# TIME

AUGUST 3, 2009

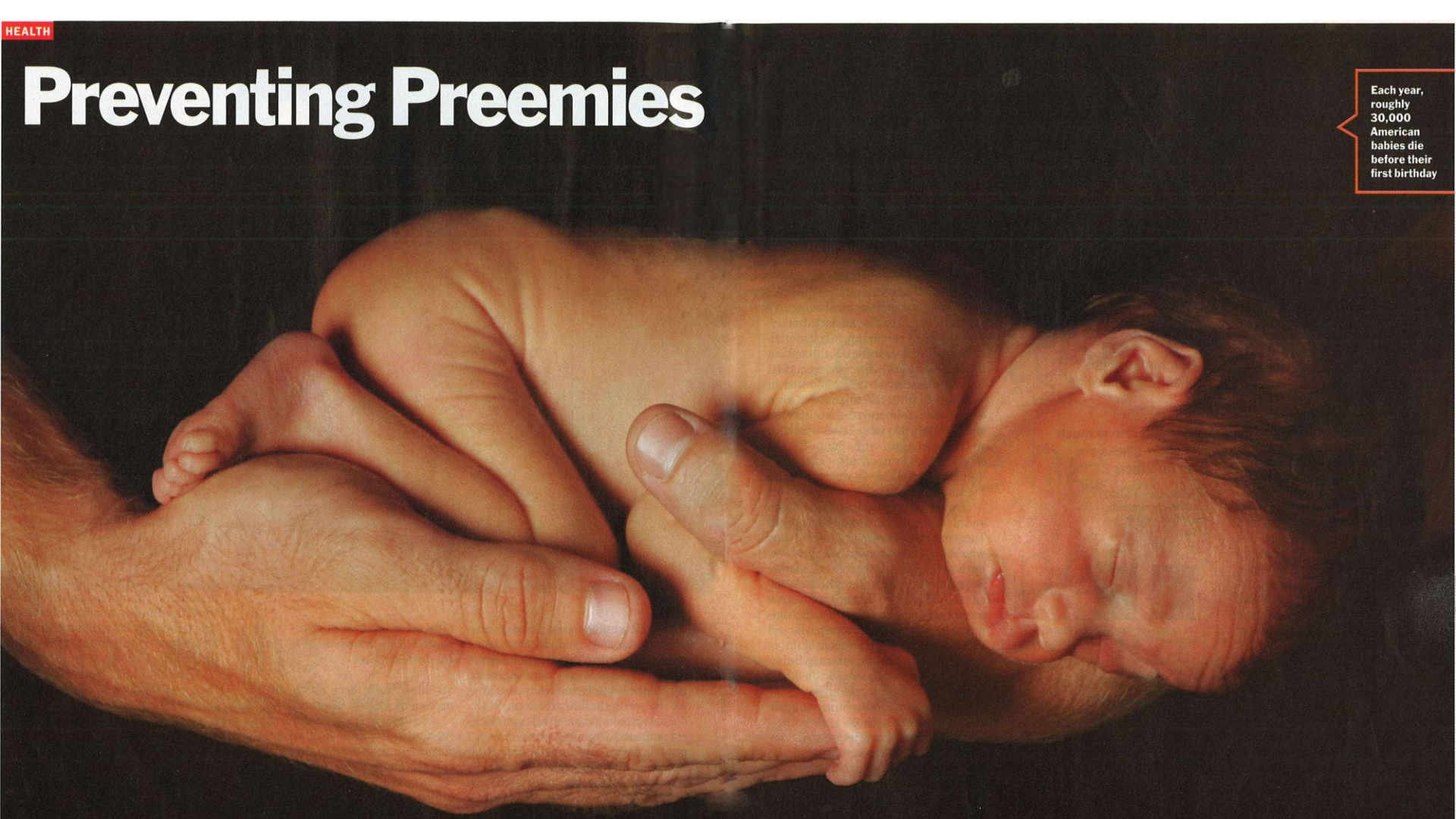
Unlocking

The Mystery of

Infant Mortality

# Preventing Preemies

**Each year, roughly 30,000 American babies die before their first birthday**



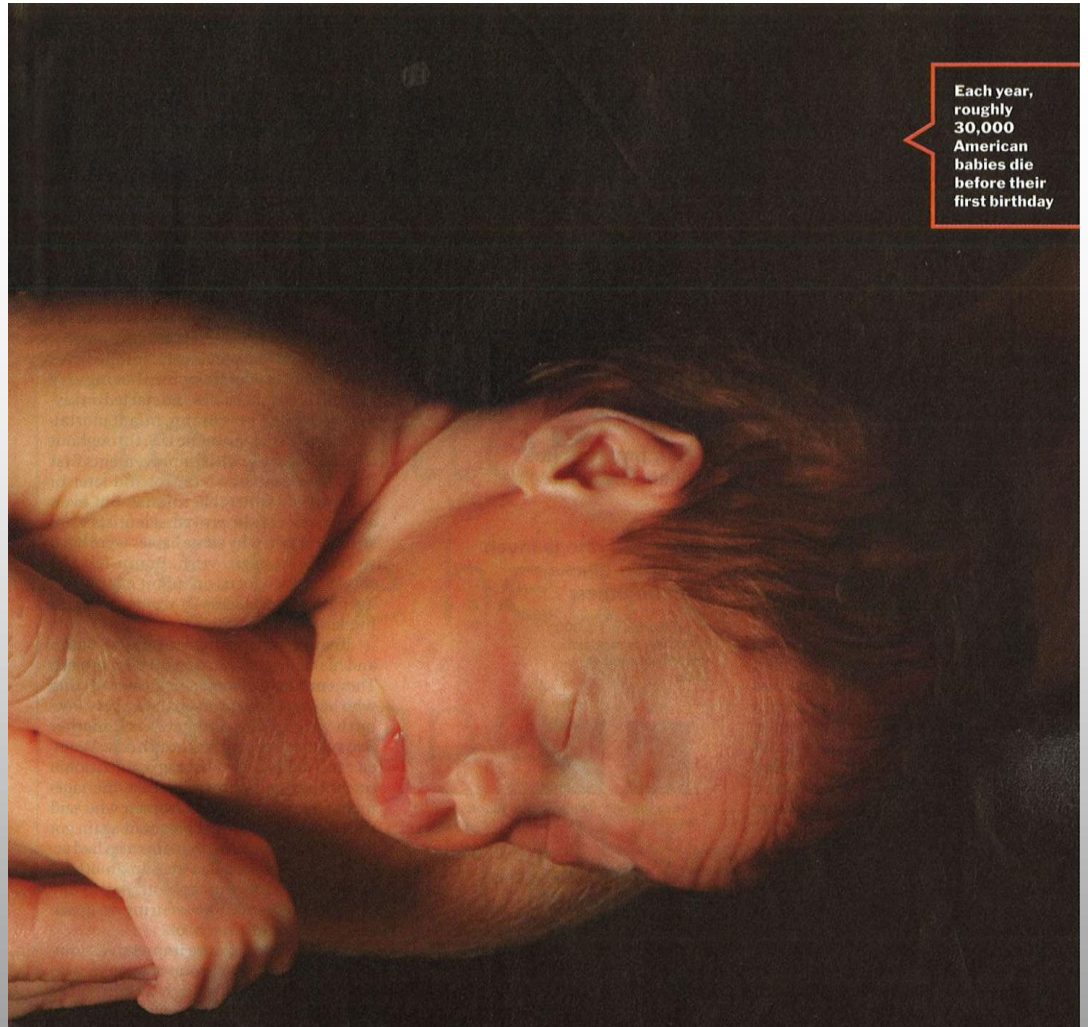
Why do infants die more often in America than in almost every other industrialized country? A search for clues

BY LAURA BLUE

WHEN A BABY IS BORN TOO soon, it's hard to imagine that the infant would do better anywhere else in the world than in America. The most fragile preterm infants are housed in specialized intensive-care units and cared for by world-class experts. Prematurity cost the country some $26 billion in 2005, according to the U.S. Institute of Medicine. And yet for all the technology and expense, roughly 30,000 American babies under age 1 die each year. They die at a rate three times as high as in Singapore, which has the world's best infant survival—long considered a key indicator of a nation's overall level of health. In fact, the U.S.—ranked No. 30 in 2005—lags behind almost every other industrialized nation, behind Cuba, Hungary and Poland.

What explains such dismal figures? The math is fairly simple. Babies born

**Survival odds** *The tiniest babies account for 2% of births but over half of all infant deaths*



**Each year, roughly 30,000 American babies die before their first birthday**

# Why do infants die more often in America than in almost every other industrialized country? A search for clues

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When a baby is born too soon, it's hard to imagine that the infant would do better anywhere else in the world than in America. The most fragile preterm infants are housed in specialized intensive-care units and cared for by world-class experts. Prematurity cost the country some $26 billion in 2005, according to the U.S. Institute of Medicine. And yet for all the technology and expense, roughly 30,000 American babies under age 1 die each year. They die at a rate three times as high as in Singapore, which has the world's best infant survival—long considered a key indicator of a nation's overall level of health. In fact, the U.S.—ranked No. 30 in 2005—lags behind almost every other industrialized nation, behind Cuba, Hungary and Poland.

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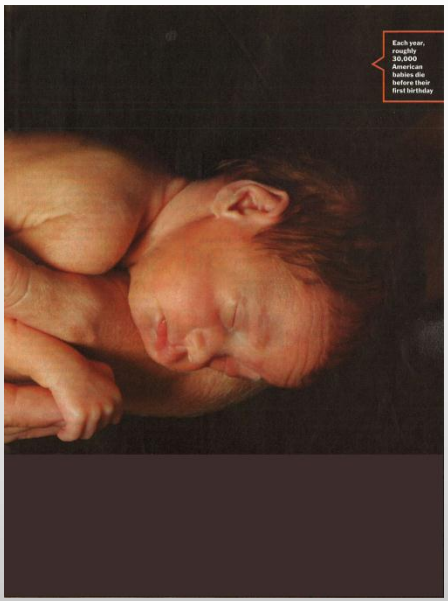


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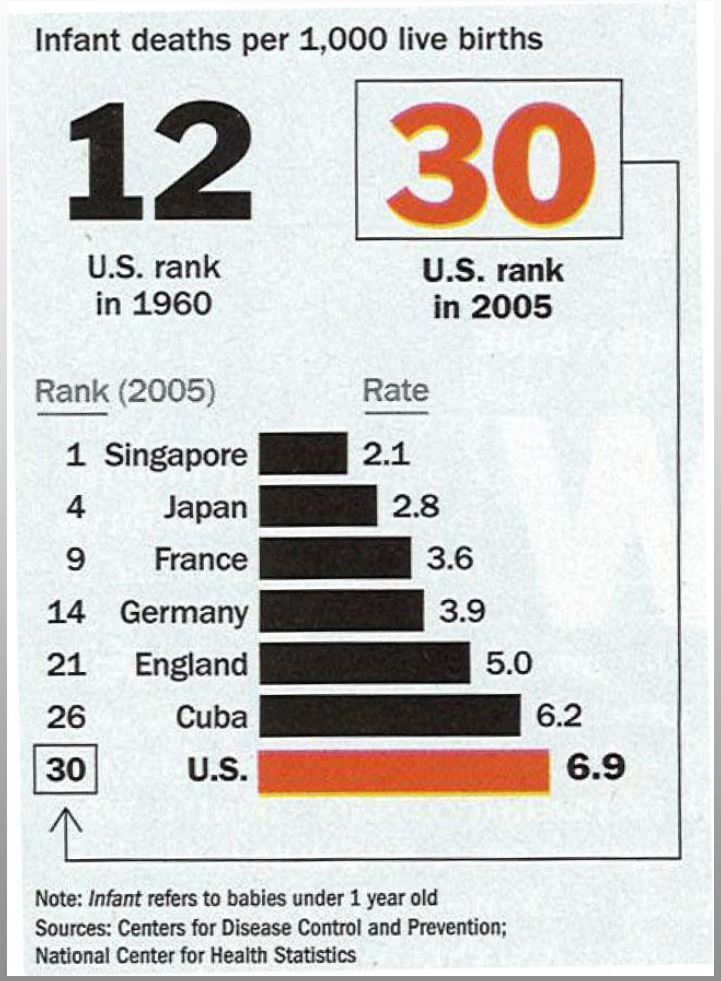
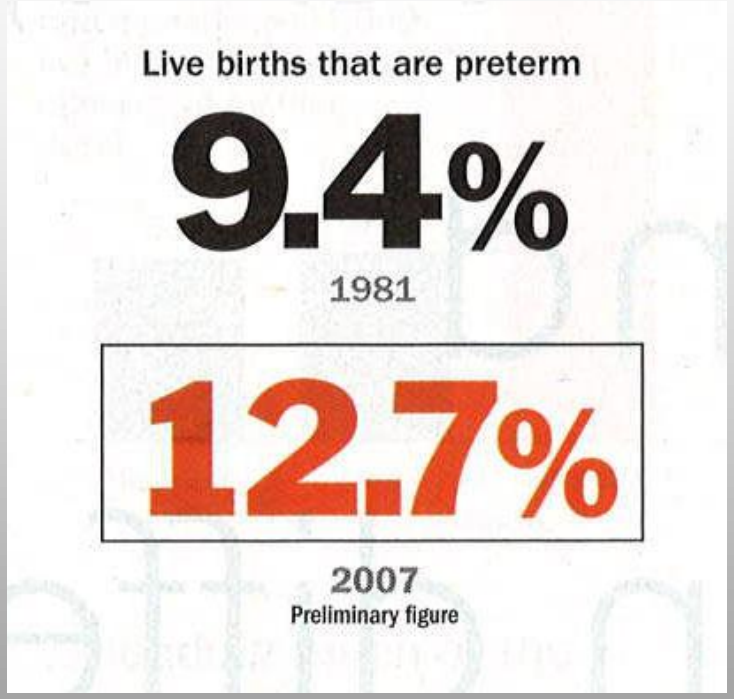
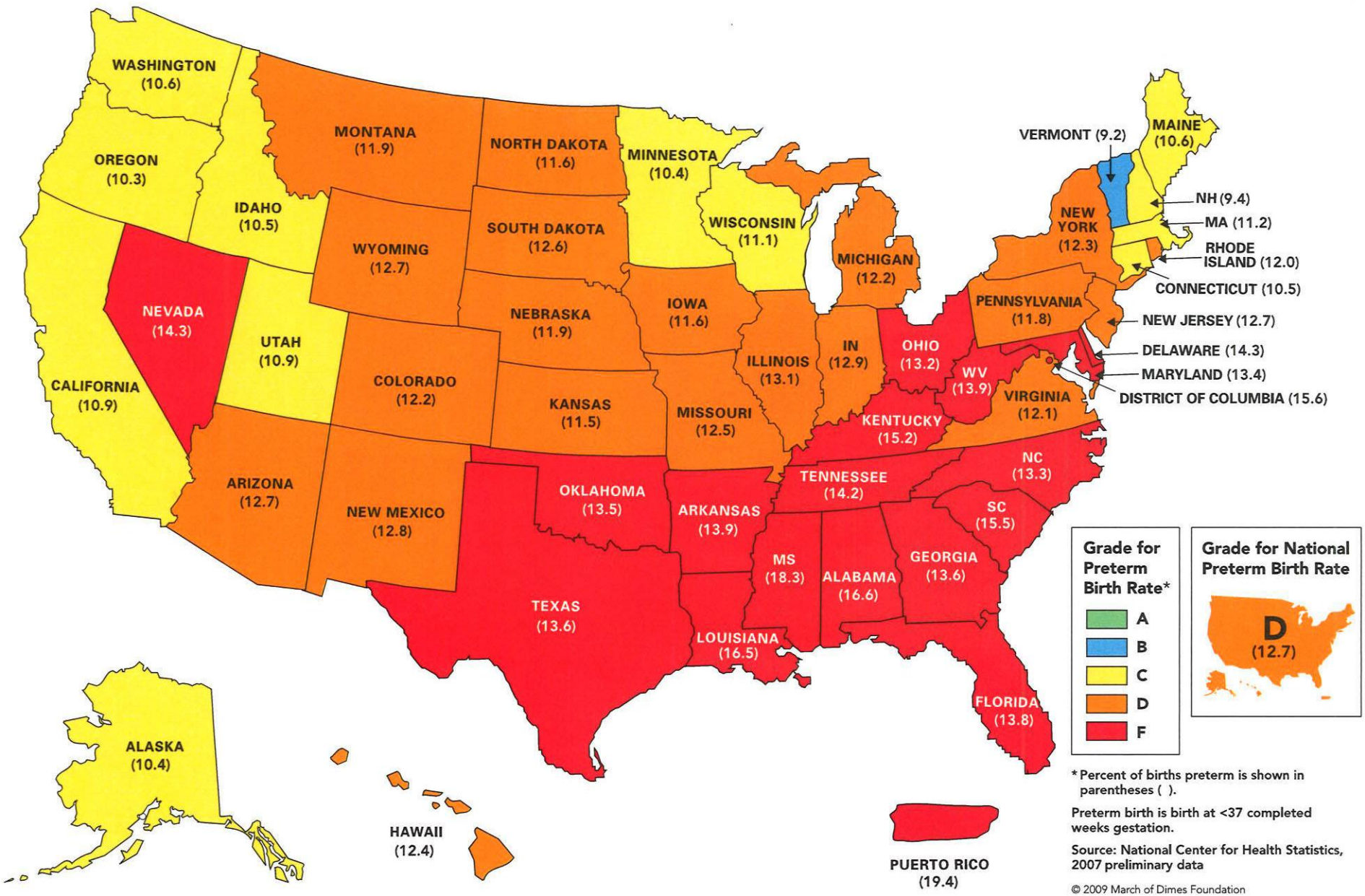
What explains such dismal figures? The math is fairly simple. Babies born preterm – before 37 weeks of gestation – account for two thirds of all infant deaths and the number of preemies in the U.S. is growing.


Infant deaths per 1,000 live births
12
U.S. rank in 1960
30
U.S. rank in 2005
Rank (2005)
Rate
1 Singapore 2.1
4 Japan 2.8
9 France 3.6
14 Germany 3.9
21 England 5.0
26 Cuba 6.2
30 U.S. 6.9
Note: Infant refers to babies under 1 year old
Sources: Centers for Disease Control and Prevention; National Center for Health Statistics


Live births that are preterm
9.4%
1981
12.7%
2007
Preliminary figure

# March of Dimes 2009 Premature Birth Report Card




*Percent of births preterm is shown in parentheses ( ).

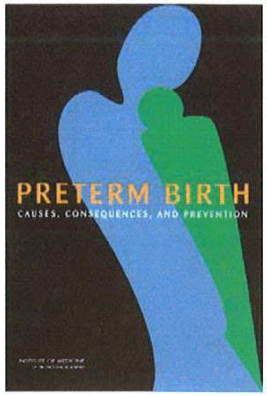
Preterm birth is birth at <37 completed weeks gestation.

Source: National Center for Health Statistics, 2007 preliminary data

INSTITUTE OF MEDICINE

REPORT BRIEF • JULY 2006

# PRETERM BIRTH: CAUSES, CONSEQUENCES, AND PREVENTION




The rate of preterm births in the United States is a growing public health problem that has significant consequences for families, and costs society at least $26 billion a year. Preterm births, defined as occurring before 37 weeks of gestation, now account for the troubling figure of 12.5 percent of all births in the United States (see Figure 1)—an increase of 30 percent since 1981. Full term infants are born between 38 and 42 weeks.

There are very troubling and persistent disparities in preterm birth rates among different racial and ethnic groups (see Figure 2). The highest rates are for African American women, and the lowest are for Asian or Pacific Islander women. In 2003, the rate for African-American women was 17.8 percent, while the rates were 10.5 percent for Asian and Pacific Islander women and 11.5 percent for white women. The most notable increases from 2001 to 2003 were for white, American Indian, and Hispanic groups. These disparities can not be fully explained by differences in socioeconomic conditions or maternal behaviors, such as smoking or drug use.

The growing problem of preterm births is not receiving the attention and funding necessary to fully understand its causes and identify ways to reduce the number of preterm deliveries. A report by the Institute of Medicine, *Preterm Birth: Causes, Consequences, and Prevention,* examines what is currently known about the causes of preterm birth; addresses the health, social-emotional, and economic consequences of preterm birth; and establishes a framework for action in addressing a range of priority issues, including a research and policy agenda for the future.

**Preterm births, defined as occurring before 37 weeks of gestation, now account for the troubling figure of 12.5 percent of all births in the United States...**

# Natality Data Summary

**Summary** This dataset has counts of births occurring within the United States to U.S. residents and non-residents. State and county are defined by the mother's place of residence recorded on the birth certificate. Data elements include demographics, medical risk factors and maternal alcohol/tobacco use.

**Population** The United States, 1995 - 2002

**Source** United States Department of Health and Human Services (US DHHS),
Centers for Disease Control and Prevention (CDC),
National Center for Health Statistics (NCHS),
Division of Vital Statistics,
Natality public-use data 1995-2002,
on CDC WONDER On-line Database, November 2005.

# Comparison USA vs Parkland *Limited to*:

- Singleton, ≥ 500 g
- Liveborn
- Prenatal care
- Hispanic origin = Mexico

# Parkland 1988-2007

*N = 260,197 Women Studied*

- Singletons
- ≥ 500g livebirths
- Prenatal care

# Decreased Preterm Births in an Inner-City Public Hospital

*Kenneth J. Leveno, MD, Donald D. McIntire, PhD, Steven L. Bloom, MD, Miriam R. Sibley, RN, and Ron J. Anderson, MD*

Obstet Gynecol March 2009

**OBJECTIVE:** To examine preterm births among African-American and Hispanic women delivered at an inner-city public hospital in the context of contemporaneously increasing rates in the United States.

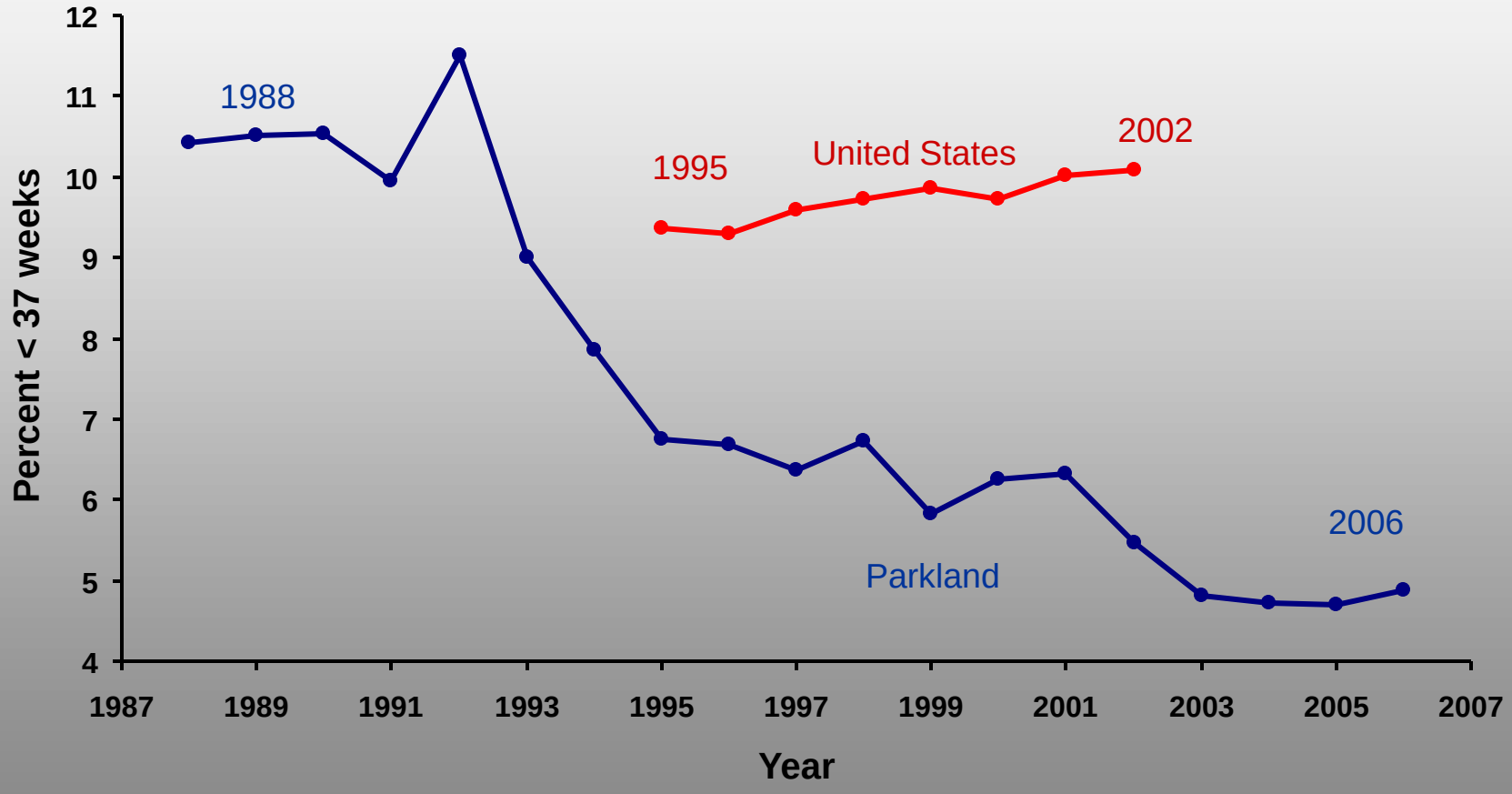
births was the result of a public health care program specifically targeting minority pregnant women.

*(Obstet Gynecol 2009;113:1–1)*

**LEVEL OF EVIDENCE:** III

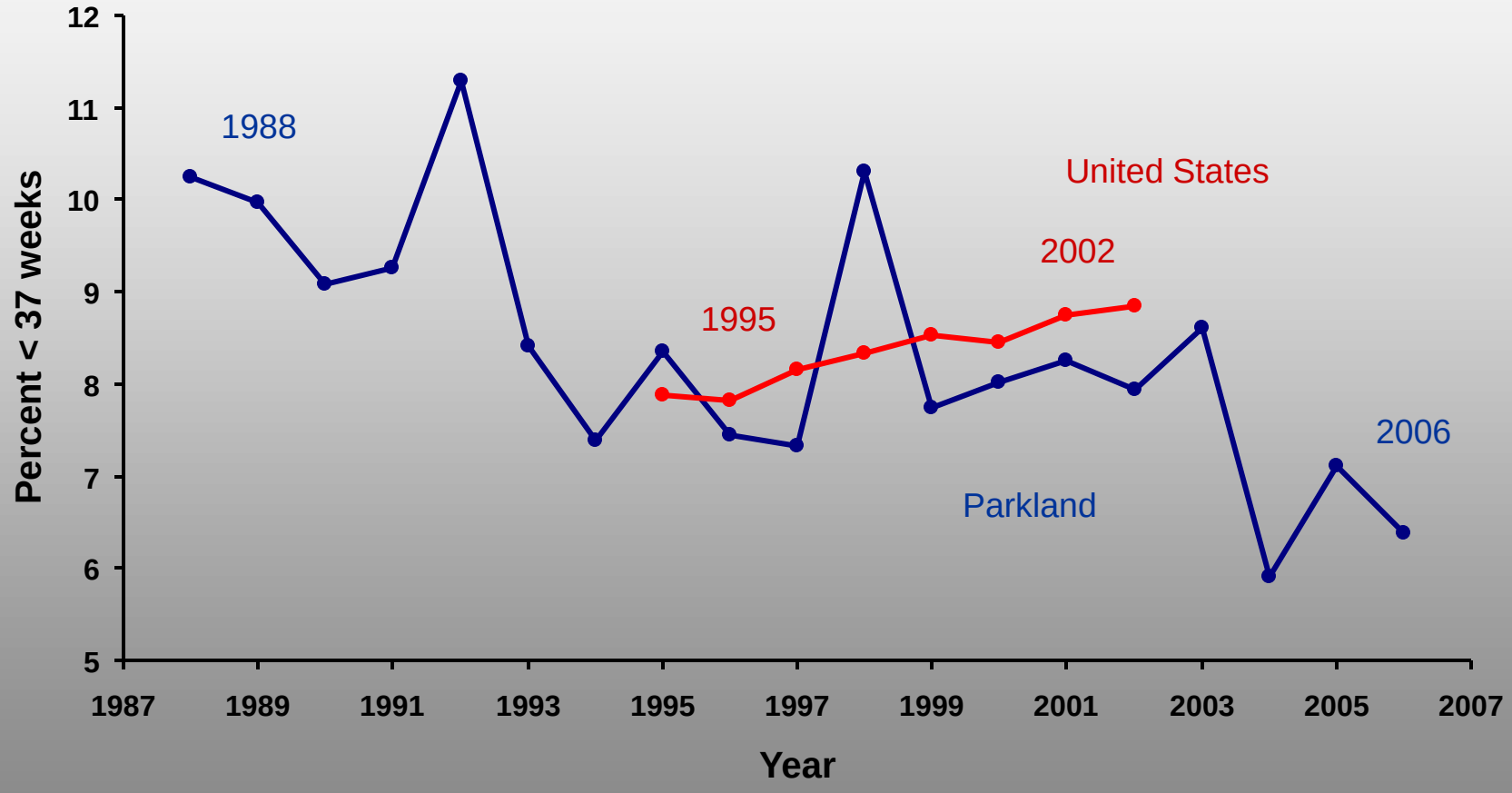
# BIRTHS < 37 WEEKS

## *USA vs Parkland*



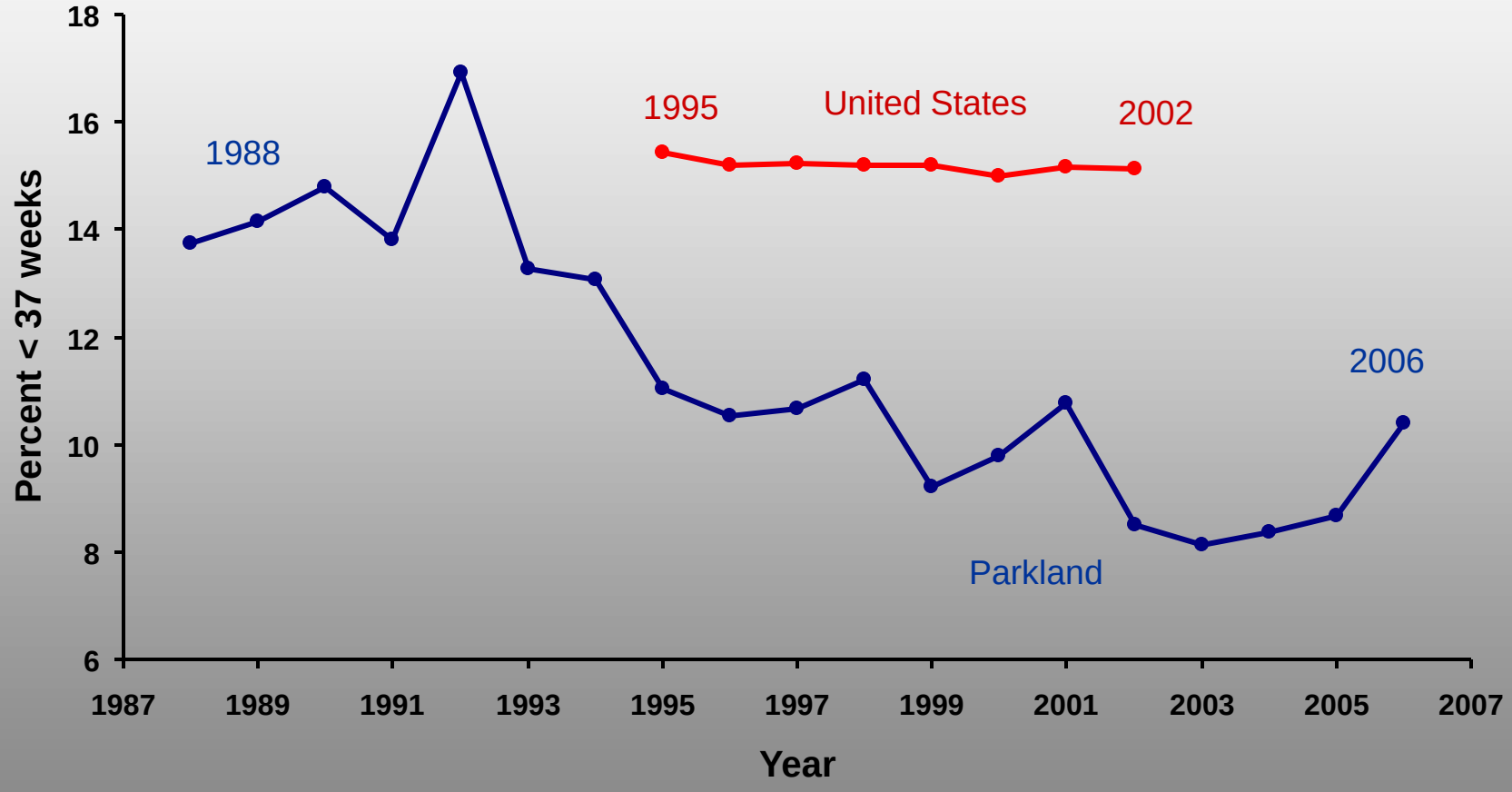
# BIRTHS < 37 WEEKS

## *White Women*



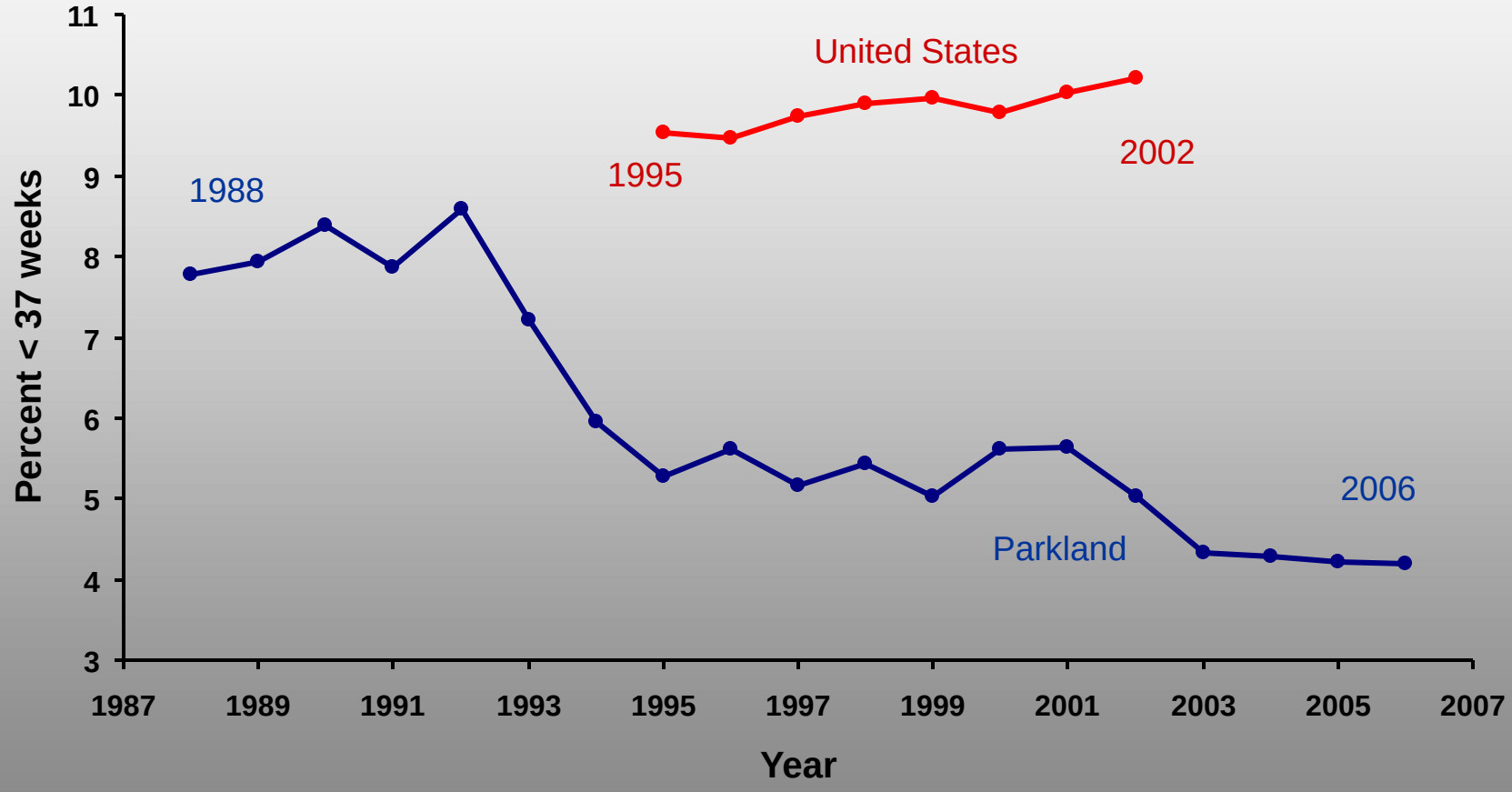
# BIRTHS < 37 WEEKS

## *African-American Women*



# BIRTHS < 37 WEEKS

## *Hispanic Women*



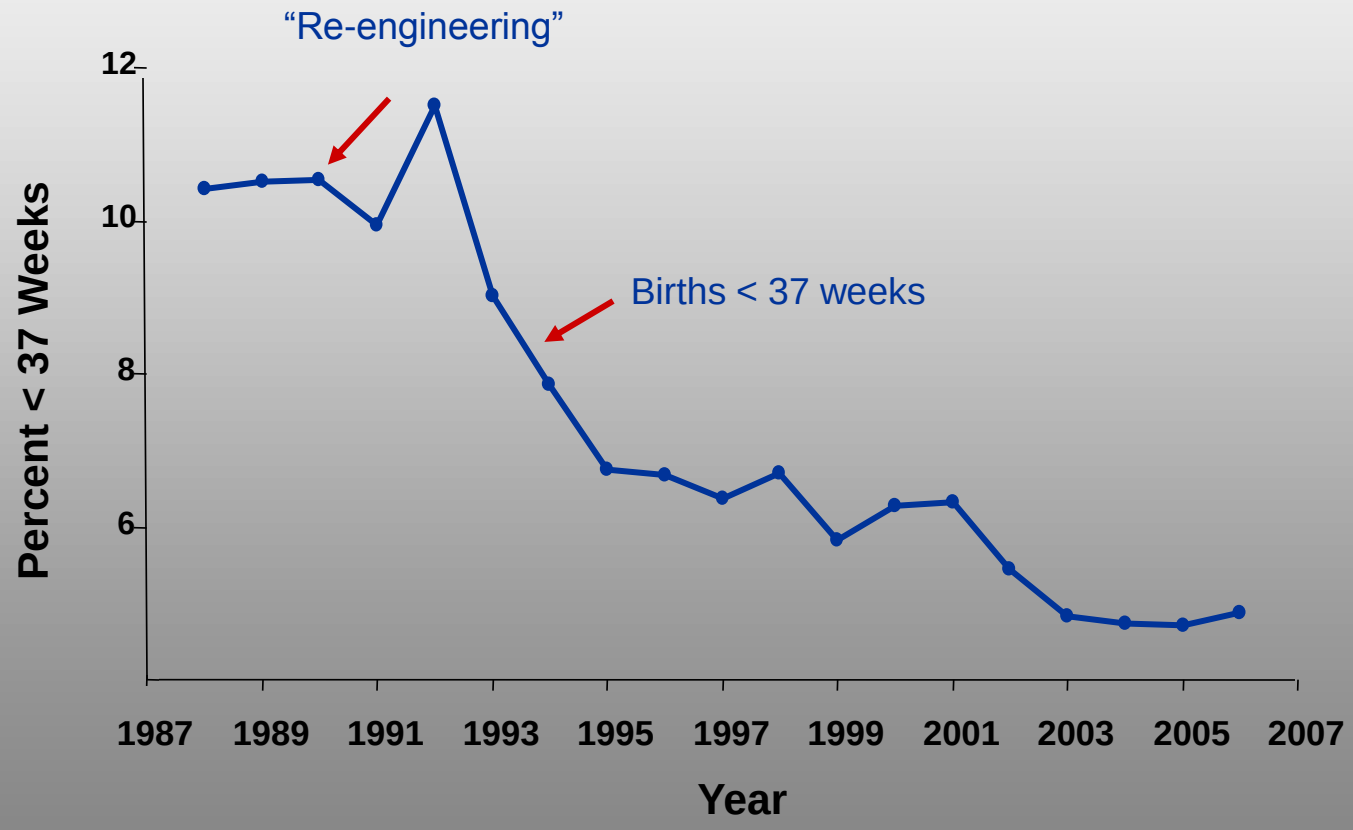
# FINDINGS

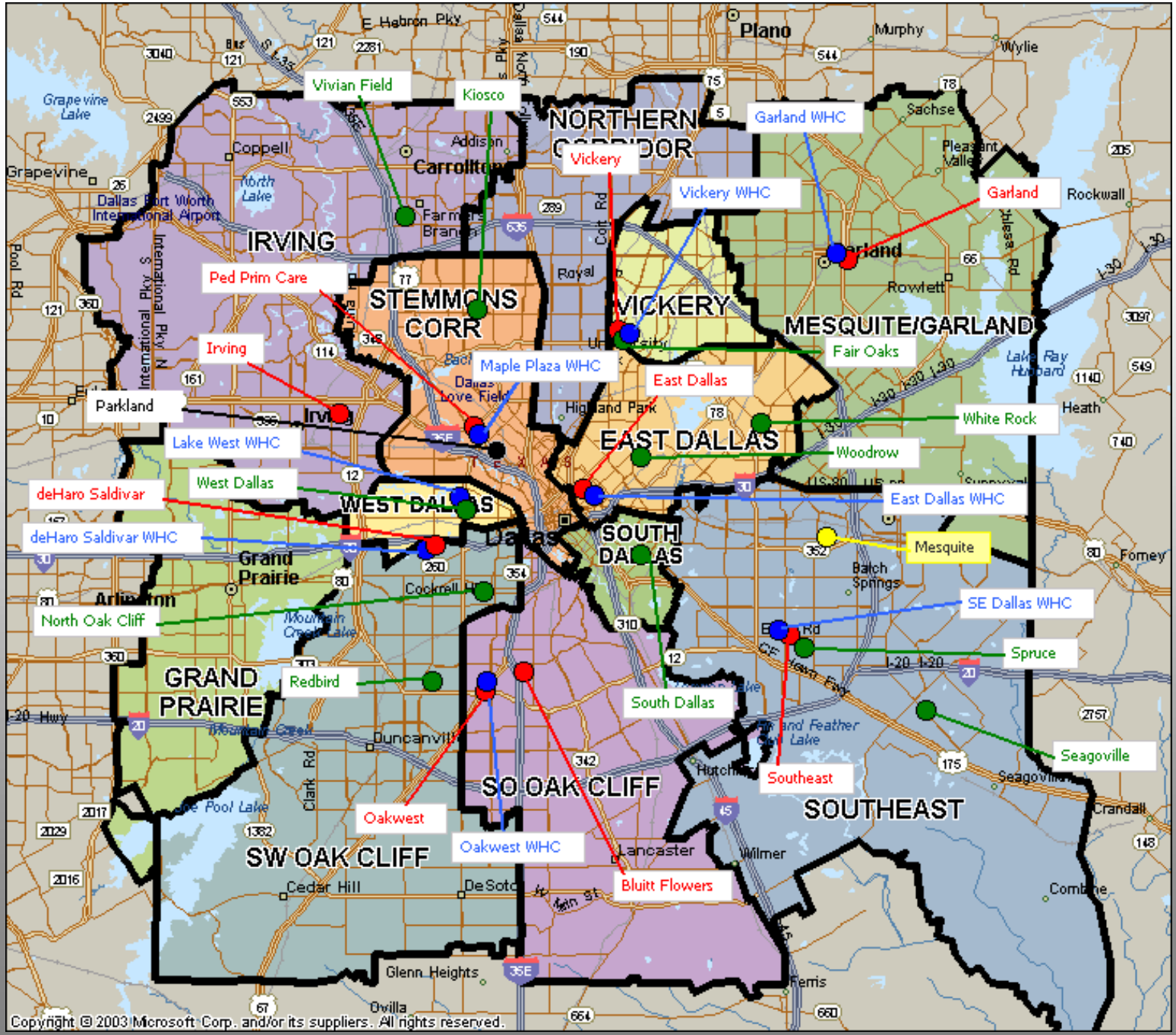
#1. Unlike the United States data ***preterm birth decreased*** at Parkland between 1988-2006

#2. ***Disparity decreased*** for African-American and Hispanic women compared to white women.

# WHY ?  HOW ?

# PARKLAND OBSTETRICS SERVICE




Vivian Field
Kiosco
Vickery
Garland WHC
Vickery WHC
Garland
Ped Prim Care
Irving
Maple Plaza WHC
East Dallas
Parkland
Fair Oaks
White Rock
Lake West WHC
Woodrow
West Dallas
deHaro Saldivar
East Dallas WHC
deHaro Saldivar WHC
Mesquite
North Oak Cliff
SE Dallas WHC
Spruce
Redbird
South Dallas
Seagoville
Southeast
Oakwest
Oakwest WHC
Bluitt Flowers
NORTHERN CORRIDOR
IRVING
STEMMONS CORR
VICKERY
MESQUITE/GARLAND
EAST DALLAS
WEST DALLAS
SOUTH DALLAS
GRAND PRAIRIE
SO OAK CLIFF
SW OAK CLIFF
SOUTHEAST
Plano
Garland
Rockwall
Coppell
Carrollton
Addison
Grapevine
Dallas Fort Worth International Airport
Grand Prairie
Arlington
Duncanville
Lancaster
DeSoto
Cedar Hill
Glenn Heights
Ovilla
Wilmer
Hutchins
Balch Springs
Sachse
Rowlett
Heath
Forney
Seagoville
Crandall
Combine
Ferris
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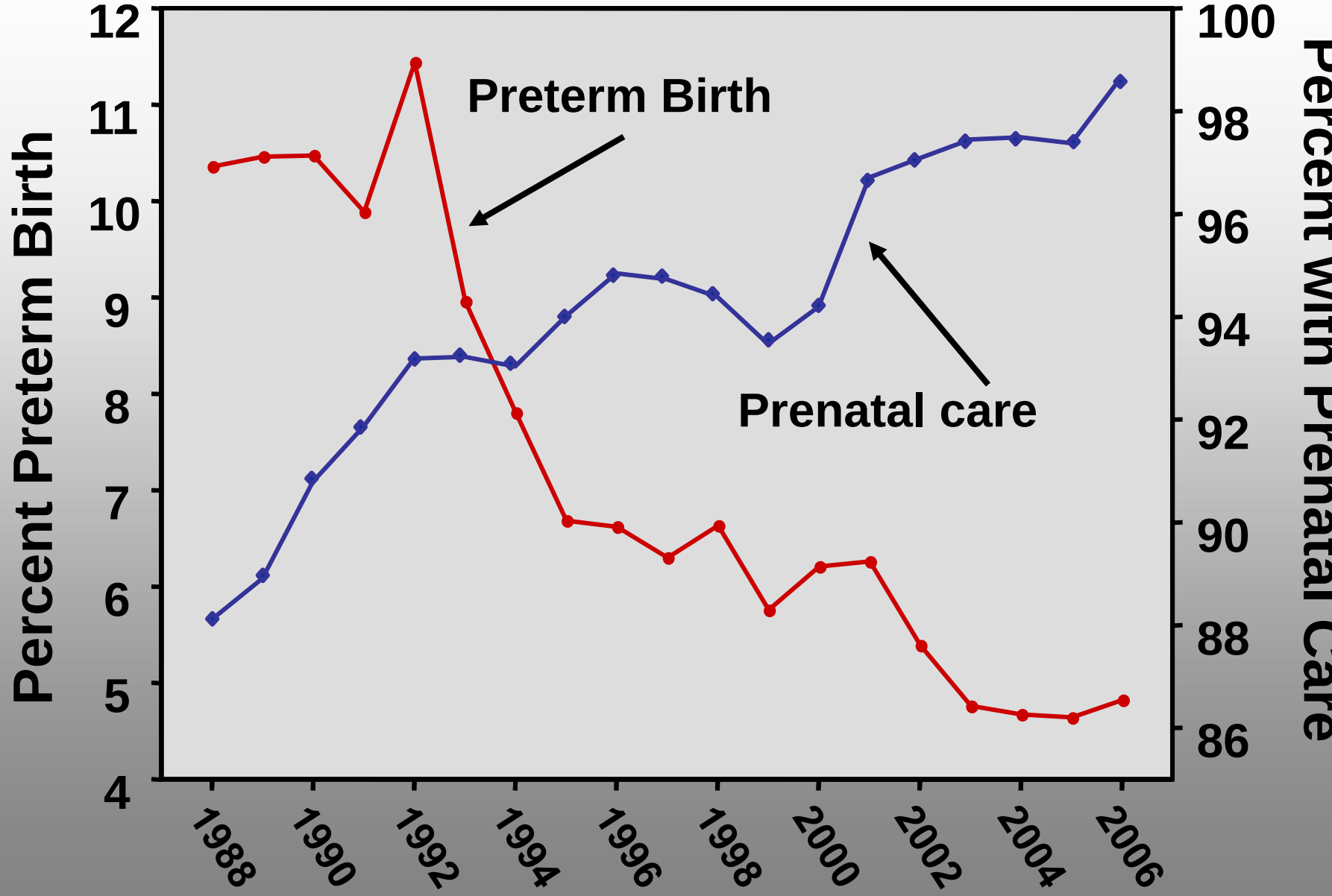
Percent Preterm Birth
Percent with Prenatal Care
Preterm Birth
Prenatal care
12
11
10
9
8
7
6
5
4
100
98
96
94
92
90
88
86
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006

# “Re-engineering”

Comprehensive and highly orchestrated public health care system ——

- Geographic in scope
- Neighborhood based
- Community awareness that access is **not denied**

- Access (appointments) under neighborhood control.
- No turn-aways!
- Patient education.
- Pregnancy record availability — a must!
- Patient centered care.

- Single administration for women and infant's services.
- Physician champions.
- Protocol (practice) guidelines for physicians, nurses, nurse practitioners, and CNM's.
- Health care outcomes research.
- Evidence based healthcare.

Is preterm birth preventable?

Is disparity preventable?