So What?

Why should I care about teeth and oral health?

I’m a …

social worker
nurse
OT
audiologist

And I thought cavities weren’t much of a problem anymore
14-Month-Old Girl Dies After 'Routine' Dental Procedure

What is known:

- She needed two crowns
- She had GA in dental office
- She had a cardiac arrest
- Her Mom pleads “please make sure your children brush and floss, so they don't get cavities”
Did you know…?

- Oral health closely linked to general health -- prematurity and low birth weight
- Tooth decay most prevalent (and infectious) disease of childhood
- ~ 57% adults with dental insurance versus 90% with medical insurance
- ~ 5 million children/day have toothache
- Dental problems - most common unmet healthcare need of children + CSHCN
Objectives

After completion trainees will:

• Recognize the “silent epidemic” of ECC
• Recognize the impact of oral disease on overall health
• Recognize caries during oral screening
• Understand why children with special needs have more oral health problems
• Recognize the barriers to oral health care
• Understand the health professional’s role in oral health
• Provide basic anticipatory guidance in oral health, including appropriate nutrition messages
In 2009–2010, 25% of children have dental caries by age 4. Among children aged 3–5 years, the prevalence of untreated caries was significantly higher for non-Hispanic black children (19%) compared with non-Hispanic white children (11%).

NHANES 2009-10
Dental Caries

• The most common chronic childhood disease
  – 5x more prevalent than asthma
• Almost entirely preventable and treatable
• Early childhood caries: caries affecting teeth in a child under 72 months of age
• Among children ages 2-4, caries has increased from 18.5 % (1988-1994) to 23.7 % (1999-2004 NHANES)
  - Poor children disproportionately affected
• 20% children age 5-11 have untreated caries (2005-2008 NHANES)
Oral diseases are costly, painful, and widespread in Washington State

- 40% of preschoolers and 58% 3rd graders have caries
- ~13% preschoolers and 3rd graders have UNTREATED caries
- 77% of WA’s Native American kindergarteners have had tooth decay
- 17% kindergartners and 21% 3rd graders have rampant decay (>7)

WA Smile Survey Data 2010
Caries disproportionately affects Native American children

Of 3-5 year olds in Head Start (low income):

- 25% of HS children had untreated caries
- 48% of Tribal HS children had untreated caries
Early Childhood Caries

- Why is caries bad for children?
  - Pain
  - Difficulty concentrating at school
  - Difficulty sleeping
  - Difficulty eating and speaking
  - The need for dental treatment at a young age
  - Teeth may need to be pulled (extracted)
    - This can lead to space loss and future crowding of the teeth
  - Abscesses
  - Hospitalization or even life-threatening infection
Good News – Bad News

In comparison to Healthy People 2020 Oral Health Objectives, WA State -

- continues to have statistically significant higher rates of decay experience for preschoolers and third graders
- has successfully met the objectives related to untreated decay and sealant rates.
ED visits for dental problems

- Biggest users: young adults, uninsured or covered by Medicaid
- Preventable dental conditions: dental decay, abscess
- Visits had risen from 1.1 million in 2000 to 2.1 million in 2010.

*Healthcare Cost and Utilization Project, sponsored by the Agency for Healthcare Research and Quality (AHRQ)*
Poor oral health is costly for Washington State

- Dental pain is the number one reason uninsured adults visited Washington state emergency rooms
- Dental-related emergency room charges were over $36 million in an 18 month period
  Washington State Hospital Association, 2010
- Oral infections are also associated with systemic conditions such as diabetes, heart disease, and aspiration pneumonia
A Costly Dental Destination

- 830,590 dentally related ER visits by Americans in 2009. 16 % increase from 2006.
- In 2009, 56 % of Medicaid-enrolled children did not receive dental care
- > 49,000 pediatric dental emergency visits to ER in 2009
- In Florida, dental-related, emergency hospital visits produced charges exceeding $88 million in 2010.
Dental emergency department visits as a percent of total dental visits by age in the United States, 2000-10

Sources: ADA Health Policy Resources Center analysis of National Hospital Ambulatory Medical Care Survey, NCHS; Medical Expenditure Panel, AHRQ; and US Census Bureau data.
Oral Systemic Health Connection

- Cardiovascular disease
- Pregnancy and birth
- Diabetes
- HIV/AIDS
- Orthopedic implant failure
- Alzheimer's disease
- Other conditions
Children with Special Health Care Needs

- 15% children 0-17 yrs in WA have a SHCN (~ 250,000)*

- Conditions requiring special oral health care include
  Learning and developmental disabilities
  Genetic:
    - cleft lip or cleft palate, other craniofacial defects
    - muscular dystrophy
    - congenital cardiac defects
  Cerebral palsy
  Down syndrome
  Vision and hearing impairments
  Seizure disorders – medications
  Immune compromised

Identification and prevention of oral conditions improves management of overall health for CSHCN

*National Survey on CSHCN 2009-2010
Growth abnormalities and medical conditions can cause or contribute to oral health problems for many CSHCN

- **Malocclusion** and crowding occur frequently in children with atypical development.
- **Craniofacial syndromes** can affect oral development; 25% are also associated with cognitive disabilities.
- **Medications** (those containing sugar)
- **Special diets** (those high in fermentable CHOs)
- **Oral motor habits** (tooth grinding)
Oral Health Needs for CSHCN

Children with developmental delay or autism may have damaging oral habits such as:

• Bruxism (grinding)
• food pouching
• mouth breathing
• tongue thrusting
• self-injurious behavior

Bruxism: grinding and clenching habit which flattens the teeth and in older patients can damage gums also
C SHCN with Unmet Need for Specific Services

- Mental Health Care or Counseling: 5.6
- Other Dental Care, Including Orthodontia: 5.4
- Specialty Therapies: 4.7
- Specialty Care: 4.3
- Preventive Medical Care: 3.0
- Prescription Medications: 2.6
- Eyeglasses or Vision Care: 2.1

The University of Washington Center for Pediatric Dentistry is dedicated to providing the best quality dental education and services to improve the dental health of children ages birth through 18 and children with special needs ages birth through 20.

www.thecenterforpediatricdentistry.com/
Autism Clinic: My Visit to the Dentist Social Story

Social stories were originally used by children with autism and related conditions, but can be helpful in explaining dental procedures to all children. Working together with experts from the Seattle Children’s Hospital Autism Center we have created a social story for visiting The Center for Pediatric Dentistry.
Special needs fact sheets

- Fact sheets for 14 mild to moderate manifestations of special needs conditions have been developed for Dental and Medical Professionals.
- 17% of children in Washington State have a special need; half of these children have mild-moderate special needs.
- Many individuals with special needs do not have access to regular and ongoing dental care.
Barriers to dental care for young children
Barriers to Care

• Knowing when to seek dental care
• Finding a dentist who will take Medicaid
• Finding a dentist who will see a young child
• Transportation
• Geographical isolation
• Workforce shortage
• Need to take time off from work
• Language
• Cost and lack of oral health care coverage
• Other barriers (dental fear, culture, health beliefs)
Provider Barriers

- Provider training/experience
- Low reimbursement rates
- Administrative burdens for providers
- Audits
- Personal beliefs/behavior
- Cultural, language barriers
- Patient reliability

Provider Productivity and Capacity

• Retirement
• Gender trends in the workforce
• Trend toward more part time work
• Shift to technological and upscale procedures such as cosmetic dentistry

Courtesy Dr. Quynh Bui
ACA: Adult and child dental insurance in the Marketplace

• Dental coverage for children is an essential health benefit
  – dental coverage must be available
  – you don’t have to buy it

• Dental coverage is not an essential health benefit for adults
  – dental coverage, even for children, not needed to avoid the penalty.
Percentage Distribution of the Employment Status for All U.S. Dentists in Private Practice: 2014

92.7% of professionally active dentists are in private practice.

Source: American Dental Association 2014 Survey of Dental Practice.
CSCGN with One or More Reported Unmet Service Needs (of 14 Services Listed), by Insurance Type
**EXHIBIT 1**

**Health Insurance Coverage of Children, 2008**

- Medicaid/other public insurance: 31%
- Employer/other private insurance: 58%
- Uninsured: 10%

**Percent of federal poverty level**

<table>
<thead>
<tr>
<th>Poverty Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>400%+</td>
<td>8%</td>
</tr>
<tr>
<td>200%–399%</td>
<td>21%</td>
</tr>
<tr>
<td>100%–199%</td>
<td>29%</td>
</tr>
<tr>
<td>&lt;100%</td>
<td>43%</td>
</tr>
</tbody>
</table>

**All children: 78.7 million**

**Uninsured children: 8.1 million**

**Source** Kaiser Commission on Medicaid and the Uninsured and Urban Institute analysis of 2009 US Census Bureau Current Population Survey/Annual Social and Economic Supplement. **Notes** Federal poverty level was $22,025 for a family of four in 2008. Data may not total 100% due to rounding. Numbers do not include adjustments for the underreporting of Medicaid/CHIP and likely overstate the number of uninsured children.

Safety Nets

- Medicaid
- SCHIP
- ABCD
2015 ABCD Programs (WA)

Established Program
Healthy People 2020

**Oral Health Goal:** Prevent and control oral and craniofacial diseases, conditions, and injuries, and improve access to preventive services and dental care.

**Oral Health of Children and Adolescents**
- OH–1 Dental caries experience
- OH–2 Untreated dental decay in children and adolescents

**Access to Preventive Services**
- OH–7 Use of oral health care system
- OH–8 Dental services for low-income children and adolescents
- OH–9 School-based centers with an oral health component
- OH–10 Health centers with oral health component
- OH–11 Receipt of oral health services at health centers

**Oral Health Interventions**
- OH–12 Dental sealants
- OH–13 Community water fluoridation
- OH–14 Preventive dental screening and counseling

**Public Health Infrastructure**
- OH–17 Health agencies with a dental professional directing their dental program
Caries Process

Caries requires 4 factors:

- tooth
- bacteria
- substrate (fermentable carbohydrates)
- Time
Caries Process

http://www.nidcr.nih.gov/oralhealth
Who is at risk for decay?

**POULATION RISK FACTORS**
- Low SES
- Recent immigrant
- Inner city resident

**INDIVIDUAL RISK FACTORS**
- Current or h/o decay
- Visible plaque
- H/O decay in sibs or mom
- H/O extracted teeth
- Reduced salivary flow
- Inadequate exposure to fluoride
- Inability to provide good home care
- Orthodontics or other prostheses

http://www.childrenscolorado.org/index.aspx
Dental diseases are highly prevalent, yet largely preventable.

Clear links exist between oral health and chronic conditions, including diabetes and cardiovascular disease.

Interprofessional Collaboration is supported by research from the Institute of Medicine to improve patient care.

We all need to be part of the solution

- PCPs have regular, consistent contact through well child care
  - 96.7% of children 0-4 yrs have a usual place of health care
  - 76% uninsured children 0-4 yrs have a usual place of health care
  - 80.9% of children 19-35 months of age receive all their vaccines

  http://mchb.hrsa.gov/programs/specialneeds/measuresuccess.htm
What if……..

- Expectant moms received anticipatory guidance about their own and the baby’s oral health
- Moms received oral health and dietary counseling when they delivered the baby
- Primary care physicians and pediatricians promoted oral health, demonstrated Lift the Lip, and applied fluoride varnish to high risk children at well child visits
- Day care providers had an “Oral Health Knowledge” component to their licensing requirements
Treatment Options for ECC

- Fluoride varnish applications
- ITR (interim therapeutic restoration)
- Silver diamine fluoride
- Comprehensive dental treatment under GA
Messages for Parents

• Oral health is important to overall health
• Cavities are preventable
• *Strep mutans* is transmissible from parent to infant
  – Stress importance of caretaker’s oral health
  – Pregnant mothers should get dental care
  – When baby’s teeth come in, cavities can start,
  – Begin to use a small soft toothbrush
  – “Lift the Lip” and look for decay
• Limit “sugar” exposures to 3/day
More Messages for Parents

• No bottle at bedtime or nap time (or water only)
• Water only in a sippy cup
• Diet/feeding
  – frequent intake of sugars and/or fermentable carbohydrates promotes caries
• First tooth, first birthday, first visit
• Use Fluorides
  – fluoridated toothpaste (smear) begin age 1
  – Rx fluoride supplements starting age 1 (non-fluoridated water supply)
Resources for Health Professionals

- **Norwood K.W.** Oral Health Care for Children With Developmental Disabilities
  [http://pediatrics.aappublications.org/content/pediatrics/131/3/614.full.pdf](http://pediatrics.aappublications.org/content/pediatrics/131/3/614.full.pdf)

- **AAP**
  [http://www2.aap.org/commpeds/dochs/oralhealth/docs/OralHealthFCpagesF2_2_1.pdf](http://www2.aap.org/commpeds/dochs/oralhealth/docs/OralHealthFCpagesF2_2_1.pdf)

- **PACT** Protecting All Children’s Teeth
  [http://www2.aap.org/commpeds/dochs/oralhealth/pact/index-cme.cfm](http://www2.aap.org/commpeds/dochs/oralhealth/pact/index-cme.cfm)

- **Snohomish Health District**
GIVE YOUR TEETH A CHANCE
Snack Smart

HEALTHY SNACKS
Water
Fresh Fruits
Nuts
String Cheese
Fresh Vegetables
Regular Milk
Plain Popcorn
Cold Cut Meats
Cottage Cheese

HEALTHY ZONE

CAVITY ZONE

CAVITY CAUSING SNACKS
Juice
Soda
Candies
Cookies
Fruit Snacks
Sports Drinks
Crackers
Dried Fruit Snacks

© 2008 University of Washington School of Dentistry, Department of Pediatric Dentistry • Designed by Dr. Travis Nelson
Snacking for Healthy Teeth

#6 TEENS need reminders to protect their healthy smiles.

- Encourage teens to choose foods low in sugar and carbohydrates. Popular and convenient snacks like crackers, fruit leather and sport drinks are high in sugar and carbohydrates and are major cavity causers.
- Remind teens to brush twice a day and floss daily, if for no other reason than to prevent bad breath!
- Encourage the use of mouth guards when playing sports and discourage oral piercings (they can break or chip teeth).

#1 Things you might not know about kids’ teeth...

How often kids snack – not just what they eat – can be harmful to their teeth.

- Teeth need breaks between meals and snacks to prevent cavities.
- Grazing on snacks or sipping juices all day causes cavities.
- Eat and drink in one sitting instead of snacking all day long.

www.deltadentalwa.com/educational-materials
Thank you!
Facts About Childhood Tooth Decay

Childhood dental decay is a significant chronic disease. In the US, dental decay is the number one chronic health condition of childhood and is on the rise among young children (primary teeth) for the first time in 40 years.  

Dental decay impacts child health and development, self-esteem, and learning. Children who experience chronic dental decay and related pain and infection can suffer from growth and development disturbance, speech problems, lost school days, poor self-esteem, unhealthy adult teeth and high costs for dental treatment throughout life.  

Low-income children are disproportionately affected by dental decay. Over three-quarters of untreated decay in permanent teeth are found in roughly 25 percent of children who are 5 to 17 years old, mostly low-income children. However, low-income and racial/ethnic minority children experience the highest rates of dental decay and the lowest rates of dental care.  

Dental decay is preventable and manageable. Cavities are the outcome of an infectious and transmissible disease called dental decay. This is preventable early in life and can be managed without expensive interventions.  

Untreated dental cavities are costly. Nationally, annual costs for dental services (all ages) were $95.3 billion in 2007 and are expected to increase in the next decade. The costs to Medicaid are much higher than those for children with private insurance coverage.  

Proven prevention interventions can save costs. Dental costs are 40 percent lower for children enrolled in Medicaid for five continuous years who have their first preventive dental visit by age one ($263 compared to $447) than for children who receive their first dental visit after age one.  

Every $1 invested in community water fluoridation, $38 is saved in dental treatment costs. School-based dental sealant programs save costs when they are delivered to children at high-risk for dental decay.  

Dental decay interventions need to be risk-based. For greatest efficiency, it has been recommended that prevention initiatives be combined with intervention efforts to target those children at high-risk for the disease.
# Early Childhood Caries

<table>
<thead>
<tr>
<th>Condition</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Healthy Primary Teeth</td>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
</tr>
<tr>
<td>Chalky White Spots</td>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
</tr>
<tr>
<td>Brown Spots</td>
<td><img src="https://via.placeholder.com/150" alt="Image" /></td>
</tr>
</tbody>
</table>