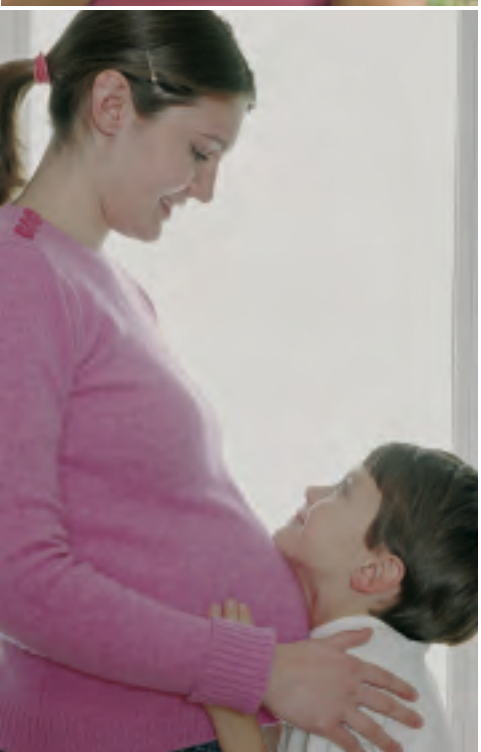
Research to Policy and Practice Forum: Periodontal Health and Birth Outcomes



Summary of a Meeting of Maternal, Child, and Oral Health Experts

Washington, DC
December 11–12, 2006

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MEETING SUMMARY

Overview and Purpose

Increasing national awareness of the link between oral health and systemic health has highlighted the need to address the oral health requirements of pregnant women as a promising strategy for improving maternal and infant health.[1,2] To explore this key maternal and child health issue, the Health Resources and Services Administration's (HRSA's) Maternal and Child Health Bureau (MCHB) convened the "Research to Policy and Practice Forum: Periodontal Health and Birth Outcomes" on December 11–12, 2006, in Washington, DC. The forum, timed to coincide with the publication of findings from a long-anticipated study funded by the National Institutes of Health's (NIH's) National Institute for Dental and Craniofacial Research (NIDCR) assessing the effect of nonsurgical periodontal treatment on preterm birth,[3] was planned in collaboration with the Agency for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), HRSA's Office of Women's Health, NIDCR, NIH's National Institute of Child Health and Human Development, NIH's Office of Research on Women's Health, and the Office of the Surgeon General.

The meeting brought together a diverse group of 58 maternal, child, and oral health experts to

- *Review evidence-based research relevant to the relationship between periodontal disease in pregnant women and birth outcomes.*

- *Review current policies, programs, and practices within the public and private sectors to address the oral health needs of pregnant women and improve birth outcomes.*
- *Offer leaders in the health field the opportunity to discuss future directions in research, policy, programs, and practice related to women's periodontal health and birth outcomes.*

Before the forum took place, two background papers were commissioned and distributed to participants. The first paper explores the state of scientific evidence related to periodontal disease in pregnant women and birth outcomes, and the second reviews current policies and programs in the public and private sectors to address the oral health needs of pregnant women. The forum included both presentations and discussion sessions. Representatives from MCHB provided an overview of how the forum fits within the bureau's broader goals and activities to improve the health of women, infants, and children. The presenters

described the findings of the background papers, shared information on women's oral health needs across the lifespan, discussed NIDCR-funded clinical trials addressing periodontal disease and birth outcomes, and explored the challenges of applying evidence-based methods to assess new and emerging research issues. Following these presentations, participants engaged in a large-group discussion of the implications of current science for research, policy, programs, and practice and then participated in smaller workgroups to discuss future directions in the research, policy, program, and practice arenas related to periodontal health for pregnant women. Conclusions of these group discussions were shared.

This report summarizes the presentations of commissioned background papers and other topics, as well as workgroup discussions. It is divided into the following sections: (1) Summary of Presentations, (2) Future Directions for Policy and Programming, (3) Future Directions for Research, and (4) Closing Remarks and Next Steps. See the appendix for the forum agenda and participant list. *The presenters' slides and other relevant resources are available on the National Maternal and Child Oral Health Resource Center's Web site at http://www.mchoralhealth.org/Materials/Multiples/PerioForum.*

Summary of Presentations

The forum included presentations on a variety of topics. Two of the presentations provided an overview of the commissioned background papers. The first paper reviews scientific evidence related to the possible association between periodontal health and adverse birth outcomes. The second summarizes the policies, programs, and practices that have been implemented in the public and private sectors to respond to this scientific evidence. Other presentations discussed the impact of periodontal health on women's overall health, the challenges of applying evidence-based methods to the assessment of emerging research issues, and the findings of a federally funded randomized controlled trial to test the effect of periodontal treatment on adverse birth outcomes. Brief summaries of each presentation are provided in the sections that follow.

Review of Scientific Evidence Related to Periodontal Health and Birth Outcomes

In the first background paper, Xu Xiong, M.D., Dr.P.H., and Pierre Buekens, M.D., Ph.D., of Tulane University and Sotirios Vastardis, D.D.S., M.S., of Louisiana State University Health Sciences Center explore the state of scientific evidence related to periodontal disease in pregnant women and birth outcomes. Specifically, the authors synthesize existing literature and discuss methodological issues and potential biases among existing studies. This paper builds upon a previously published systematic review[4] by including 19 new studies published from March 2005 to November 2006.

The authors identified studies published in peer-reviewed journals, including observational studies, nonrandomized controlled studies, and

randomized controlled trials that examine periodontal disease as a risk factor for adverse birth outcomes. A total of 44 studies (26 case-control, 13 cohort, and 5 controlled trials) met the inclusion criteria.

The authors conclude that

- *There is evidence of an association between periodontal disease and increased risk of preterm birth and low birthweight, especially in economically disadvantaged populations, but potential biases (especially in terms of inconsistent definitions) and the limited number of randomized controlled trial studies prevent a clear conclusion.*
- *Currently, there is insufficient evidence to support the provision of treatment during pregnancy for the purpose of reducing adverse birth outcomes.*
- *Several randomized controlled trials are under way to test the hypothesis that periodontal treatment can reduce rates of certain adverse birth outcomes. The findings from these trials (or a meta-analysis) will provide more definitive conclusions.*
- *More studies are needed to examine potential associations between periodontal disease and increased risk of maternal complications (i.e., gestational diabetes mellitus and pre-eclampsia), early pregnancy loss or miscarriage, stillbirth, and very preterm birth (< 32 weeks).*

The authors also note a number of methodological issues and potential biases that may affect the selected studies. Since there is no universally accepted standard for periodontal disease diagnosis, definitions of periodontal disease vary widely across reviewed studies. Similarly, there is considerable variation in definitions of adverse birth outcomes. Lastly, many studies lack a sufficient sample size and do not control for confounding effects of important variables such as previous history of adverse pregnancy outcomes.

The authors provide the following recommendations to guide future policymaking, clinical practice, and research:

- *More methodologically rigorous observational studies using consistent definitions, sufficiently large sample sizes, and controls for key confounders are needed.*
- *Prevention and treatment of periodontal disease should be made available before and during pregnancy to help maintain the overall health of women and possibly their children.*
- *Public health policies should support both the provision of and access to comprehensive oral health services for pregnant women.*

Policies, Programs, and Practices Addressing the Oral Health Needs of Pregnant Women

In the second background paper, Burton Edelstein, D.D.S., M.P.H., of Columbia University and Karen VanLandeghem, M.P.H., an independent health policy consultant, describe the policies, programs, and practices that typify the ways in which the public and private sectors have responded to evidence suggesting that there is an association between periodontal disease and adverse birth outcomes (referred to in the article and hereafter as the perio-preterm relationship). The authors conducted document reviews and phone interviews with oral health program directors, staff in state Medicaid agencies, and other program staff in a subsample of states with oral health activities directed toward pregnant women in state public health programs. In addition, the authors conducted Web searches and obtained information from oral health experts. This paper builds upon a previous review conducted for a planning meeting for this forum held in 2004.[5]

The authors identify eight major entities that have led the charge in developing policies, programs, and practices to address the perio-preterm relationship,

Many different public- and private-sector organizations have shared information with the public about the relationship between oral health and birth outcomes, but these organizations' interpretations of available information on this topic have varied considerably.

including (1) insurers, (2) companies manufacturing consumer-oral-health products, (3) health professional associations, (4) consumer advocates, (5) the lay press, (6) think tanks, (7) federal government agencies, and (8) state government agencies. Overall, these entities have made a great deal of information available to the public and health professionals. However, the rationales various entities have used have varied widely, ranging from cautiously worded statements (to prevent unwarranted claims) to objectively erroneous assertions. This variability is likely due to differing interpretations of the existing science and literature based on varying levels of knowledge and objectivity as well as on differing motivations.

In addition, the efforts of the different entities have varied significantly in scope and focus. Insurers, for example, have largely subsumed the perio-preterm relationship under the broader category of oral-systemic health concerns and have targeted increased coverage of dental benefits for pregnant women as one strategy for claiming that overall health care costs may be reduced through the provision of oral health care. Companies producing oral health products for consumers have used the perio-preterm relationship as an opportunity to market oral hygiene products as useful both for promoting oral health and for improving overall health, which includes preventing adverse birth outcomes. The states in the study also engaged in a broad range of activities in state public health programs, including tracking pregnant women's access to oral health care, educating health professionals and the public about the importance of oral health during pregnancy, expanding and improving Medicaid, and identifying oral health professionals willing to serve pregnant women enrolled in Medicaid.

The authors provide a number of recommendations to advance future policy and programmatic efforts, including

- *Support additional research on the impact of periodontal disease in pregnant women.*
- *Develop initiatives and activities that promote the importance of oral health for its own sake.*
- *Develop authoritative guidelines on oral health care for pregnant women.*
- *Convene a meeting to provide guidance to state public programs in addressing the perio-preterm relationship.*
- *Develop a national consensus statement on the perio-preterm relationship among key federal agencies and national organizations.*
- *Conduct more systematic research on private and government policies and practices related to oral health and pregnant women.*

New Findings from Federally Funded Clinical Research

The forum was timed to coincide with the publication of findings from a long-anticipated study funded by NIDCR. Bryan Michalowicz, D.D.S., M.S., of the University of Minnesota School of Dentistry and his study team conducted a randomized controlled trial to study the effect of nonsurgical periodontal treatment on preterm birth, birthweight, and proportion of infants who are small for gestational age. Women between 13 and 17 weeks of gestation were randomly assigned to receive scaling and root planing either before 21 weeks (the treatment group, consisting of 413 women)

or after delivery (the control group, consisting of 410 women). The treatment group also received monthly tooth polishing and oral hygiene instruction.

The authors found that, although periodontal treatment did improve clinical measures of periodontal disease, it did not significantly change the risk for preterm delivery. Similarly, there were no significant differences between the treatment and control groups in birthweight or in the rate of delivery of infants who were small for gestational age. These results are inconsistent with those of two previous randomized trials that found that preterm birthrates were lowest in the periodontal treatment groups. However, the authors noted that there were several major differences between their trial and the two previous trials that make direct comparisons difficult.

Another major finding of the trial particularly relevant to the forum was that nonsurgical periodontal therapy delivered between 13 and 21 weeks of gestation was found to be safe and effective in treating periodontal disease.[3]

New research has found that nonsurgical periodontal therapy is safe and effective in treating periodontal disease in pregnant women.

Overview of Periodontal Health for Women of Reproductive Age

Marjorie Jeffcoat, D.M.D., of the University of Pennsylvania School of Dental Medicine, presented an overview of oral health issues that are of particular concern for women, especially during their reproductive years. For example, bulimia nervosa, a condition that can affect females throughout their lifespan, can lead to problems such as tooth discoloration, enamel erosion, and oral lesions. Dr. Jeffcoat recommended that oral health professionals be vigilant about noting these visual cues to help identify possible cases of bulimia. During pregnancy, women are at increased risk for gingival

inflammation (sometimes called "pregnancy gingivitis") owing to the combination of increased hormone levels and the presence of plaque bacteria. Home oral hygiene routines, scaling and root planning, and use of antimicrobial mouthrinse were identified as important strategies for maintaining good oral health during pregnancy. Dr. Jeffcoat also noted the link between periodontal disease and osteoporosis. She referred to research demonstrating that osteoporotic women with untreated periodontal disease have a higher rate of bone loss and, thus, a greater risk of tooth loss than periodontally healthy osteoporotic women. Through these examples, Dr. Jeffcoat emphasized the link between good oral health and women's overall health.

The Gray Zone of Evidence-Based Research—Benefit or Harm?

David Atkins, M.D., M.P.H., of the Center for Outcomes and Evidence, AHRQ, began his presentation by explaining that health professionals and policymakers must often make urgent decisions in the face of imperfect evidence. Dr. Atkins listed a number of questions health professionals and policymakers should ask when reviewing the evidence for a given issue, such as (1) What are the outcomes I care most about?, (2) What constitutes "good enough" evidence?, and (3) How certain am I that interventions will work in the "real world"?

Dr. Atkins concluded by identifying several approaches that can be taken when faced with uncertain evidence:

- *No intervention is implemented until definitive studies, such as large clinical trials, are conducted and the results are independently confirmed. This approach is recommended when interventions carry significant risks, are expensive, or are difficult to implement.*
- *Implementation of an intervention is phased in as more evidence becomes available.*
- *Full implementation of an intervention proceeds based on other grounds, such as, in the case being addressed in this forum, when interventions have previously been demonstrated to be safe and affordable and to provide other intrinsic benefits (e.g., improving oral health).*

Future Directions for Policy and Programming

Two of the three workgroups discussed future directions in policy and programming related to women's periodontal health and birth outcomes. The findings from these workgroups contained common themes and, therefore, have been integrated to provide an overview of their combined conclusions.

Overarching Themes

- Good oral health is important across the lifespan. Pregnancy is an opportune time to promote oral health and healthy behaviors, including education about the prevention of dental caries.
- There is growing evidence of an association between periodontal disease and increased risk of several adverse birth outcomes, especially in economically disadvantaged populations.
- More studies are needed to examine possible associations between periodontal disease and birth outcomes.
- Scaling and root planing are safe for pregnant women with periodontal disease.

Health Education and Training Themes

- Health professional education and training should be a key strategy and should utilize multipronged approaches and concise messages.
- Education and training should be targeted to a wide range of health professionals, including nurses, dietitians, family practice physicians, pediatricians, dentists, dental hygienists, and other health professionals, as well as to health profession students.
- Education and training should address underlying disease processes and effective ways to promote oral health.

Outreach and Public Education Themes

- Identify central, consistent messages such as
  - Uninterrupted oral health care is important throughout the lifespan.
  - Pregnancy provides opportunities to address the oral health of women and their families.
  - Oral health is an important part of primary care.
  - Oral health care is safe and beneficial for pregnant women.

  - Oral diseases are infectious and preventable.
  - Oral health promotion can yield cost savings.
- Tailor messages to specific audiences.
- Utilize high-level oral health champions to promote messages.
- In the absence of evidence definitively proving a link between periodontal disease and birth outcomes, frame messages around more general issues such as women's oral health and dental caries prevention.
- Establish operative partnerships to establish referral networks for oral health services, such as partnerships with WIC, Head Start, and health professionals willing to serve Medicaid participants.
- Establish MCHB-sponsored national forums to help build coalitions and partnerships (particularly with business leaders), share best practices, and identify strategies to overcome barriers.

Policies and Programs Themes

- Oral-health-promotion efforts should include all population groups.
- Track and highlight best practices in preventing and treating periodontal disease during pregnancy across states, similar to the way organizations such as the Association for State and Territorial Dental Directors, the American Association of Public Health Dentistry, and CDC currently track best practices in public oral health programs.
- Tie women's oral health into existing health initiatives, such as *Healthy People 2010*.
- Incorporate oral health into state prenatal care regulations, and enforce compliance.
- Given the important role that organized dentistry plays in ensuring access to high-quality and effective oral health care, establish national guidelines that
  - Address the misconceptions about the need for and safety of treating periodontal disease in pregnant women.
  - Cover the full scope of oral health services from preconception through pregnancy.

Forum participants support the development of national guidelines for the provision of oral health services to pregnant women.

  - Integrate cultural competence into oral health care delivery.
  - Ensure that both public and private insurers cover oral health services.
  - Are widely disseminated to health professionals across all states, such as through national forums convened by MCHB.

Work Force Development Themes

- Use both existing resources and innovative strategies to develop the oral health work force—for example, by doing the following:
  - Redistributing the current oral health work force.
  - Integrating practice incentives such as loan forgiveness.
  - Changing state dental practice acts.
  - Training non-oral-health professionals.
  - Establishing teledentistry and distance-learning programs.
- Consider establishing and integrating into the work force new types of oral health professionals who can be trained relatively inexpensively and in a shorter period of time, including
  - Dental hygiene practitioners prepared at the master's level.
  - Community oral health coordinators and oral-health-prevention assistants.
  - Dental therapists (who are already operating under established training and practice models in other countries).

Access-to-Care Themes

- Ensure a high-quality, available, accessible, and affordable work force to deliver oral health care.
- Provide access to screening, diagnosis, and treatment services to ensure an ethical care-delivery system.
- Develop guidance for state Medicaid programs to roll oral health services into reimbursable coverage of family-planning services.
- Implement strategies to better link pregnant women to available oral health services, for example, by doing the following:
  - Addressing oral health needs through case management.
  - Identifying more dentists willing to serve pregnant women.
  - Training health professionals to conduct oral health risk assessments on pregnant women and establish links to oral health services if care is needed.

Future Directions for Research

Forum participants taking part in this workgroup were asked to discuss future directions in conducting research on the impact of pregnant women's periodontal health on birth outcomes. Their conclusions are outlined below.

- Determine which, if any, aspects of periodontal disease are most strongly associated with risk for adverse birth outcomes. For example,
  - Historical vs. current periodontal disease.
  - Clinical measurements (e.g., probing depth, clinical attachment level, bleeding on probing) vs. nonclinical measurements (e.g., inflammatory markers or cytokines, periodontal pathogen, nutrition).
- Determine the time period during pregnancy when periodontal treatment should be provided to reduce the risk for adverse birth outcomes.
- Determine whether periodontal treatment during preconception reduces the risk for adverse birth outcomes.
- Determine what populations with periodontal disease are at highest risk for adverse birth outcomes.
- Determine whether nonmechanical therapies, either as stand-alone treatments or as adjuncts to scaling and root planing, reduce the risk for adverse birth outcomes.
- Evaluate the impact on birth outcomes of state- and community-based programs that provide periodontal treatment for pregnant women. Compile an inventory of programs, and evaluate them.
- Conduct longitudinal follow-up of intervention and trial subjects to determine long-term adverse birth outcomes such as growth, health, and developmental outcomes.
- Determine the relationship between periodontal disease and risks for adverse birth outcomes in

women with multiple gestation (i.e., pregnancies with two or more fetuses).

- Develop a reliable and rapid method for screening pregnant women for periodontal disease (for use by multiple health professionals).
- Use a variety of research methods, including
  - Pooling data from existing studies.
  - Implementing new observational and intervention studies.
- Partner with existing clinical and research networks (e.g., Maternal Fetal Medicine Units Network, practice-based research networks, insurance company data that link health services use and outcomes).

Closing Remarks and Next Steps

MCHB thanked the participants, presenters, and planning committee for their hard work and for providing ideas on how to address the relationship between women's oral health and birth outcomes in the future. Peter van Dyck, M.D., M.P.H., M.S., of MCHB noted that, as public and private organizations eagerly await more definitive scientific evidence on the perio-preterm relationship from several ongoing clinical trials, sufficient information and interest exist to pursue a number of strategies to address this emerging issue, including the following:

- Creation of a research agenda that supports multiple strategies, such as social marketing, policies, and programs to give weight to initiatives to improve the oral health of pregnant women.
- Development and dissemination of practice guidelines for providing oral health care to pregnant women.
- Increased investment in oral health promotion and prevention—for example, through the use of media and education programs.
- Implementation of strategies that increase access to oral health care.

Following the forum, MCHB will reconvene the planning committee to consider these and other steps that can be taken to address identified priority areas.

References

1. U.S. Department of Health and Human Services. 2000. *Oral Health in America: A Report of the Surgeon General.* Rockville, MD: National Institute of Dental and Craniofacial Research.
2. U.S. Department of Health and Human Services. 2003. *A National Call to Action to Promote Oral Health: A Public–Private Partnership Under the Leadership of the Office of the Surgeon General.* Rockville, MD: National Institute of Dental and Craniofacial Research.
3. Michalwicz BS, Hodges JS, DiAngelis AJ, Lupo VR, Novak MJ, Ferguson JE, Buchanan W, Bofill J, Papapanou PN, Mitchell DA, Matseoanne S, Tschida PA. 2006. Treatment of periodontal disease and the risk of preterm birth. *New England Journal of Medicine* 355(18):1885–1894.
4. Xiong X, Buekens P, Fraser WD, Beck J, Offenbacher S. 2006. Periodontal disease and adverse outcomes: A systematic review. *BJOG: An International Journal of Obstetrics and Gynecology* 113(2):135–143.
5. Edelstein BL. 2004. *They're Off and Running . . . How New Science Is Being Presented to the Public, Professions, and Policymakers.* Presentation prepared for the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau's Research into Policy and Practice Forum Planning Meeting presented on April 23, 2004, in Rockville MD.

APPENDIX

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

Agenda

Omni Shoreham Hotel, Washington, DC
December 11–12, 2006

Meeting Objectives

- Review current evidence-based research on 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 discuss future directions in research, policy, programs, and practice related to women's periodontal health and birth outcomes.

Monday, December 11, 2006

8:00 a.m. Registration/Coffee

8:30 a.m. Welcome and Introductions

Moderator
M. Ann Drum, D.D.S., M.P.H.
Director, Division of Research, Training and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

Presenters
Peter van Dyck, M.D., M.P.H., M.S.
Associate Administrator
Maternal and Child Health Bureau
Health Resources and Services Administration

Mark Nehring, D.M.D., M.P.H.
Chief Dental Officer, Oral Health Program
Maternal and Child Health Bureau
Health Resources and Services Administration

In this opening session, representatives from the Maternal and Child Health Bureau (MCHB) will welcome participants and discuss how this forum fits within MCHB's broader goals and activities to improve the health of women and children.

8:50 a.m. Charge to the Group

Moderator
M. Ann Drum, D.D.S., M.P.H.
Director, Division of Research, Training and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

This session will provide an overview of the forum's objectives and will review the agenda and format for the 2-day meeting.

9:00 a.m. Review of Scientific Evidence Related to Periodontal Health and Birth Outcomes

Moderator
Stella Yu, Sc.D., M.P.H.
Chief, Research and Demonstration Branch
Division of Research, Training and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

Presenters
Xu Xiong, M.D., Dr.P.H.
Associate Professor, Department of Epidemiology
School of Public Health and Tropical Medicine
Tulane University

Sotirios Vastardis, D.D.S., M.S.
Assistant Professor, Department of Periodontics
School of Dentistry
Louisiana State University Health Sciences Center

In this session, Dr. Xiong and Dr. Vastardis will present the findings of a white paper developed for this forum. The paper explores the state of scientific evidence related to periodontal disease in pregnant women and birth outcomes.

10:00 a.m. Overview of Periodontal Health for Women of Reproductive Age

Moderator
Sabrina Matoff-Stepp, M.A.
Director, Office of Women's Health
Health Resources and Services Administration

Presenter
Marjorie Jeffcoat, D.M.D.
Morton Amsterdam Dean and Professor of Periodontics
School of Dental Medicine
University of Pennsylvania

This session will provide a brief overview of periodontal health issues, especially during the reproductive years, as they affect women's overall health. This information will offer an important context for subsequent sessions and discussions.

10:30 a.m. Break

11:00 a.m. Policies, Programs, and Practices Addressing the Oral Health Needs of Pregnant Women

Moderator
Maribeth Badura, M.S.N., R.N.
Director, Division of Healthy Start and Perinatal Services
Maternal and Child Health Bureau
Health Resources and Services Administration

Presenters
Burton Edelstein, D.D.S., M.P.H.
Professor of Dentistry and Health Policy and Management
School of Dental and Oral Surgery
Columbia University

Karen VanLandeghem, M.P.H.
Health Policy and Program Consultant
VanLandeghem, Inc.

In this session, presenters will present highlights of a second white paper produced for this forum. The paper reviews recent and current policies and programs in the public and private sectors to address the oral health needs of pregnant women. Strategies for improving birth outcomes as well as for improving women's overall health will be discussed.

12:00 p.m. Luncheon and Presentation: The Gray Zone of Evidence-Based Research—Benefit or Harm?

Moderator
Susan Meikle, M.D., M.S.P.H.
Senior Medical Officer
Office of Research on Women's Health
National Institutes of Health

Presenter
David Atkins, M.D., M.P.H.
Chief Medical Officer, Center for Outcomes and Evidence
Agency for Healthcare Research and Quality

The luncheon presentation will discuss the challenges of applying evidence-based methods to assess new and emerging research issues. Evidence-based strategies must be applied appropriately to ensure that they are a tool for, rather than a barrier to, improving outcomes. The presentation will discuss the importance of separating questions of science from considerations involving values when setting policy.

1:30 p.m. New Findings from Federally Funded Clinical Research

Moderator
Jane Atkinson, D.D.S.
Program Director, Clinical Trials Program
Center for Clinical Research
National Institute of Dental and Craniofacial Research
National Institutes of Health

Presenter

Bryan Michalowicz, D.D.S., M.S.
Principal Investigator, Effects of Periodontal Therapy on Preterm Birth
Associate Professor, Division of Periodontology
Department of Developmental and Surgical Sciences
University of Minnesota School of Dentistry

This session will offer participants an overview of the National Institute of Dental and Craniofacial Research (NIDCR)–funded research currently under way and will present an opportunity to hear from the principal investigator of a major NIDCR-funded clinical trial assessing the effects of periodontal therapy on preterm birth. The findings of this trial were recently released to the public.

2:30 p.m. Full Forum Discussion: Implications of Current Science for Research, Policy, Programs, and Practice

Moderator

Jim Crall, D.D.S., Sc.D.
Director, National Oral Health Policy Center
Center for Healthier Children, Families, and Communities
Professor, Department of Pediatric Dentistry
University of California, Los Angeles School of Dentistry

In this large-group discussion, participants will begin exploring implications of current scientific evidence for future research agendas and for translation into appropriate policies, programs, and practices related to the periodontal health of pregnant women.

3:15 p.m. Break

3:30 p.m. Workgroup Sessions: Futures Directions (Part I)

Group 1 Policy/Program Workgroup I

Facilitators

Jim Crall, D.D.S., Sc.D.
Director, National Oral Health Policy Center
Center for Healthier Children, Families, and Communities
Professor, Department of Pediatric Dentistry
University of California, Los Angeles School of Dentistry

Maribeth Badura, R.N., M.P.H.
Director, Division of Healthy Start and Perinatal Services
Maternal and Child Health Bureau
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Amy Brown, M.P.H.
Policy Associate, Evaluation and Research Methods
Health Systems Research, Inc., An Altarum Company

Group 2 Policy/Program Workgroup

Facilitators

Reginald Louie, D.D.S., M.P.H.
Public Health Consultant

Laura Kavanagh, M.P.P.
Chief, Training Branch
Division of Research, Training and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

Recorder

Madhavi Reddy, M.S.P.H.
Public Health Analyst, Training Branch
Division of Research, Training and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

Group 3 Research Workgroup

Facilitators

Stella Yu, Sc.D., M.P.H.
Chief, Research and Demonstration Branch
Division of Research, Training and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

Michele Kiely, Dr.P.H.
Chief, Collaborative Studies Unit
National Institute for Child Health and Human Development
National Institutes of Health

Senior Visiting Scientist, Year of the Healthy Child
Office of the Surgeon General

Recorder
Hae Young Park, M.P.H.
Public Health Analyst, Research and Demonstration Branch
Division of Research, Training, and Education
Maternal and Child Health Bureau
Health Resources and Services Administration

Participants will divide into three workgroups to explore future directions in the research, policy, program, or practice arenas related to periodontal health for pregnant women.

4:30 p.m. Adjourn

Tuesday, December 12, 2006

8:00 a.m. Coffee

8:30 a.m. Workgroup Sessions: Futures Directions (Part II)

The same three workgroups that convened the previous afternoon will reconvene to continue discussing future directions and next steps.

10:30 a.m. Break

11:00 a.m. Workgroup Reports and Discussion

All participants will convene to hear reports by each workgroup highlighting their group's discussions. Themes and differences across the workgroups will be discussed.

Moderator
Mark Nehring, D.M.D., M.P.H.
Chief Dental Officer, Oral Health Program
Maternal and Child Health Bureau
Health Resources and Services Administration

12:00 p.m. Wrap Up and Adjournment

Speaker
Peter van Dyck, M.D., M.P.H., M.S.
Associate Administrator
Maternal and Child Health Bureau
Health Resources and Services Administration

12:15 p.m. Adjourn

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

Participant List

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