

U.S. Trends in Births & Infant Deaths



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Health Statistics
National Vital Statistics System



Authors / Acknowledgements



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NATIONAL VITAL STATISTICS SYSTEM



Certificate of Live birth

- *Live births*
- *Fetal deaths*
(>20 weeks)
- *Infant deaths*
(*to age 1*)

Report of Fetal Death

Certificate of Death

Model State Vital Statistics Act and Regulations - Definitions



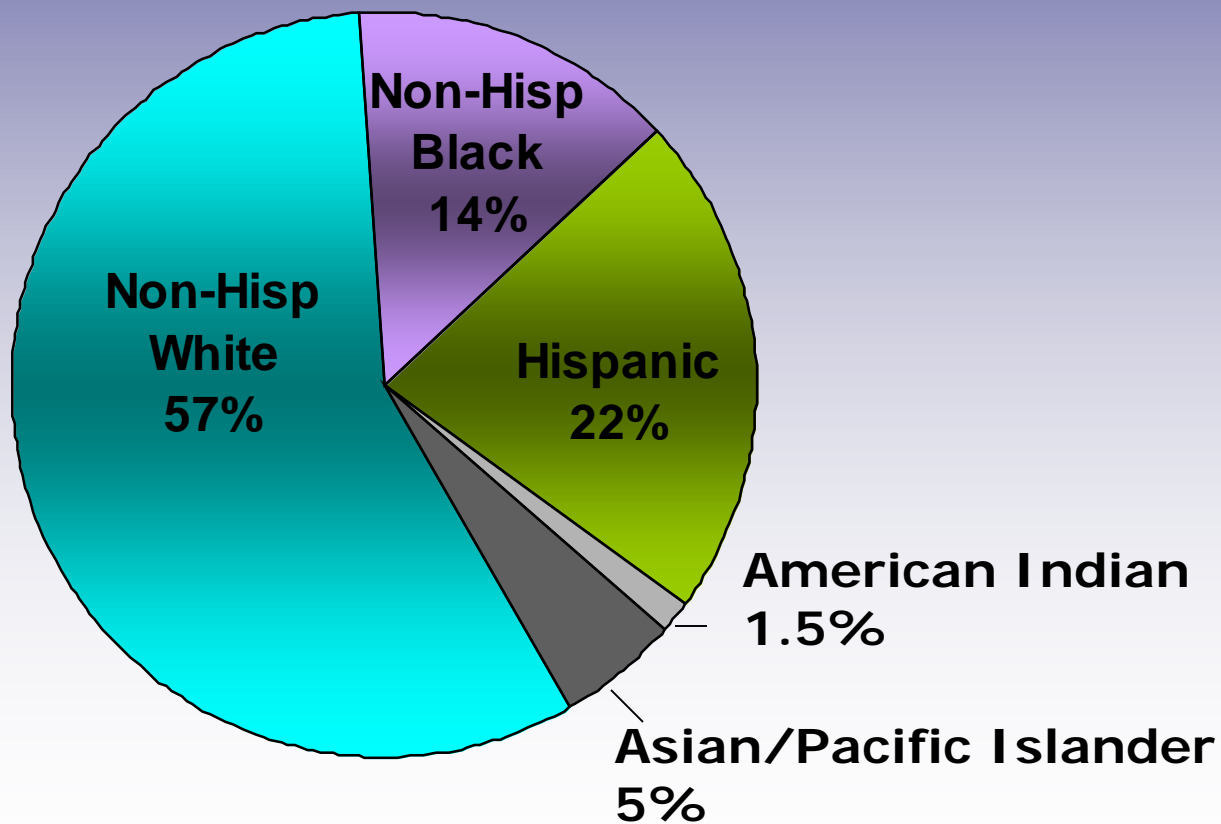
Live birth - "...breaths or shows any evidence of life such as beating of the heart...heartbeats are to be distinguished from transient cardiac contractions; respirations...from fleeting efforts..."

Fetal Death - "... death prior to [delivery]...is not an induced termination of pregnancy... does not breathe or show any other evidence of life..."

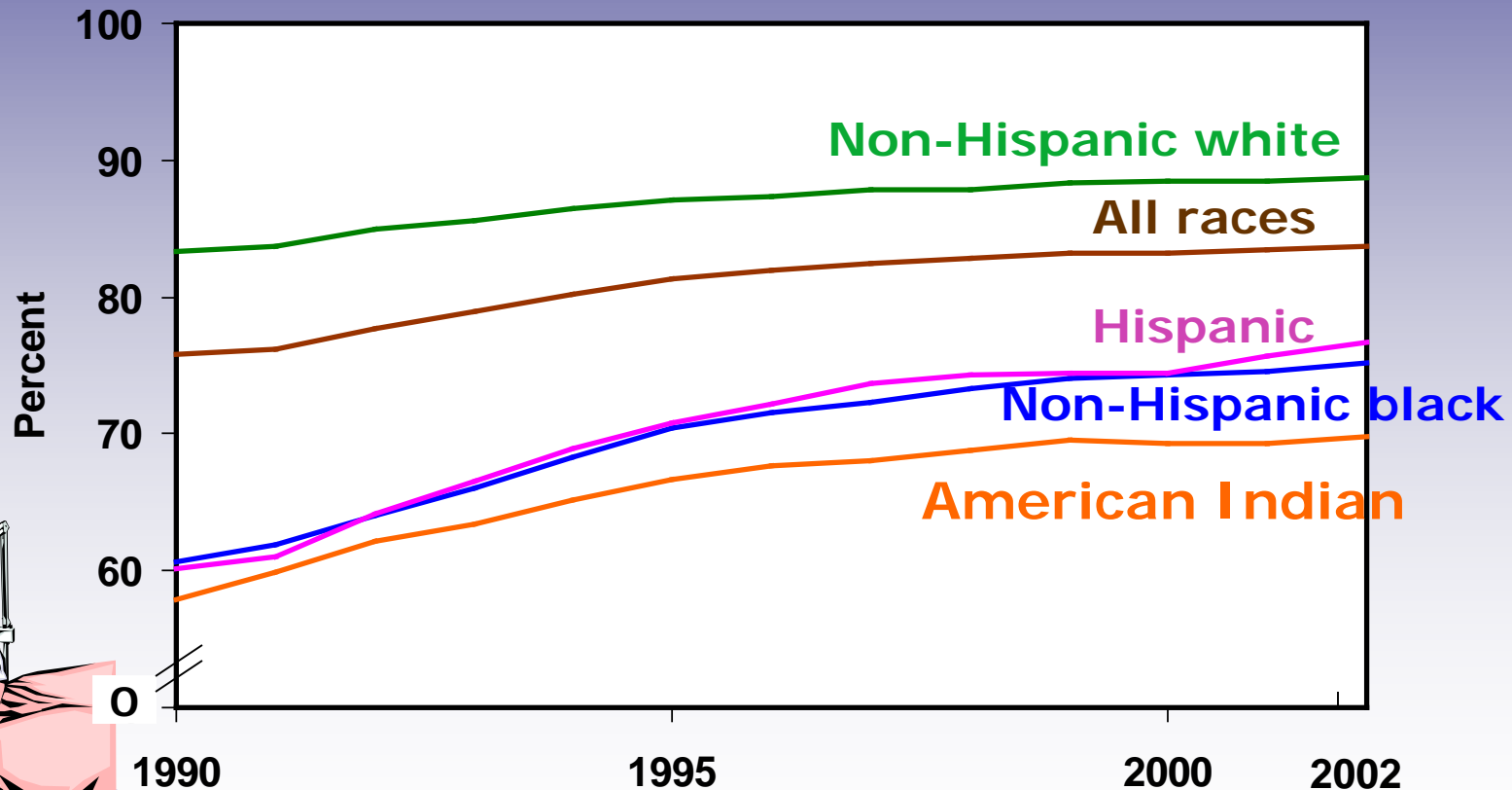
Infant Death - death of a live born infant within one year of life.

Distribution of live births by race and Hispanic origin: U.S., 2002

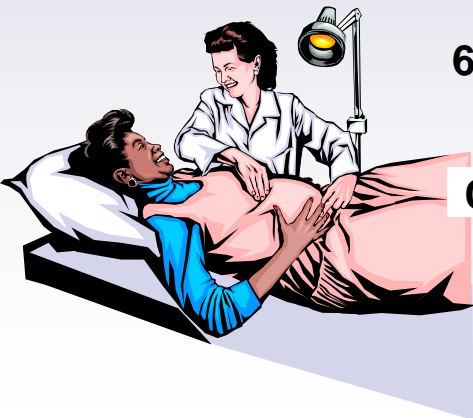
(N = 4,021,726)



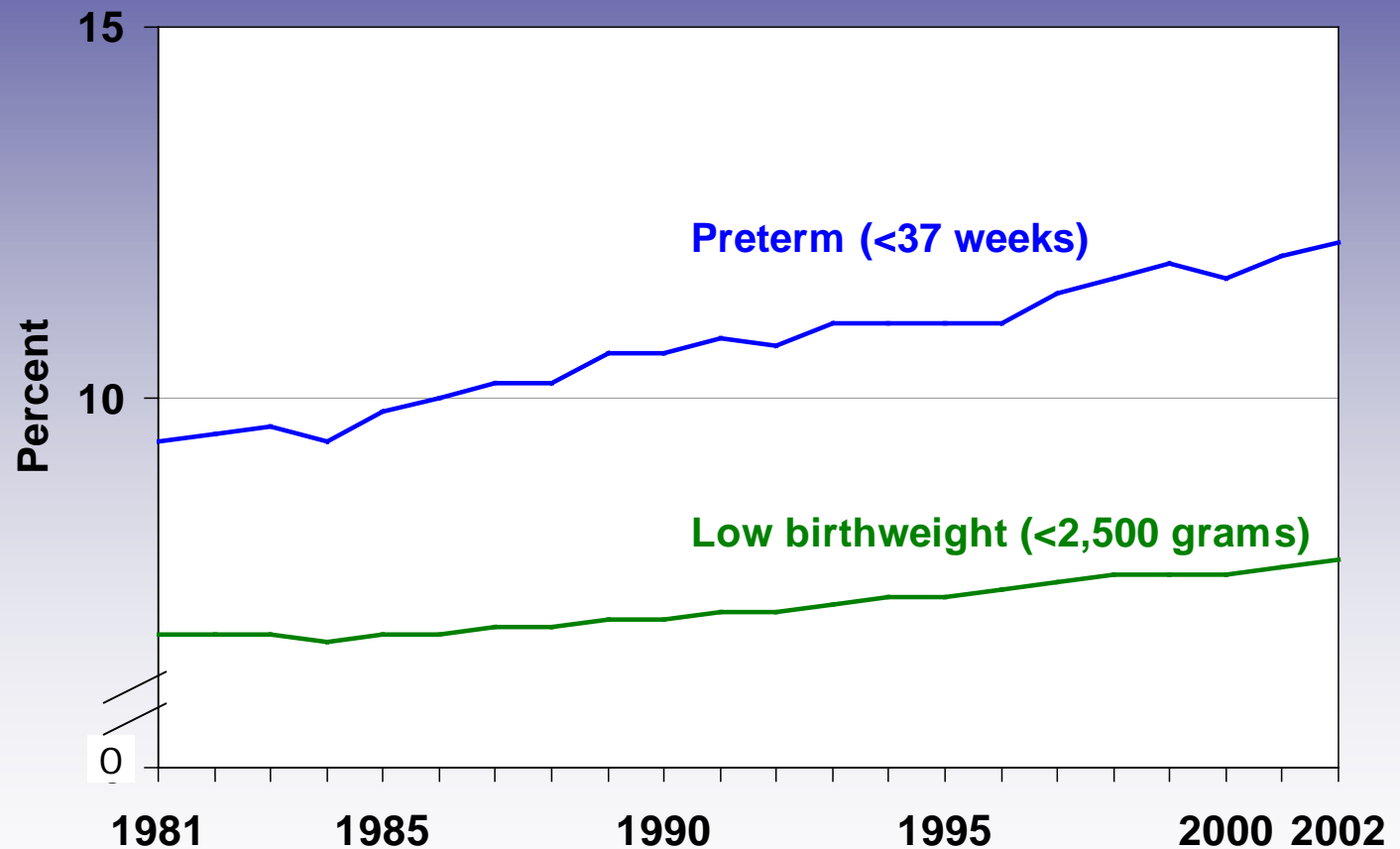
1st trimester prenatal care by race and Hispanic origin: U.S., 1990-2002



SOURCE: National Vital Statistics System, NCHS, CDC.

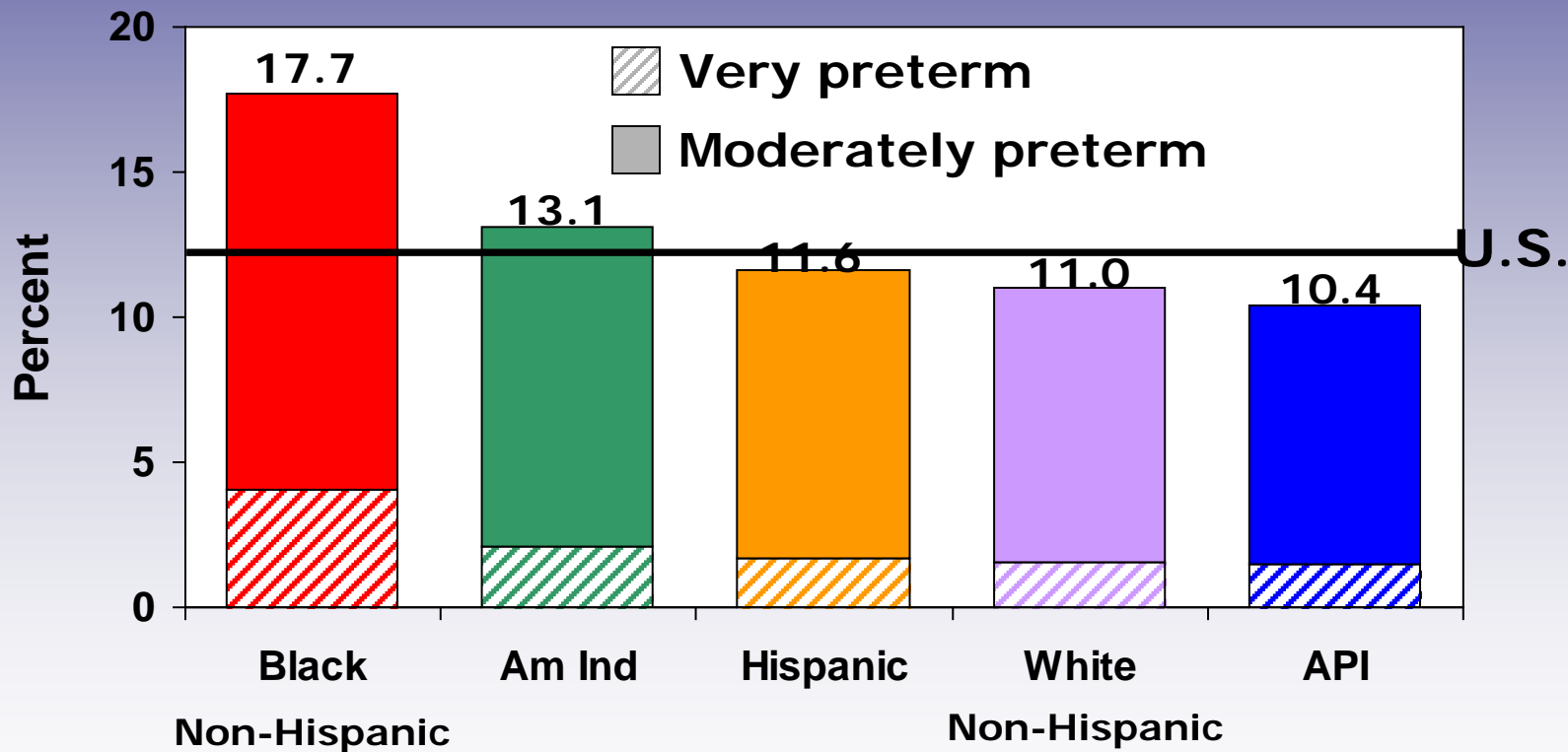


Preterm and low birthweight rates: U.S., 1981-2002



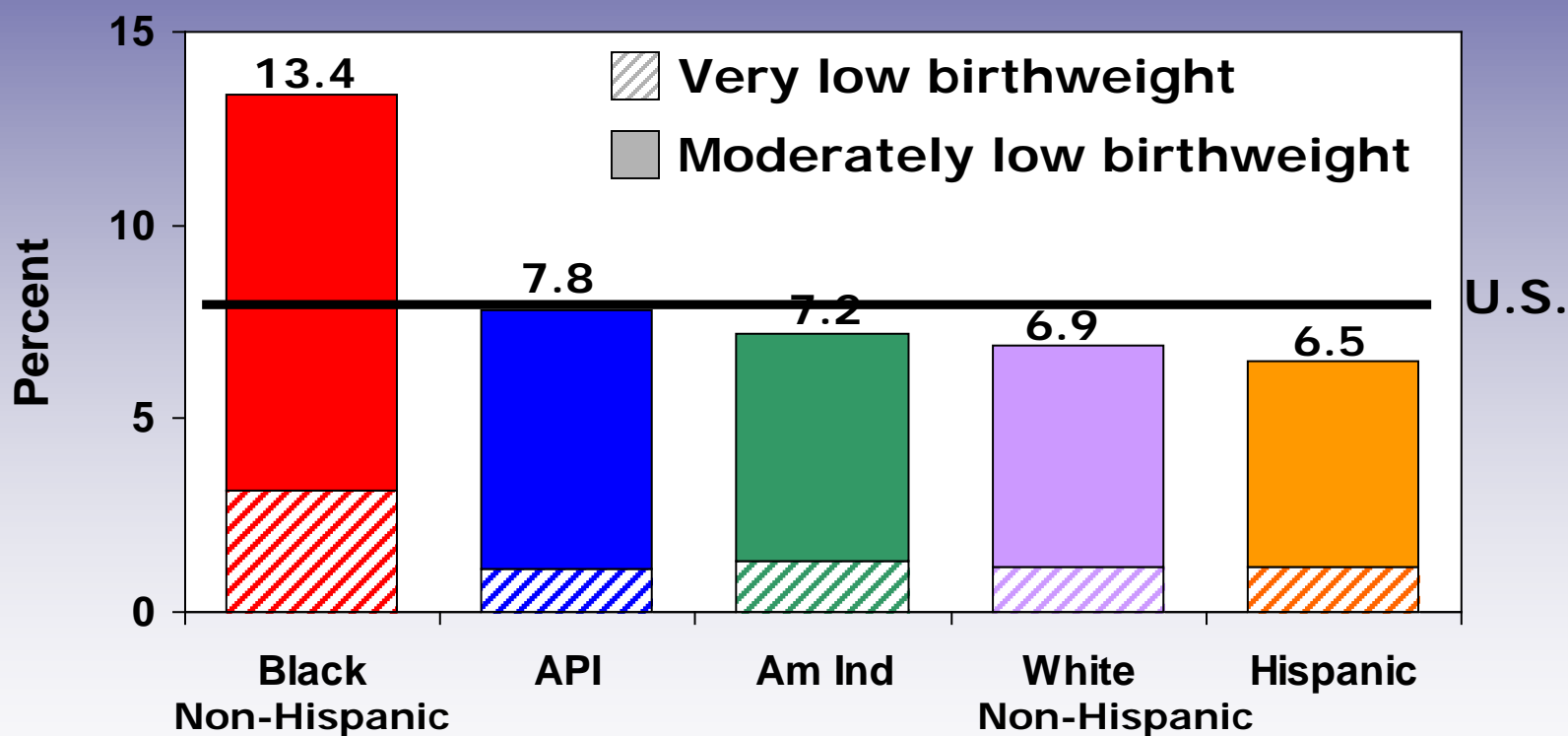
NOTE: Preterm is less than 37 completed weeks of gestation. Low birthweight is less than 2,500 grams.
SOURCE: National Vital Statistics System NCHS CDC

Preterm birth rates by race: U.S., 2002



SOURCE: National Vital Statistics System, NCHS, CDC.

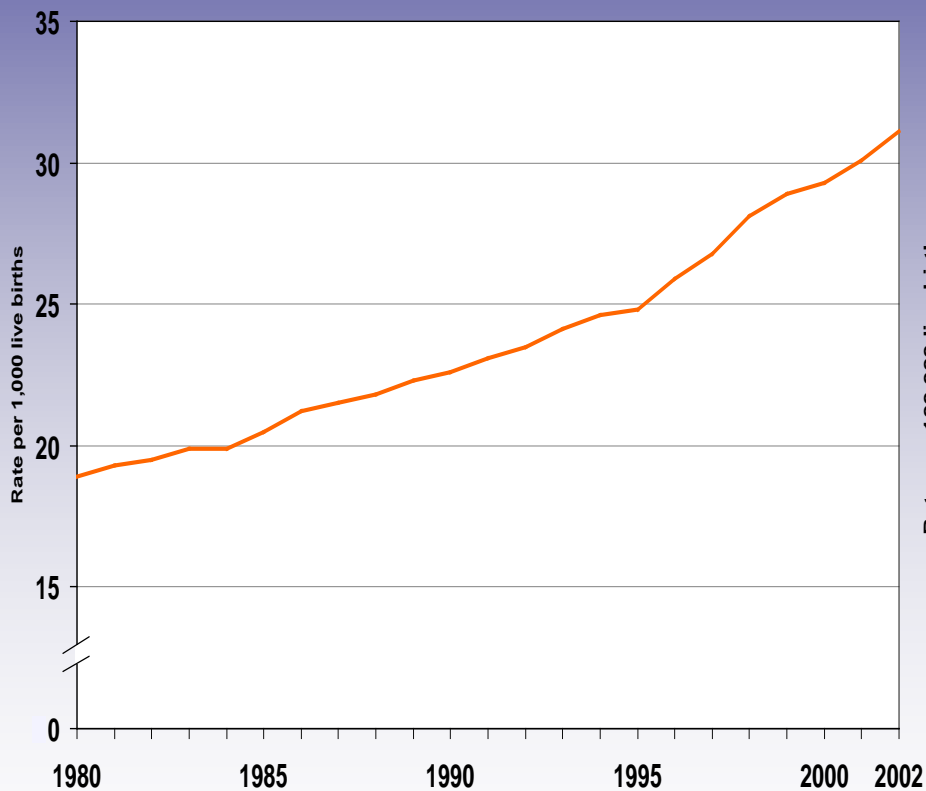
Low birthweight rates by race: U.S., 2002



SOURCE: National Vital Statistics System, NCHS, CDC.

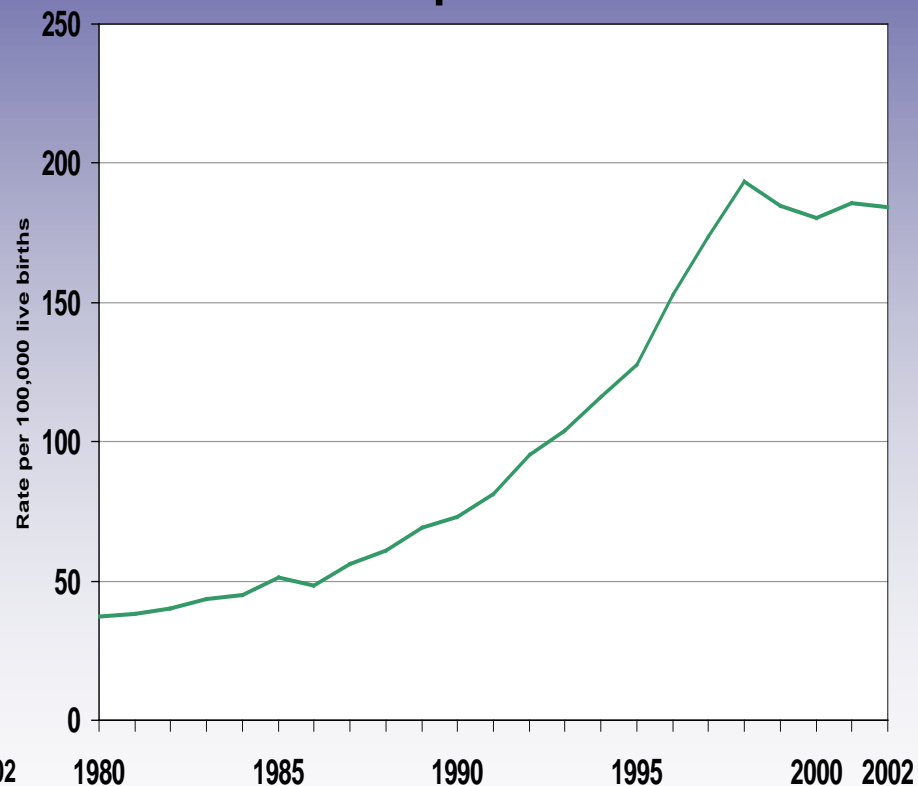
Twin and triplet birth rates: United States, 1980-2002

Twin



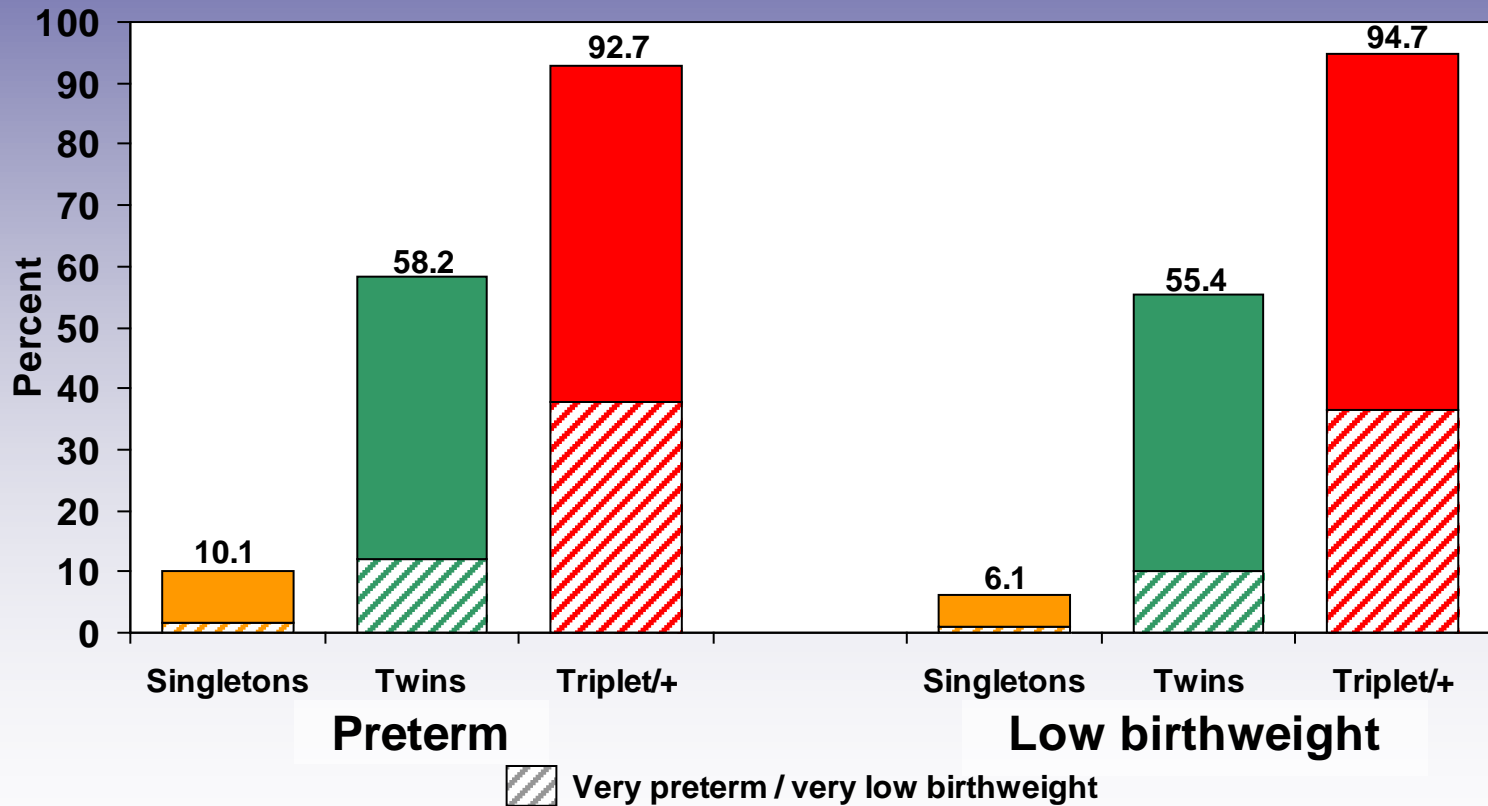
NOTE: Twin birth rate is the number of live born infants in twin deliveries per 1,000 live births.
SOURCE: National Vital Statistics System, NCHS, CDC.

Triplet



NOTE: Triplet+ birth rate is the total number of live born infants in triplet+ deliveries per 1,000 live births.
Triplet+ includes births in greater than twin deliveries.
SOURCE: National Vital Statistics System, NCHS, CDC.

Preterm and low birthweight rates by plurality: U.S., 2002



SOURCE: National Vital Statistics System, NCHS, CDC.

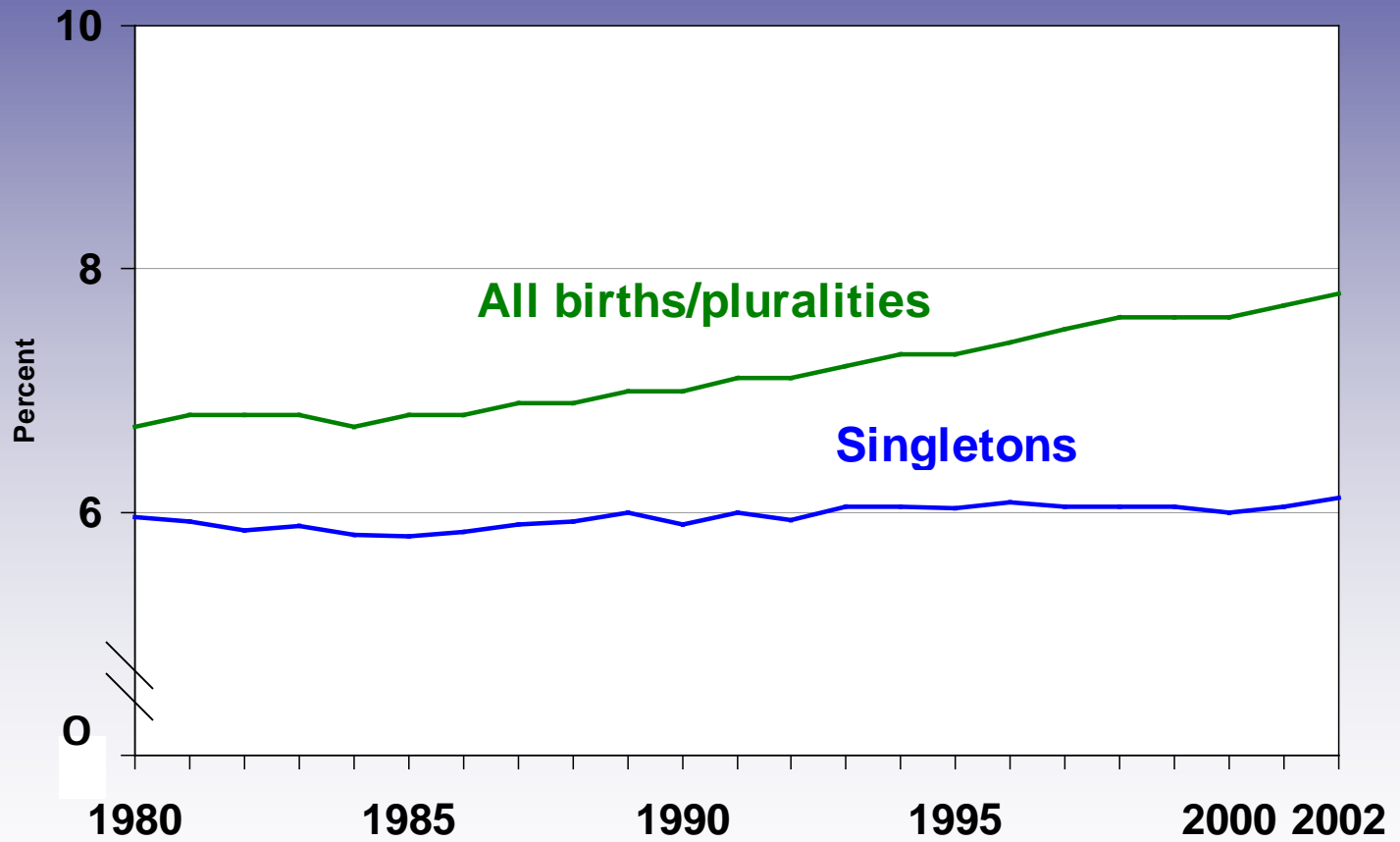
Infertility Therapies

- ✓ Increased risk of multiple births
- ✓ Increased risk of preterm/lbw singleton births ?



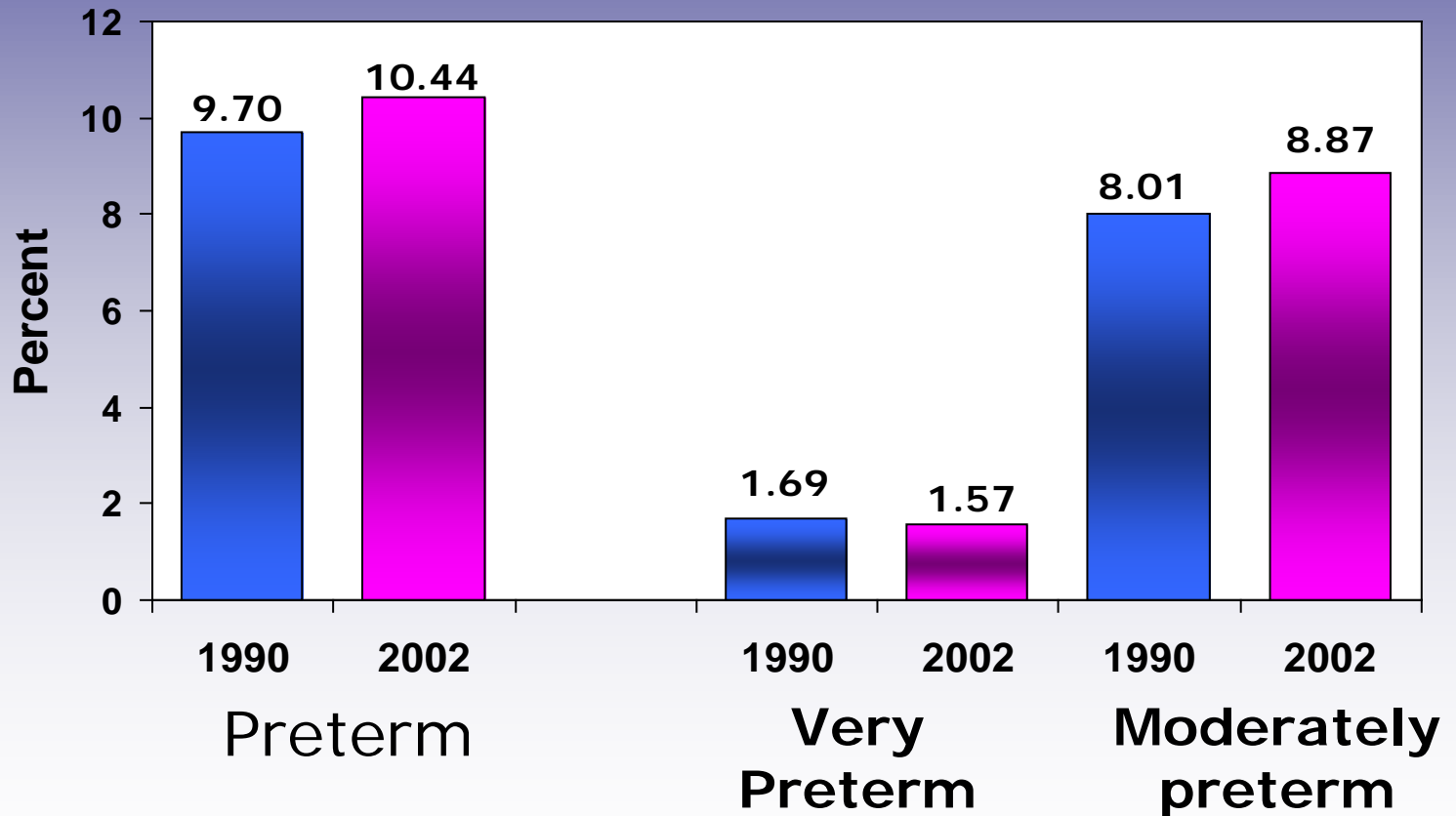
**Assisted Reproductive Technologies =
1% of all 2001 births**

Percent low birthweight for all births and for singletons only: U.S., 1980-2002

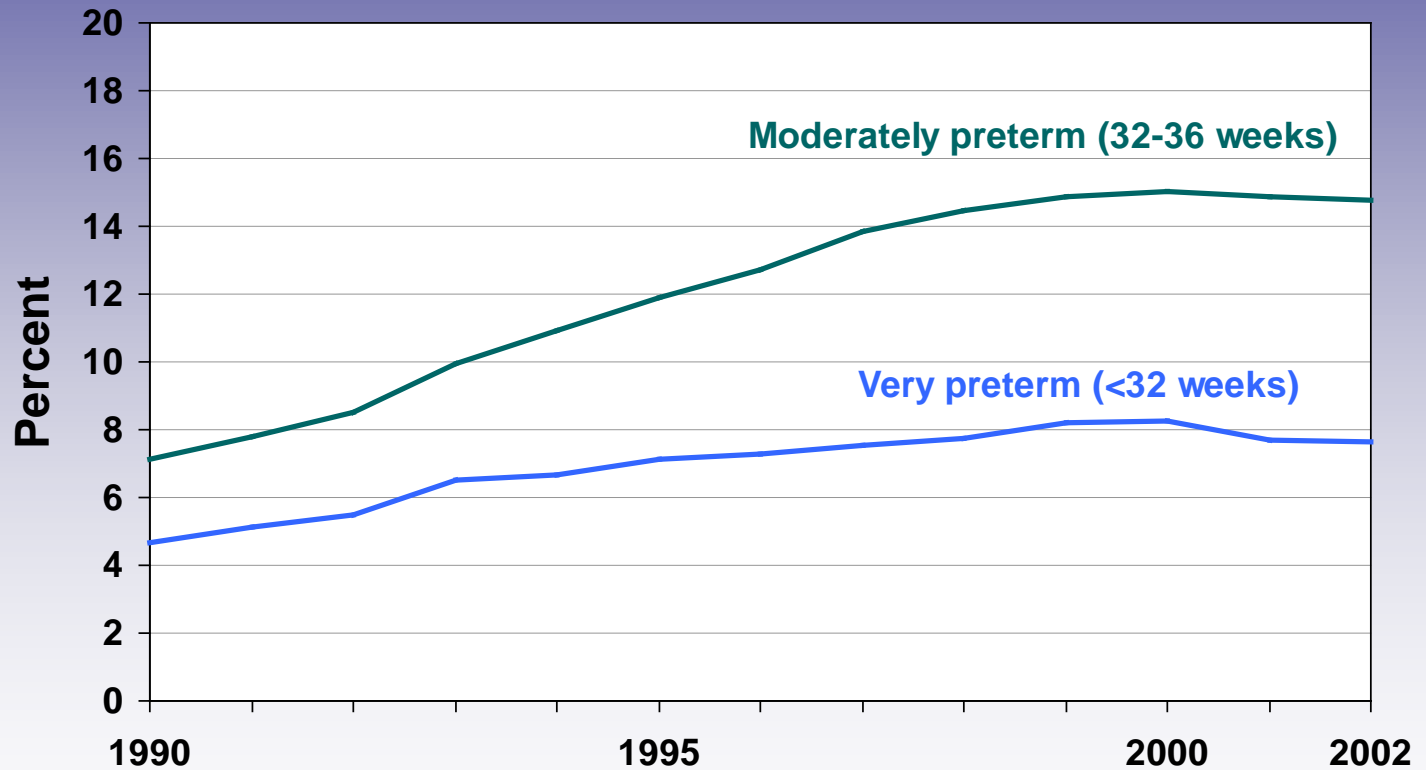


NOTE: Low birthweight is less than 2,500 grams.
SOURCE: National Vital Statistics System, NCHS, CDC.

Preterm birth rates for singletons: U.S. 1990 and 2002

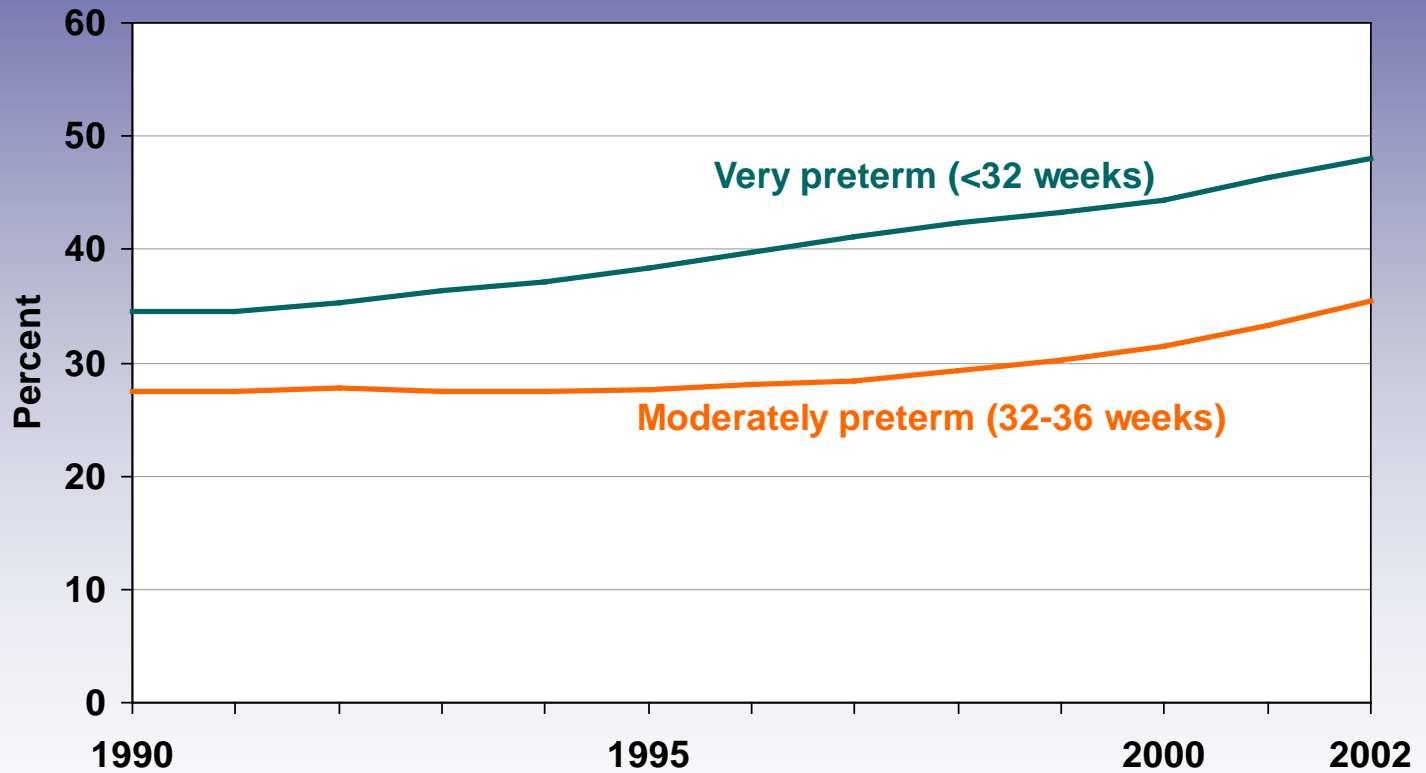


Rates of induction of labor by length of gestation: U.S., 1990-2002



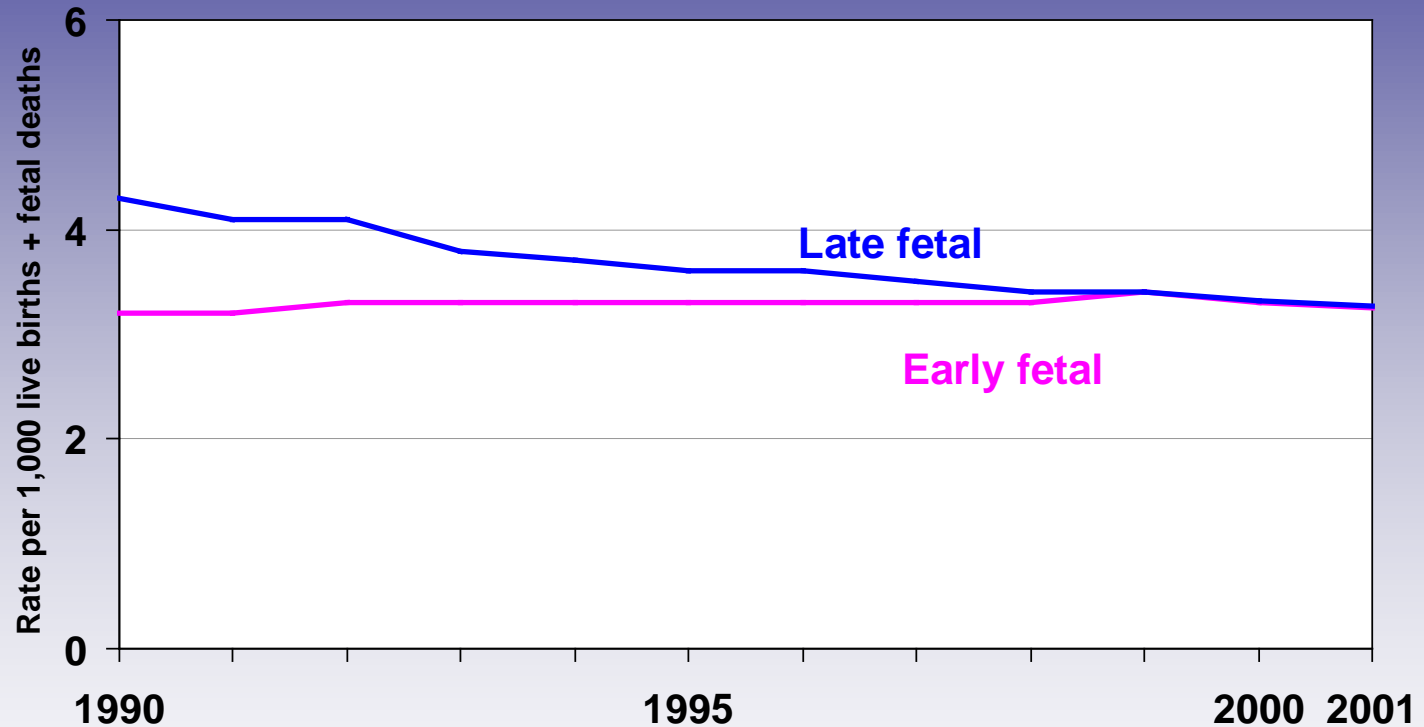
NOTES: Oklahoma did not report induction in 1990.
SOURCE: National Vital Statistics System, NCHS, CDC.

Rates of cesarean delivery by length of gestation: United States, 1990-2002



SOURCE: National Vital Statistics System, NCHS, CDC.

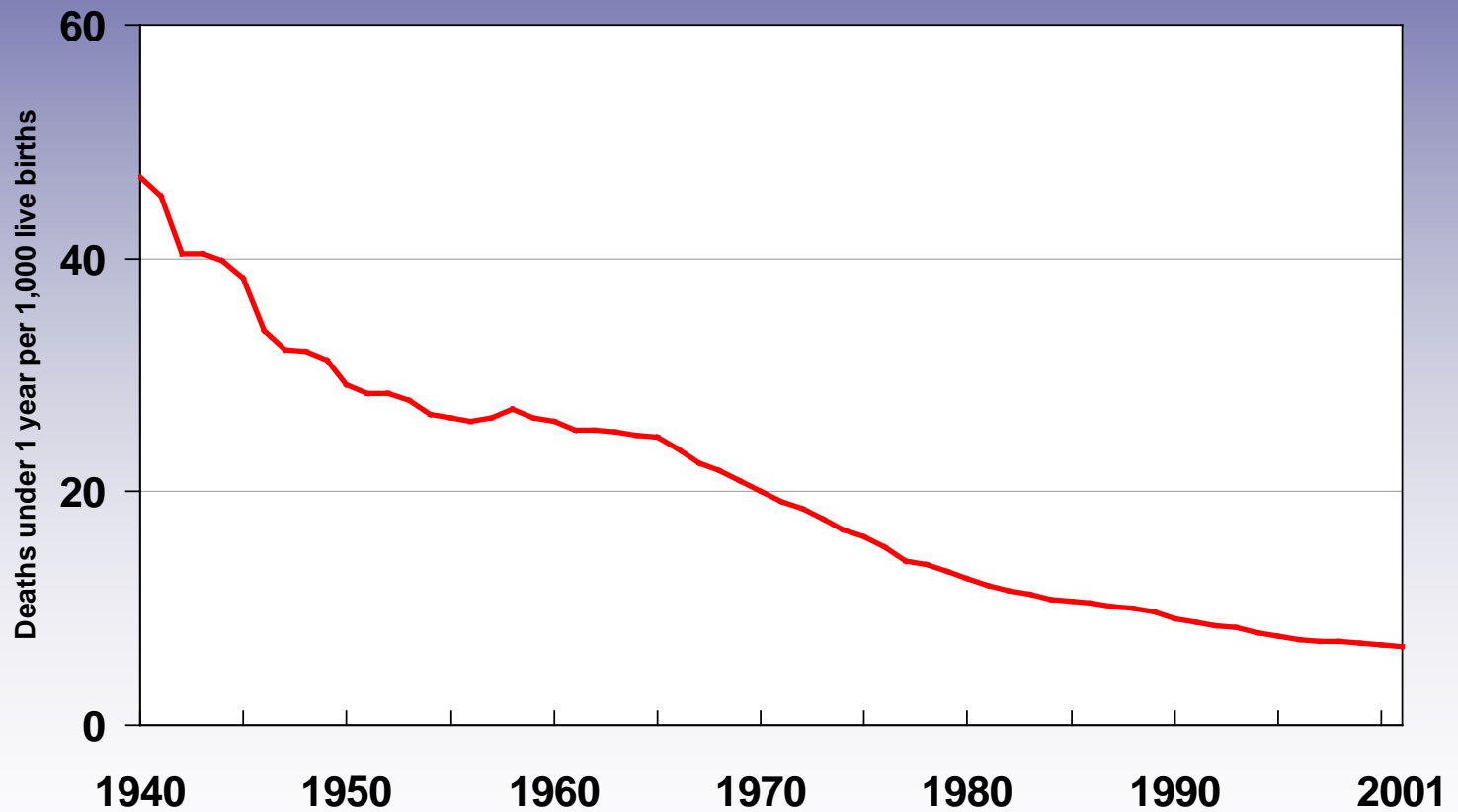
Early and late fetal mortality rates: U.S. 1990-2001



Early fetal mortality rate = fetal deaths with stated or presumed gestational ages of <28 weeks per 1,000 live births plus fetal deaths. Late fetal mortality rate = deaths with stated or presumed gestational ages of 28 weeks or more per 1,000 live births plus fetal deaths.

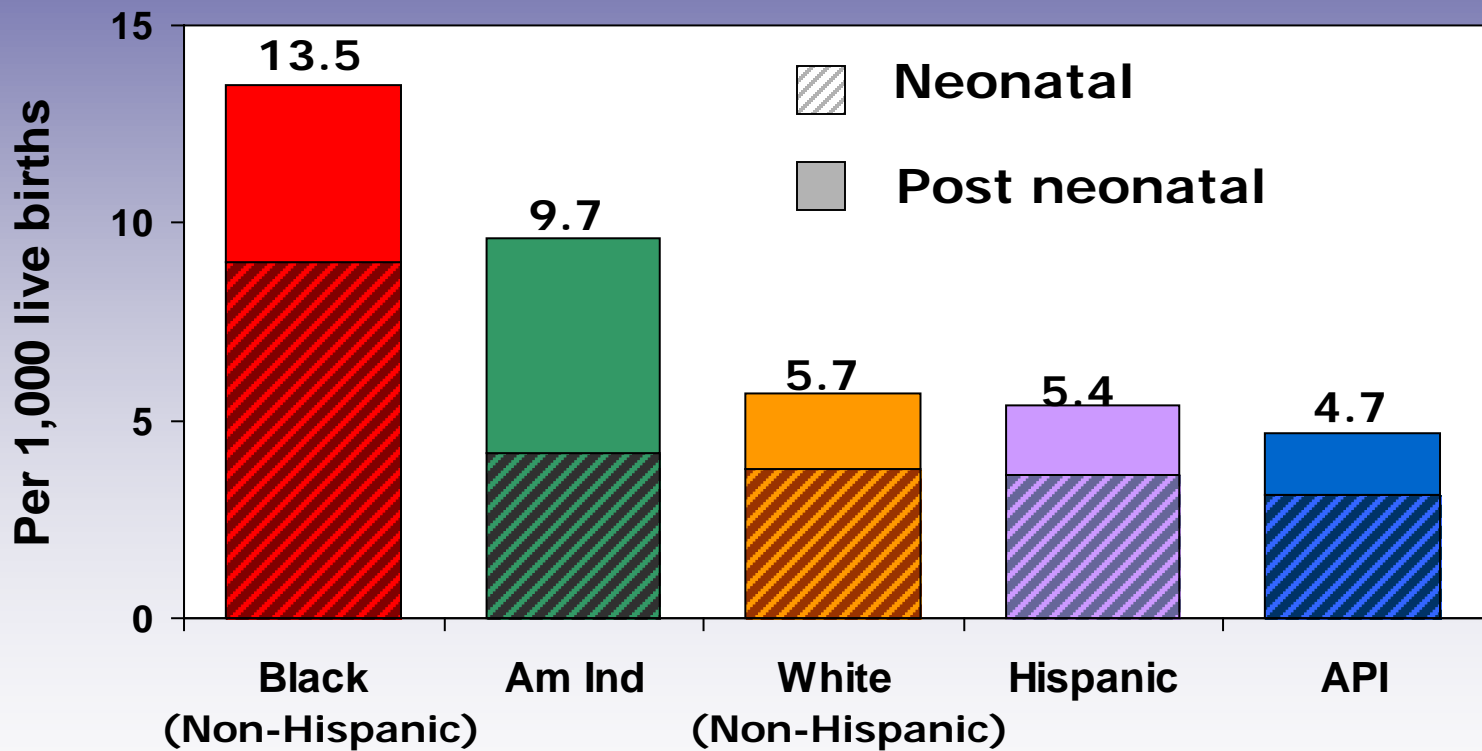
Source: National Vital Statistics System, NCHS, CDC.

Infant mortality rate: United States, 1940-2001



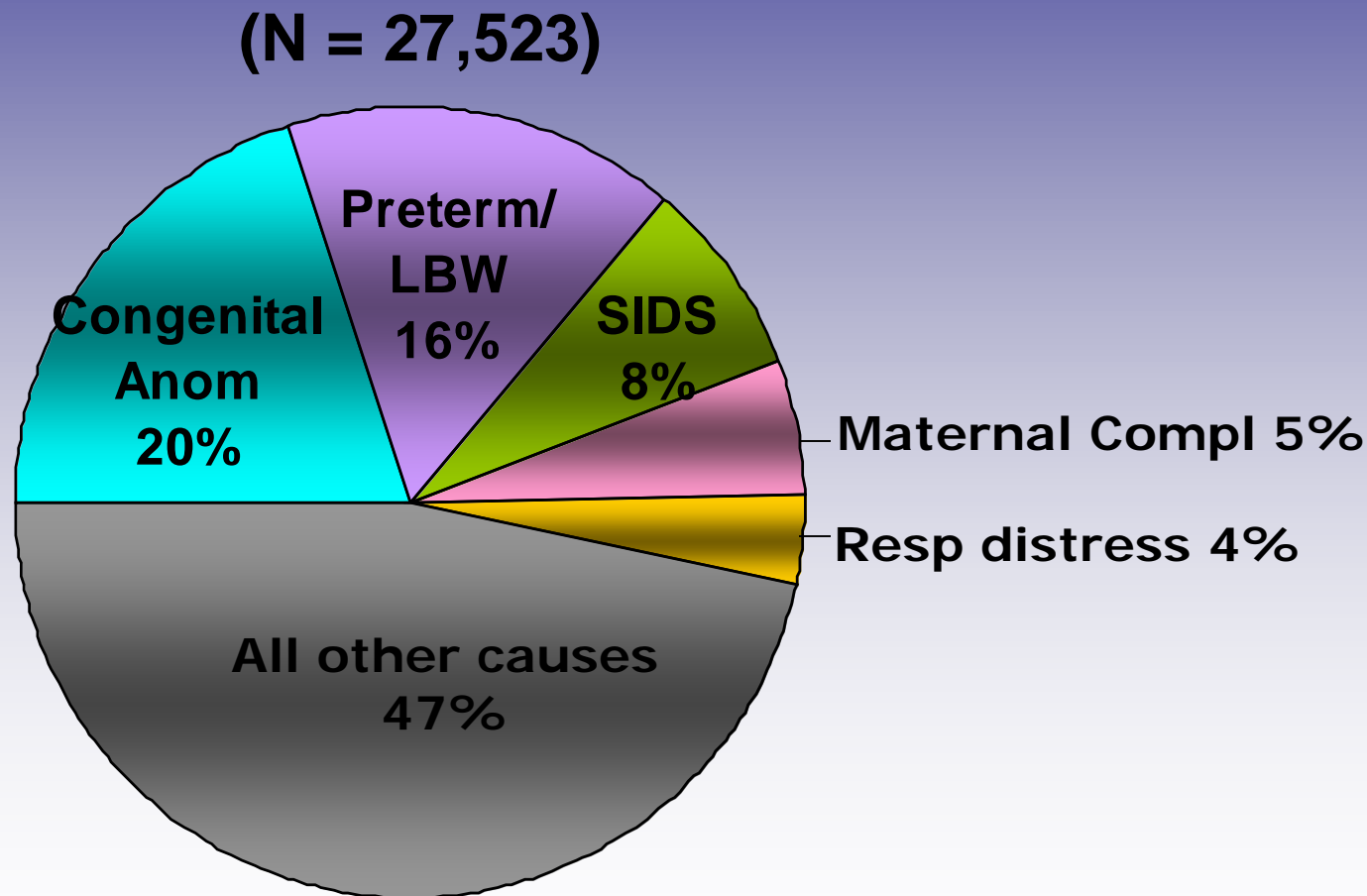
SOURCE: National Vital Statistics System, NCHS, CDC.

Neonatal, post neonatal and infant mortality rates by race and Hispanic origin: U.S., 2001



SOURCE: National Vital Statistics System, NCHS, CDC.

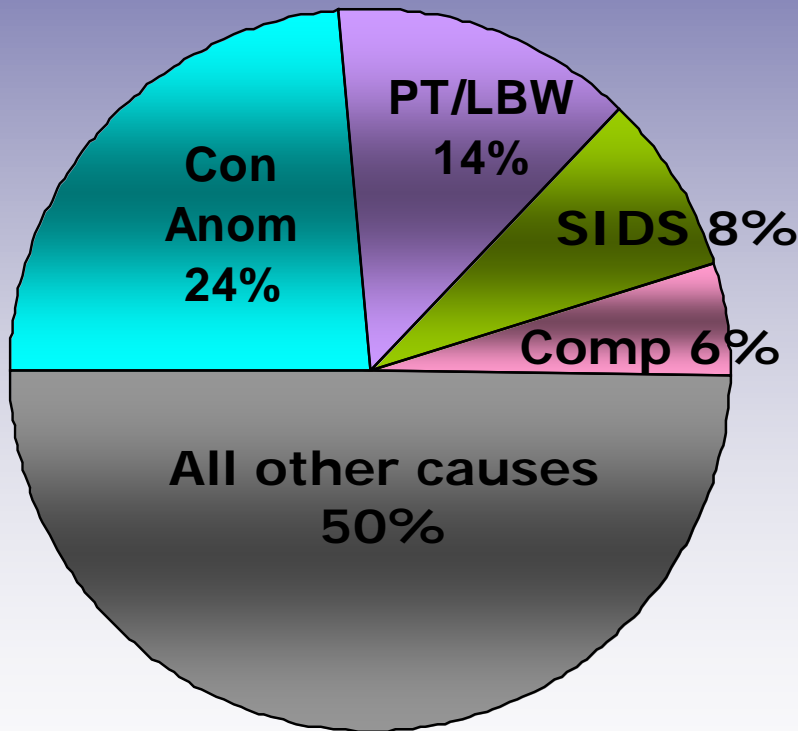
Distribution of 5 leading causes of infant death: U.S., 2001



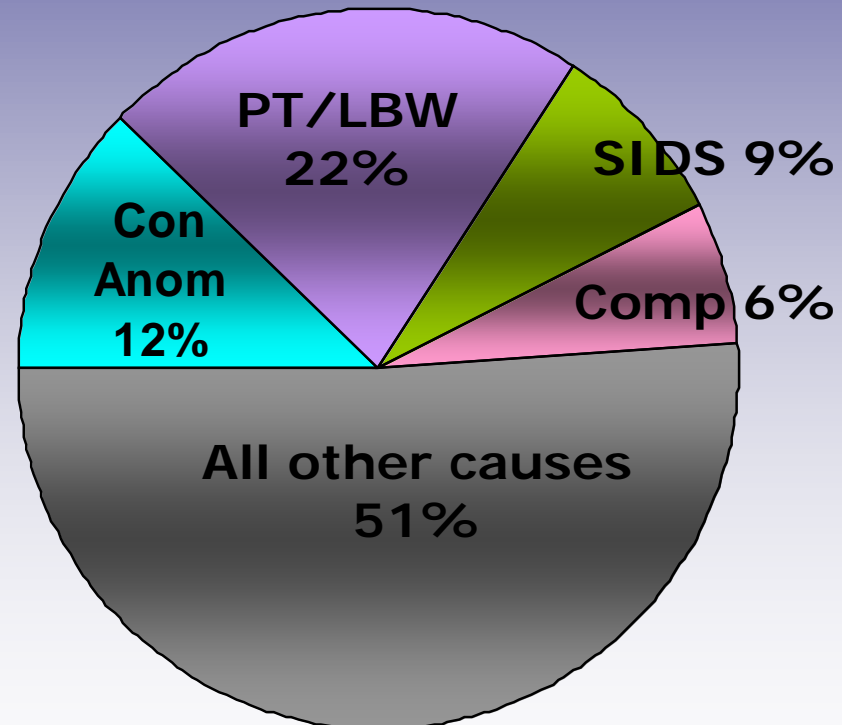
SOURCE: National Vital Statistics System, NCHS, CDC.

Distribution of 4 Leading causes of infant death by race of mother: U.S., 2001

White 18,087

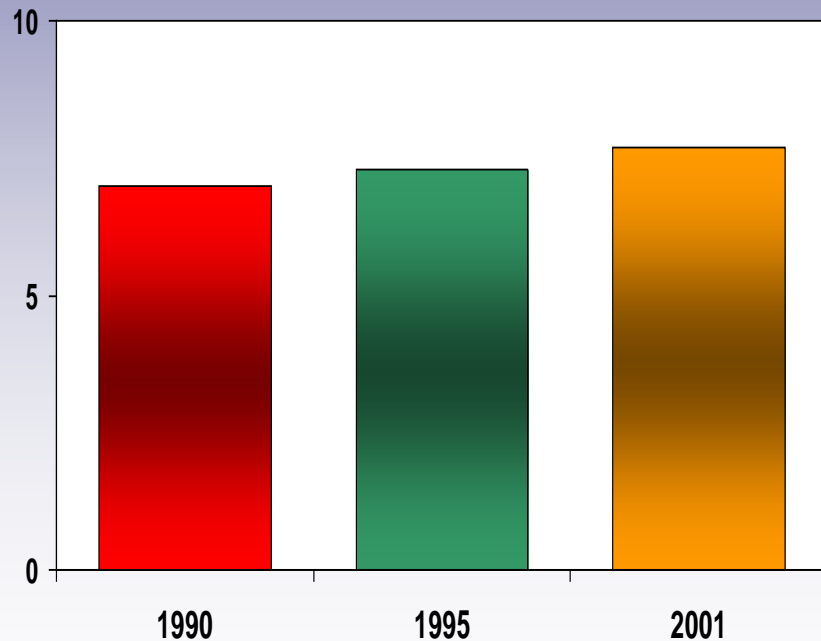


Black 8,084

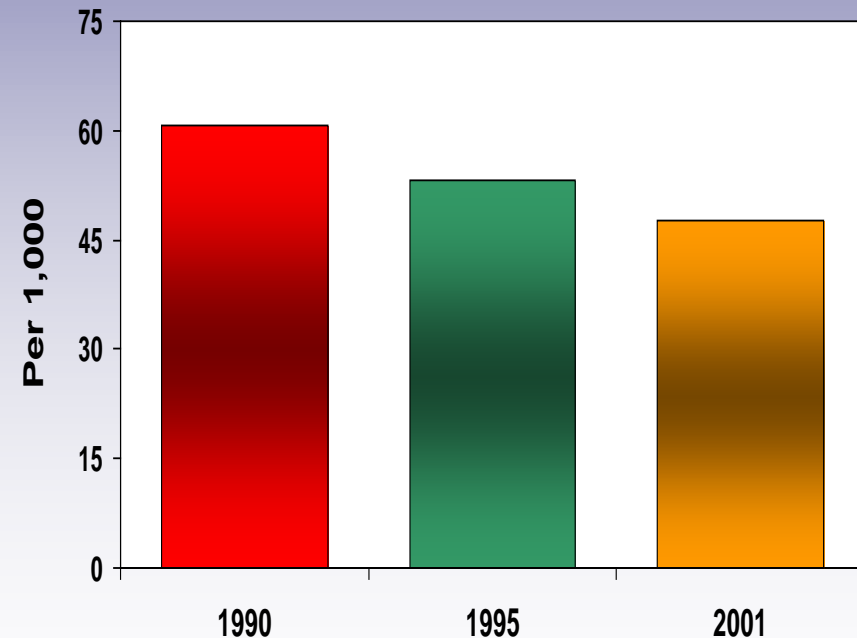


Percent of all infants born LBW* and neonatal mortality rates among LBW infants : U.S., 1990, 1995, 2001

Percent of infants
<2,500 grams



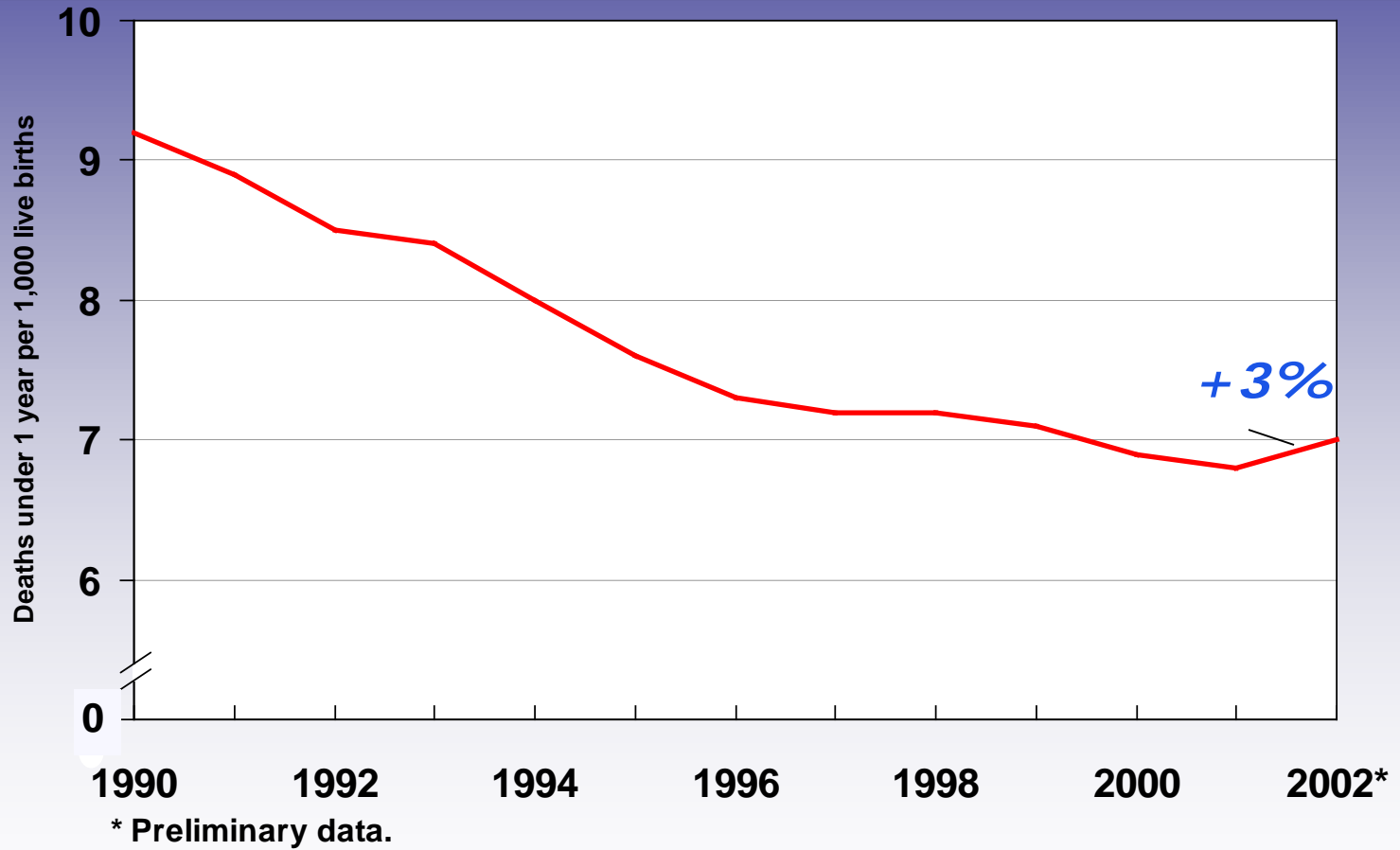
Neonatal mortality
at <2,500 grams



*LBW= <2,500 grams

Source: National Vital Statistics System, CDC, NCHS.

Infant mortality rate: United States, 1990-2002



SOURCE: National Vital Statistics System, NCHS, CDC.

Preliminary infant mortality rates by race, 2001-2002

- ➡ **Non-Hispanic white:
5.7 to 5.9* per 1,000**
- ➡ **Black:
14.0 to 14.3 per 1,000**

*Statistically significant at .05

Infant deaths and infant, neonatal, and postneonatal mortality rates: United States, preliminary 2002, and final 2001

[Rates per 1,000 live births]

Year	Infant deaths	Infant mortality rate				
		Total	Neonatal (Under 28 days)		Postneonatal (28 days – 11 months)	
			Total	Under 7 days		7-27 days
2002 ¹	28,042	<u>7.0</u>	<u>4.7</u>	<u>3.7</u>	0.9*	2.3
2001	27,568	6.8	4.5	3.6	0.9	2.3

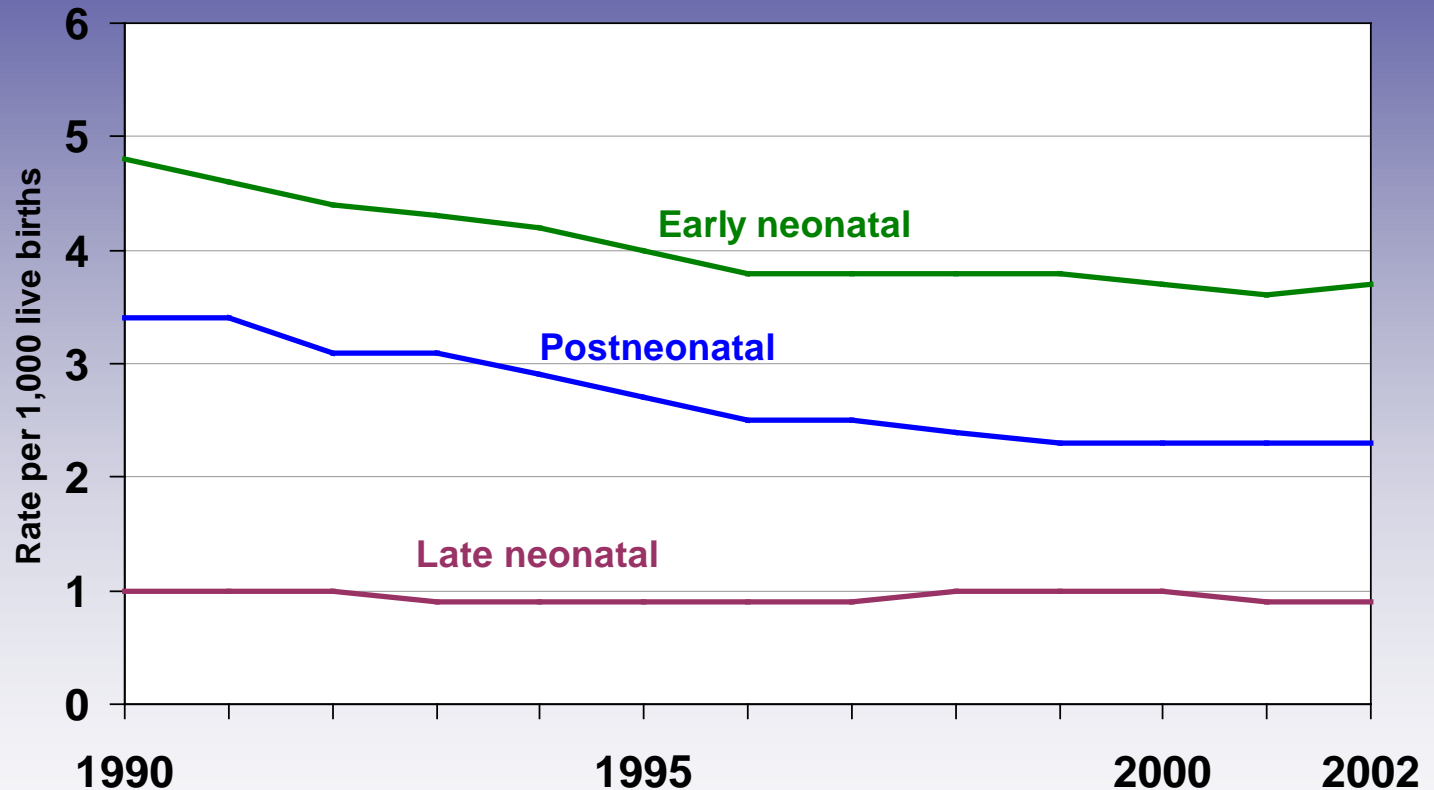
¹ Partially edited data processed through January 2004.

*2001 = 0.908, 2002 = 0.931

NOTE: Bold underlined numbers indicate a statistically significant difference with the previous year.

SOURCE: National Vital Statistics System, NCHS, CDC.

Early and late neonatal and postneonatal mortality rates: U.S., 1990-2002



Note: Rates for 2002 are based on partially edited data processed as of January, 2004.

Early neonatal mortality rate = deaths to infant < 7 days per 1,000 live births. Late neonatal mortality rate = deaths to infants 7-27 days. Postneonatal mortality rate = deaths to infants 28 days - 1 year per 1,000 live births.

Source: National Vital Statistics System, NCHS, CDC.

Infant mortality rates by leading causes: United States, preliminary 2002, and final 2001

[Rates per 100,000 live births]

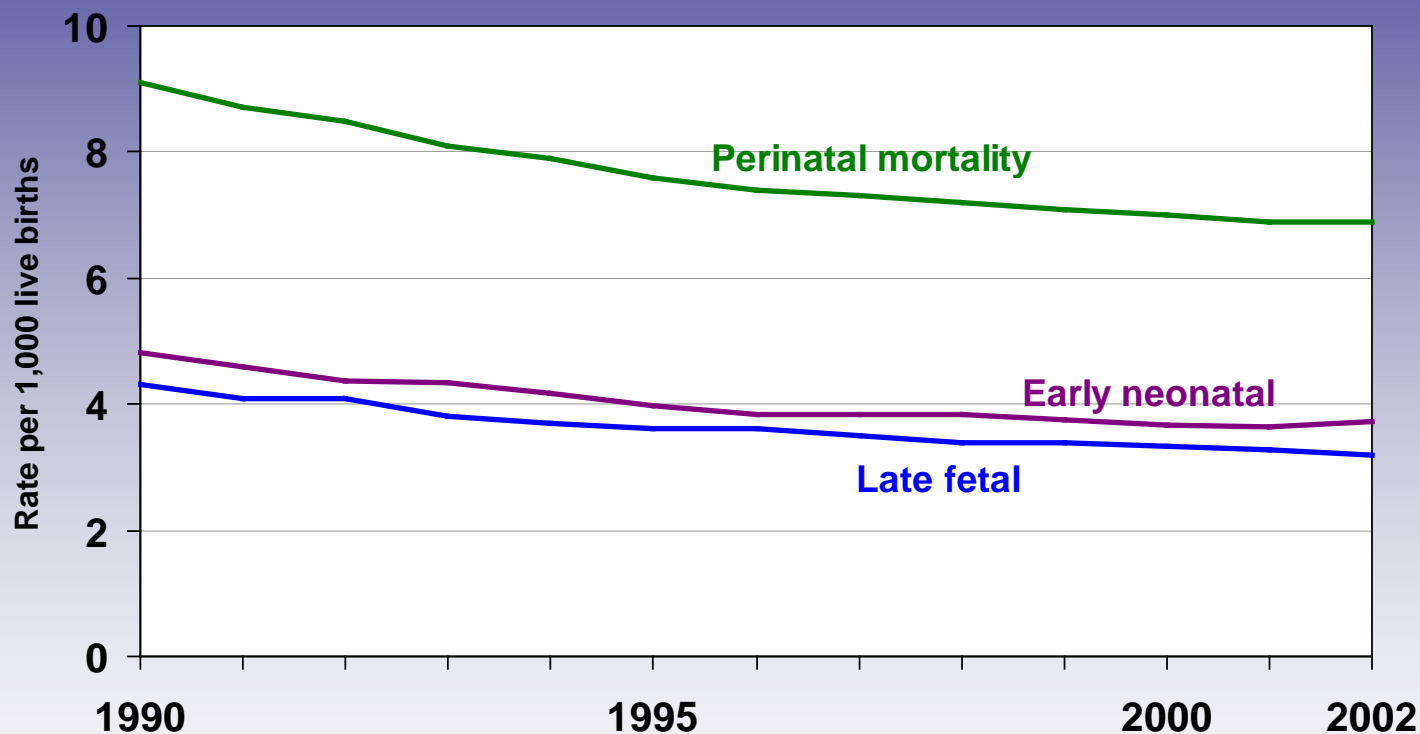
Cause of death ¹	2002 ²	2001
Congenital malformations, deformations and chromosomal abnormalities	<u>140.7</u>	136.9
Disorders relating to short gestation and low birthweight, not elsewhere classified	<u>114.4</u>	109.5
Sudden infant death syndrome	50.6	55.5
Newborn affected by maternal complications of pregnancy	<u>42.9</u>	37.2

¹ World Health Organization. International Statistical Classification of Diseases and Related Health Problems, Tenth Revision. Geneva: World Health Organization. 1992.

² Preliminary data for 2002 processed through July 10, 2003.

SOURCE: National Vital Statistics System, NCHS, CDC.

Perinatal, late fetal, and early neonatal mortality rates, 1990-2002



Note: Rates for 2002 are based on partially edited data processed as of January, 2004.

Perinatal mortality rate = late fetal deaths plus infant deaths <7 days per 1,000 live births plus late fetal deaths.

Early neonatal mortality rate = deaths to infants <7 days per 1,000 live births.

Late fetal mortality rate = fetal deaths with stated or presumed gestational ages of 28 weeks or more per 1,000 live births plus late fetal deaths.

Source: National Vital Statistics System, NCHS, CDC.

Supplemental Analyses



NCHS Health & Stats

Supplemental Analyses of Recent Trends in Infant Mortality

by Kenneth D. Kochanek, M.A., and Joyce A. Martin, M.P.H.

Overview

Preliminary data for 2002 indicate an increase in the infant mortality rate (IMR) to 7.0 deaths per 1,000 live births from 6.8 in 2001 (1) (table 1). To better understand the increase in the IMR for 2002, the Centers for Disease Control and Prevention's

Stay tuned....

Data from the **Linked Birth/Infant Death Data Set** will allow us to more fully explain this troubling change in infant mortality for 2002

- Report scheduled for release late summer 2004



Re-engineered vital statistics systems

More immediate, more thorough analysis

More timely, higher quality data

- Data released within months of event
- Births/infant deaths automatically linked – data available simultaneously

New, improved items

- Pregnancy risk factors - Infertility therapies, hypertension
- Infections
- Method of delivery
- Pregnancy status at death



www.cdc.gov/nchs/nvss.htm

The screenshot shows a Microsoft Internet Explorer browser window with the address bar set to <http://www.cdc.gov/nchs/nvss.htm>. The page content includes the CDC logo, a navigation menu on the left, and the main heading "nchs National Center for Health Statistics ... Monitoring the Nation's Health". Below this is the "NVSS National Vital Statistics System" section, which contains a list of links and a paragraph of text.

Navigation Menu (Left):

- About NCHS
- NCHS en Español
- FASTSTATS A to Z
- Help
- Events
- Surveys and Data Collection Systems
 - NHANES
 - NHCS
 - NHIS
 - NIS
 - NSFG
 - SLAITS
 - Vital Statistics
- Initiatives
 - Aging
 - Disease Classification
 - Healthy People
 - Injury
- Research and Development

Main Content:

nchs National Center for Health Statistics ... Monitoring the Nation's Health

NVSS National Vital Statistics System

[NCHS Home](#) | [NVSS Home](#) | [Birth Data](#) | [Mortality Data](#) | [Fetal Death Data](#) | [Marriages and Divorces](#) | [Linked Births/Infant Deaths](#) | [NSFG](#) | [NMFS](#) | [NMIHS](#) | [National Death Index](#) | [2003 Revisions of the US Vital Certificates](#) | [CDC/NCHS Privacy Policy Notice](#) | [Accessibility](#) | [Search NCHS](#) | [NCHS Definitions](#) | [Contact us](#)

The National Vital Statistics System is the oldest and most successful example of inter-governmental data sharing in Public Health and the shared relationships, standards, and procedures form the mechanism by which NCHS collects and disseminates the Nation's official vital statistics. These data are provided through contracts between NCHS and **vital registration systems operated in the various jurisdictions** legally responsible for the registration of vital events--**births, deaths, marriages, divorces**, and **fetal deaths**. In the United States, legal authority for the registration of these events resides individually with the 50 States, 2 cities (Washington, DC, and New York City), and 5 territories (Puerto Rico, the Virgin Islands, Guam, American

Taskbar (Bottom): Start button, Internet Explorer icon, and system tray showing the time as 12:54 PM.