Integration of Oral Health into Primary Care
Perinatal, Pediatric, and Behavioral Health

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- Susan Fisher-Owens

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Objectives

- Understand current oral health guidelines for perinatal and pediatric services in primary care
- Identify oral health training models for primary care providers
- Understand strategies to overcoming barriers to patient/parent receipt of oral health care
- Identify factors that support successful referrals to dental care
- Identify steps to building primary care and dental health collaboration for community dental services
- Explore the integration of Behavior Health in Dental Care
Why should we care about Oral Health in Primary Care?

- Common disease among women and children
- Frequent visits to see prenatal provider/PCP

Maternal Influence

- Diet
- Level of influence on home care/decisions
- Importance of primary teeth & oral health
- Genetic and transmissibility components
Influences on Children's Oral Health

Pregnancy Presents an Opportunity

- Higher interest in health
- Frequent contact with health care delivery system
- Introduce risk reduction & self management strategies “2 for 1”
- Stabilize periodontal & caries status
- May be only time have dental insurance coverage
Dental Care Utilization

- Pregnant women receive dental care less frequently than the general female population (Jiang et al, 2008)
- Women with both private dental insurance and Medicaid coverage utilize dental care more frequently when they are not pregnant than when they are pregnant (Iida 2009, Thoele 2008)

Main reason for not receiving dental care during pregnancy among women with dental problems, MIHA 2004-2007 (n=8,558)

- Financial barriers: 28%
- Attitudinal barriers: 21%
- No perceived need: 19%
- Patient thought care unsafe: 11%
- Provider advised against care: 21%
Perinatal Oral Health: Disease and Outcomes

Pregnancy Gingivitis

- 80% of women
- 2nd-8th mo
- Preexisting gingivitis may predispose to pregnancy gingivitis

Photo: Dr. Robert Johnson, Univ of WA
Vomiting in Pregnancy (hyperemesis gravidarum): Impact on Oral Health

- At risk for acid-induced tooth erosion secondary to vomiting
- Diet may increase in refined carbohydrates, increasing risk for caries

Dr. Bea Gandera, Univ of WA

Mom                      Child
Etiology of Periodontitis

- Essentially an inflammatory process, with irreversible destruction of bone and recession of gums
- Essentially an inflammatory process

![Periodontitis Stages]

A Chronic Disease Spectrum

- Oral-systemic disease connections
  - Heart and lung diseases
  - Stroke
  - Diabetes
  - Low-birth-weight, premature births

- By end of life, nearly every American has had complications with his/her teeth

Health Care Financing Administration 2000
Moderate Periodontal Disease Prevalence


Periodontal Disease Prevalence by Race/Ethnicity

Infection Associated with Adverse Perinatal Outcomes

- Infection accounts for 10-25% of stillbirths
- *F. nucleatum* is one of the most prevalent species in intrauterine infection
- Most ascend from lower genital track
- *Periodontal Bacteria found in Amniotic Fluid*

Meta Analysis of Associations
(Matevosyan, 2011)

- 125 studies 1998-2010
- Maternal periodontal disease remains associated with adverse perinatal outcomes
  - Preclampsia
  - Prematurity
Newer Meta Analysis

- Journal of Periodontology
  - 2012 Dec. 83:1508-1519

"Statistically significant effect in reducing risk of preterm birth for groups with high risks of preterm birth only. Future research should attempt to confirm these findings and further define groups in which risk reduction may be effective."

What we Know...

- Association related to inflammation in causal pathways via direct or indirect route
- Biological mechanisms becoming clearer
- Periodontitis in pregnancy is a chronic disease/pathological state that merits intervention
- Treatment may benefit defined population
Understand current oral health guidelines for perinatal services in primary care

Statements for Improving Oral Health During Pregnancy

- American Academy of Family Physicians
- American Academy of Pediatric Dentistry
- American Academy of Pediatrics
- American Academy of Periodontology
- American Academy of Physician Assistants
- American College of Nurse-Midwives
- American College of Obstetricians and Gynecologists
- American Dental Association
2013 ACOG Committee Opinion

Oral Health Care During Pregnancy and Through the Lifespan (August 2013)

“Oral health is an important component of general health and should be maintained during pregnancy...women should be routinely counseled about...the safety and importance of oral health care during pregnancy.”

Guidelines Everywhere

- New York
- California
- Washington
- South Carolina
- Am. Academy of Pediatric Dentistry
2012 National Consensus Statement

Role of Perinatal Provider

- Screen for oral health risk factors
- Examine mouth
- Educate about OH
  - dental care is safe and effective
- Refer in 1st or 2nd trimester
- Facilitate treatment by providing written medical clearance when indicated
Role of Perinatal Team

- Perinatal coordinator
  - Education at each trimester
    - CPSP, group visits
    - Scheduling dental referral
- Update problem list
  - Chronic disease tracking
  - Dental referral in OB problem list
- EHR embedded Patient Education

Maternal Self Management
Fluoride

Xylitol

- Naturally occurring sugar derived from bark of birch tree
- Suppresses *s. mutans* (Hildebrandt 2000)
- Studies show decreases transmission *s. mutans* (Soderling et al, 2000)
- Only way to insure therapeutic dose is dispense
Chlorhexidine

- Suppress *s. mutans* & periodontal pathogens
- Non-alcohol formulation
- Patients rinse prior to appointment
- After birth- 1 week of CHX followed by 3 weeks of OTC Fl rinse *(Spolsky et al. CDA Journal 2007)*
- Cost/insurance coverage

Why is Oral Health Important in Primary Care for CHILDREN?
Why care about baby teeth?

- Dental caries alone is the most common chronic disease of childhood

Why should medical professionals care about baby teeth?

- We are preventionists!

  - Well Child Visit frequency
    - 1 year olds
      - 89% see PCP for an “annual exam”
      - 1.5% seen a dentist
      - 6-8% have caries
    - Patients see PCP 9 times before dentist

Gift, 1992; Surgeon General’s Report 2000; Pew
Disparities

- Socioeconomic
  - Services: children near Federal Poverty Level (FPL) are 50% as likely to have sealants as those >200% of the FPL

- Race/ethnic
  - Services: rates for sealants for black and Mexican-American children are 33% lower than those for white children

- Insurance
  - Public vs private vs uninsured

- Increasing prevalence, yet also concentrated
  - ~80% of disease in 25% of people
  - 18% in low-risk group

HOW BAD IS THE PROBLEM?

Too many children lack access to dental care, with severe outcomes. One measure of the problem: more than half of the children on Medicaid received no dental service in 2009.

SOURCE: Centers for Medicare and Medicaid Services, CMS-416.

SOURCES FOR BENCHMARKS: (1, 2, 7) Pew Center on the States survey of states; (3) Centers for Disease Control and Prevention; (4) Centers for Medicare and Medicaid Services, CMS-416 (5, 6) Medicaid/CHIP Dental Association and American Academy of Pediatrics; (8) National Oral Health Surveillance System.
School Impact

117,000 hours of school lost per 100,000 school-age children, with an additional 17,000 activity days beyond school time restricted per 100,000 individuals (~52 million school hours annually)

Understand current oral health guidelines for pediatric services in primary care
What are the recommendations for children?

- **Fluoride Varnish**
  - US Preventive Services Task Force
  - Medicaid

- **Toothbrushing**
  - American Academy of Pediatrics
  - American Academy of Family Physicians
  - American Academy of Pediatric Dentists
  - American Dental Association

**US Preventive Services Task Force (USPSTF)**

- **Fluoride Supplements (B evidence)**
  - Supplement with fluoride over age 6 months if non-fluoride exposed
    - Should include risk assessment in recommendation

- **Fluoride Varnish (B evidence)**
  - Primary care providers/ systems apply FV to the primary teeth of all children, starting at eruption the first tooth, through age 5 years
Medicaid

- California example

Adapted from Featherstone, BMC Oral Health 2006
**Fluoride’s mechanism(s)**

- Cariostatic
- Enhances tooth (re)mineralization
- Arrests/reverses tooth demineralization
- Inhibits acid-producing bacteria responsible for caries
- Decreases enamel solubility
- Works via saliva and plaque
  - Concentrates in plaque
  - Primarily topical effect, even when given systemically

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**Dental Decay ≠ Rotting Wood**

Early Cavities Can Be Arrested or Reversed

- Improved oral hygiene
- Improved diet
- Fluoride applications
NOT

- Weeks worth of toothpaste!
**A pea is too much**

- By parents
- Twice a day
- “Grain of Rice/Smear”
  - = 0.1 mg fluoride
    - 1st tooth - 3 years
- “Pea” = 0.25 mg fluoride
  - >3 years = Pea

**Fluoride Varnish**

- 5% sodium fluoride in a resinous base with flavoring agent (e.g., bubble gum)
- Sets on contact with moisture in the mouth
- Prevents ECC (early childhood caries)
  - Reduces decay by 37-50% (each time)
- Easy application

Weintraub, Ramos-Gomez, et al. 2006
Fluoride Varnish

- Can and should be applied during well child visits
- Meaningful Use measure
- CPT code—99188 (or D1203)
- Speak to your local COHA (children’s oral health advocate, though AAP) for more information
Fluoride Varnish is NOT

- NOT associated with fluorosis
- Does NOT replace the dental home
- NOT equal to comprehensive dental care

Apply to Healthy Teeth (Class 1) as Protection

- Providers, when teeth are in, “lift the lip” to check for chalky white spots, or brown spots as part of exam
- Apply FV
AND on Later Signs of Decay: Brown Spots (Class 2)

NOT in deep Pulp (Class 3)
Have All Supplies Ready

- Open the Packet
- Bend the Brush
- Tell, Show, Do (Tickle the child’s hand – cheek – tooth)
- Apply in quadrants
- Top First!

How is Fluoride Varnish Applied?

- Positioning:
  - Knee-to-knee (provider and parent)
  - Exam table
  - Sitting for older children
- Remove plaque and food debris from the teeth with a toothbrush, cotton gauze, or a cotton roll, drying teeth.
- OPTIONAL – Demonstrate how to brush with a toothbrush first. Promotes demonstration and discussion of toothbrushing with the caregiver and makes sure the child has a child-size brush
Knee to Knee

On the Exam Table

First: Instruct caregiver how to secure arms and legs of infant/toddler in both positions.
Or Sitting

When should it be done?

- Starting at eruption of first tooth
- Most effective if done multiple times per year, which can be coordinated with other well child visits or immunizations (2-3x in the medical office, plus dental, other)
Worth it?

- Return on investment: <$1 cost, can be reimbursed $18
- Cost savings: $0.15 saved/$1 spent
- Almost 2/3 disease reduction (Ng 2012)
- \textit{--AND NOT HARD TO WORK INTO WORKFLOW!!}

Identify oral health models for primary care providers
Models

- Referral based
- Incoming dentist/dental hygienist
- Integrated care
- School-based health care

Understand strategies to overcoming patient/parent barriers to receipt of oral health care
Transforming Parents Awareness of Disease Model

- Biologic
- Non-biologic
  - Dental anxiety
    - Higher with previous negative experience (Kanegane)
    - In parent
  - Society norms

What can be done?

- Counseling
- Medical Interventions
  - Xylitol
  - Chlorhexidine
  - Fluoride
- Dental Home not replaced by Primary Care
Counselling

http://1.bp.blogspot.com/-P9xkJETJZ/ZZOk9baSMoI/AAAAAAAA9J4/2Qp2a3f_8Q4/s1600-fatkids.jpg

http://1.bp.blogspot.com/-P9xkJETJZ/ZZOk9baSMoI/AAAAAAAA9J4/2Qp2a3f_8Q4/s1600-fatkids.jpg

www.healingdaily.com/conditions/cavities.htm
Diet counselling—very similar to obesity prevention counselling

- No juice/sugar-sweetened beverages
- Limit concentrated carbohydrates (dried fruit vs. lollipop)
- Get off bottle as soon as possible

Motivational Interviewing

- Pressure to change facilitates resistance
- Get patient to talk...you listen
- Give choices (key!)
- Acceptance facilitates change
- Small steps
Patient Education Materials

- Literacy level
- Cultural appropriateness
- Keep materials brief
- Focus on how mother’s oral health affects baby

Identify Oral Health Training Models for Primary Care Providers
Training Opportunities

• Online Training
  • Smiles for Life (Society for Teachers of Family Medicine):
  • AAP: [www.aap.org/oralhealth](http://www.aap.org/oralhealth)
    • PACT [http://www2.aap.org/oralhealth/pact/index-cme.cfm](http://www2.aap.org/oralhealth/pact/index-cme.cfm)
    • EQIPP [https://eqipp.aap.org/](https://eqipp.aap.org/) (CME credit)

• Local on-site training
dental collaboration
• On-boarding providers/staff
Implementation into Care

- National Network for Oral Health Access (NNOHA)
  - User’s Guide for Implementation
  - http://www.nnoha.org


Identify Factors that Reduce Barriers and Support Successful Referrals
Dental Referral: Establishing Dental Home

- Different Models:

- Referrals:
  - Direct scheduling
  - Referrals coordinator
  - Patient dependent

- Linguistic competency
  - Patient Navigators
  - Referral Translation

Is it Safe to Take X-rays?

“No single diagnostic procedure results in a radiation dose significant enough to threaten the well-being of the developing embryo and fetus.”

*American College of Radiology*
Dentist’s Concerns for Surgical Intervention/ Treatment

- Perception of patient discomfort
- Chronic medical conditions
- Local anesthesia
- Medications
- Restorative materials
- Nitrous oxide
Successful Referrals

- Provider / Staff reinforcing shared messaging
- Direct booking
- Co-location of dental services
- Missed opportunities readdressed “Close the loop”
  - Frequent visits
  - Team reach

Referral Tracking

- INTERNAL
  - Referrals coordinator
  - Population based management (ICD10 codes/Billing codes)
  - CPSP Prenatal Coordinator (prenatal)
  - OB/ Pediatric problem list

- EXTERNAL
  - CHDP forms and referral (pediatrics)
  - Federal UDS measures for high risk populations (pediatrics)
Identify steps to building primary care and dental health collaboration for community dental services

Oral Health (OH) Champion

- Advocate for clinic oral health integration
- Develop team-based approach: match clinic capacity
  - Stages of implementation
  - MA, RN, LVH, Dental hygienist – FV applications (peds)
  - Patient Education: group visits, CPSP, (prenatal)
- Training/ Reinforcement
- Establish relationship with OH stakeholders
  - SF Local OH Coalitions/ First 5
Electronic Medical/ Dental Record (EMR/EDR)

- **Integrated**
  - Real time data access and evaluation
  - Provides the mechanism for longitudinal data
    - UDS and Practice Management
  - Conforms to nationally recognized interoperability standards
  - Maintain one accounts/ receivable system

- **Interfacing**
  - Clinics contract with a Health Center Controlled Network (or other 3rd party vendor) and as part of the services, pay for the proprietary HL7 bridge

- **Separate**

Oral Health Policy and Collaboration

- **Interprofessional education/meetings**
  - Shared best practices
  - Evidence based primary care oral health models
  - Dental providers train primary care providers
  - Primary care providers can train dentists: chronic disease and behavior management

- **Joint campaigns**
  - Brush, Book, Bed
  - Water fluoridation
Advocacy
Other Opportunities for Engagement

- Lobby
  - Workforce issues
  - Policies requiring screening without treatment
  - Dental in FQHCs
  - Community Water Fluoridation
  - SCHIP and dental
  - Research funding

Community Water Fluoridation (CWF)

- Only 76% of US on CWF
- 25% disease reduction (Kumar 2014)
- Almost $10 saved for every dollar invested in CWF (Edelstein 2015)

- Campaign for Dental Health
  http://www.ilikemyteeth.org/
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Explore the integration of Behavior Health in Dental Care
Thank you!

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Questions?
Graphic prepared by Eugenio Beltran of CDC, from 1999-2004 data for 12-19 yo