



Grand Rounds: Oral Public Health in NH

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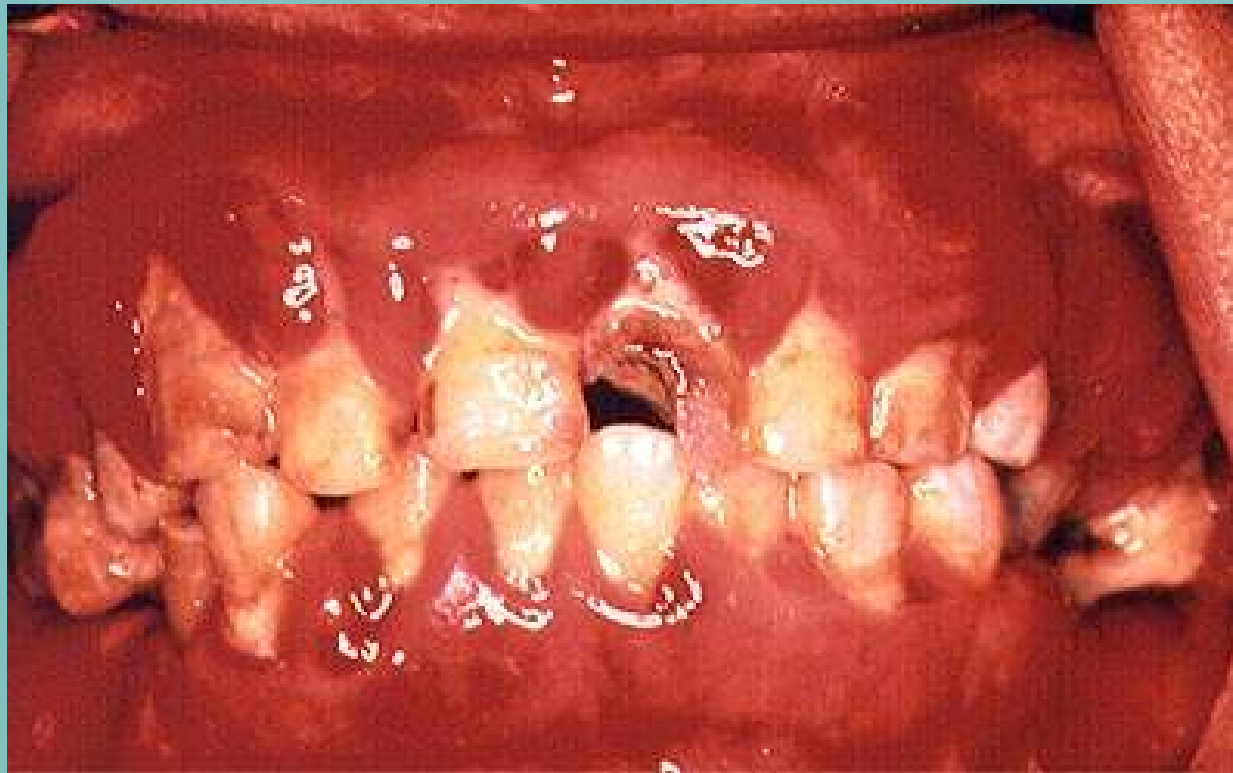
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Grand Rounds: Oral Public Health in NH

- The public health implications of oral disease
 - Epidemiology
 - Public policy
 - Burden of disease
- Scope and scale of oral health problems:
 - US and in NH
- Population-based approaches to improve oral health in NH

What's Oral Disease?

Periodontal Disease (Inflammation and Destruction of Gums and Bone)



What's Oral Disease?

Caries: The Bacterial Infection That Causes Cavities



What's Oral Disease?

Can Be Fatal: Brain Abscess From Infected Tooth



What's Oral Disease? Pain and Disfigurement Limiting Performance & Social Function



What's Oral Disease?

Co-Morbidities

- Obesity
- Pulmonary disease
- Oral cancer
- Diabetes
- Low Birth Weight and Pre Term Birth
- Heart and cardiovascular diseases
- Pneumonia in elderly
- Psycho-social pathologies: unemployment/underemployment, accidental injury, depression, substance abuse, etc.

What's Oral Health?



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Scope and Scale of Public Oral Health Problem: US

- Tooth Decay: most common chronic childhood disease: 5 times more common than asthma
- Periodontal Disease: most common disease of humans: causes more tooth loss than decay
- 52 million school hours missed annually because of oral problems

➔ Lifelong loss of productivity

Scope and Scale of Public Oral Health Problem in Workplace Due to Oral Disease

- Absenteeism
- Presenteeism: lost productivity due to pain, drug abuse & stress related to oral disease
- Unemployment/underemployment due to poor school performance and ongoing pain and disfigurement
- High costs to communities for Medicaid, hospital care of dental disease and infections
- **Economic burden due to cost of treatment and lost productivity = \$Billions annually**

Scope and Scale of the Public Oral Health problem: U.S.

- High Risk Population Increasing
 - Low income
 - Low education
 - Immigrant status
 - Low levels of health literacy
 - Dependent on others for care (Elderly, disabled, etc)
- Oral Diseases Endemic/Epidemic Among High Risk

Roots of Oral Health Policy in Federal Legislation

- Medicaid: Title XIX: (1965)
 - Joint Federal/State Program
 - State/fed cost sharing (NH = 50/50 for providers)
 - Each state administers Medicaid under own “State Plan”
 - Includes description of mandatory services for children under EPSDT (Early, Periodic, Screening, Diagnostic, Treatment)
 - Requires comprehensive dental services for children
 - Dental services optional for adults (vary widely state-to-state)
 - A health care payor, NOT a public health program

Roots of Oral Health Policy in Federal Legislation

- Title XIX: (1965)
 - Medicare: Sets oral health requirements for accreditation/inspection of nursing homes, but does not fund oral health care services
 - A health care payor, NOT a public health program

Roots of Oral Health Policy in Federal Legislation

- Title V: (1935; amended 1981,1989) Established Maternal and Child Health Programs
 - Requires inclusion of oral health in MCH funded programs and reporting
 - Requires providing for transportation, language services and services for those with special health care needs
 - A public health program with an impact on payors such as Medicaid

Federal Population Based Approaches to Public Oral Health

- Public Health Interventions
 - Promote fluoridation of community water
 - Sealant application in schools/community programs
 - Education of state agencies, the public and practitioners
 - Professional training of public health oral health professionals
 - Community empowerment and infrastructure development
 - Regulatory: i.e., EPSDT, mandate oral health programs in FQHCs and nursing homes, etc
 - Surveillance and monitoring (Epidemiology)

Federal Population Based Approaches to Public Oral Health

- CDC performs Core Public Health functions via staff, grants to states and organizations
 - Assessment (Monitor, investigate disease and hazards, evaluate effectiveness, etc.)
 - Policy Development (Develop policy, enforce regulations, research solutions)
 - Assurance (Link people and services, assure competent public health workforce, inform, educate, empower, mobilize communities to identify and solve public health problems, develop coalitions, etc)

Federal Population Based Approaches to Public Oral Health

- HRSA performs Core Public Health functions via policy research and promulgation, grants to states and organizations, educational materials and conferences

Scope and Scale of Public Oral Health Problem: NH

■ Dental Insurance

- 22% of all NH children are without dental insurance
- 25% of all NH adults are without dental insurance
- NH does not provide Medicaid dental services for adults over 21 years (except for extractions and relief of pain or infection)

■ Dental Workforce Shortage

- For every three dentists that graduate from dental school, five dentists retire from the workforce

■ Aging NH Population

- 18.6% over 65 years are edentulous (NH BRFSS 2008)
- 2010 a 66% increase of 55-64 year olds
- 2020 a 121% increase in 60-69 year olds

Scope and Scale of Public Oral Health Problem: NH

- NH's Children
 - 2004 Third Grade OH Survey
 - 51% had a history of decay (decayed and filled teeth)
 - 24% had active decay
 - 2007 Head Start Oral Health /BMI Survey
 - Among enrolled children 3-5 years old
 - 40% had a history of decay
 - 31% had active decay

Scope and Scale of Public Oral Health Problem: NH

■ NH's Adults

■ 2004- 76% NH adults had visited a dentist

- ✓ Significant association with income and education level

■ 2004- 15.8% NH adults had lost 6+ teeth from decay or gum disease

- ✓ 21% NH adults \geq 65 years of age had lost all their teeth
 - ✓ Strong association between tooth loss, age, income & education
 - ✓ 41% NH adults \geq 65 yrs. with incomes less than \$15,000
 - ✓ 6% NH adults \geq 65 yrs. with incomes over \$50,000

Evidence Based Public Oral Health Initiatives

- Fluoridation of community water systems
 - One of the 10 great public health milestones of the 20th Century!
- Dental Sealants
 - Effective in preventing dental caries
 - There is evidence to support the cost effectiveness and efficiency of school-based dental sealant programs
- With community water fluoridation (CWF) and dental sealants applied to children's teeth, most tooth decay in children and adolescents could be prevented.

Fluoridation of Public Water Systems

- What it is and why it's important?
 - Community Water Fluoridation (CWF) is the addition of the optimal amount of fluoride to a public water supply to prevent tooth decay among people of all ages.
 - CWF is the most effective way to prevent dental caries in children (up to 40%) regardless of socio-economic status or race or ethnicity.
 - Average cost of CWF is 51 cents per year.
 - Over a lifetime, the cost of CWF can be less than the cost of placing one filling.

Fluoridation of Public Water Systems in New Hampshire

- 43% of NH residents using public water systems have benefit of CWF
- 10 fluoridated public water systems in NH
 - Concord, Dover, Durham, Hanover, Laconia, Lancaster, Lebanon, Manchester Portsmouth, and Rochester

■ Dental Sealants

- What they are and why they are important?
 - Dental sealants are plastic coatings applied to grooves on the chewing surfaces of molars to prevent tooth decay by creating a barrier against bacterial plaque and food.
 - Dental sealants are effective in both preventing decay and in arresting the progression of tooth decay.

■ Fluoridation & Dental Sealants

- The primary benefit of fluoride is that it safeguards the smooth surfaces of teeth.
- Dental sealants protect pits and fissures (the grooves) in molar teeth where 90% of tooth decay occurs.

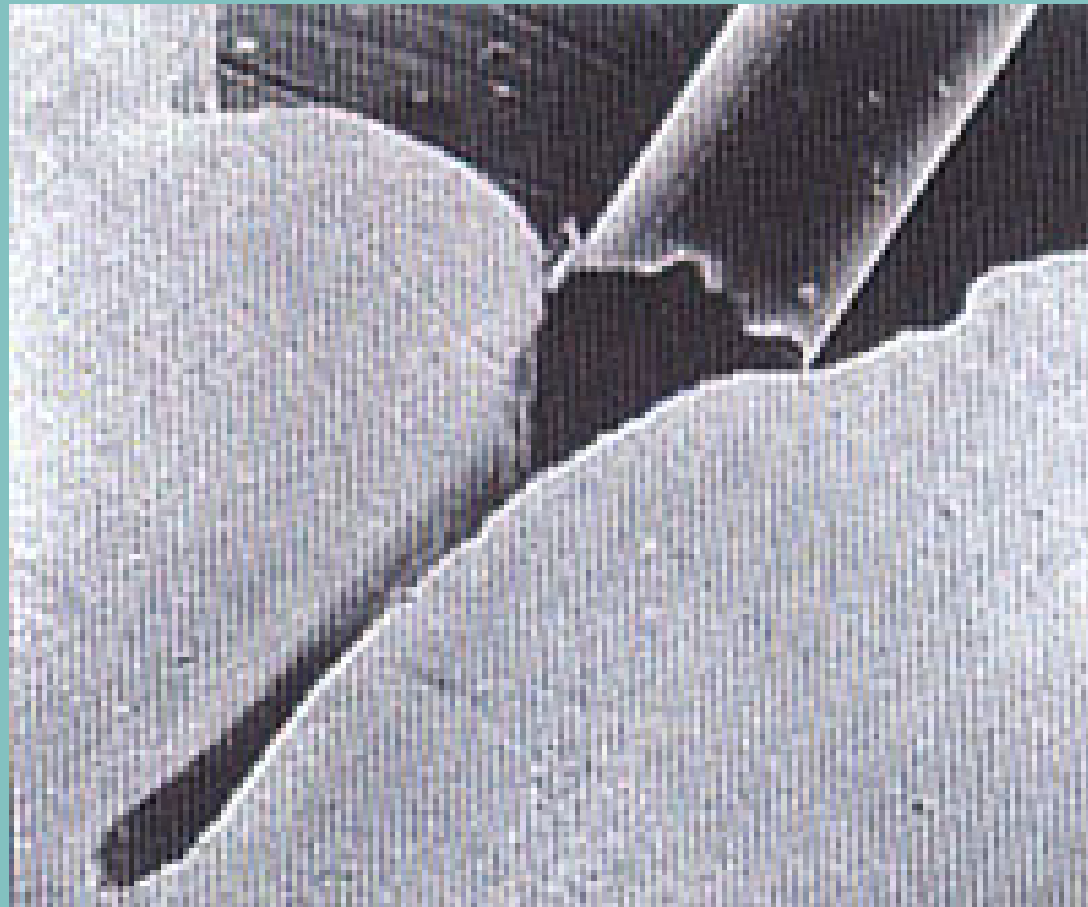
■ Sealant Application



■ Sealed Tooth/Unsealed Tooth



■ Why Brushing Isn't Enough



■ NH School Sealant Programs

- 21 School Based Programs
- Serving 3,562 2nd & 3rd graders in 172 schools
- 2 School Sealant Models
 - School-Based Programs
 - Children are examined by dentists in schools
 - Sealants applied by hygienists in schools
 - School-Linked Programs
 - Children are screened by hygienists in schools
 - Children are referred for sealant application in community dental centers or private dental practices

NH School Based Sealant Programs

- North Country
 - Coos County Family Health Services (Berlin)
 - Molar Express (Coos/Grafton Counties)
- Plymouth/N.Carroll County
 - Speare Memorial Hospital School Program
 - VNA Hospice of Carroll County
 - White Mountain Community Health Center

NH School Based Sealant Programs

- Lakes Region
 - LRGH School Dental Program
 - Health First School Dental Program
- Central NH
 - Concord School Sealant Coalition
 - Manchester Health Department School Program

NH School Based Sealant Programs

- Western Region
 - Claremont Dental Initiative
 - Cheshire Smiles
 - Alice Peck Day Hospital Program
 - Monadnock Healthy Teeth to Toes
- Seacoast
 - Frisbee Memorial Hospital
 - Avis Goodwin School Program
 - Seacoast Healthy Grins
 - Lamprey School Program
 - Exeter Health Reach (CORE Physicians)

NH School Based Sealant Programs

- Southern NH
 - Milford School Dental Program
 - Greater Nashua Dental Connection



Thank you!

Questions?

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