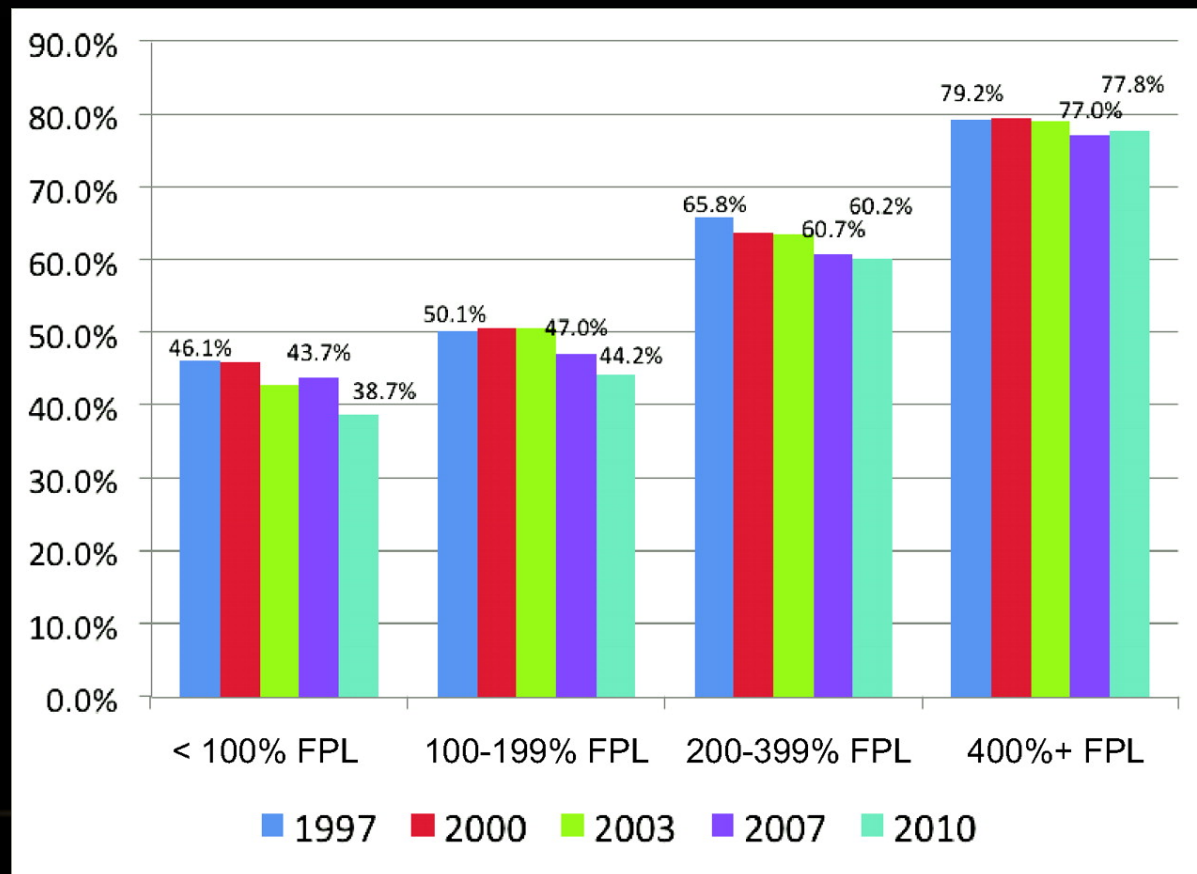
# Stan Sachs: The Nun's Study



*Findings:*

Dentate nuns with dental restorations (including amalgam fillings/silver/mercury) had the highest cognition.

# DENTAL VISITS BY POVERTY LEVEL



# ROOT CARIES INCIDENCE IN 65+

- Findings of a systematic review of 9 studies on root caries in older adults:
  - Overall root caries incidence = 23.7% per year
  - Overall root caries increment = 0.47 surfaces/year
  - Root + coronal increment = 1.31 surfaces/year
  - Overall caries rates comparable to children!





## CATHERINE SAINT LOUIS, NEW YORK TIMES

- , author of “In Nursing Homes, an Epidemic of Poor Dental Hygiene,” cites studies in several states that show the enormity of the problem.
- In Wisconsin, 31 percent of residents of 24 facilities had teeth broken down to the gums, with visible roots





United States Department of  
**Health & Human Services**

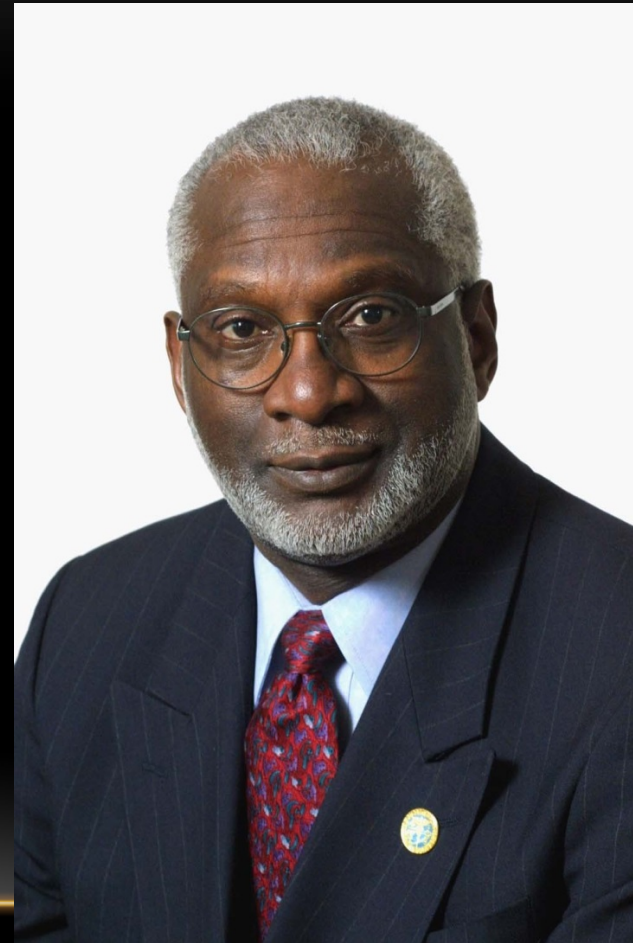
- Surgeon General's Report on Oral Health, 2000
  - What is oral health?
  - What is the status of oral health in America?
  - What is the relationship between oral health and general health and well being?
  - How is oral health promoted and maintained and how are oral diseases prevented?
  - What are the needs and opportunities to improve oral health?

# WHAT IS ORAL HEALTH?

- Optimal contribution of the structure and function of the oral cavity to the well being of the patient

# WHAT IS THE STATUS OF ORAL HEALTH IN AMERICA? DAVID SATCHER MD

- a “silent epidemic” of dental and oral diseases is affecting some population groups. This burden of disease restricts activities in school, work, and home, and often significantly diminishes the quality of life. Those who suffer the worst oral health are found among the poor of all ages, with poor children and poor older Americans particularly vulnerable. Members of racial and ethnic minority groups also experience a disproportionate level of oral health problems. Individuals who are medically compromised or who have disabilities are at greater risk for oral diseases, and, in turn, oral diseases further jeopardize their health.



# WHAT IS THE RELATIONSHIP BETWEEN ORAL HEALTH AND GENERAL HEALTH AND WELL BEING?

- Functional Aspects of the oral cavity
  - Gastrointestinal
    - Mastication, Deglutition, Digestion, Swallowing
  - Speech
  - Psychosocial/Sexual/Gender
    - Facial expression, appearance, visual communication
  - Airway/ventilation
    - Sleep medicine, athletic performance
  - Neurologic
    - Taste, somatosensory

# SOME EVIDENCE REGARDING ORAL HEALTH AND GENERAL HEALTH

- Poor oral health is evident in (and empirically/mechanistically linked to
  - Premature low birth weight babies in pregnant women with poor oral health
  - Myocardial infarction
  - Movement disorders in elderly
  - Stroke
  - GERD
  - Nutritional deficiencies in children and elderly

# CARIES, AN INFECTIOUS DISEASE

- 70-90% of children by the second grade
- Over 1 million lost school days each year due to odontalgia
- Developing pain behavior/ subsequent drug use?
- The MOST common unmet health need



# CARIES AND HEAD AND NECK INFECTION

- Catastrophic potential
  - Airway obstruction
  - Sepsis
  - Necrotizing fasciitis
  - Cavernous sinus thrombosis





# DENTAL THERAPY

- A new more robust dental team member
- A cost effective means to treat dental diseases
- Addresses needs of children, elderly, special needs, and economically disadvantaged

# DENTAL THERAPIST



A mid-level dental practitioner who works under the supervision of a licensed dentist. A member of the oral health care team who is educated to provide evaluative, preventive, restorative, and minor surgical dental care within their scope of practice.



CAN/WILL DENTAL THERAPY MAKE A HEALTHIER  
SOCIETY AT LOWER COST AND WITH A BETTER  
PATIENT EXPERIENCE?

---

# TODAYS MINNESOTA DDS/DT TEAM IN ACTION

- Private practice
- Public health
- Rural/urban
- FQHC
- Hennepin County Medical Center
- Native American health center
- Elder care
- Pediatric dental services

# NEED FOR DENTAL THERAPY



# DT – MN LEGISLATION



- In May 2009, MN became first state in the country to authorize the practice of DT
- DTs work under the supervision of a MN licensed dentist
- DTs are limited in where they can practice

# LEGISLATION ENACTED 2009



- DTs are complementary to Dentists
- DTs provide care under a Dentists supervision
- DTs work under a written collaborative management agreement with a MN licensed dentist

# SCOPE OF PRACTICE



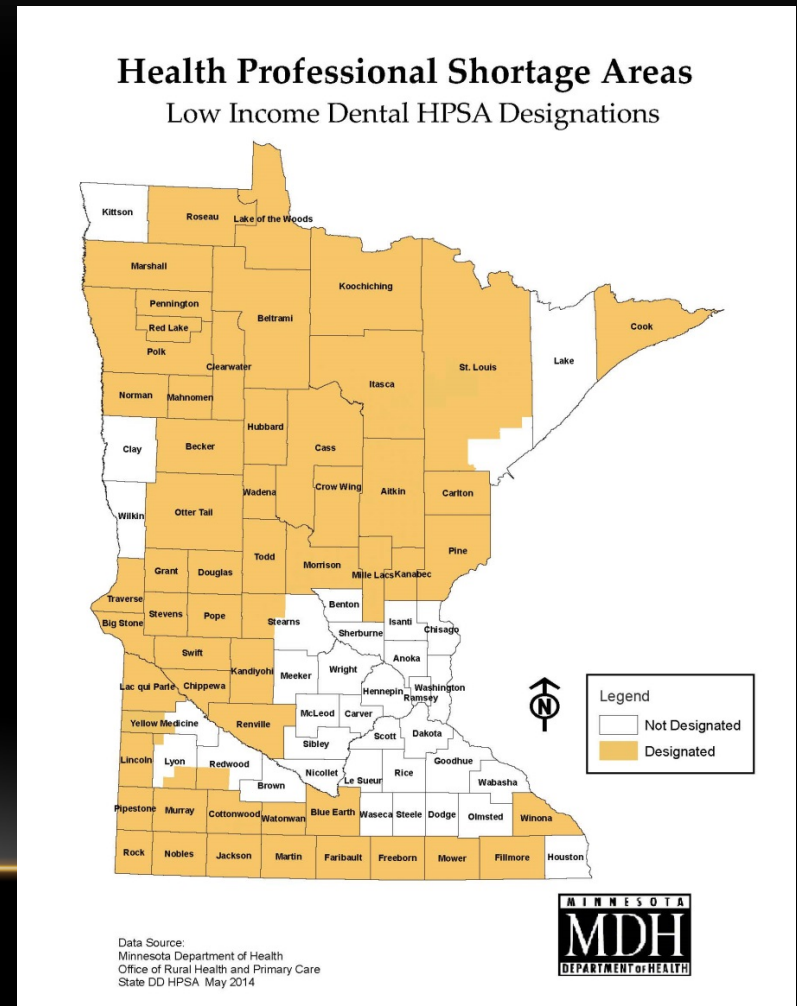
- Basic preventive services
- Palliative procedures
- Limited restorative procedures
- Extractions of primary teeth



# PRACTICE SETTINGS



- Minnesota dental therapists are limited to primarily practicing in:
  - settings that serve low-income, uninsured, and underserved patients;
- or
- a dental health professional shortage area



# U OF M MASTER OF DENTAL THERAPY PROGRAM (MDT)



- U of M program graduates are eligible for Dental Therapy licensure and certification in Advanced Dental Therapy

\* ADT certification eligibility begins in 2015

# LEARNING TOGETHER → TO WORK TOGETHER



Pre-clinical education





Health Policy Division, Office of  
Rural Health and Primary Care  
PO Box 64882  
St. Paul, MN 55164-0882  
651-201-3838  
[www.health.state.mn.us](http://www.health.state.mn.us)



Minnesota Board of Dentistry  
2829 University Avenue SE  
Suite 450  
Minneapolis, MN 55414-3246  
612-617-2250  
[www.dentalboard.state.mn.us](http://www.dentalboard.state.mn.us)

---

# Early Impacts of Dental Therapists in Minnesota

**Minnesota Department of Health**  
**Minnesota Board of Dentistry**  
*Report to the Minnesota Legislature 2014*

**February 2014**

# DENTAL THERAPISTS IN ACTION

- Current employer types\* include:
  - Non-Profit Community Clinics (12)
  - Private Practices (10)
  - Federally Qualified Healthcare Centers (8)
  - Others (Large Groups/Educational) (5)
  - Hospital Owned Clinics (2)

\*Est as of July 2014

## Health Professional Shortage Areas Low Income Dental HPSA Designations



Data Source:  
Minnesota Department of Health  
Office of Rural Health and Primary Care  
State DD HPSA May 2014



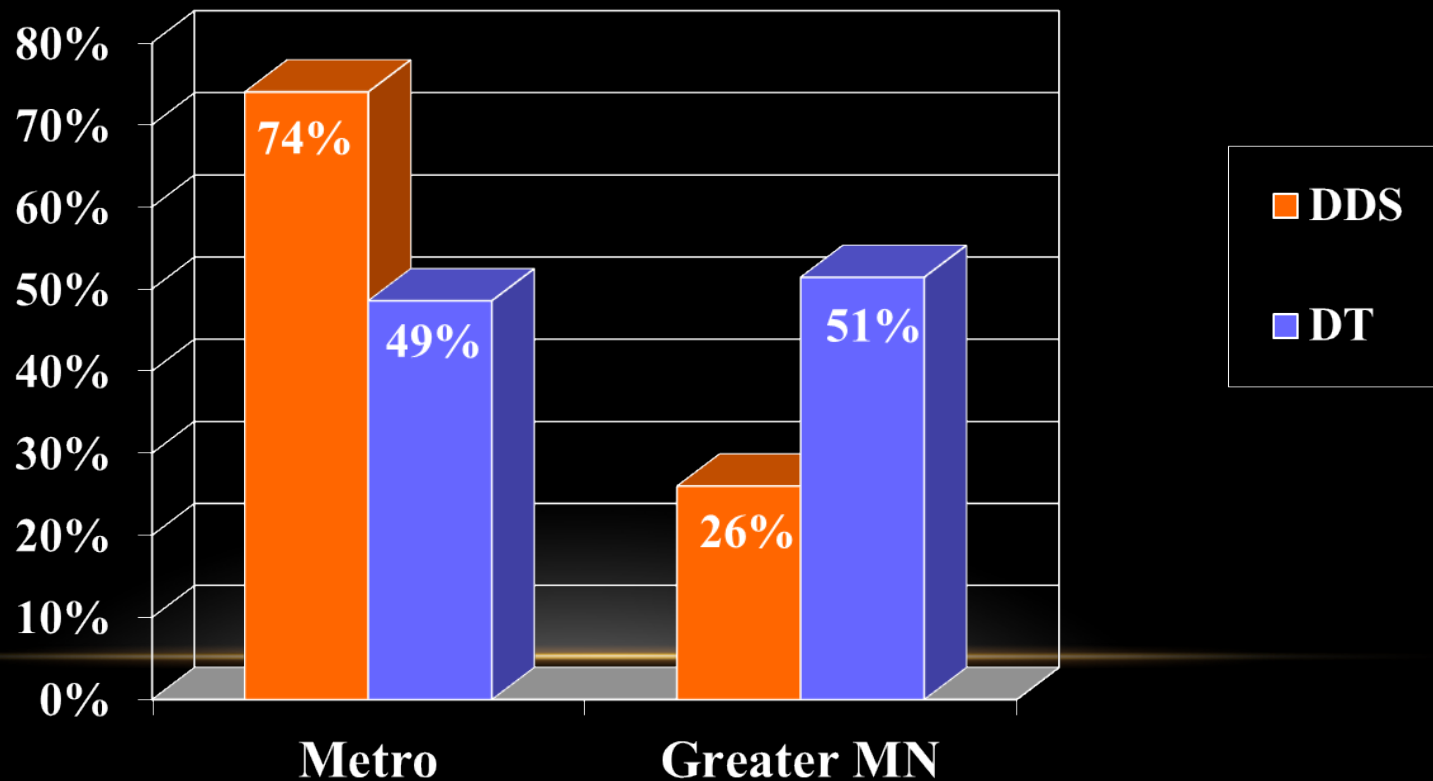
# Dental Therapy Employment Sites by County

## 19 different counties!

(July 2014)

# DENTAL THERAPISTS IN ACTION

## Current Practice Locations\* (All DT Grads)



# HENNEPIN COUNTY MEDICAL CENTER

- Metro area; Level one adult and pediatric hospital
- DT primarily sees kids and pregnant women. (2 DTs)
- **“At [HCMC], the dental therapist has a chair in the Obstet pregnant women who would have been sent to the emergency room for care.”**





# CHILDREN'S DENTAL SERVICES

- Non-profit; Employs 5 DT/ADTs
- Fixed & school-based services



- **“The best aspect of working with dental therapists is that we have an additional, highly skilled provider to care for patients at a reduced overall expense.”** – Sarah Wovcha, ED

# ORGANIZED DENTISTRY'S OPPOSITION TO DENTAL THERAPY

- Is dental therapy good for dentists? YES!
  - Higher job satisfaction
  - Higher income
  - Total retention of DT in practices that have dental therapists.

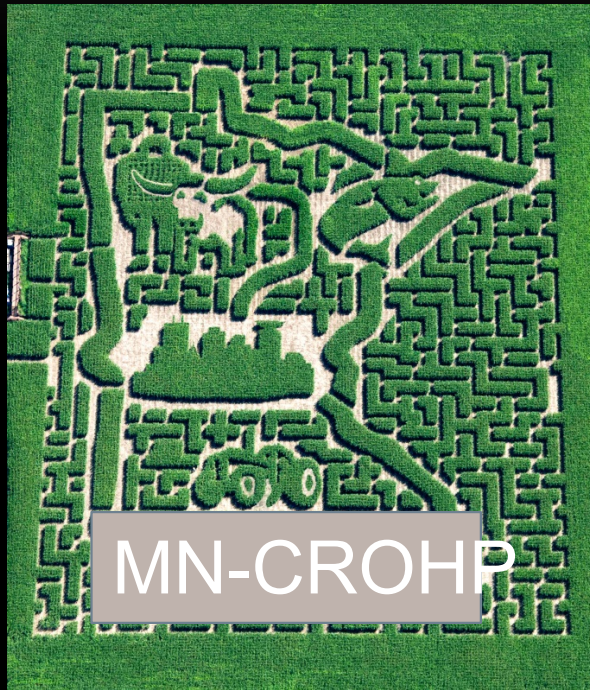
# University of Minnesota School of Dentistry

## Dental Therapy

### Class of 2016



**WHITE COAT CEREMONY**  
September 2014



# MN Collaborative Rural Oral Health Project

This project is supported by the Health Resources and  
Services Administration (HRSA) of the U.S.  
Department of Health (HHS) Grant no. D85HP28496



# DENTAL THERAPY IN MINNESOTA RESOURCES

- **Dental Therapy Employer Guide:**

<http://www.mchoralhealth.org/mn/dental-therapy/>

- **Minnesota Board of Dentistry:**

<http://www.dentalboard.state.mn.us/Default.aspx?tabid=1165>

- **University of Minnesota School of Dentistry:**

<http://dentistry.umn.edu/programs-admissions/dental-therapy/index.htm>

- **Metropolitan State University :**

[http://www.metrostate.edu/msweb/explore/catalog/grad/index.cfm?lvl=G&section=1&page\\_name=master\\_science\\_advanced\\_dental\\_therapy.html](http://www.metrostate.edu/msweb/explore/catalog/grad/index.cfm?lvl=G&section=1&page_name=master_science_advanced_dental_therapy.html)

# ONE DEAN'S RECOMMENDATIONS FOR FEDERAL LEGISLATION

- Outcomes (not procedure) based payment system for dentistry
- Include dentistry in workforce projects in a meaningful way in the ACA
  - INCLUDING DENTAL THERAPY
- Add dentistry to Medicare
- Support inter-professional education and collaborative practice initiatives
  - INCLUDING DENTAL THERAPY
- Address oral health workforce issues to include building the oral health team with care that can achieve THE TRIPLE AIM
  - Highest quality at the lowest cost and with the best patient experience
  - INCLUDING DENTAL THERAPY
- The dentist must lead the MOST ROBUST oral health care delivery team
  - INCLUDING DENTAL THERAPY