Implementing Preconception Care Recommendations in Public Health

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Emerging Issues
In
Maternal and Child Health
July 12, 2006

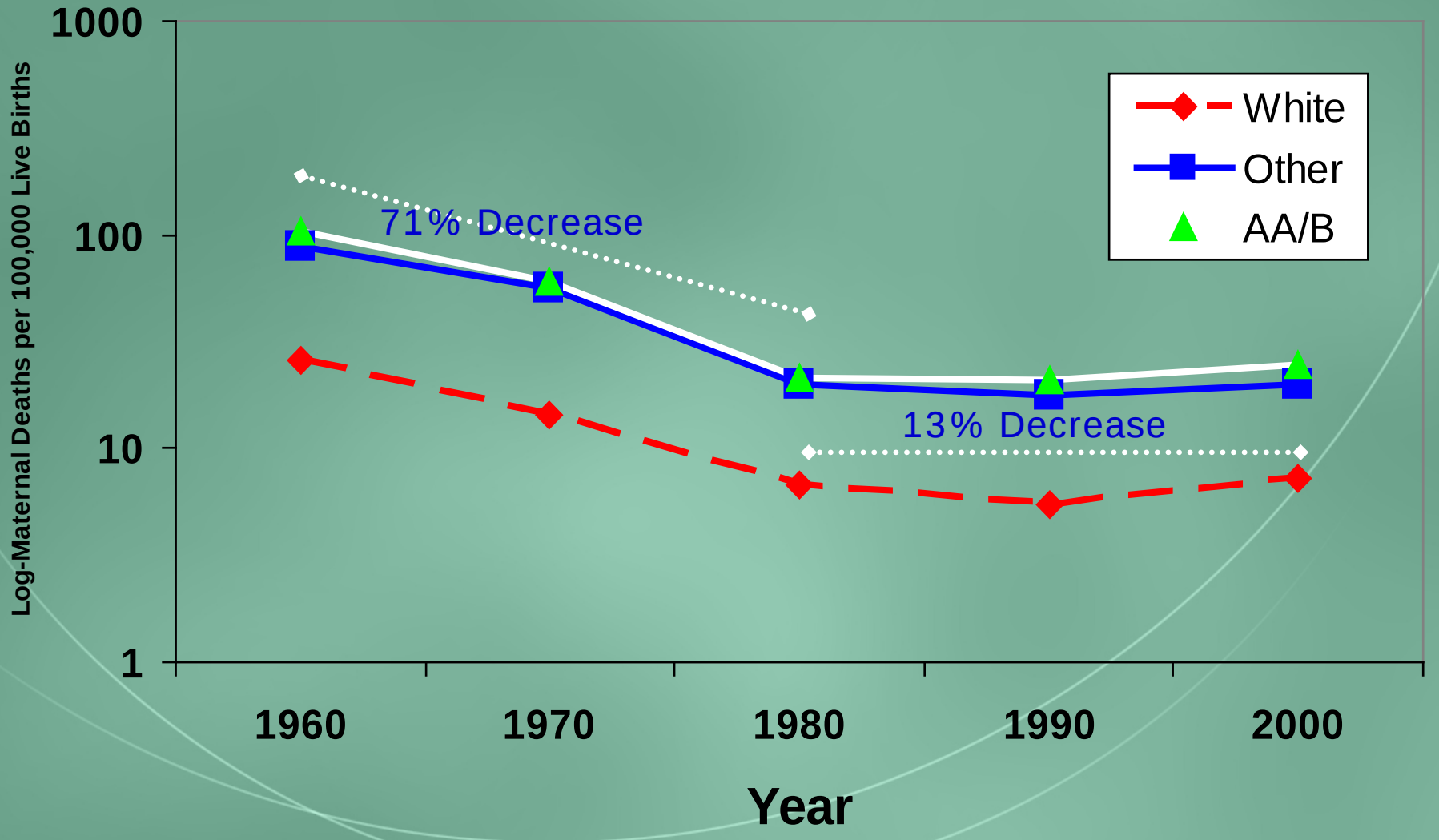
Promoting the health of babies, children, and adults, and enhancing the potential for full, productive living

Why do we need Preconception Care?

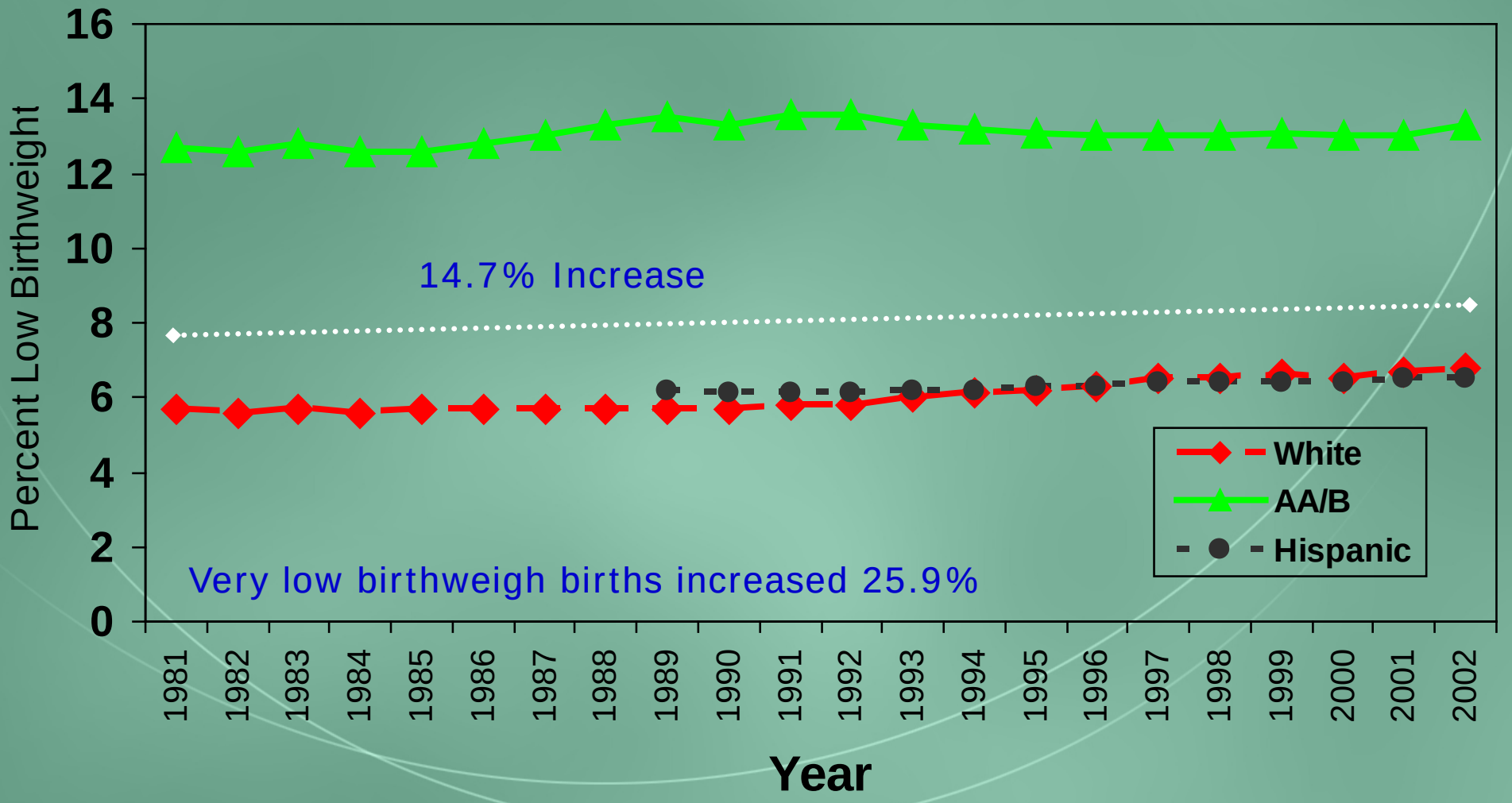
Adverse Pregnancy Outcomes Continue to be Higher Than Acceptable

Major birth defects	3.3% of births
Fetal Alcohol Syndrome	0.2-1.5 /1,000 LB
Low Birth Weight	7.9% of births
Preterm Delivery	12.3%
Complications of pregnancy	30.7%
C-section	27.6%
Unintended pregnancies	49%
Unintended births	31%

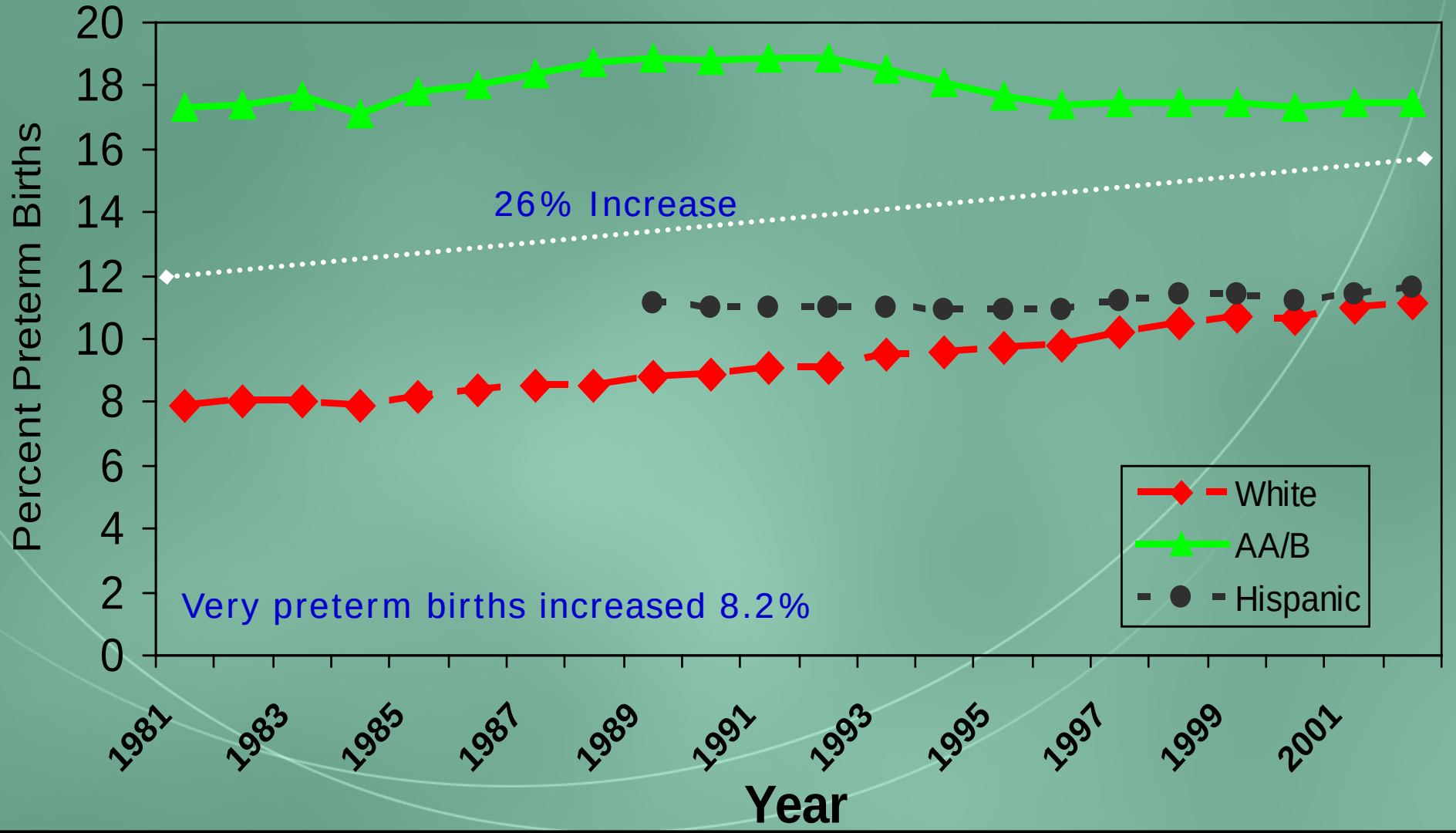
Progress in Preventing Maternal Mortality Slowed



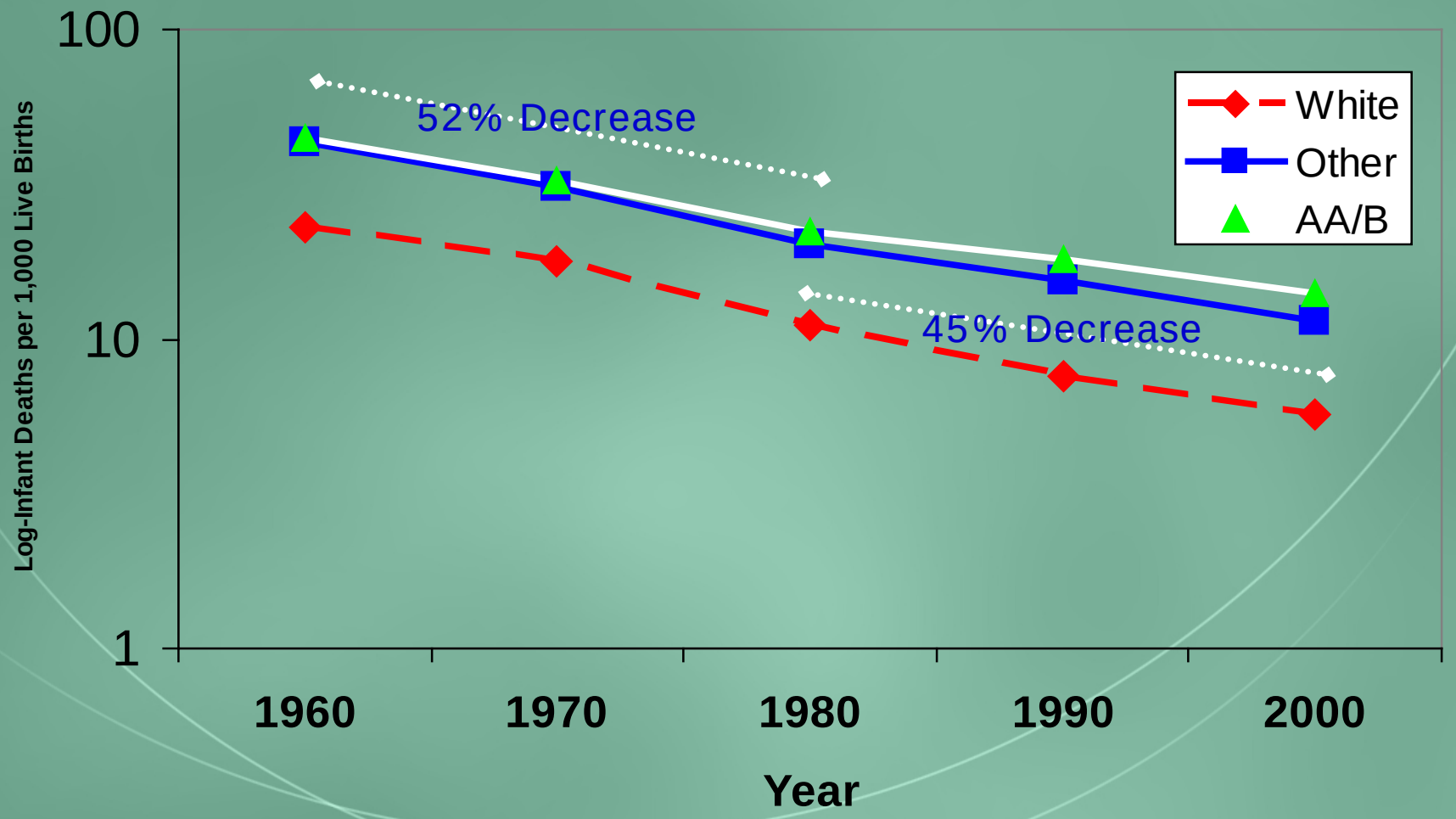
Low Birthweight Births Are Increasing



Preterm Deliveries Are Increasing



Infant Mortality Rates Continue to be Very High

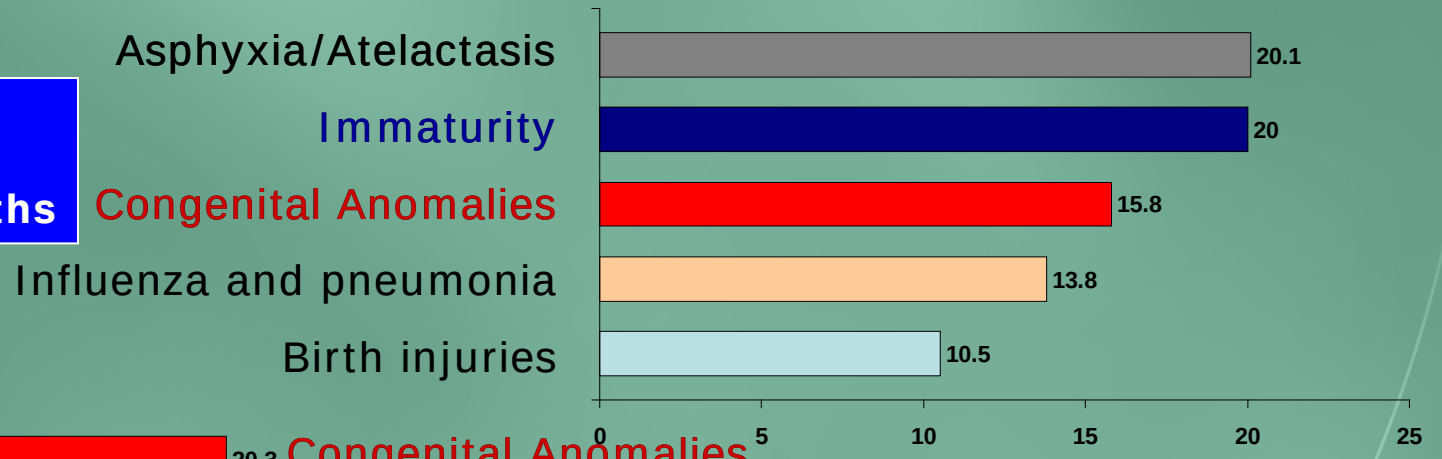


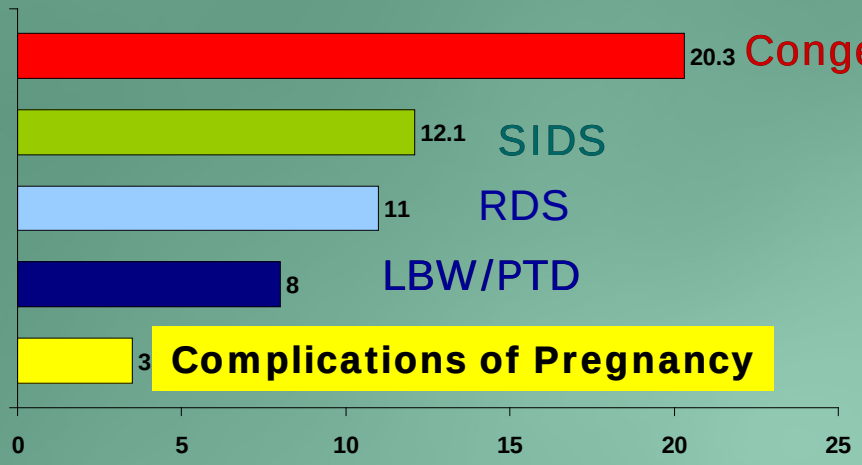
Infant Mortality Rankings (Ascending) – 1960-2002; Selected Countries (Health United States 2005)

	1960	1970	1980	1990	2000	2002
1	Sweden	Sweden	Sweden	Japan	Singapore	Hong Kong
2	Netherlands	Netherlands	Japan	Finland	Hong Kong	Sweden
3	Norway	Norway	Finland	Sweden	Japan	Singapore
4	Czech Rep.	Japan	Norway	Hong Kong	Sweden	Japan
5	Australia	Finland	Denmark	Singapore	Finland	Finland
6	Finland	Denmark	Netherlands	Switzerland	Norway	Spain
7	Switzerland	Switzerland	Switzerland	Canada	Spain	Norway
8	Denmark	New Zealand	France	Norway	Czech Rep.	France
9	Eng. & Wales	Australia	Canada	Germany	Germany	Austria
10	New Zealand	France	Australia	Netherlands	Italy	Czech Republic
11	United States	Engl. & Wales	Ireland	France	France	Germany
12	Scotland	Canada	Hong Kong	Denmark	Austria	Denmark
13	N. Ireland	Israel	Singapore	N. Ireland	Belgium	Switzerland
14	Canada	Hong Kong	Engl. & Wales	Spain	Switzerland	Italy
15	France	Ireland	Scotland	Scotland	Netherlands	N. Ireland
16	Slovakia	Scotland	Belgium	Austria	N. Ireland	Belgium
17	Ireland	United States	Spain	Engl. & Wales	Australia	Netherlands
18	Japan	Czech Rep.	Germany	Belgium	Canada	Australia
19	Israel	Belgium	United States	Australia	Denmark	Portugal
20	Belgium	Singapore	New Zealand	Ireland	Israel	Ireland
21	Singapore	Germany	N. Ireland	Italy	Portugal	Engl. & Wales
22	Germany	N. Ireland	Austria	New Zealand	Engl. & Wales	Scotland
23	Cuba	Slovakia	Italy	United States	Scotland	Canada
24	Austria	Austria	Israel	Greece	Greece	Israel
25	Greece	Bulgaria	Czech Rep.	Israel	Ireland	Greece
26	Hong Kong	Puerto Rico	Greece	Cuba	New Zealand	New Zealand
27	Puerto Rico	Spain	Puerto Rico	Czech Republic	United States	Cuba
28	Spain	Greece	Cuba	Portugal	Cuba	United States
29	Italy	Italy	Bulgaria	Slovakia	Poland	Hungary
30	Bulgaria	Hungary	Costa Rica	Puerto Rico	Slovakia	Poland
31	Hungary	Poland	Slovakia	Bulgaria	Hungary	Slovakia
32	Poland	Cuba	Russian Fed.	Hungary	Puerto Rico	Chile
33	Costa Rica	Romania	Hungary	Costa Rica	Costa Rica	Puerto Rico
34	Romania	Portugal	Portugal	Chile	Chile	Costa Rica
35	Portugal	Costa Rica	Poland	Russian Fed.	Bulgaria	Russian Fed.

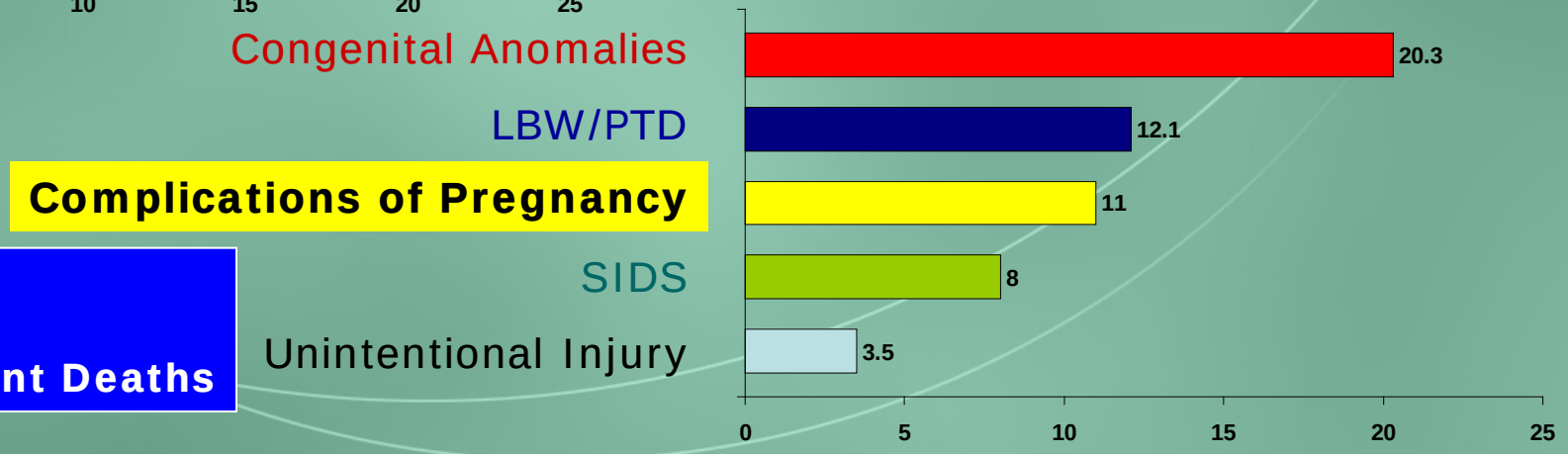
Leading causes of Infant Death Have Changed – Maternal Complications Are Now Third Leading Cause of Infant Death

1960
IMR = 26.0
110,873 Infant Deaths





1980
IMR = 12.6
45,526 Infant Deaths

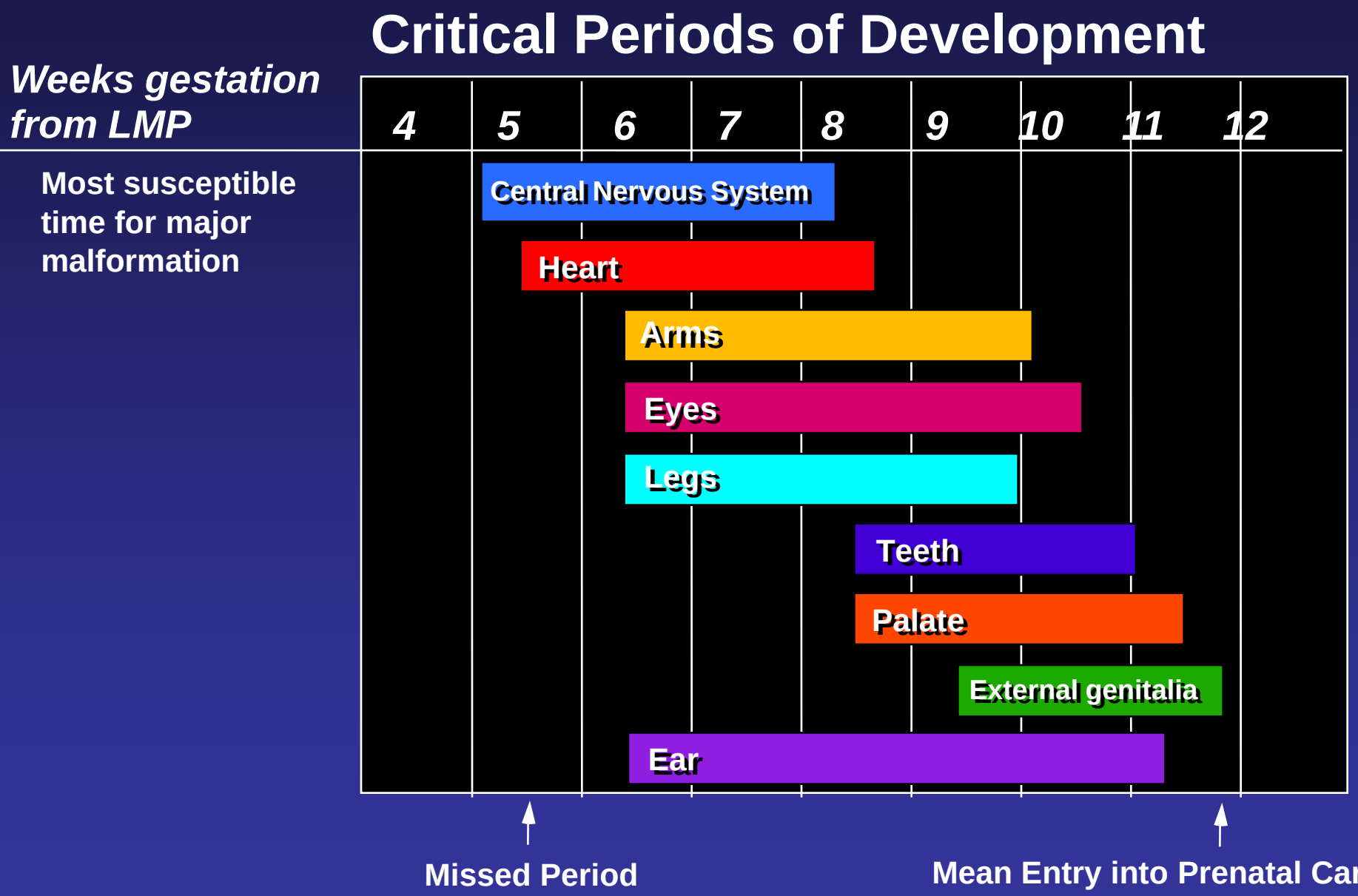


2002
IMR = 7.0
28,034 Infant Deaths

Risk Factors Are Prevalent Among Pregnant Women and Women Likely to Become Pregnant

Pregnant or gave birth	Smoked during pregnancy	11.0%
	Consumed alcohol in pregnancy (55% at risk of pregnancy)	10.1%
	Had preexisting medical conditions	4.1%
	Rubella seronegative	7.1%
	HIV/AIDS	0.2%
	Received inadequate prenatal Care	15.9%
At risk of getting pregnant	Cardiac Disease	3%
	Hypertension	3%
	Asthma	6%
	Dental caries or oral disease (women 20-39)	>80%
	Diabetic	9%
	On teratogenic drugs	2.6%
	Overweight or Obese	50%
	Not taking Folic Acid	69.0%

We Currently Intervene Too Late



Early prenatal care is not enough, and in many cases it is too late!

Preconception Care

Preconception Interventions: Give protection

- **Folic Acid Supplements:** Reduce the occurrence of neural tube defects by two thirds
- **Rubella Sero-negativity:** Rubella immunization provides protective sero-positivity and prevents the occurrence of congenital rubella syndrome
- **HIV/AIDS:** timely antiretroviral treatment can be administered, pregnancies can be better planned
- **Hepatitis B:** Vaccination is recommended for men and women who are at risk for acquiring hepatitis B virus (HBV) infection.

Preconception Interventions: Manage conditions

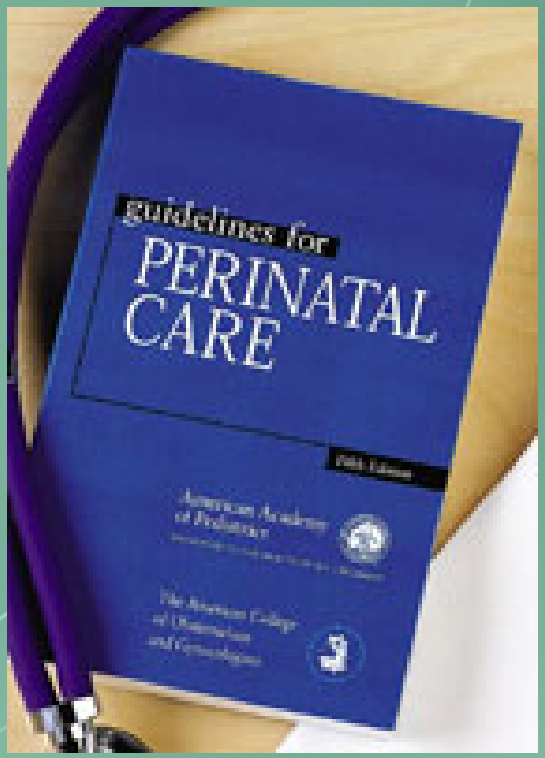
- **Diabetes:** 3-fold increase in birth defects among infants of women with type 1 and type 2 diabetes, without management
- **Hypothyroidism:** Dosage of Levothyroxine should be adjusted in early pregnancy to maintain levels needed for neurological development
- **Maternal PKU:** Low phenylalanine diet before conception and throughout pregnancy prevents mental retardation in infants born to mothers with PKU
- **Obesity:** Associated adverse outcomes include neural tube defects, preterm birth, c-section, hypertensive and thromboembolic disease.
- **STDs:** have been strongly associated with ectopic pregnancy, infertility, and chronic pelvic pain.

Preconception Interventions: Avoid Teratogens

- **Alcohol use:** Fetal alcohol syndrome (FAS) and other alcohol-related birth defects can be prevented.
- **Anti-epileptic drugs:** Some anti-epileptic drugs are known teratogens
- **Accutane use:** Use of Accutane in pregnancy results in miscarriage and birth defects
- **Oral anticoagulants:** Warfarin is a teratogen; medications can be switched before the onset of pregnancy
- **Smoking:** Associated adverse outcomes include preterm birth, low birth weight.

Clinical Practice Guidelines

- American Diabetes Association (Diabetes -2004)
- American Association of Clinical Endocrinologists (Hypothyroidism – 1999)
- American Academy of Neurology (Anti-epileptic drugs)
- American Heart Association/American College of Cardiologists (Anti-epileptic drugs - 2003)



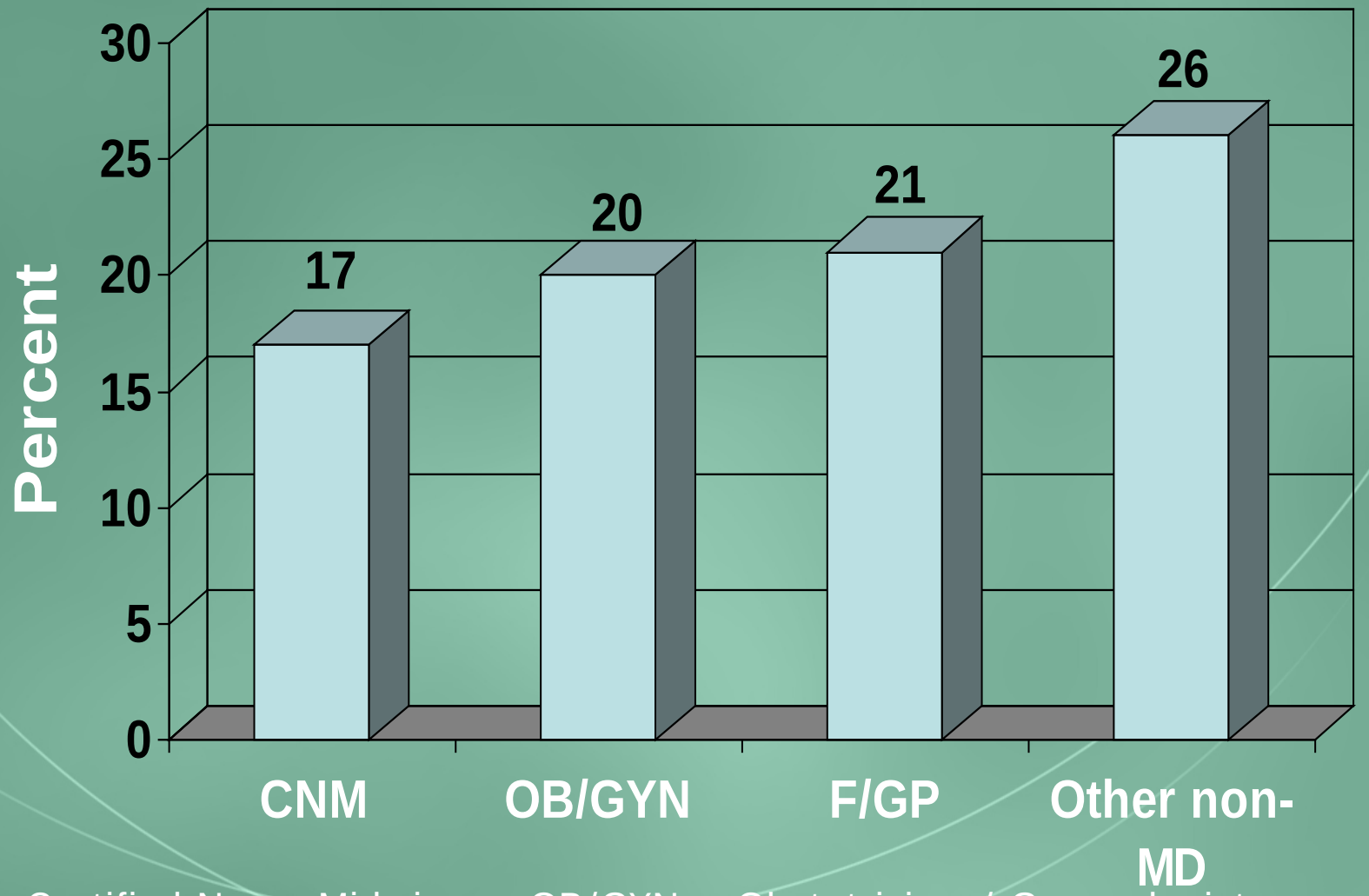
Recommendations

- March of Dimes
- American College of Obstetricians and Gynecologists
- American Academy of Pediatrics
- American Academy of Family Physicians
- American College of Nurse Midwives
- USPHS Expert Panel on the Content of Prenatal Care, 1989
- Healthy People 2000 objectives

Current Practice

- Most providers don't provide it
- Most insurers don't pay for it
- Most consumers don't ask for it

Percent Eligible Patients Seen for Preconceptional Care by Type of Provider (2002-2003)



CNM = Certified Nurse Midwives; OB/GYN = Obstetricians/ Gynecologists; F/GP = Family / General Practitioners;

The CDC PCC Initiative: A Collaborative Effort of 22 CDC programs and over 35 National Organizations

Recommendations to Improve Preconception Health and Health Care

MMWR
Morbidity and Mortality Weekly Report

Recommendations and Reports April 21, 2006 / Vol. 55 / No. RR-6

Recommendations to Improve Preconception Health and Health Care — United States

A Report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care

INSIDE: Continuing Education Examination

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

Recommendations to Improve Preconception Health and Health Care — United States

A Report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care

Prepared by
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Summary

This report provides recommendations to improve both preconception health and care. The goal of these recommendations is to improve the health of women and couples, before conception of a first or subsequent pregnancy. Since the early 1990s, guidelines have recommended preconception care, and reviews of previous studies have assessed the evidence for interventions and documented the evidence for specific interventions.

CDC has developed these recommendations based on a review of published research and the opinions of specialists from the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. The 10 recommendations in this report are based on preconception health care for the U.S. population and are aimed at achieving four goals to 1) improve the knowledge and attitudes and behaviors of men and women related to preconception health; 2) assure that all women of childbearing age in the United States receive preconception care services (i.e., evidence-based risk screening, health promotion, and interventions) that will enable them to enter pregnancy in optimal health; 3) reduce risks indicated by a previous adverse pregnancy outcome through interventions during the interconception period, which can prevent or minimize health problems for a mother and her future children; and 4) reduce the disparities in adverse pregnancy outcomes.

The recommendations focus on changes in consumer knowledge, clinical practice, public health programs, health-care financing, and data and research activities. Each recommendation is accompanied by a series of specific action steps and, when implemented, can yield results within 2–5 years. Based on implementation of the recommendations, improvements in access to care, continuity of care, risk screening, appropriate delivery of interventions, and changes in health behaviors of men and women of childbearing age are expected to occur. The implementation of these recommendations will help achieve Healthy People 2010 *objectives. The recommendations and action steps are a strategic plan that can be used by persons, communities, public health and clinical providers, and governments to improve the health of women, their children, and their families. Improving preconception health among the approximately 62 million women of childbearing age will require multistrategic, action-oriented initiatives.*

The material in this report originated in the National Center on Birth Defects and Developmental Disabilities, José F. Cordero, MD, Director; and the Office of Program Development, Hani K. Atrash, MD, Associate Director; and the National Center for Chronic Disease Prevention and Health Promotion, Janet Collins, PhD, Director, and the Division of Reproductive Health, John Lehnherr, Director.
Corresponding preparer: Samuel F. Posner, PhD, Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion, 4770 Buford Hwy., NE, MS K-20, Atlanta, GA 30341. Telephone: 770-488-5200; Fax: 770-488-5458; E-mail: SPosner@cdc.gov.

Introduction

Improving preconception health can result in improved reproductive health outcomes, with potential for reducing societal costs as well (*1–4*). Preconception care aims to promote the health of women of reproductive age before conception and thereby improve pregnancy-related outcomes (*5–7*). Therefore, the goals of the 10 recommendations in this report are to improve a woman's health before conception, whether before a first or a subsequent pregnancy. The recommendations are 1) individual responsibility across the lifespan, 2) consumer awareness, 3) preventive visits 4) interventions

Recommendations for Improving Preconception Health: 1&2 = Individual Responsibility

- **Recommendation 1. Individual responsibility across the life span.** Encourage each woman and every couple to have a reproductive life plan.
- **Recommendation 2. Consumer awareness.** Increase public awareness of the importance of preconception health behaviors and increase individuals' use of preconception care services using information and tools appropriate across varying age, literacy, health literacy, and cultural/linguistic contexts.

Recommendations for Improving Preconception Health: 3&4 = Prevention & Interventions

- **Recommendation 3. Preventive visits.** As a part of primary care visits, provide risk assessment and counseling to all women of childbearing age to reduce risks related to the outcomes of pregnancy.
- **Recommendation 4. Interventions for identified risks.** Increase the proportion of women who receive interventions as follow up to preconception risk screening, focusing on high priority interventions.

Recommendations for Improving Preconception Health: 5&6 = Interconception & Pre-pregnancy

- **Recommendation 5. Interconception care.** Use the interconception period to provide intensive interventions to women who have had a prior pregnancy ending in adverse outcome (e.g., infant death, low birthweight or preterm birth).
- **Recommendation 6. Pre-pregnancy check ups.** Offer, as a component of maternity care, one pre-pregnancy visit for couples planning pregnancy.

Recommendations for Improving Preconception Health: 7&8 = Public Programs

- **Recommendation 7. Health coverage for low-income women.** Increase Medicaid coverage among low-income women to improve access to preventive women's health, preconception, and interconception care.
- **Recommendation 8. Public health programs and strategies.** Infuse and integrate components of preconception health into existing local public health and related programs, including emphasis on those with prior adverse outcomes.

Recommendations for Improving Preconception Health: 9&10 = Research and Evaluation

- **Recommendation 9. Research.** Augment research knowledge related to preconception health.
- **Recommendation 10. Monitoring improvements.** Maximize public health surveillance and related research mechanisms to monitor preconception health.

Steering Committee Meeting
White Plains, NY - January 12-13
Priority Action Steps

1. Convening working groups to:
   - Define "contents of preconception care" (3 and 4)
   - Integrate existing clinical guidelines (3, 4, 5b, and 6b)
2. Information dissemination:
   - Develop key messages (1, 3, and 4)
   - Create an information portals on the web (1)
   - Catalogue existing materials (2c)
3. Demonstrate the effectiveness:
   - Evaluate existing models (5b and 8c)
   - Conduct demonstration projects (3a, 4a, 5b, 5d, 5e, 8a, 8d, 9c, and 9e)
4. Explore means for financing:
   - Explore options for augmenting Medicaid waivers (7a)
   - Conduct health plan demonstration projects (3h, 4f, and 6a)
5. Augment CDC and other surveillance to monitor practice (10b, 10d, and 10f)
6. Analyze existing data to further study association between women's health and pregnancy outcomes (10)
7. Complete a systematic review and a cost study (9a, 9c, and 9d)

Thank You