Cost-Effective Interventions in Children's Oral Health

Presenting:

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Moderated by Senator Judy Lee, North Dakota

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Additional Resources

NCSL Children’s Oral Health page
www.ncsl.org/?tabid=14495

NCSL's States Implement Health Reform: Oral Health brief
www.ncsl.org/?tabid=22477

Pew Children’s Dental Campaign

Children’s Dental Health Project
www.cdhp.org/

Health and Human Services: Center for Disease Control
www.cdc.gov/oralhealth/
Cost Effective Investments in Children’s Oral Health

Shelly Gehshan
Director, Pew Children’s Dental Campaign
May 18, 2012
Our Mission:

The Pew Children’s Dental Campaign strives for cost-effective policies that will mean millions more children get the basic dental care they need to grow, learn and lead healthy lives.
Overview of Pew’s findings

• Preventable dental conditions were the primary diagnosis in 830,590 visits to hospital ERs nationwide in 2009 — a 16% increase from 2006.

• Children accounted for nearly 50,000 of these ER visits.

• Many ER visits are made by Medicaid enrollees or the uninsured. Taxpayers and consumers pay a high price for this incomplete care.
**States feel the impact**

**WA:** A study found that a trip to the ER was the first “dental visit” for 1 in 4 children.

**NY:** The average charge per ER dental visit for young children rose 30% in five years.

**KS:** Hospitals reported more than 17,500 dental-related ER visits in 2010.

**IA:** 10,000+ dental-related ER visits cost taxpayers almost $5 million in 2007.

**ME:** Dental disease was the leading reason for ER visits by Medicaid enrollees and uninsured young people.

**FL:** There were 115,000+ ER visits in 2010 for dental problems.
It is a very rare event when I do not see one dental complaint during a (12-hour) shift.

Dr. Alan Sorkey, ER physician in Louisiana

More than 115,000 hospital ER visits for dental problems produced charges exceeding $88 million (2010).¹

The approximately 60,000 emergency hospital visits for non-traumatic dental problems or other oral health issues cost more than $23 million (2007).²

More than 10,000 visits to hospital ERs for dental reasons cost Medicaid or other public programs almost $5 million (2007).³

The 10,000-plus dental-related ER visits to seven hospitals in the state’s largest urban area cost more than $4.7 million (2005).⁴

The wrong care in the wrong place at the wrong time for desperate patients

How did so many people with preventable dental conditions end up in a place like this?
Why is this happening?
Millions lack dental insurance

As of 2009, an estimated 130 million U.S. adults and children lack dental coverage.

Approximately 70% of adults 65 and older lack any kind of dental coverage.

Source: IOM report, 2011

Source: Centers for Disease Control and Prevention. Available at: http://www.cdc.gov/nchs/data/databriefs/db40.pdf
Adult Dental Medicaid Benefits by State

State Medicaid Rates for Dental Care

- Most states pay less than it costs to provide dental care

States Medicaid Rates as a Percentage of dentists median retail fee, 2010

6,600+ Dentists are Needed: Shortages AND Maldistribution

What can we do about it?
All About Dental Sealants

• **What they are:** Dental sealants are clear plastic coatings that coat molars, the most cavity-prone teeth.

• **Cost savings:** The cost of sealing one molar is less than one-third the expense of filling a cavity.

• **How much decay do they prevent:** Sealants reduce decay by an average of 60 percent.
Sealant Exam Requirements

Prior Exam Requirements (2012)

- Dentist's exam and direct or indirect supervision required (10)
- Dentist's exam always required (10)
- Dentist's exam sometimes required (16)
- Dentist's exam never required (15)

Source: Pew Center on the States data from survey of state oral health programs and state boards of dentistry, 2011-2012.
Sealant Legislation

• **IOM Recommendation:** “State legislatures should amend existing state laws, including practice acts, to maximize access to oral health care”.

[Image: Improving Access to Oral Health Care for Vulnerable and Underserved Populations]
Dental Workforce

States that are exploring new ways to expand the dental workforce
Community water fluoridation: The top 10 and bottom 10

74 million Americans who are on public water systems lack access to fluoridated drinking water.

The CDC has recognized water fluoridation as one of “10 great public health achievements of the 20th century.”

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1. Centers for Disease Control and Prevention, “2005 Water Fluoridation Statistics”. Data covers only residents whose homes are connected to public water systems.
Our 3 most effective messages

1. **Fluoridation protects teeth.** Research shows that fluoridated water reduces tooth decay by 25%.

2. **Fluoridation benefits people of all ages and income levels** without requiring them to spend extra money or change their daily routine.

3. **Fluoridation saves money.** For most cities, every $1 invested in water fluoridation saves $38 in dental treatment costs.
Keep informed…

of these and other oral health issues by receiving Pew's monthly e-newsletter – *Dental News & Views*.

Send an email to mjacob@pewtrusts.org with the words “Sign me up" in the subject line.

Follow me on twitter @SGehshan
Investing in Colorado Children’s Oral Health

Katya Mauritson, DMD, MPH (c)
Oral Health Unit Director
Colorado Department of Public Health and Environment

May 18, 2012
Infectious Diseases

- Most common oral diseases:
  - Cavities aka dental caries
  - Gum disease aka periodontal disease
- Transmissible infectious disease that can be passed vertically or horizontally
- Nearly 100% preventable
- Good oral health is part of good general health

Infectious
Transmissible
Preventable
Systemic Connection

- 2007: Deamonte Driver
- 2011: Kyle Willis
Fisher-Owens Model - Pediatrics

Community Level Influences
- Community Oral Health Environment
- Culture
- Physical Safety
- Social Capital
- Health Care System Characteristics
- Physical Environment

Family Level Influences
- Health Status of Parents
- Socioeconomic Status
- Family Culture
- Family Composition
- Family Function

Child Level Influences
- Physical Attributes
- Use of Dental Care
- Development
- Dental Insurance
- Biologic and Genetic Endowments
- Health Behaviors, Practices, and Coping Skills of Family
- Social Support

Oral Health

Micro-flora

Host & Teeth

Substrate (diet)
Which of the following provides the most effective benefit to oral health?

• A) Visiting the dentist twice a year
• B) Drinking fluoridated water
• C) Brushing with fluoridated toothpaste
Colorado’s Winnable Battles

- Clean water
- Clean air
- Infectious disease prevention
- Injury prevention
- Mental health and substance abuse
- Obesity
- Oral health
- Safe food
- Tobacco
- Unintended pregnancy
Special focus on 3 Winnable Battles

- Mental Health and Substance Abuse
- Obesity
- Oral Health
Rampant Decay
Oral Health

Why this matters

- Gum disease is linked to cardiovascular disease, diabetes and stroke
- Kids miss millions of school hours every year because of mouth pain
- An estimated 42 percent of working-age Coloradans and approximately 67 percent of Colorado adults over 65 years of age do not have dental benefits
Oral Health

The economic burden:

- In FY 09-10, 6,076 Colorado children received hospital-based dental care costing Medicaid $8,249,949

- Children’s Hospital has four operating rooms dedicated to treating severe dental caries that are full 8 hours a day, 5 days a week – it is one of the top three reasons for OR use at Children’s

- CDC estimates $108 billion spent nationally on dental services in 2010
Metal Mouth
Percent of Colorado parents reporting that their child (age 1 through 5) first went to the dentist by 12 months of age, 2006-2010

Goal: 4.6% by 2016

Source: Colorado Child Health Survey, Health Statistics Section, CDPHE
Percent of 3rd grade children in Colorado with sealants, Oral Health Basic Screening Survey

Goal: 39% by 2016

Sealants = Percentage of 3rd Grade Students with dental sealants on at least one permanent molar tooth

Source: Oral Health Program, Colorado Department of Public Health and Environment
Percentage of Colorado Population Served by Optimal Levels of Fluoride in Public Drinking Water Systems by County (Centers for Disease Control and Prevention)
Trends and Gaps

- Water fluoridation
- Sealants
- Fluoride varnish
# Health Equity

An Explanatory Model for Conceptualizing the Social Determinants of Health

## National Influences
- Government Policies
- U.S. Culture & Cultural Norms

## Life Course

### Pregnancy

- Income
- Employment
- Education
- Housing

### Early Childhood

- Built Environment
  - Recreation
  - Food
  - Transportation
- Environmental quality
  - Housing
  - Water
  - Air
- Safety

### Childhood

- Participation
  - Social support
  - Leadership
  - Political influence
  - Organization al networks
- Violence
- Racism

### Adolescence

- Nutrition
- Physical activity
- Tobacco use
- Skin Cancer
- Injury
- Oral health
- Sexual health
- Obesity
- Cholesterol
- High Blood Pressure

### Adulthood

- Mental health status
- Stress
- Substance abuse
- Functional status
- Health insurance coverage
- Received needed care
- Provider availability
- Preventive care

## Public Health’s Role in Addressing the Social Determinants of Health

- Advocating for and defining public policy to achieve health equity
- Coordinated interagency efforts
- Creating organizational environments that enable change
- Data collection, monitoring and surveillance
- Population based interventions to address health factors
- Community engagement and capacity building

## Quality of Life

- Morbidity
- Mortality
- Life Expectancy
Strategies

• Evidence based interventions:
  • Water fluoridation
  • School sealant programs
  • Fluoride varnish (emerging)
• Recruit, train and enable general dentists that currently do not accept children on Medicaid to begin accepting Medicaid patients (Cavity Free at Three)
• Learn about dental benefits in the Affordable Care Act
• Train dental providers to care for young children and pregnant women following Cavity Free at Three protocols
• Recruit and train culturally competent dental providers
• Oral health promotion strategies
• Train loan repayment recipients in evidence based interventions, Social Determinants of Health, Cavity Free at Three
Key Public and Private Partners

Internal: Maternal Child Health; Primary Care Office; Health Equity; Translation Services; Office of Health Disparities; Chronic Disease; Physical Activity and Nutrition Program; Epidemiology, Planning & Evaluation; Women, Infants and Children (WIC); Birth to Eight; Communications (CoPrevent.org); Water Quality; Self-Management Services; Tobacco Prevention & Cessation; Health Statistics; Comprehensive Cancer; Office of Planning & Partnership; etc.
Key Public and Private Partners

External state: state agencies (Human Services, Medicaid, Board of Health, regulatory agency, etc.), coalitions, foundations, dental associations, professional schools, school systems, Tribal Nations, public health agencies, Cavity Free at Three, medical home, LiveWell Colorado, Early Childhood Councils, Head Start, Agencies on Aging, safety nets, hospitals, Area Health Education Centers, contractors, Colorado Community Health Network, Colorado Public Health Association, etc.
Key Public and Private Partners

**External national:** Association of State and Territorial Dental Directors, American Association of Public Health Dentistry, American Dental Association, Pew Charitable Trust Children’s Dental Campaign, Children’s Dental Health Project, Oral Health America, National Network of Oral Health Access, American Association for Community Dental Programs, NCSL, Maternal and Child Health, WIC, Center for Disease Control and Prevention, Health Resources and Services Administration
Oral Health

Oral health collaborative:
• Communications: CoPrevent.org, Google groups, FaceBook
• Workgroups
• Opportunities: Colorado Public Health Improvement Plan (SB 08-194), Medical Home Initiative (SB 07-130)

External partner efforts:
• Medicaid enrollment
• Pregnant women benefits
• Older adult benefits
• Funding shift to preventive benefits
Colorado Early Childhood Comprehensive Systems (ECCS) Collaborative

- Oral health metrics in ECCS framework
- Prevention of cavities in all children ages birth to 5
  - 1 of 9 Maternal and Child Health priorities
- Developed *Toolkit for Promoting Maternal and Child Oral Health in Colorado Communities*
  - Based on Community Oral Health Standards
Community Oral Health Standards

- Every person has a dental home that interacts with a health home to promote overall wellbeing and address physical, behavioral and oral health needs.
- Community water is fluoridated at optimal levels to prevent tooth decay.
- Oral health education is provided in health care, child care, school, workplace and other settings.
Community Oral Health Standards

- There are sufficient dental professionals to meet oral preventive care and treatment needs and sufficient dental and other trained professionals to address oral health promotion needs.
- Every person receives evidenced-based interventions to promote oral health.
- The oral health needs of the community are identified and advocates work to meet these needs.
Toolkit for Promoting Maternal and Child Oral Health in Colorado Communities

ECC

✓ Aggressive disease process leading to rapidly progressing tooth destruction in young children.

✓ An infectious, fluoride-mediated, diet-dependent disease process that results in cavities.

✓ Predictive of lifelong caries
Current management is surgical
- high cost
- high stress
- repairs the damage

BUT
- doesn’t stop the disease

Consequence
- Fails to protect against future risk

Recurrence rates
- 40-60% new cavities within 2 years
Possible Interventions

1. Dietary education
2. Delay transmission of cariogenic bacteria
3. Use of xylitol with older children.
4. Screen and treat pre-cavitated lesions
5. Apply fluoride varnish.
6. Suppress caries activity post cavitations
7. Use fluoride tooth pastes
8. Expand Community Water Fluoridation
9. Motivational Interviewing
10. Combinations

But which is best? Most effective? Most affordable? How compared?
Basic Framework Reflecting Possible Changes Over Time: As Children Age They Can Move Between ECC Risk Levels

- Age 0-6 Months, High Risk
- Age 2-5 Years, High Risk
- Age 6-24 Months, High Risk
- Age 0-6 Months, Moderate Risk
- Age 2-5 Years, Moderate Risk
- Age 6-24 Months, Moderate Risk
- Age 0-6 Months, Low Risk
- Age 2-5 Years, Low Risk
- Age 6-24 Months, Low Risk
Which of the following provides the most effective benefit to oral health?

• A) Visiting the dentist twice a year
• B) Drinking fluoridated water
• C) Brushing with fluoridated toothpaste
Questions?
Additional Resources

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Any Questions?

• Type your questions into the chat box on the lower right hand corner of your screen.
• To find the archived webinar next week, go to www.ncsl.org/?tabid=24538.
• Please fill out the survey at the end of this webinar.

For additional questions or information, please contact Jennifer Wheeler: jennifer.wheeler@ncsl.org

Thank you!