Oral Health – Why it Matters

In 2000, the U.S. Surgeon General released Oral Health in America: A Report of the Surgeon General

- Oral health = HEALTH. It is more than just healthy teeth
- The mouth reflects general health and well-being
- The mouth is the gateway to the rest of the body and oral disease is associated with other systemic health problems
- Oral disease is prevalent across all ages and populations, but there are profound oral health disparities within the U.S. population especially among minorities, lower economic families and rural communities

“A silent epidemic of oral diseases is affecting our most vulnerable citizens—poor children, the elderly, and many members of racial and ethnic minority groups.”
Epidemic - A Public Health Crisis

Consider epidemics in America that have created a public health crisis . . .

How do we respond to epidemics?

- We take action at every level to eradicate terrible infectious diseases – it usually takes a while, but we stick with it until we WIN!

What about the epidemic of oral diseases?

- We have failed to treat it as an infectious, contagious disease that impacts systemic health
- We have accepted the presence of oral disease as a natural way of life

Possibly the greatest public health crisis is when a prevalent, but preventable, disease is accepted as “NORMAL”
A Continuing Public Health Crisis

- Common risk factors for all dental diseases include:
  - Increased risk if we are at a lower income level or socioeconomic status, or if we are a minority community
  - Lack of water fluoridation as a healthy benefit for building natural barriers to disease
  - Genetics
  - Transmission of bacteria – parents to children, between siblings and friends
  - Poor diet – (American diet) including frequent exposure to carbohydrates (simple sugars) and lack of healthy foods
  - Poor oral hygiene in self-care
  - Smoking or other tobacco use
Heavy Hitters in Health Care Expenditures

![Bar chart showing health care expenditures from 2000 to 2012 for different conditions including heart conditions, dental, trauma-related, cancer, and COPD, asthma.](chart.png)
How do costs impact care?
Early Prevention = Lower Costs

“The age of a child at the first preventive dental visit has a significant effect on dentally related expenditures.”

Oral diseases for 0-5 age group

Early Childhood Caries (ECC) is a chronic, infectious dental disease affecting primary teeth of young children.

- Dental caries (tooth decay) is the single most common chronic disease in childhood.
  - Five times more common than asthma.
  - Affects 63% of Oregon’s low-income children.

First clinical signs of caries

- White spots
- Acids have demineralized enamel
- First appear at gumline of upper front teeth
- High risk for developing cavities
Caries Process
Consequences of untreated ECC

**Short Term:**
- Pain and infection
- Impaired chewing & nutrition
- Disturbed sleep
- Trouble concentrating
- Diminished ability to learn
- Need for extractions
- Need for treatment under general anesthesia
- Low self-esteem

**Long Term:**
- Poor oral health and dental disease continue into adulthood
- Increased risk for caries in permanent dentition
- Growth delays, insufficient physical development
- Impaired speech development
Key Messages - interventions

- Prevention works - fluoride (systemic and topical)
- Good oral health and nutrition prevents disease
- Fears may keep parent from seeking dental care for their child
- New methods of treating ECC may minimize traumatic experiences
What is Oregon doing about ECC?

- First Tooth - OrOHC’s training for primary care pediatric and family practice providers
- Utilizing expanded practice dental hygienists (EPDHs)
  - Head start, childcare centers
    - Assessments, fluoride varnish (FV), education, referrals and navigation
  - WIC
    - Assessments, FV silver diamine fluoride, interim therapeutic restorations, education, referrals and navigation
- Co-location in medical offices
Good News – We can prevent . . .

- Pain and suffering among our children that translates into 3800 children a day in Oregon missing school with oral related pain.
- Lost time and income for working parents, transportation costs and healthcare costs associated with treating a preventable disease.
- Misconceptions about oral health with health literate messaging:
  - Oral health = good health
  - Oral disease is NOT normal, it’s preventable

We’ve looked at children 5 and under . . .
  – what changes when kids go off to school?
  - The mouth changes – teeth are coming and going
  - There’s a new dynamic taking place in oral health issues and disease prevention
School-Aged / K-12 Students

- The last Smiles Survey in Oregon reported that 20% of Oregon children ages 6-9 had untreated tooth decay
  - 25% minority
  - 30% low income

- Students with poor oral health are:
  - 3X more likely to miss school
  - 4X more likely to have a low GPA

- Acute dental pain can result in:
  - Depression or anxiety
  - Difficulty concentrating
  - Impaired speech development
  - Nutritional deficiencies
  - Low self esteem
Oral Considerations in children 6-18

- Mixed dentition
- Caries and gum disease
- Trauma- sports-related
- Orthodontia- when and how
- Tobacco- smoking, chewing
- Permanent molars- needing sealants, eruption of third molars
- Dietary challenges
- Eating disorders
- Chronic diseases- obesity, diabetes, heart disease
Dental Sealants

- Sealants prevent tooth decay and stop early cavities from progressing.
- Thin plastic coatings are applied to the grooves of the permanent molars.
- Sealants protect chewing surface by keeping germs and food particles out.
- Reduces decay in school children by 70-78%.
- Sealant programs are offered to all Oregon elementary and middle schools where at least 40% of the students are eligible for the Free and Reduced Lunch Program.
  - 88% of the eligible elementary schools were served
  - 47% of the eligible middle schools were served
What are we doing in Oregon to address school aged kids?

- Sealant program- state certification, but many areas served by local programs
- Metrics- driving prevention
  - Sealant metric
  - Foster children metric
- SBHC integration- 20% offer oral health services
- Boys and Girls Clubs
- ODS Children’s program
- Assessments, sealants, and FV
- Mobile dentistry- MTI, ODS Tooth Taxi, SK
Adolescents and young adults – a big gap in care when they aren’t in school

Emergency Room Visits – highest among young adults

Am J Public Health. 2015 May
Education high school drop out rates
- increased risk

- Oregon drop out rate
  - 2010-2013 highest rate in US among all states
  - 68% in 2010, 68.7% in 2013
  - US average is around 75%

- Risks increase, ED usage goes up, lack of routine care
  - Less education, greater unemployment, poorer health
  - Behavioral issues, tobacco & drug use
  - Lack of family and educator influences
  - Members are missing in systems of care
Adolescence and Young Adulthood

Emerging oral health risk factors during adolescence:

- Poor diet
- Decreased oral hygiene - caries and gum disease
- Eating disorders
- Orthodontic appliances
- Trauma - particularly sports injury
- Tobacco use
- Illicit drug use
- Oral piercings
- Third molars
- HPV virus - oral cancer risk
- Chronic diseases - obesity, heart disease, diabetes
What are we doing for adolescents?

- Not enough

- ED usage for oral/facial pain in Oregon is over $8.1 million – highest users are young adults
  - ED doesn’t provide dental care – maybe antibiotics or pain meds
  - Access to a dentist by referral is sometimes challenging

- Increase efforts to reduce opioid use, more efforts in coordination and communication in healthcare systems

- Must focus on associated risk of extremely high drop out rates in Oregon high schools – we have to start early

- Expand focus beyond oral health for early childhood and transition to adult care and across the lifespan
Oral Health Across the Lifespan – where do we start?

- Pregnancy – Healthy mouths are a must for pregnant mothers and the children they carry
- Data on care – barriers to care during
  - Access to care – most PG women in Oregon don’t see a dentist during pregnancy, varies by region & the population demographic
  - Coverage vs. care utilization – studies shows numerous barriers to care even when a PG mom has coverage
- Old school – dentists consider PG patients high liability
  - Statement from ADA - It’s safe for pregnant women to undergo dental treatment with local anesthetics, according to a study published in the August, 2015 issue of JADA
Pregnancy and oral health

Good oral health during pregnancy can improve the overall health of mother and baby.

50% of women do not receive dental care during their pregnancy.

Poor oral health during pregnancy has shown to increase risk of:

- Adverse birth outcomes
- Risk of infections which can harm mother and unborn child

Untreated maternal decay nearly doubles the odds of their children having severe decay
<table>
<thead>
<tr>
<th>Common Oral Health Conditions During Pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pregnancy gingivitis</strong></td>
</tr>
<tr>
<td>Increase inflammatory response to dental plaque during pregnancy causes gingiva to swell and bleed more easily.</td>
</tr>
<tr>
<td><strong>Pyogenic granuloma (pregnancy tumors)</strong></td>
</tr>
<tr>
<td>A lesion may result from heightened inflammatory response to oral pathogens.</td>
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<tr>
<td><strong>Tooth erosion</strong></td>
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<tr>
<td>Erosion of tooth enamel may be more common because of increased exposure to gastric acid during pregnancy.</td>
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<tr>
<td><strong>Dental Caries</strong></td>
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<tr>
<td>Pregnancy may result in dental caries due to the increased acidity in the mouth, greater intake of sugar, and decreased attention to prenatal oral health maintenance.</td>
</tr>
<tr>
<td><strong>Periodontitis</strong></td>
</tr>
<tr>
<td>Untreated gingivitis can progress to periodontitis. The teeth may loosen, bone may be lost, and a bacteremia may result.</td>
</tr>
</tbody>
</table>
## Barriers to Dental Care During Pregnancy

<table>
<thead>
<tr>
<th>Patient</th>
<th>Medical Provider</th>
<th>Dental Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Unaware of oral-systemic health link</td>
<td>• Do not routinely refer patients for dental care</td>
<td>• Unsure how to manage the pregnant patient</td>
</tr>
<tr>
<td>• Misconceptions about oral health care:</td>
<td></td>
<td>• Lack of practical training</td>
</tr>
<tr>
<td>- Poor oral health is normal during pregnancy.</td>
<td>• Unsure about safety of dental interventions during pregnancy</td>
<td>• Worry about injuring the woman or the fetus</td>
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<tr>
<td>- Dental treatment is unsafe.</td>
<td>• Limited understanding of the impact and safety of oral health care</td>
<td>• Fear of malpractice repercussions.</td>
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<tr>
<td>• Fear of the dentist</td>
<td>• Competing health demands during appointments</td>
<td></td>
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<tr>
<td>• Financial concerns</td>
<td></td>
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<tr>
<td>• Lack of dental coverage or awareness of coverage options</td>
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</table>
How is Oregon addressing oral health for pregnant women?

- OrOHC’s Maternity Teeth for Two training for prenatal medical providers, WIC staff
- EPDH’s in WIC-
  - 25/36 counties
  - Assessments, FV, referrals, navigation, education, ITR’s and tobacco cessation services
- Co-location of EPDH’s
- CCO’s offering integrated referral services, navigation and incentives for keeping appointments
Adults and oral disease

- Gum disease is the leading cause of tooth loss in adults
  - 47.2% of adults over 30 years have some form of periodontal disease
- Gum disease is most easily treated in its early stages
- When coinciding with systemic disease, gum disease worsens illness
- If 60% of people with diabetes better managed their oral health, savings could equal close to $39 Billion a year nationally
  - $245 Billion spent on diabetes alone in 2012 – 20% of healthcare costs
- In addition to health issues, social life, employment, self-esteem and general happiness are impacted by the conditions of one's mouth and teeth
Oral diseases/considerations for adults

- Periodontal disease
- Caries
- Oral cancer
- Chronic disease management
- Medications causing dry mouth
- Access- inadequate or lack of insurance despite expansion
Periodontal Disease- process and impact

- Moderate to severe chronic condition
- Oral microflora shifts to more pathogenic species
- Host immuno-inflammatory response to the persistent bacterial attack causes bone and tissue to break down.
- 50% increased risk of periodontal disease in smokers
- Frequent dental hygiene appointments help control periodontal disease, but structure loss is permanent
The Never Ending Cycle

Research concludes periodontal disease has an effect on controlling blood glucose levels and uncontrolled diabetes exacerbates periodontal disease.

BUT, controlling periodontal disease can improve diabetic health and controlling diabetes can improve periodontal health.
Inflammation and Chronic Disease

- Chronic inflammation of gum tissue can affect other parts of the body
- Periodontal disease is associated with serious health concerns, including:
  - Diabetes
  - Heart disease & stroke
  - Respiratory infections
  - Kidney infections
  - Osteoporosis
  - Alzheimer's disease and dementia
Addressing oral health needs of adults

- OrOHC’s education for adult primary care providers
  
  A Healthy Mouth for a Healthy Body

- Reduce ED use - local oral health coalitions are working with ED

- Expansion of Medicaid to adult populations
What happens when teeth turn 65?

- No dental benefit with Medicare
- Senior population is rapidly growing – 10,000 a day turn 65
- In 2010, people 65 and older were 13% of population
  By 2030 65 and older will represent 20% of the population

- Barriers to care and good health
  - Lack of fluoridated water systems
  - Access to care
  - Transportation
  - Chronic disease complications
  - Good nutrition / diet
  - Self-care challenges
  - Caregiver oral health competency
  - Nobody seems to care . . . isolation
Older Adulthood Considerations

- Oral health can help to prevent and control chronic diseases in seniors.
- 1 in 9 Oregon seniors lost all their teeth due to tooth decay or gum disease in 2013.
- In 2012, 60% of older adults managed 2 or more chronic conditions, including:
  - Heart Disease
  - Cancer
  - Chronic bronchitis or emphysema
  - Stroke
  - Diabetes mellitus
  - Alzheimer's disease
Common oral health problems among the senior population

- Tooth loss
- Full or partial dentures – chewing ability or ill-fitting
- Decreased salivary flow- affects mastication and taste, increases disease risk
- Periodontal (Gum) disease
- Atrophy of oral mucosa and musculature
- Root caries (Root decay)– most common cause of tooth loss in seniors
- Poor oral hygiene – impaired manual dexterity
- Taste diminishing
Other common oral health problems with seniors

- Candidiasis (Thrush)
- Angular Cheilosis
- Oral cancer
Addressing seniors’ needs

- Education for seniors and care providers
  - Oral Health for Seniors- OrOHC’s training for care providers
  - Tooth Wisdom-OHA education for seniors
- Co-located EPDH’s in adult facilities
- E.N.D.S.- exceptional needs dental services
- Dental Resource Guide For Seniors
Oral health spanning the lifespan

- Integration into patient-centered primary care - a systems approach
- Access for all ages across the lifespan
- Expanding the dental care team with a variety of approaches to care and prevention through new workforce models - in the office and in the community
- Moving upstream – prevention and education at every stage of life
A Systems Change Approach

- Oral health integration and coordination of care means we have to break down the silos of primary care and dental care across the entire lifespan
  - Education
  - Insurance / benefits
  - Practice / payment systems
  - IT – Electronic Medical Records
  - State and statewide delivery systems
- **Leadership** - Systems change framework has to start at the leadership level of every organization