

# Periodontal Health and Birth Outcomes

Secretary's Advisory Committee on  
Infant Mortality – SACIM

November 30, 2006

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Department of Health and Human Services  
Health Resources and Services Administration (HRSA)  
Maternal and Child Health Bureau (MCHB)  
Division of Research, Training and Education

- **In 2003, the U.S. Surgeon General called for increased attention to oral health education and care during pregnancy as an important strategy for improving maternal and infant health**

- **In 2004, MCHB convened a group of perinatal and oral health experts in science, program and policy**
- **Private and public sector**

- **Studies over the last several years have identified periodontal disease as a possible risk factor for pre-term and low birth weight**

- **Periodontal disease may represent:  
  
Infectious and inflammatory  
exposure that has deleterious  
effects during pregnancy**

- **Periodontal disease is highly prevalent in pregnant women**
- **Periodontal disease is preventable and curable**

# QUESTIONS

- **Is periodontal disease a risk factor for adverse pregnancy outcomes?**
- **Will treating periodontal disease in pregnant women prevent adverse pregnancy outcomes?**
- **Is the current evidence sufficient to make policy and program changes for periodontal treatment during pregnancy?**

# British Journal of Obstetrics and Gynecology 2006; 113(2): 135-143

- **Periodontal disease and adverse pregnancy outcomes; a systematic review**
- **X. Xiong, P. Buekins, W.D. Fraser, J. Beck, S. Offenbacher (25 studies)**
- **Since then 19 new studies have been published since March 2005 to date**



# PROBLEMS

- **Periodontal disease definitions**
- **Insufficient sample size**
- **Confounding variables**
- **Pregnancy outcome definitions**

# Research to Policy and Practice Forum

## Research to Policy and Practice: Periodontal Health and Birth Outcomes

December 11-12, 2006

Omni Shoreham

Washington, D.C.

# Meeting Objectives

- Review current evidence-based research regarding the relationship between periodontal disease in pregnant women and birth outcomes
- Review current policies, programs, and practices in the public and private sectors addressing the oral health needs of pregnant women, as related to improving birth outcomes and women's overall health
- Offer public and private health leaders the opportunity to dialogue about future directions in research, policy programs, and practice related to women's periodontal

# Two Background Papers

- **State of the Science**  
**Xu Xiong, MD, DrPH**  
**Sotirios Vastardis, DDS, MS**  
**Pierre Buekins, MD, PhD**
- **State of Policy, Program and Practice**  
**Burt Edelstein, DDS, MPH**  
**Karen VanLandeghem, MPH**

# Background Paper #1

## Periodontal Disease and Pregnancy Outcomes: State of the Science

- 44 studies
- Literature search, study selection, data extraction, quality assessment and statistical pooling (meta-analysis)

**Treatment of Periodontal Disease and  
the Risk of Preterm Birth**

***Bryan S. Michalowicz, DDS, et. al***

**Results -**

***Treatment group*** - preterm births occurred in 49 of 407 women (12.0%) resulting in 44 live births

***Control group*** – preterm births occurred in 52 of 405 women (12.8%) resulting in 38 live births

**Conclusions** - Treatment of periodontitis in pregnant women improves periodontal disease and is safe but does not significantly alter rates of preterm birth, low birth weight, or fetal growth restriction.

# Major NIDCR Study to come

- **MOTOR – Maternal Oral Therapy to Reduce Obstetric Risk**
  - S. Offenbacher, UNC
- **5 year randomized, 2 armed clinical trial**
- **1800 mothers sample size**
- **Enrollment to be completed 18-24 months**

**Hypothesis: Mothers with periodontitis that receive periodontal treatment during 2<sup>nd</sup> trimester will experience a lower rate of preterm delivery and a higher mean birth weight of pre-mature infants**

# Background Paper #2

## Public and Private – sector Efforts to Improve the Oral Health of Pregnant Women: Policies, Programs and Practices

- Overview of current policies, programs and practices
- Improving birth outcomes as well as women's overall health



# SACIM

- **Invited by MCHB/HRSA to send a representative to the Forum**
- **Will receive the 2 background papers on science and policy/program in early December**
- **Will receive meeting summary after the forum**
- **Will be briefed on Forum findings at the next SACIM meeting**