Oral Health Practices: Across the Lifespan

Office of Women's Health Conference
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Mona Van Kanegan, DDS, MS, MPH
Division of Oral Health, Chief
Office of Health Promotion
Overview of this Session

This workshop will review foundational concepts for better oral health for all ages, review disease processes for highly prevalent, but almost completely preventable oral diseases: dental caries and periodontal disease. The session will also promote actionable oral health integration into primary care practices concepts so that more individuals can benefit from professional intervention that target prevention, improved self-care and timely treatment referral.
Background & Significance

Attention to oral health status and accessibility to services remain inadequate.

Evidenced in Illinois by low use of prevention services in children and adults, high prevalence of common oral diseases, high prevalence of untreated dental disease, reported increases in use of emergency departments (EDs) for preventable dental conditions, lower 5 year oral cancer survival rates in minority populations and other data points.

As systems are being re-organized: ACA, increased MCO penetration; Triple Aim: care, health, cost, there are new opportunities for improvements
Dental caries and periodontal disease are common oral infections yet, are almost completely preventable

- 2011-2012 National Health and Nutrition Examination Survey report that 27% of adults 20 to 64 have untreated dental caries.
- 2012 Centers for Disease Control and Prevention report that 47.2% of adults aged 30 and over have active periodontal disease.
- 70% of people 65 and older have untreated periodontal disease.
Access to care remains a major issue

- Though almost 90% of US population is insured for primary care, in 2014 more than 114 million remained un-insured for basic dental care
- Dentists per capita are declining, especially those that accept Medicaid
- Affordable and accessible dental care is a challenge in many communities
Learning objectives

• Review foundational concepts for better oral health for all ages
• Consider why optimal oral health status is especially important during pregnancy
• Discuss use of risk assessment tools for timely intervention and referral for treatment
Oral Health is an important component of general health and should be maintained throughout the course of the life cycle.

The World Dental Federation’s definition of oral health reads “oral health is multifaceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow, and convey a range of emotions through facial expressions with confidence and without pain, discomfort, and disease of the craniofacial complex.”

Performance of these basic functions makes us not only human but also allows us to carry out important relationships with individuals and within community that meet our individual needs.
Foundational concepts for better oral health for all ages

• Disease causative organisms are spread through kissing, sharing contaminated utensils such as spoon or a glass

• To decrease transmission - caregivers oral health also needs to be improved and treat any dental caries

• Good habits and practices that limit causative bacterial load need to be sustained life-long

• To decrease potential systemic impact, limiting inflammation in tissues of the oral cavity is a key concept
Inflammation plays an increasingly recognized role in oral-systemic interactions.
Role of Inflammation and Systemic Disease

Inflammatory cascade and the potential systemic spread of pro-inflammatory mediators such as fatty acids, interleukin 1, and TNF-α are being studied to explain the observed link between oral disease and a wide range of systemic diseases.

There is strong evidence for a causal link between periodontal disease and diabetes and emerging evidence for:

– Obesity
– Coronary artery disease
– Metabolic syndrome
– Oral health after menopause
– Helicobacter Pylori
– Adverse pregnancy outcomes
Dental Caries Disease Process

Risk Factors
- High bacterial counts
- Family history of caries
- Frequent eating of sugar containing foods
- Inadequate fluoride
- Decreased salivary flow
- Poor home care
- Low socioeconomic status

Generally a limited infective process

Treatment:
- Debride, restore missing tooth structure to maintain function
Dental Abscess

- Peri-apical abscess is a localized form of periodontitis

- Abscess tracks through bone to soft tissue, may fistualize and drain or spread diffusely in surrounding tissues resulting in cellulitis

- Abscess to brain and other distant locations that have led to death

- Bacteremia disseminates organisms to distant sites, activates immune system and inflammatory mediators (more operational in chronic inflammatory conditions such as periodontal disease)
Periodontal Disease - Gingivitis

Risk Factors
- High bacterial count
- Smoking
- Hormonal changes in girls/women
- Diabetes
- Other illnesses and their treatments (AIDS, cancer)
- Medications
- Genetic susceptibility

Treatment
Better home and periodic professional care to maintain health
Periodontal Disease

Same Risk Factors as gingivitis
Associated with system conditions such as cardiovascular disease, diabetes and premature birth and low birth weight babies

Treatment
• Debriding of bacteria, debris and removal of diseased bone to enable healing
• Possible gingival repositioning surgery, bone graft, additional supportive therapies including antibiotics
• May result in loss of teeth leading to poor long term prognosis and decreased masticatory function
THE AMERICAN ACADEMY OF PERIODONTOLOGY WARNS OF A SIGNIFICANT PUBLIC HEALTH PROBLEM

HALF OF AMERICAN ADULTS SUFFER FROM GUM DISEASE

47.2% Have periodontitis

THAT'S

64.7 Million Adults 30 years and older

8.7% Mild Periodontitis
30% Moderate Periodontitis
8.5% Severe Periodontitis

Comparison Estimates of Total Periodontitis Prevalence among Adults Aged 30–79**

- **Gender**: 54.2% Male, 35.7% Female
- **Race or Ethnicity**: 51.0% Non-Hispanic White, 58.7% Non-Hispanic Black, 39.1% Hispanic
- **Smoking Status**: 36.8% Never Smoked, 47.2% Former Smoker, 66.5% Current Smoker
- **Age Group**:
  - 30–44: 30.7%
  - 45–54: 46.8%
  - 55–64: 54.9%
  - 65–79: 65.9%
- **Below 150% Poverty Level**: Yes 60.6%, No 39.6%

**NHANES 2009-2012**
T2 Diabetes and Periodontal Disease

- Patients with periodontal disease have a greater risk for poor glycemic control
- Periodontal treatment improves glycemic control— and conversely— worsening of periodontal disease adversely affects glycemic control
- Locally, untreated periodontitis is the leading cause of tooth loss in adults
- Loss of multiple posterior tooth decreases ability to masticate; leading to easy to eat foods that are rich in simple carbohydrates and of poor nutritional value for a diabetic patient
Aetna’s Dental Medical Integration Program

• Uses technology to automatically identify members with diabetes, cardiovascular disease, or who are pregnant
• Members who have not recently seen the dentist receive education by mail and phone on the importance of regular dental care.
• Aetna dental coordinators help DMI members choose a dentist and schedule an appointment.
• DMI members qualify for enhanced dental benefits (such as periodontal services). There is no added cost to members or plan sponsors for the DMI program.

Program outcomes show that good dental health may reduce medical costs and improve overall health. To date, DMI program members who visited the dentist have:

- Lowered their medical claim costs by an average of 17 percent,\(^1\)
- Improved diabetes control by 45 percent,\(^2\)
- Used 42 percent less major and basic dental services,\(^1\) and
- Required 3.5 percent fewer hospital admissions year-over-year compared to a 5.4 percent increase for non-members.

Impact of Periodontal Therapy on General Health
Evidence from Insurance Data for Five Systemic Conditions

Marjorie K. Jeffcoat, DMD, Robert L. Jeffcoat, PhD, Patricia A. Gladowski, RN, MSN,
James B. Bramson, DDS, Jerome J. Blum, DDS

Retrospective study: does the treatment of periodontal disease reduce medical costs and inpatient hospital admissions during the 5 years after periodontal therapy in patients with five specific systemic conditions?
Periodontal intervention impacts medical costs

Treating periodontal disease means lower annual medical costs

Treating periodontal disease reduces hospital admissions

Periodontal disease as a long-term inflammatory process

- **Atherogenesis**: Acute phase response proteins may promote oxidized LDL accumulation and arterial plaque formation.
- **MI and stroke**: Increased atheroma may decrease plaque stability, increasing risk for myocardial infarction and stroke.
- **Pregnancy complications**: Increased systemic inflammation may increase risk of pregnancy complications.

**Acute Phase Proteins**
Liver releases acute phase response proteins in response to bacteria and toxins.

**Hepatic response**
Microbial and inflammatory challenges trigger hepatic response.

**Bacteria and toxins disseminate into bloodstream**

**Biofilm**
Optimal Oral Health Status at all Stages

• Community fluoridation (and its consumption) is the most effective tooth decay preventive measure for all ages
• Limit bacterial load by good home practices
• Maintain effective salivary gland function
• Periodic professional assessment & prevention
• ACOG supports that dental care during pregnancy is safe and important
Why optimal oral health status is especially important during pregnancy

• During pregnancy, hormonal and physical changes occur and are at increased risk for dental caries (exposure to gastric acids; high sugar consumption), gingivitis, gingival lesions.

• Numerous studies associate periodontitis with preterm birth and low birth weight. Findings include:
  – The association between periodontitis and PTB and LBW is biologically plausible.
  – Periodontitis was improved and women felt better after treatment.
I know it was important to care for my teeth and gums during my pregnancy.

A dental or other health care worker talked to me about how to care for my teeth and gums

I had my teeth cleaned by a dentist or dental hygienist.

I had insurance to cover dental care during my pregnancy.

I needed to see a dentist for a problem.

I went to a dentist or dental clinic about a problem.

Survey Question 29: This question is about the care of your teeth during your most recent pregnancy. For each item, check No if it is not true or does not apply to you or Yes if it is true.
Percentage of new mothers in Illinois who reported having their teeth cleaned during pregnancy

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<th>Maternal Age</th>
<th>Overall</th>
<th>&lt;20 yrs</th>
<th>20 to 24 yrs</th>
<th>25 to 29 yrs</th>
<th>30 to 34 yrs</th>
<th>&gt;35 yrs</th>
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<th>NH Black</th>
<th>Hispanic</th>
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<td>27.1</td>
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</tbody>
</table>

in 2014, Periodontal benefits covered in Medicaid during pregnancy
IDPH Resource

Improving Women’s and Children’s Oral Health

Mejorando la Salud Oral de Mujeres y Niños

Assessing the Oral Health and Obesity Status of 3rd grade Illinois Children

Children with high risk of dental caries and gingivitis, grow up to be adults with increased risk for oral problems that include missing teeth, periodontal disease and ineffective masticatory function.

**Figure 7. Illinois Progress Toward Healthy People 2020 Objectives.**

- **Objective Met:**
  - Untreated decay: 22%
  - Caries experience: 52%
  - Dental sealants: 28%
  - Obesity: 19%

- **Progress Needed:**
  - Untreated decay: 26%
  - Caries experience: 49%
  - Dental sealants: 28%
  - Obesity: 16%

Legend:
- **Healthy People 2020**
- **Illinois**

Illinois Department of Public Health (IDPH)
Oral Health Status of Illinois 3\textsuperscript{rd} Graders

• Tooth decay is still a significant public health problem affecting more than half of Illinois third grade children.

• Approximately 3,000 third graders are sitting in the classroom with pain and infection—may have difficulty concentrating, affect appearance and impact ability to succeed academically and socially.

• Significant oral health inequalities affecting children from vulnerable populations (data not presented today).
Tools for Timely Intervention - Primary Care Settings

• Can provide useful advice & education on oral health risks, how to prevent oral disease and address challenges with self-care at regular intervals

• Use behavior change, motivational interviewing and goal setting that are important in on-going prevention of oral disease

• Can provide proper referral & care coordination when treatment is indicated
Oral Health Delivery Framework

**ASK**
about oral health risk factors and symptoms of oral disease

**LOOK**
for signs that indicate oral health risk or active oral disease

**DECIDE**
on the most appropriate response

**ACT**
offer preventive interventions and/or referral for treatment

**DOCUMENT**
as structured data for decision support and population management

Qualis Health: Oral Health: An Essential Component of Primary Care
Use EHR, Dx codes, disease registries to provide focused intervention that addresses prevention & coordinate treatment access:

- Risk Assessment
- Dietary Counseling
- Oral Hygiene Training
- Smoking Cessation
- Fluoride Varnish
- Fluoride Supplementation
- Screening for Oral Diseases

Qualis Health: Oral Health: An Essential Component of Primary Care
Oral Health Assessment

Close Education/Prevention Gap
1. If you use tobacco, how can I help you to stop or decrease your use?
2. Do you brush your teeth twice per day and floss to clean between your teeth?
3. Do you eat or drink sugar sweetened beverages of foods between meals? Can you do less of this?

Close Access to Care Gap
1. Do you have a regular dentist provider?
2. When was the last time you had an exam or dental cleaning?
3. Do you have any issues or concerns that need attention now?
Especially for the prenatal provider

• Brief oral exam, providing guidance and reassurance: dental is during pregnancy is safe,
• Importance of good home care to maintain health
• Suggestions for frequent nausea and vomiting: small meals, do not brush for 1 hour after vomiting
• Sugarless or xylitol gum after eating
• Gentle brushing with fluoridated toothpaste
• Include oral health principals in prenatal classes
• Facilitate timely referrals
Older Adults

Limited dexterity
Medication related xerostomia
At increased risk for dental caries including on root surfaces
70% adults over the age of 65 have untreated periodontal disease
Know if your specific heart condition warrants use of antibiotic prophylaxis (artificial heart valve, history of infective endocarditis, on-going congenital heart defects)
Older Adults

- Brush and floss daily
- Limit frequency of eating soft, sugary foods/drinks
- Drink fluoridated water
- Chew sugarless/xylitol gum
- Clean dentures regularly
- Quit smoking
- Seek help from caregivers when needed
- Seek professional care and guidance
Resource Poor Areas

Many areas lack access to dentists

Primary care clinicians should

- Counsel patients on oral health promotion
- Screen for oral disease and facilitate appropriate referrals
- Intervene early with pregnant patients and infants
- Collaborate with schools, Head Start, and health providers promoting oral health in their community
- Develop a fluoride varnish program
- Consider further training to learn skills such as anesthetic blocks, biopsies, and incision and drainage if access to these procedures are not available in the local community
Smiles for Life, a national initiative, offers free educational resources to ensure the integration of oral health and primary care. There are 8 self-study modules for a variety of age groups and topic areas.

http://www.smilesforlifeoralhealth.org/buildcontent.aspx?tut=555&pagekey=62948&cbreceipt=0
Types of Oral Health Care Sites

- Private practitioners
- Dental school & hygiene school based clinics
- Bricks and mortar clinics
  - FQHC and “Look-a-like” Clinic
  - Local Public Health Clinic
  - Hospital Clinic
- Mobile/portable clinics
- School-based programs
- Other specific programs:
  - Mission of Mercy
  - Give Kids a Smile
  - Donated Dental Services
- Indian Health Service

Avenues to Access: A Primer in Initial Development of a Dental Safety Net System. ADA.org
Referral Resources

For the Public
- Find a Dentist
- Kids' Activities
- Dental Health FAQ
- Illinois Dental Medicaid
- Dental Careers
- Why Should I See A Dentist
- What Do Dentists Do
- Symptom Checker
- Handling a Dispute
- Find a Dental Clinic

Home > For the Public > Find a Dental Clinic
THANK YOU

DIVISION OF ORAL HEALTH
OFFICE OF HEALTH PROMOTION

DPH.ORALHEALTH@ILLINOIS.GOV
217-785-4899

DPH.ILLINOIS.GOV