

NATIONAL VITAL STATISTICS FETAL DEATH DATA

Joyce
Martin

Elizabeth
Wilson

Marian
MacDorman



NCHS collaborates with US states and independent reporting areas via the National Vital Statistics System (NVSS) to develop and disseminate:

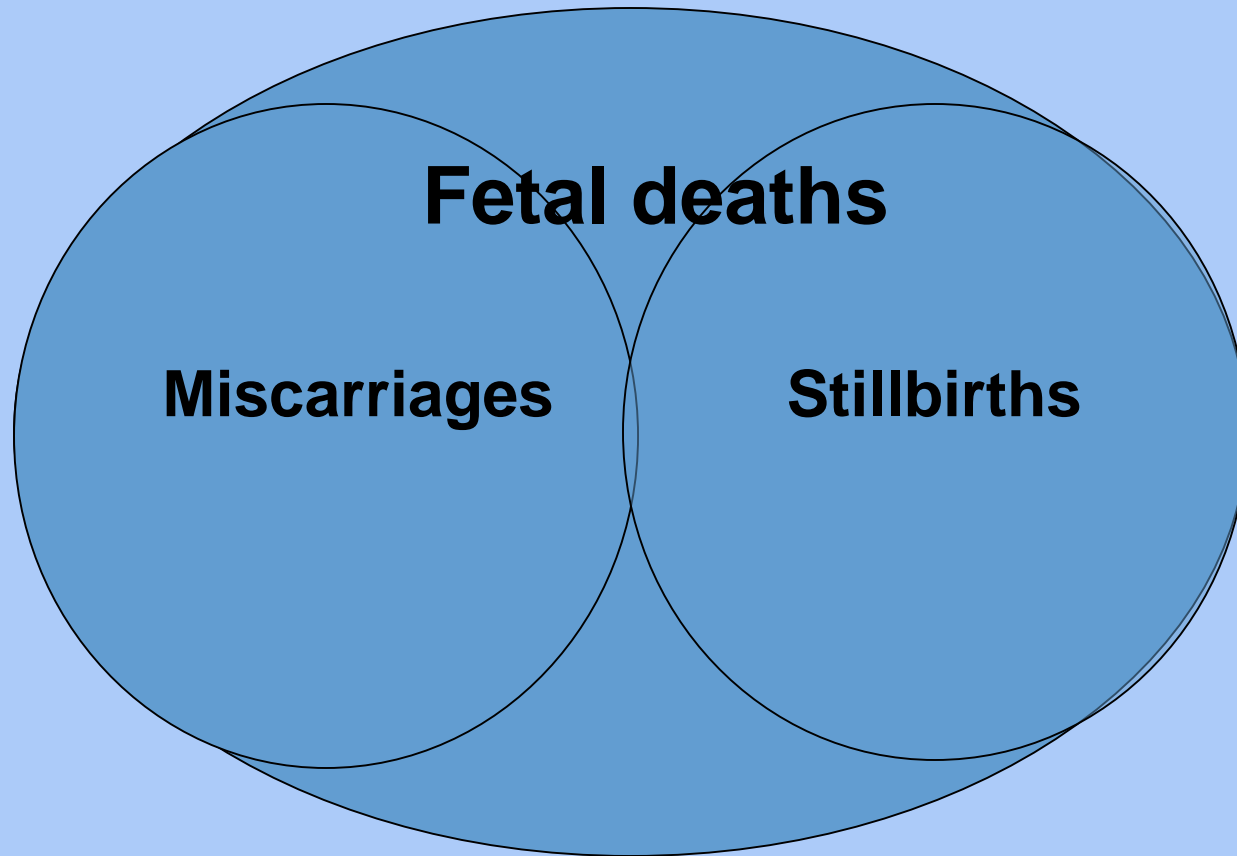
- National vital statistics birth, death and fetal death data
- Annual and special reports on national vital statistics data
- Standard U.S. Certificates of Live Birth, Death and Report of Fetal Death
 - Standardized instructions and specifications for electronic systems
- Model State Vital Statistics Act and Regulations (aka Model Law)
- CDC/NCHS has **no authority to register vital events or require states to report** – responsibility rests with states and independent reporting areas
- NCHS required **by law** to produce national vital statistics files

FETAL DEATH DEFINITION

...death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy and which is not an induced termination of pregnancy. The death is indicated by the fact that after such expulsion or extraction, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps.

Source: Model Law, 1992 Revision

FETAL DEATHS

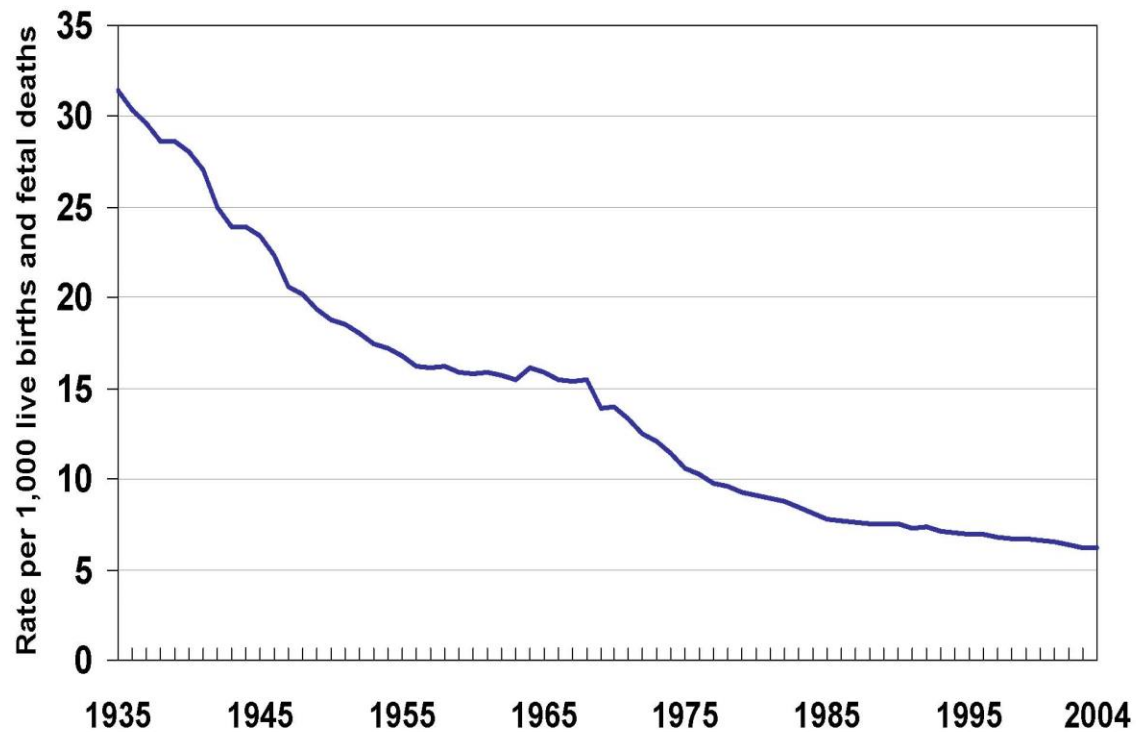


Death in utero; does not included induced terminations of pregnancy

REPORTING REQUIREMENTS (50 STATES, NYC AND DC)

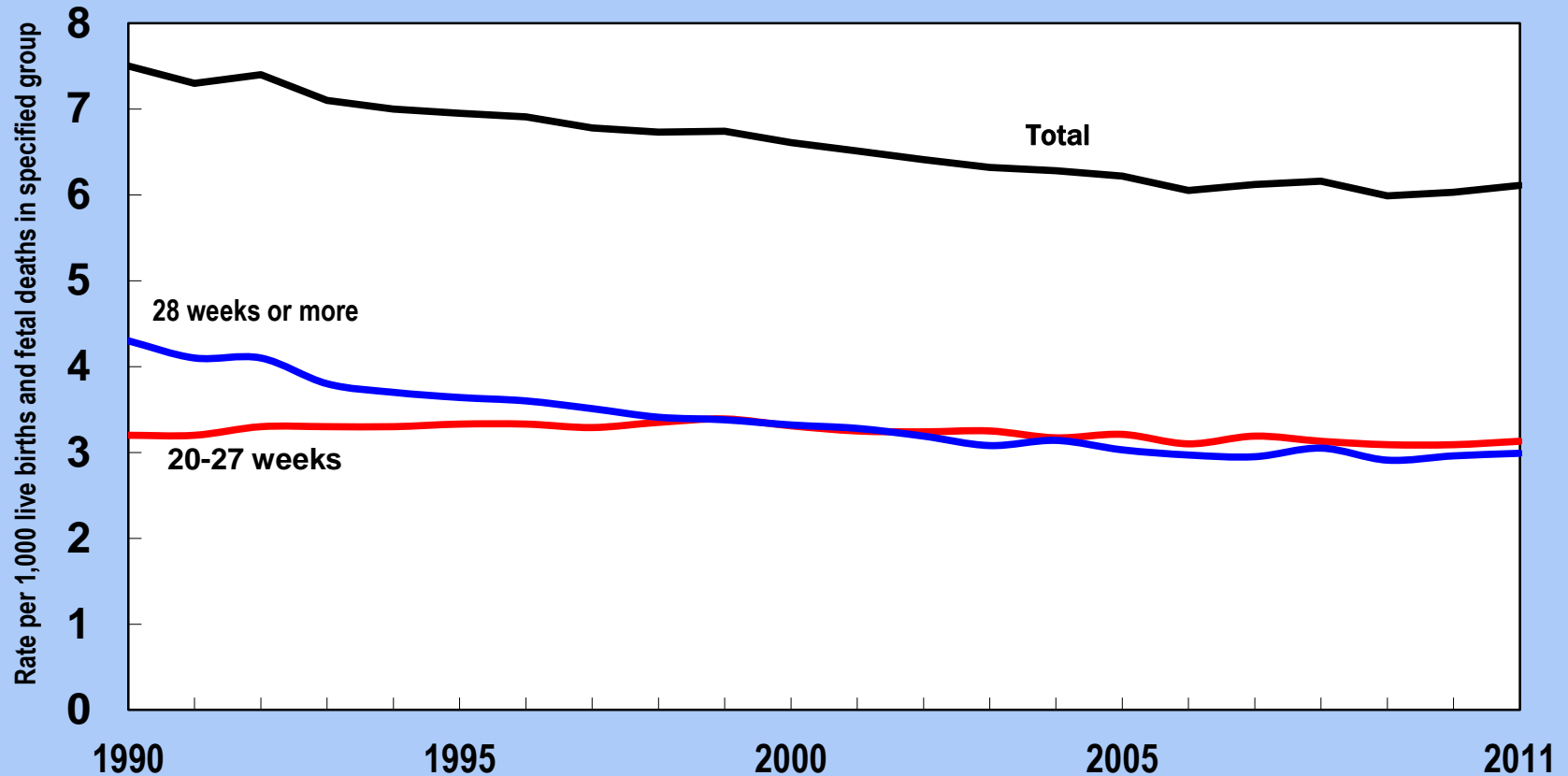
GA and birthweight at which areas require fetal deaths be reported	Number of reporting areas
All fetal deaths (all periods)	8
Gestation at 16 weeks	1
Gestation at 20 weeks	25
Birthweight at 350g/gestation at 20 weeks	11
Birthweight at 350g	3
Gestation at 20 weeks/birthweight at 400g	1
Gestation at 20 weeks/birthweight at 500g	1
Birthweight at 500 g	2

Fetal mortality rates: US, 1935-2004



SOURCE: For fetal deaths of 20 weeks of gestation or more. CDC/NCHS; National Vital Statistics System.

FETAL MORTALITY RATES BY PERIOD OF GESTATION: UNITED STATES, 1990-2011



SOURCE: CDC/NCHS; National Vital Statistics System.

THE 2003 REVISION OF THE US STANDARD REPORT OF FETAL DEATH

OPPORTUNITY TO IMPROVE DATA QUALITY

- New and modified data items believed to be collectable with reasonable completeness and accuracy
- Standardization of data collection processes across jurisdictions

The image shows a sample of the U.S. Standard Report of Fetal Death form, which is a complex document used for reporting fetal deaths. The form is divided into several sections, including:

- MOTHER:** Contains information about the mother, such as her name, address, and medical history.
- FATHER:** Contains information about the father, including his name and address.
- DISPOSITION AND REGISTRATION INFORMATION:** Provides details about the disposition of the fetus and the registration of the death.
- CAUSE OF FETAL DEATH:** This is the most detailed section, containing a list of potential causes of death and a space for the medical examiner to provide a detailed report.
- 1B. CAUSE/CONDITIONS CONTRIBUTING:** A section for listing contributing conditions.
- Medical History:** A section for providing a detailed medical history of the mother and fetus.

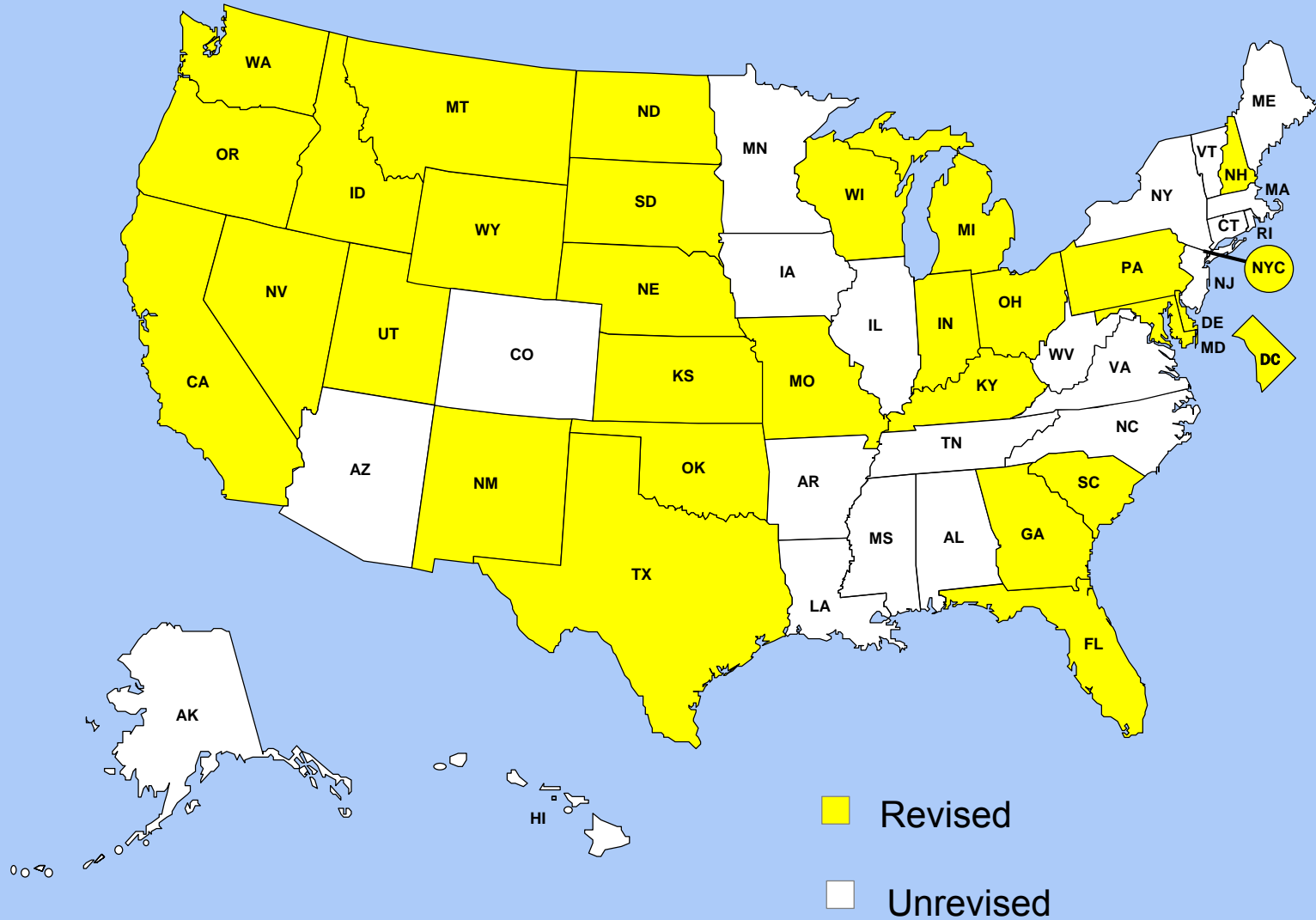
The form is designed to be filled out by a medical professional, such as a physician or medical examiner, and is used to provide a standardized report of fetal death to the state and federal health departments.

THE U.S. STANDARD REPORT OF FETAL DEATH

The US Standard Fetal Death report was revised with changes similar to the birth certificate. Items on the report include:

- ✓ Race, Hispanic origin
- ✓ Age, marital status of mother
- ✓ Prenatal care
- ✓ Tobacco use
- ✓ Pregnancy risk factors
- ✓ Place of delivery, attendant
- ✓ Method of delivery
- ✓ Congenital anomalies
- ✓ Cause of death

2011 Revised States



QUALITY OF VITAL STATISTICS FETAL DEATH DATA

- ☹️ **Some under-reporting of deaths at 20+ weeks**
- ☹️ **Specific data items problematic - especially medical and health data**
- ☹️ **Large differences in data quality by state**
- 😊 **Quality tends to improve as gestational age increases**
- 😊 **Data quality improving over time**

PERCENT OF UNKNOWN RESPONSES FOR SELECTED VARIABLES, FETAL DEATHS AND LIVE BIRTHS: UNITED STATES, 2011

	<u>Fetal deaths</u>			Live Births
	Total weeks	20-27 weeks	28+	
Marital Status*	3.9	4.2	3.1	0.1
Hispanic Origin	4.1	4.5	3.4	0.7
Period of Gestation^	1.1	n/a	n/a	0.2
Birthweight	9.5	11.7	7.0	0.1

* Marital status not reported in all states

^ Based on obstetric estimate

EFFORTS TO IMPROVE DATA QUALITY

■ The e-vitals initiative

- Decade-long NCHS/NAPHSIS* effort to develop standards to allow for the capture of medical and health information from hospital electronic medical records to the electronic vital statistics reporting systems.
- Interoperability with EHRs should improve timeliness, completeness and accuracy of fetal death data.
- New **NAPHSIS/NCHS workgroup** tasked with assessing current status of national fetal death system and recommending changes



*National Association of Public Health Statistics and Information Systems

RECENT DATA RELEASES

- **2010-2011** national fetal death data files and User Guides with data tables now available
- Upcoming report describing trends in fetal mortality
- Annual reports to resume with 2012 data year


NCHS Data Brief ■ No. 16 ■ April 2009

The Challenge of Fetal Mortality

Marian F. MacDorman, Ph.D., and Sharon Kirmeyer, Ph.D., Division of Vital Statistics

Key findings
Data from the Fetal Death Data File and Linked Birth/Infant Death Data Set, National Vital Statistics System

Fetal mortality is a major, but often overlooked, public health problem. Fetal mortality refers to spontaneous intrauterine death at any time during pregnancy. Fetal deaths later in pregnancy are sometimes referred to as stillbirths (at 20 weeks of gestation or more, or 28 weeks or more, for example) (1,2). Much of the public concern regarding reproductive loss has concentrated on infant mortality, as less is known about fetal mortality. However, the impact of fetal mortality on U.S. families is considerable.



ELSEVIER

SEMINARS IN
PERINATOLOGY

Race and Ethnic Disparities in Fetal Mortality, Preterm Birth, and Infant Mortality in the United States: An Overview

Marian F. MacDorman, PhD

Infant mortality, fetal mortality, and preterm birth all represent important health challenges that have shown little recent improvement. The rate of decrease in both fetal and infant mortality has slowed in recent years, with little decrease since 2000 for infant mortality, and no significant decrease from 2003 to 2005 for fetal mortality. The percentage of preterm births increased by 36% from 1984 to 2006, and then decreased by 4% from 2006 to 2008. There are substantial race and ethnic disparities in fetal and infant mortality and preterm birth, with non-Hispanic black women at greatest risk of unfavorable birth outcomes, followed by American Indian and Puerto Rican women. Infant mortality, fetal mortality, and preterm birth are multifactorial and interrelated problems with similarities in etiology, risk factors and disease pathways. Preterm birth prevention is critical to lowering the infant

THE IMMEDIATE FUTURE

- All states on the 2003 revision by... 2015?
- Greatly improved timeliness -- both state and national
- Cutting back on data items collected; focus on key items that can be collected with reasonable quality
- Development of standardized electronic systems across nation
- E-learning training (web-based) for hospital staff for completing fetal death information developed and shared with hospitals

