

Infant Mortality Prevention: A Community and Public Health Approach

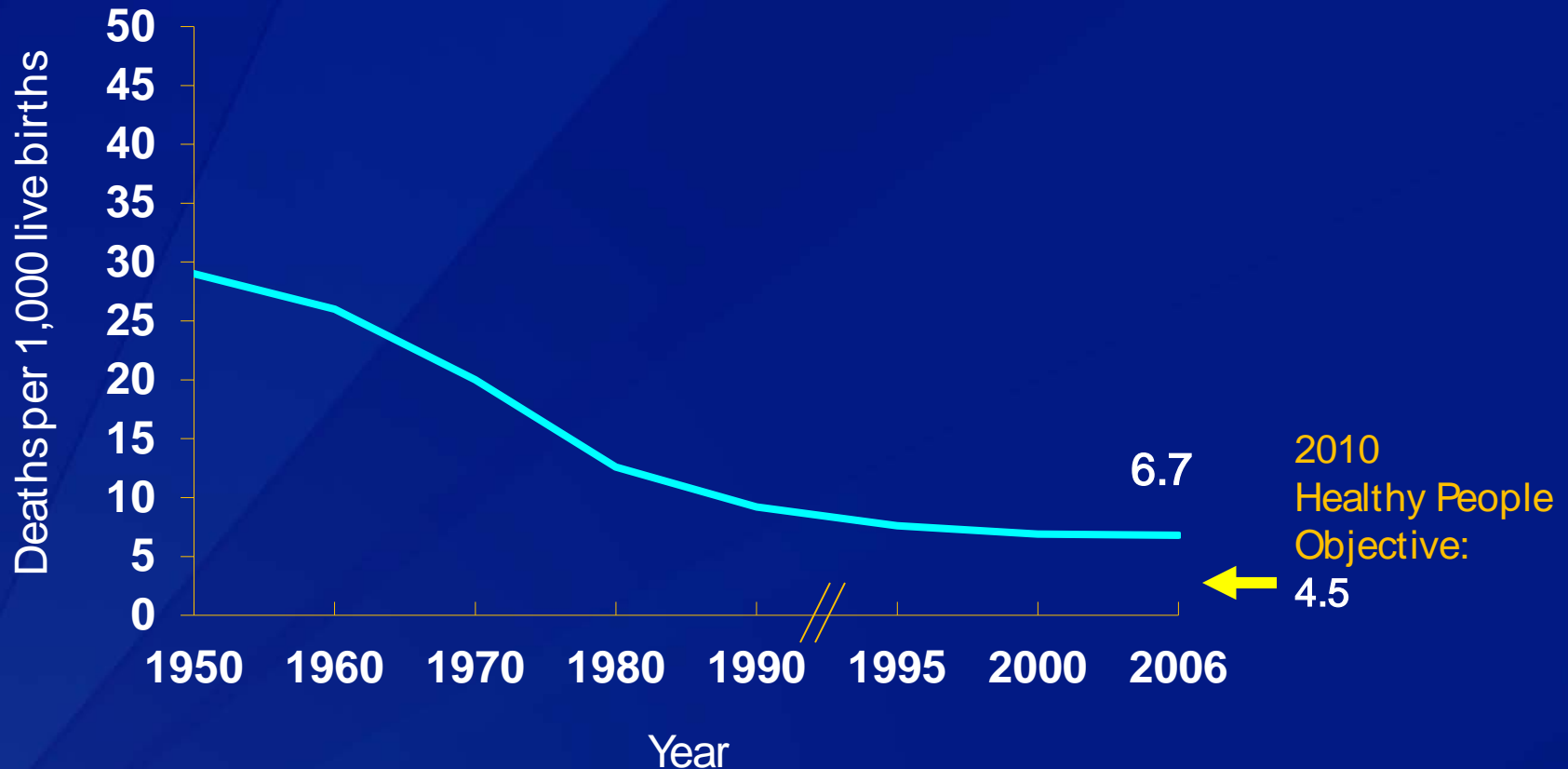
CAPT Wanda D. Barfield, MD, MPH
Director, Division of Reproductive Health

Secretary's Advisory Committee on Infant Mortality
August 2, 2011

Outline

- The problem of infant mortality - It's not just about the baby
- Social determinants and maternal health
- CDC's public health approach through community-based prevention efforts
- What we can do together to address infant mortality

U.S. Infant Mortality Rate 1950-2006

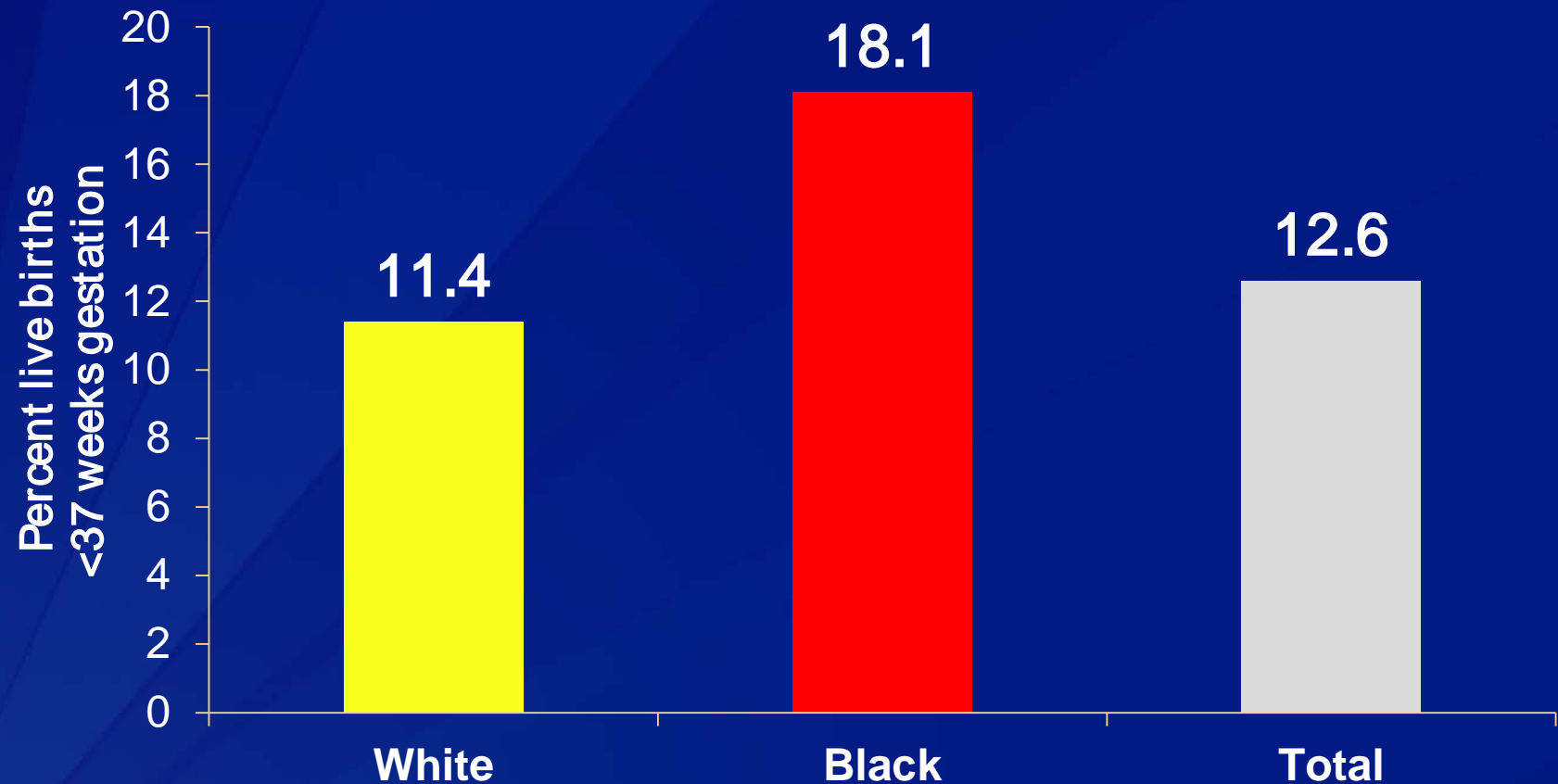


U.S. Infant Mortality Rate: Ranks 29th in the World (2004)

The Contribution of Preterm Birth to the Infant Mortality Rate

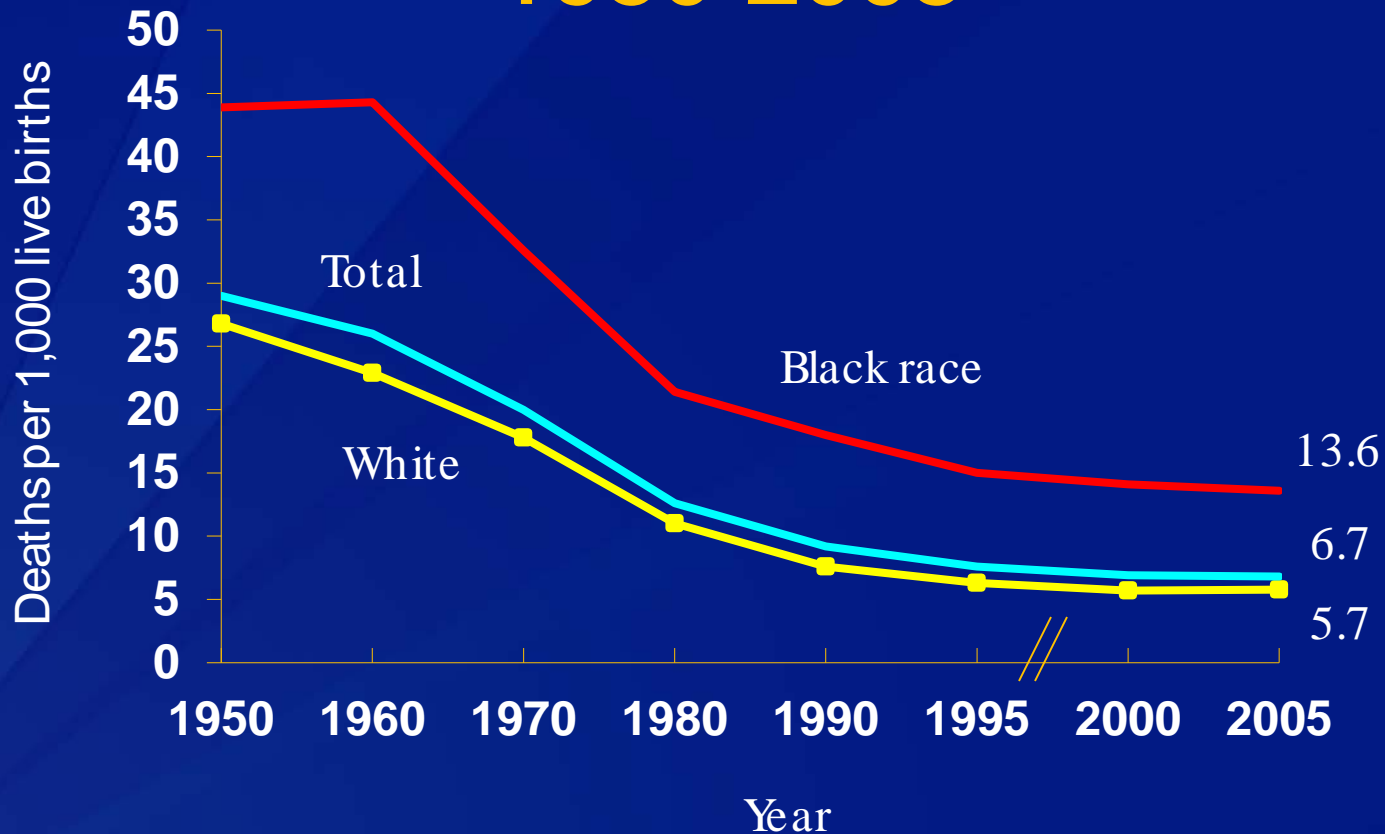
- Preterm birth (< 37 weeks gestation) is the most frequent cause of infant death
 - 37% of all infant deaths (2005)
- 69% of deaths due to preterm birth within the first day
- 2/3 of deaths due to preterm birth occurred among infants \leq 24 weeks gestation

Preterm Birth in U.S. by Race/Ethnicity 2006-2008 Average



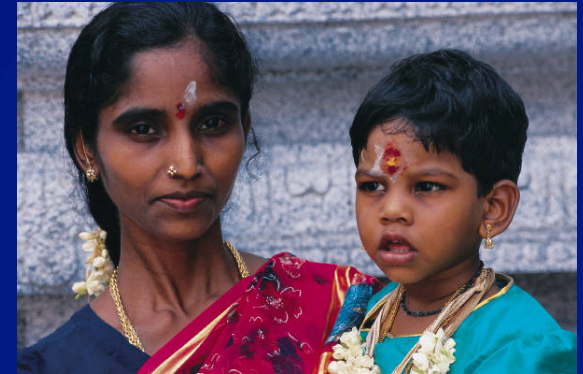
Source: CDC/NCHS, Retrieved April 20, 2011, from www.marchofdimess.com/peristats.

Persistent Racial Disparity in U.S. Infant Mortality Rate 1950-2005



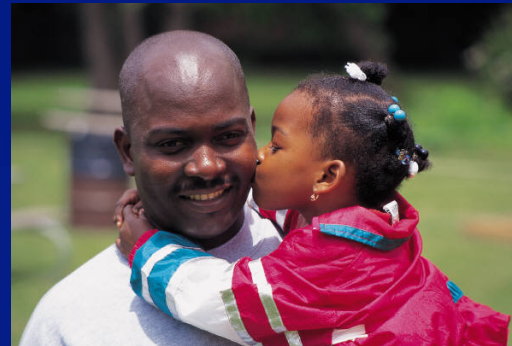
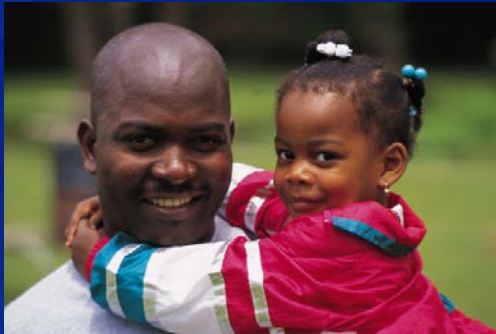
Social Determinants of Health

- **What are they?**
 - Conditions under which individuals are born, grow, live, work, and age
- **What about resources?**
 - Economics, social policies, and politics impact health inequity
- **How are they defined?**
 - WHO's 3 recommendations:
 1. Improve daily life
 2. Address inequity in quality of life
 3. Measure and assess impact of policies and programs and how they motivate change

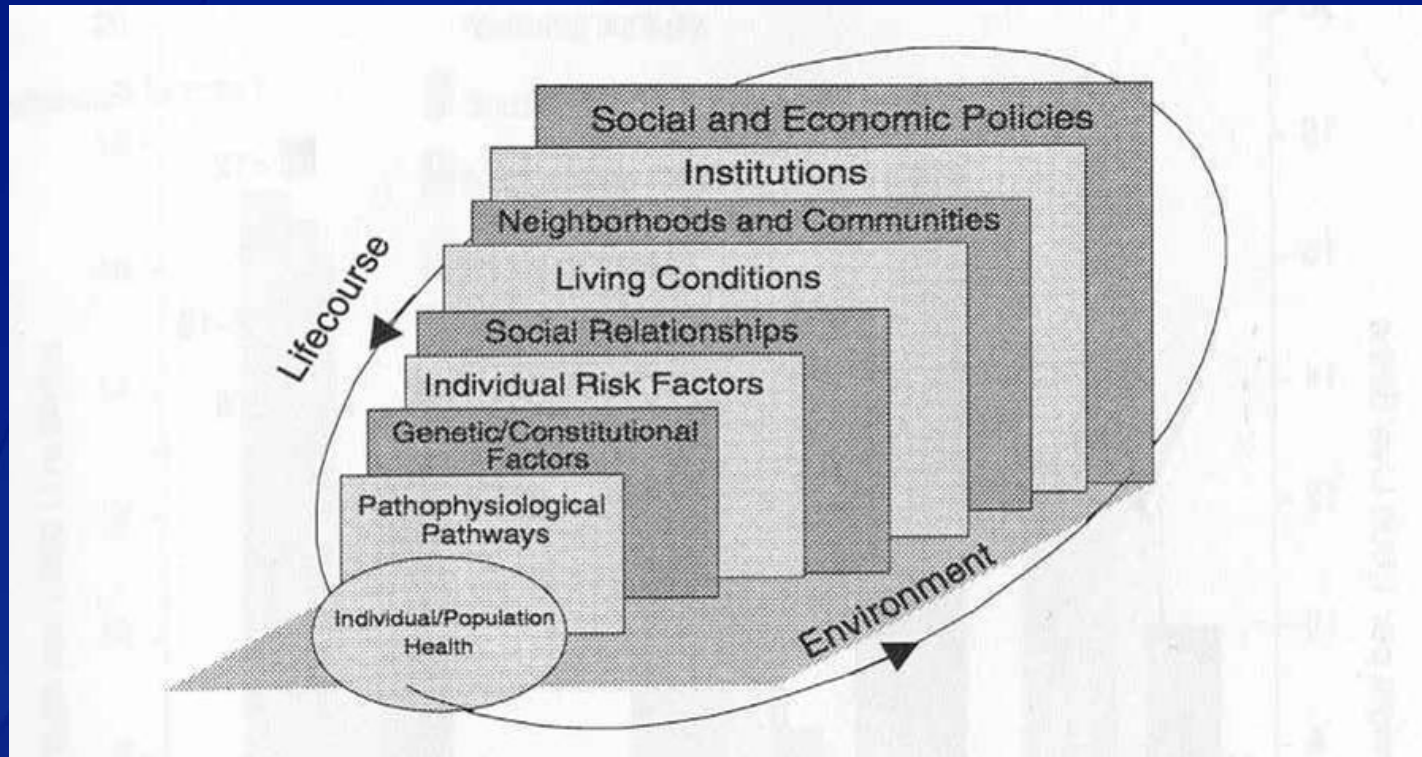


Social Determinants of Health (Cont'd)

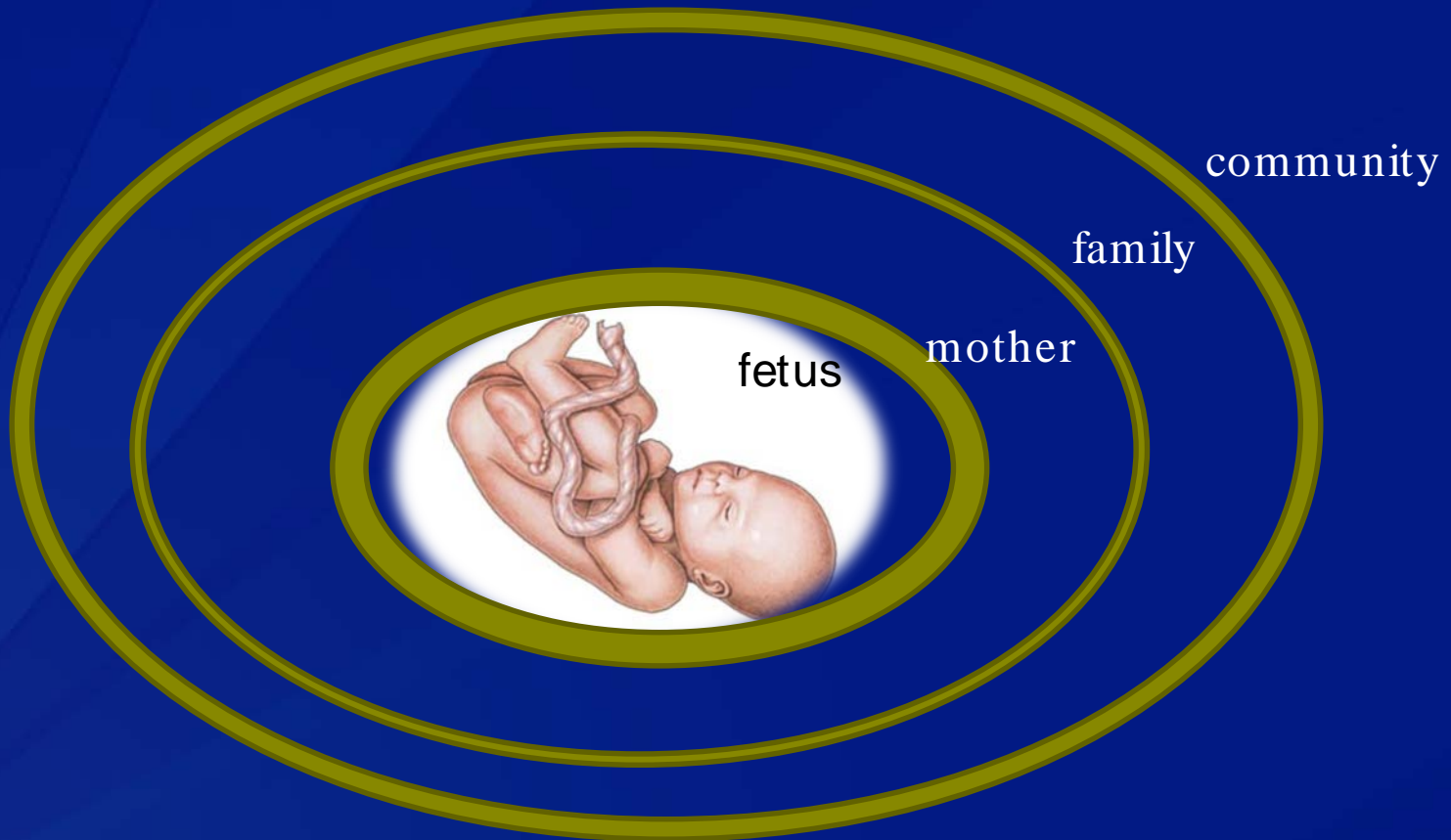
- How do we get impact?
 - Assessment of the true impact of policy change is necessary
 - Evaluation of focused interventions and use of evidence-based interventions will inform states, localities, and agencies
- How is it measured?
 - It is possible to examine individual-level data linked to surveillance data
 - The life course perspective is integral to this concept



Social Determinants: The Circle of Influences



Social Determinants : Influence on the Fetus and Infant



CDC's Safe Motherhood: Rationale

- Approximately six million women become pregnant in the US each year.
- Safeguarding the Health of Mothers by
 - Improving women's health before, during, and after pregnancy
 - Identifying strategies that could reduce maternal and infant deaths in the US.



NCCDPHP Action Areas

Public Health Infrastructure

- Surveillance
- Applied research
- Capacity building /workforce



Healthy Communities

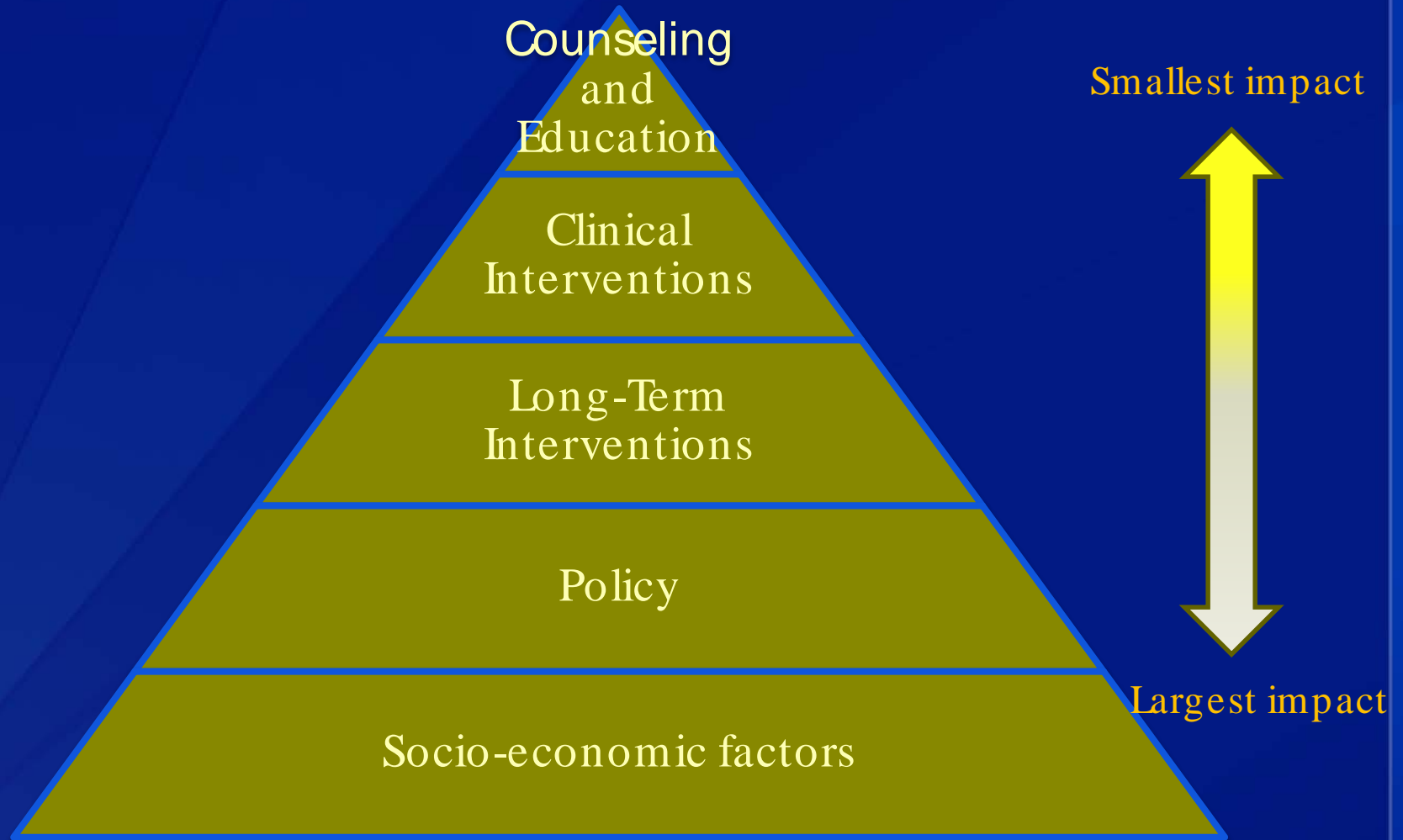
- Tobacco control
- Nutrition and physical activity
- Child and adolescent health
- Oral health
- Sexual health



Healthy Care Environments

- Promote delivery of clinical preventive services
- Chronic disease management
- Healthy schools and work environments

Factors that Affect Health



CDC Working With Communities

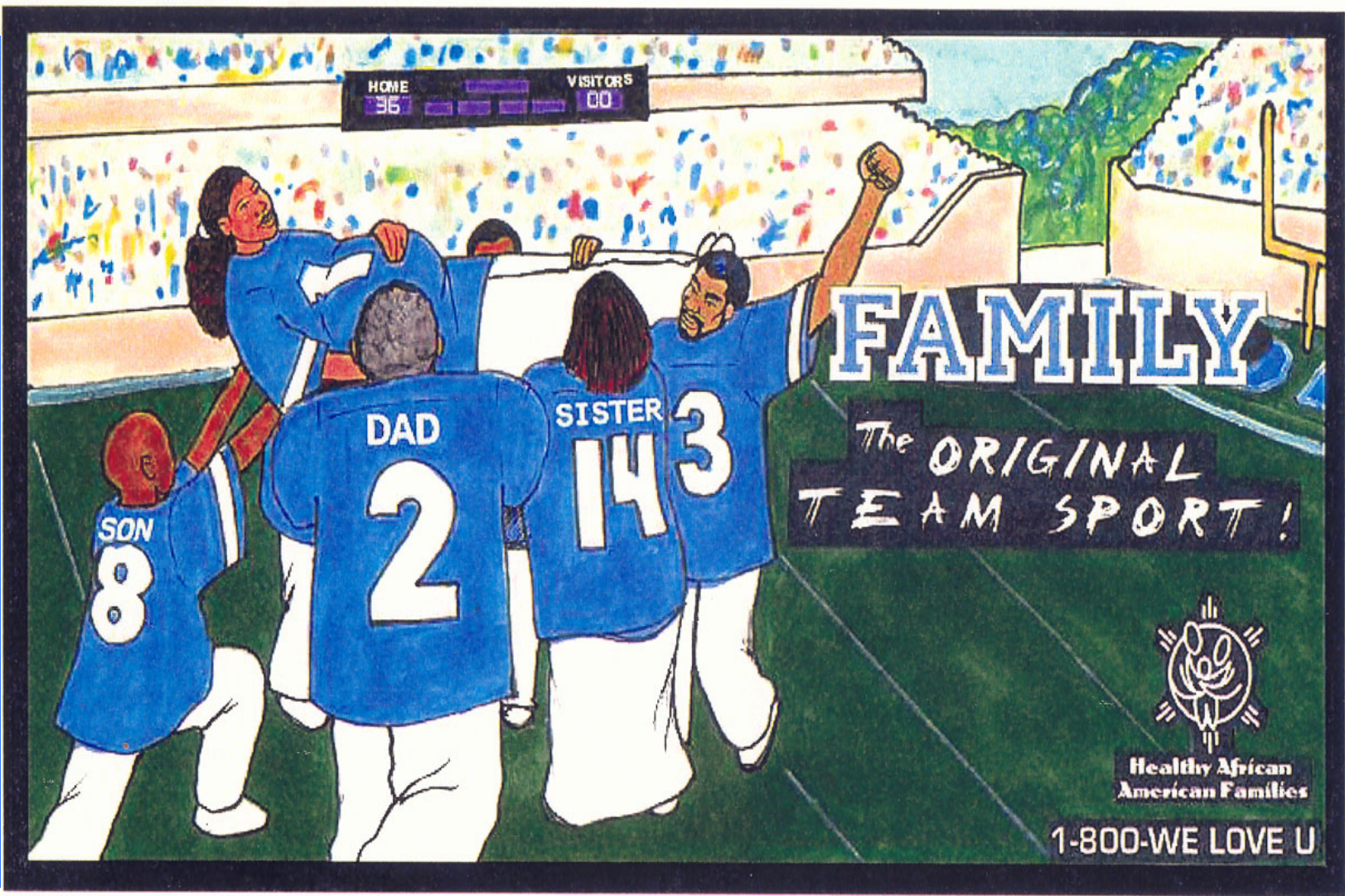
- Racial/Ethnic Approaches to Community Health
- ACHIEVE Communities
- Strategic Alliance for Health
- Prevention Research Centers
- Communities Putting Prevention to Work
- Community Transformation Grants
- Chronic Disease Consolidation Grants

Improving Social Determinants in Maternal Health: Examples

Reaching Communities to Improve Maternal Social Determinants

- Reducing CVD risk among women accessing reproductive health services in Eastern North Carolina
 - Evaluating screening for 5 risk factors (diabetes, high cholesterol, high blood pressure, obesity, smoking) at contraceptive visits
 - Evaluating a lifestyle and weight loss intervention
- Healthy African American Families (HAAF) project in Los Angeles , community participatory project
 - Target interventions to support women during pregnancy
 - 100 Acts of Kindness

B
I
L
L
B
O
A
R
D



FAMILY

The ORIGINAL
TEAM SPORT!



Healthy African
American Families

1-800-WE LOVE U

Reaching Communities to Improve Maternal Social Determinants



- Randomized trial to evaluate a contingency management approach to weight loss and smoking cessation among American Indian women of reproductive age
- Evaluation of state tobacco control policies, spending, and taxes on smoking before, during and after pregnancy and on birth outcomes
- Assessing Medicaid coverage of smoking cessation services



ACOG COMMITTEE OPINION

Number 404 • April 2008

Late-Preterm Infants

Committee on Obstetric Practice

This Committee Opinion was developed with the assistance of William A. Engle, MD, Kay M. Tomaszek, MD, Carol Wallman, MSN American Acad Pediatrics Com Fetus and Newb

This document emerging clinics entific advances date issued and to change. The tion should not strued as dic exclusive cours ment or proced followed

ABSTRACT: *Late-preterm infants* (defined as infants born between 34^w weeks and 36^w weeks of gestation) often are mistakenly believed to be as physiologically and metabolically mature as term infants. However, compared with term infants, late-preterm infants are at higher risk than term infants of developing medical complications, resulting in higher rates of infant mortality, higher rates of morbidity before initial hospital discharge, and higher rates of hospital readmission in the first months of life. Preterm delivery should occur only when an accepted maternal or fetal indication for delivery exists

ACOG PRACTICE BULLETIN

CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN—GYNECOLOGISTS

NUMBER 107, AUGUST 2009

Replaces Practice Bulletin Number 10, November 1999; Committee Opinion Number 228, November 1999; Committee Opinion Number 248, December 2000; Committee Opinion Number 283, May 2003

Induction of Labor

This Practice Bulletin was developed by the ACOG Committee on Practice Bulletins—Obstetrics with the assistance of Mildred Ramirez, MD, and Susan Ramin, MD. The information is designed to aid practitioners in making decisions about appropriate obstetric and gynecologic care. These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the

More than 22% of all gravid women undergo induction of labor in the United States, and the overall rate of induction of labor in the United States has more than doubled since 1990 to 225 per 1,000 live births in 2006 (1). The goal of induction of labor is to achieve vaginal delivery by stimulating uterine contractions before the spontaneous onset of labor. Generally, induction of labor has merit as a therapeutic option when the benefits of expeditious delivery outweigh the risks of continuing the pregnancy. The benefits of labor induction must be weighed against the potential maternal and fetal risks associated with this procedure (2). The purpose of this document is to review current methods for cervical ripening and induction of labor and to summarize the effectiveness of these approaches based on appropriately conducted outcomes-based research. These practice guidelines classify the indications for and contraindi-



Current Commentary

Surgeon General's Conference on the Prevention of Preterm Birth

*Diane M. Ashton, MD, MPH, Hal C. Lawrence III, MD, Nelson L. Adams III, MD,
and Alan R. Fleischman, MD*

ACOG COMMITTEE OPINION

Number 435 • June 2009

Postpartum Screening for Abnormal Glucose Tolerance in Women Who Had Gestational Diabetes Mellitus

CLINICAL OPINION

www.AJOG.org

OBSTETRICS

Preventing type 2 diabetes: public health implications for women with a history of gestational diabetes mellitus

Lucinda J. England, MD, MSPH; Patricia M. Dietz, DrPH, MPH; Terry Njoroge, MPH; William M. Callaghan, MD, MPH; Carol Bruce, BSN, MPH; Rebecca M. Buus, PhD; David F. Williamson, PhD

Postpartum Screening for Diabetes After a Gestational Diabetes Mellitus–Affected Pregnancy

Patricia M. Dietz, DrPH, MPH, Kimberly K. Vesco, MD, MPH, William M. Callaghan, MD, MPH, Donald J. Bachman, MS, F. Carol Bruce, MPH, Cynthia J. Berg, MD, MPH, Lucinda J. England, MD, MPH, and Mark C. Hornbrook, PhD

OBJECTIVE: To estimate trends in postpartum glucose testing in a cohort of women with gestational diabetes mellitus (GDM).

tolerance tests were ordered. From 2004 to 2006, the practice site where women received care was the factor most strongly associated with the clinician order, but it

vidence that lifestyle modification can prevent or delay the diabetes mellitus in high-risk individuals. Women with gestational diabetes mellitus are at increased risk for type 2 diabetes and so are candidates for postpartum screening. We reviewed literature on type 2 diabetes risk in women with a history of gestational diabetes mellitus and compared the findings with the current recommendations for postpartum and long-term follow-up. We found data to support the current findings from a 2007 expert-panel meeting. We found data to

Provision of Risk-Appropriate Care

Evidence: risk of death at non-level III facilities

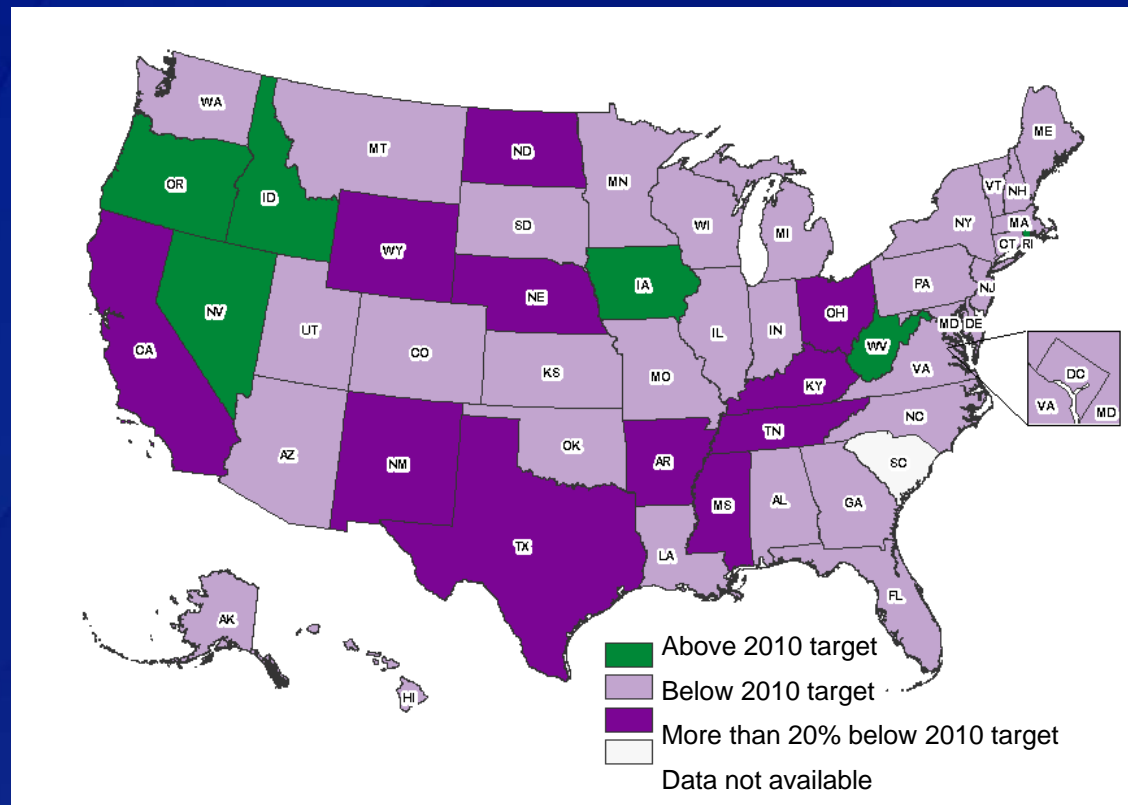
- VLBW (≤ 500 g) infants (37 studies)
 - OR 1.62, 95% CI 1.44-1.83
- ELBW (≤ 1000 g) infants (4 studies)
 - OR 1.64 95% CI 1.14-2.36
- Very Preterm (≤ 32 weeks) infants (4 studies)
 - OR 1.55, 95% CI 1.21, 1.98



Policy: States regulate health care services and facilities

- License hospitals
- Promulgate State Health Plans/Regulations
- Approve facility expansion and construction
- Implement Title V programs (\$)

HRSA/MCHB Performance Measure #17: Percent of VLBW Infants Delivered at Facilities for High Risk Deliveries and Neonates by State



***Goal: 90%**



THE AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS
WOMEN'S HEALTH CARE PHYSICIANS

PRACTICE BULLETIN

CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN-GYNECOLOGISTS

NUMBER 121, JULY 2011

Replaces Practice Bulletin Number 59, January 2005

Long-Acting Reversible Contraception: Implants and Intrauterine Devices

Intrauterine devices and contraceptive implants, also called long-acting reversible contraceptives (LARCs), are the most effective reversible contraceptives. The major advantage of LARCs compared with other reversible contraceptive methods is that they do not require ongoing effort on the part of the user for long-term and effective use. In addition, return of fertility is rapid after the removal of the device (1, 2). The purpose of this Practice Bulletin is to provide information for appropriate candidate selection and the management of clinical issues and complications associated with LARC use.

MEDICAL ELIGIBILITY
CRITERIA FOR
CONTRACEPTIVE USE



Third edition, 2004



A WHO FAMILY PLANNING CORNERSTONE



Family Planning

A GLOBAL HANDBOOK FOR PROVIDERS



USAID, UNFPA, and World Health Organization

SELECTED PRACTICE
RECOMMENDATIONS
FOR CONTRACEPTIVE USE



Measuring Impact: CDC's Pregnancy Risk Assessment Monitoring System (PRAMS)

- **Louisiana:** Analysis of PRAMS and birth certificate data to identify associations between preterm birth and modifiable risks
 - Implementation of “The Stork Reality” Project
- **Military and Civilian Births*:** Measuring the effect of military affiliation on preterm birth
 - Assessed demographics, SES, health risks, stress, prenatal care, and delivery history
 - Military affiliation reduced early preterm birth for African Americans by 41%; no difference for late preterm birth
 - No difference in military affiliation on preterm birth for whites

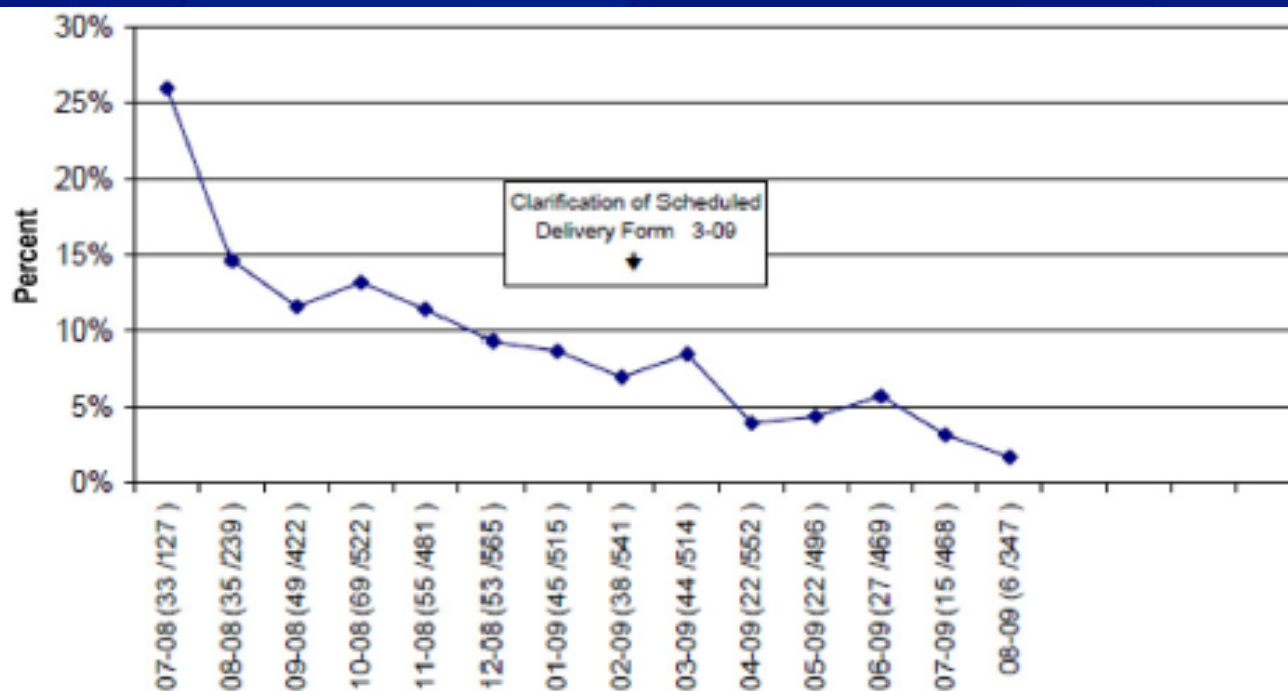
www.cdc.gov/prams

Data Linkage to Assess Social Determinants

- Pregnancy Risk Assessment Monitoring System (PELL)
 - Vital records data
 - Hospital discharge data
 - PRAMS
 - Early Intervention Program
 - Women Infants and Children
 - Assisted Reproductive Technology data
 - Area resource data
 - Healthy Start
- Quality Improvement Collaboratives



Quality Improvement Collaboratives

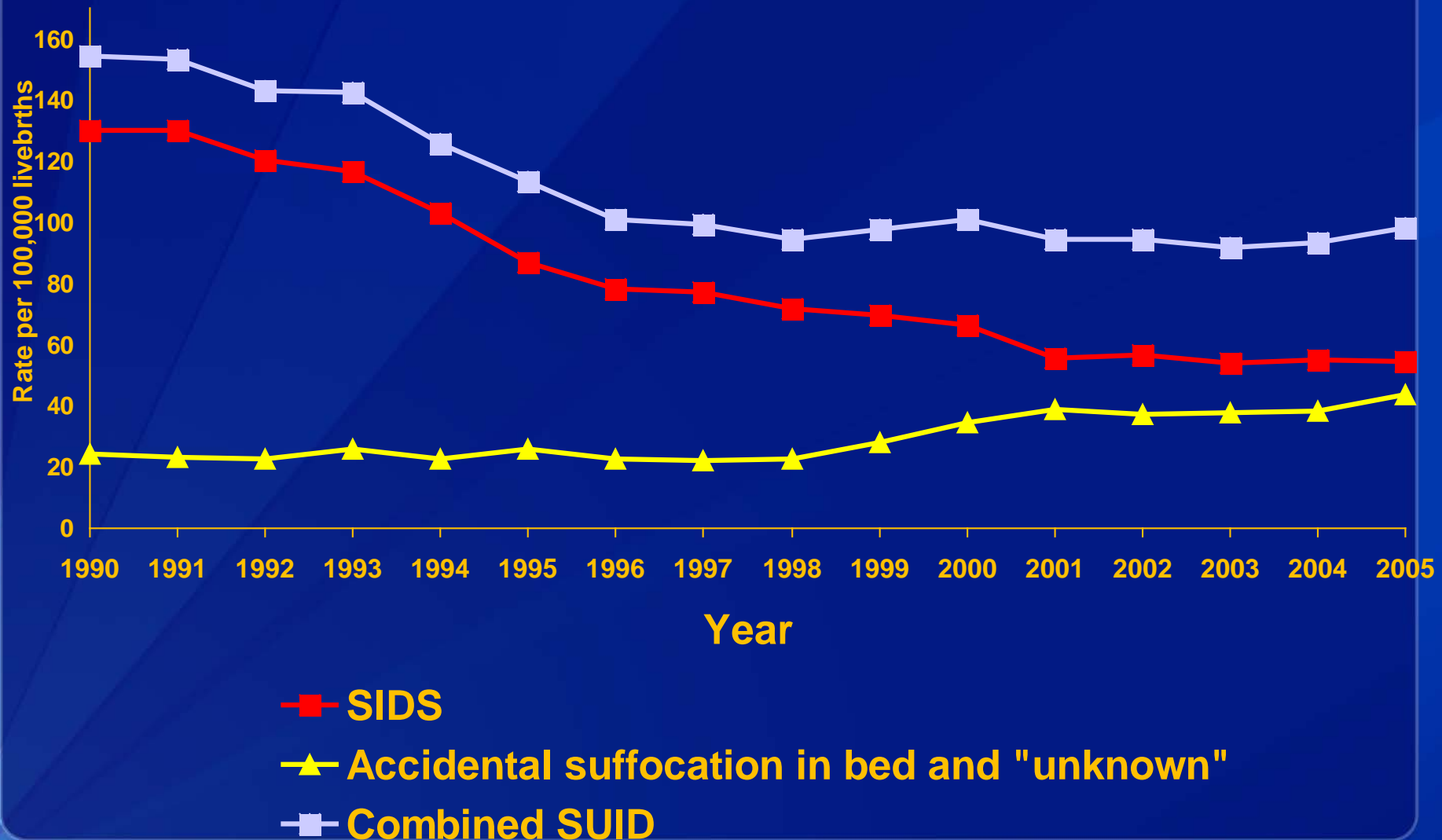


The denominator is the number of scheduled deliveries 36 to 38 weeks gestation (number of scheduled delivery forms submitted). The numerator is the number of scheduled deliveries without indication documented.

Percent of scheduled deliveries at 36^{0/7}-38^{6/7} weeks without medical or obstetric indication documented.

Ohio Perinatal Quality Collaborative Writing Committee. A statewide initiative to reduce inappropriate scheduled births. *Am J Obstet Gynecol* 2010.

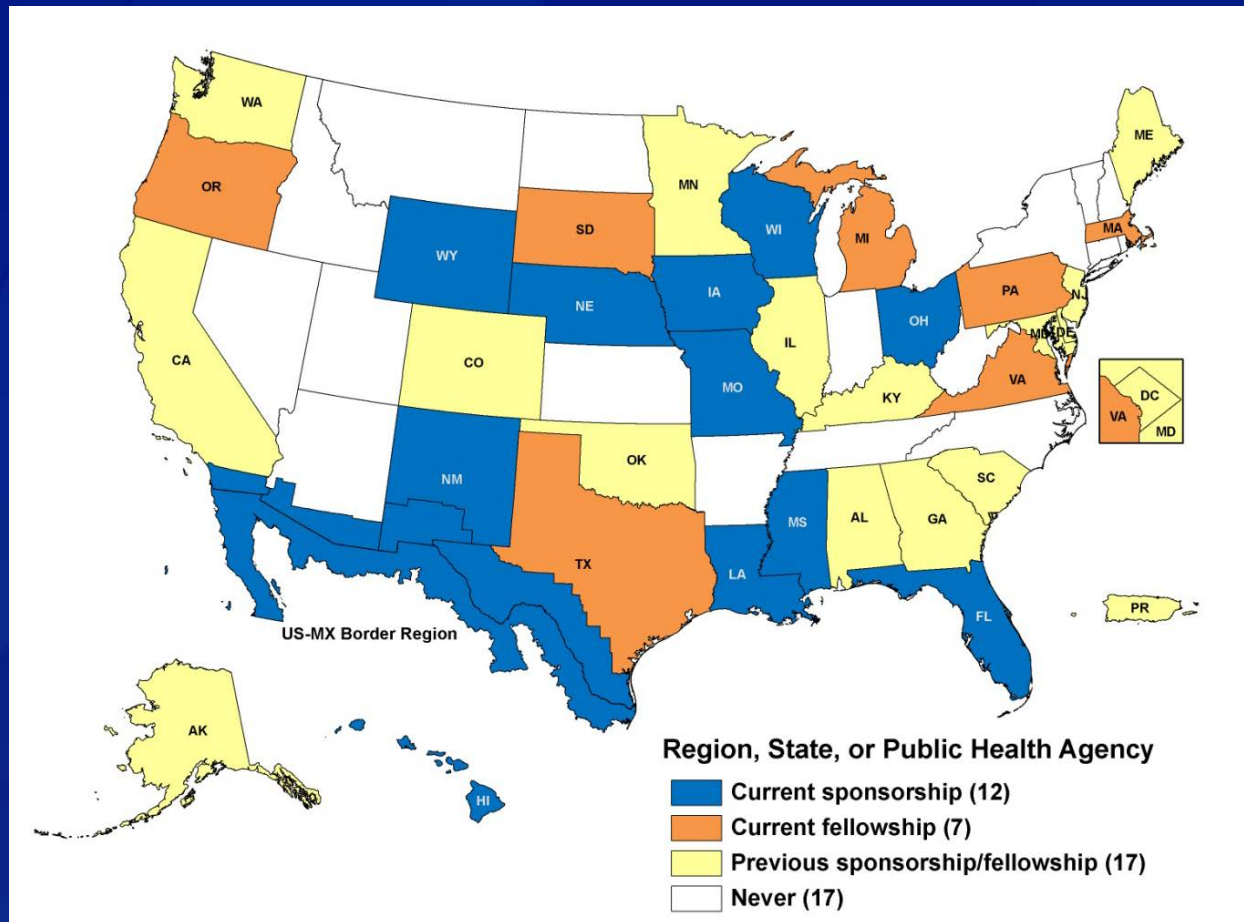
Sudden Unexpected Infant Deaths (SUID): SIDS and Other Causes, 1990-2005



Building Capacity in Communities: Maternal and Child Health Epidemiology Program

- **MCHEP initiated in 1986 by the Centers for Disease Control and Prevention, and the Health Resources and Services Administration / Maternal and Child Health Bureau**
- **Request for Applications provide:**
 - Direct assistance to states
 - Time-limited assignments
- **Envisioned as a mechanism to promote collaboration between federal agencies and states**
- **35+ senior MCH epidemiologists to more than 33 states and 6 other public health organizations**

MCHEP Sponsored Regions, States, and Public Health Agencies



SUMMARY

- The problem of infant mortality—Its not just about the baby
- Social determinants and maternal health matter to reduce infant deaths and disparities
- Integrative prevention research in communities is needed to assess social determinants
- Sustain gains made thus far
- Utilize broad data systems to measure impacts
- Increase and diversify the public health workforce



Questions?

Wanda D. Barfield, MD, MPH.

CAPT, U.S. Public Health Service

Director, Division of Reproductive Health
National Center for Chronic Disease Prevention
and Health Promotion

Centers for Disease Control and Prevention

(770) 488-5200 (770)488-6450 (fax)

drhinfo@cdc.gov

<http://www.cdc.gov/reproductivehealth/>

Healthy Reproduction for a Healthy Future