

Overview of the Workshop on the Impact of Pregnancy Weight on Maternal and Child Health

July 13-14, 2006

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Workshop

- Joint venture of the National Research Council and Institute of Medicine
 - **Board on Children, Youth, and Families and the Food and Nutrition Board**
- Held May 30-31, 2006 in Washington, DC
- Sponsor: Maternal and Child Health Bureau

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Planning Committee

Maxine Hayes, M.D., M.P.H. (*Chair*), State Health Officer, State of Washington, Department of Health

Barbara Abrams, Dr.P.H., Associate Dean for Student Affairs and Professor of Epidemiology & Public Health Nutrition

Ezra C. Davidson, Jr., M.D., Associate Dean, Primary Care, Professor and Past Chairman, Department of Obstetrics & Gynecology, Charles R. Drew University of Medicine and Science

Lillian Gelberg, M.D., M.S.P.H., George F. Kneller Professor, Department of Family Medicine, David Geffen School of Medicine, University of California, Los Angeles

Matthew Gillman, M.D., S.M., Associate Professor in the Department of Nutrition, Harvard Medical School and Harvard Pilgrim Health Care,

Janet King, Ph.D., Senior Scientist and Professor, University of California, Berkeley and Davis, Children's Hospital Oakland Research Institute

Harriet Kitzman, Ph.D., Associate Professor of Nursing and Pediatrics, School of Nursing, University of Rochester

Ronald E. Kleinman, M.D., Professor of Pediatrics, Harvard University; Chief, Pediatric Gastroenterology

Gregg Pane, M.D., Director, Washington D.C. Department of Health

Kathleen Rasmussen, D.Sc., Professor, Division of Nutritional Sciences, Cornell University

Leslie Sim, Study Director

Task

1. Examine the research that describes the distribution of maternal weight (before, during, and after pregnancy) among different populations of women in the U.S.
2. Examine the research on the effects of different weight patterns during pregnancy on maternal and child health outcomes

Task

3. Examine research on the individual, community, and health care system factors that impede or foster compliance with recommended gestational weight guidelines
4. Explore opportunities for Title V Maternal and Child Health Programs to help childbearing women achieve and maintain recommended weight (before, during, and after) pregnancy
5. To inform future research and data collection needs

Workshop Agenda

- **Overview and Trends**
 - Maternal and Pregnancy Weight
- **Panel 1**
 - Gestational Weight Gain: Direct Predictors and Moderators and Maternal Health Consequences
- **Panel 2**
 - Maternal Weight and Gestational Weight Gain as Direct Predictors and Moderators of Infant and Child Growth and Health
- **Panel 3**
 - Insights from Interventions to Promote Appropriate Weight During Pregnancy and Postpartum
- **Discussion and Summary Session**

Overview and Trends

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Presentation

- Review trends and status of weight before, during, and after pregnancy (adolescents and ethnic/minority populations)
- Review PRAMS, PNSS, NHANES, National Vital Statistics System, ECLS-BC, IFPS-II, CA-Maternal and Infant Health System
- Presenters:
 - Mary Cogswell, Division of Nutrition and Physical Activity, CDC
 - Patricia Dietz, Division of Reproductive Health, CDC

NOTE: ECLS-BC = Early Childhood Longitudinal Survey-Birth Cohort; IFPS-II = Infant Feeding Practices Survey II; NHANES = National Health and Nutrition Examination Survey; PNSS = Pregnancy Nutrition Surveillance System; PRAMS = Pregnancy Risk Assessment Monitoring System

Key Presentation Findings

- No national surveillance system to monitor pregnancy weight gain
- Limited information on different populations of women
 - Adolescents, racial/ethnic groups, immigrant populations, overweight versus underweight
- Limited data on prepregnancy weight patterns

Panel 1:
Predictors of Gestational Weight
Gain and Maternal Health
Consequences

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Presentation

- Review biological, metabolic, social predictors, or relationships of gestational weight gain
- Review short-term and long-term maternal health consequences of gestational weight gain
- Presenters:
 - Janet King, Children's Hospital Oakland Research Institute
 - Naomi Stotland, UC San Francisco
 - Kathleen Rasmussen, Cornell University
 - Erica Gunderson, Kaiser Permanente Northern California

Key Presentation Findings

- New data, but limited in scope
- Limited data for minority populations
 - Hispanic, African American, Native American, Asian/Pacific Islander
- GWG has both biological and social determinants and consequences

NOTE: GWG = gestational weight gain

Key Presentation Findings

- Gestational weight gain is frequently associated with prepregnancy BMI
- Balancing risk/benefit of GWG and maternal versus infant/child health consequences
- Incorporate lifecourse approach

NOTE: BMI = body mass index (kg/m^2); GWG = gestational weight gain

Panel 2: Infant and Child Health Consequences

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Presentation

- Review infant/child short-term and long-term health consequences of maternal weight and GWG
- Presenters:
 - Patrick Catalano, MetroHealth Medical Center, Case Western Reserve University
 - Emily Oken, Harvard Medical School, Harvard Pilgrim Health Care

NOTE: GWG = gestational weight gain

Key Presentation Findings

- Large for gestational age infants are increasing, while small for gestational age is decreasing
- What does GWG mean, why focus on it?
- Infant Health
 - Preterm Birth (Low BMI and GWG AND high BMI and GWG)
 - Body Composition (BMI and GWG predict fat mass in newborns, but not sure what this means)
- Child Health
 - Weight (BMI and GWG predicts overweight in kids)

NOTE: BMI = body mass index (kg/m^2); GWG = gestational weight gain

Key Presentation Findings

- Repeated emphasis on the importance of lifecourse approach
- Again, balancing risk/benefit of GWG and maternal versus infant/child health consequences

NOTE: GWG = gestational weight gain

Panel 3: Insights to Interventions

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Presentation

- Review individual, psychosocial, community, and health system approaches to promote appropriate maternal weight during pregnancy and postpartum including infant weight
- Presenters:
 - Rena Wing, Brown Medical School
 - Lorraine Walker, University of Texas-Austin
 - Christine Olson, Cornell University
 - Laura Riley, Massachusetts General Hospital

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Key Presentation Findings

– Individual Approach

- Energy balance (diet and physical activity)
- Behavioral strategies (goal setting, feedback, self-monitoring, problem-solving)
- Effective at preventing excessive weight gain
- Reduce postpartum weight retention
- Interventions focuses on during and after pregnancy only
 - Need to focus more research the importance of planning for pregnancy

Key Presentation Findings

– Psychosocial Approach

- Stress, Social support, Depression, Attitudes
- Observational data not intervention trials
- Results are inconsistent for GWG and postpartum weight retention
 - Mixed results (vary by subgroup, analyses, or indicator variable)
 - OR no effect
- Methodological issues (validity of indicators)
- Lack of prenatal interventions

NOTE: GWG = gestational weight gain

Key Presentation Findings

– Community Approach

- Limited research
- Mixed results
- Social learning theory
 - Health workers, action-promoting material, goal-setting, self-monitoring
- Social marketing

– Health System Factors

- Availability of guidelines limited for clinicians (ACOG)
- IOM guidelines (1990)
- Virtually no available studies on clinician or health system interventions

NOTE: ACOG = American College of Obstetricians and Gynecologists; IOM = Institute of Medicine

Key Presentation Findings

- When to intervene
 - Ideally before, during, after, and between pregnancies
- Approaches may differ by subgroup
- Combine individual and environmental approaches
- Integrate weight management in whole lifestyle (e.g., planning for pregnancy)

Gaps

Gaps in Research Discussed through:

- Presentations
- Discussants
- Public Comments

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Gaps

Discussants

- Barbara Abrams, University of California, Berkeley
- Calvin Hobel, Cedars-Sinai Medical Center and University of California, Los Angeles
- Elizabeth McAnarney, University of Rochester, Medical Center
- Anna Marie Seiga-Riz, University of North Carolina, Chapel Hill
- Mary Hediger, NICHD, NIH
- Michael Kramer, McGill University
- Robert Whitaker, Mathematica Policy Research Institute, Inc
- Edith Kieffer, University of Michigan
- Carol Korenbrot, California Rural Indian Health Board
- William McCarthy, University of California, Los Angeles

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Release and Dissemination

- Workshop summary now in preparation
 - **Committee's assessment of what transpired at the workshop**
 - **Summarizes views expressed by workshop participants**
 - **Anticipated public release is Fall 2006**

For more information, see

www.bocyf.org

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