

# FETAL MORTALITY RATE

## 1. Definition:

FETAL MORTALITY RATE is the number of resident fetal deaths in a specified geographic area (country, state, county, etc.) divided by the number of resident live births plus fetal deaths for the same geographic area (for a specified time period, usually a calendar year) and multiplied by 1,000.

## 2. Calculation:

(Number of resident fetal deaths/Number of resident live births + Number of resident fetal deaths) x 1,000

$$\frac{\text{Number of Resident Fetal Deaths}}{\text{Number of Resident Live Births} + \text{Number of Resident Fetal Deaths}} \times 1,000$$

## 3. Examples:

820 fetal deaths in 2008 among state residents  
130,000 live births in 2008 to state residents

$820/(130,000+820) \times 1,000 = \underline{6.3}$  fetal deaths per 1,000 live births plus fetal deaths in 2008 among state residents

## 4. Technical Notes:

- A fetal mortality rate is measure of poor reproductive health outcomes.
- There are concerns about the completeness of fetal death reporting with potential for variations in completeness from state to state.
- The term “fetal death” is accepted as an all-inclusive term to end confusion arising from the use of such terms as stillbirth, spontaneous abortion, and miscarriage.
- The standard definition for fetal death, based upon the definition promulgated by the World Health Organization is.....

*“Fetal death” means 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.*

[See page 8 of <http://www.cdc.gov/nchs/data/misc/mvsact92aacc.pdf> ]

- Not all pregnancies that do not end in a live born are reported as fetal deaths. The model definition of a reportable fetal death is  
...each fetal death of 350 grams or more, or if weight is unknown, of 20 completed weeks gestation or more, calculated from the date last normal menstrual period began to the date of delivery.

[See page 8 of <http://www.cdc.gov/nchs/data/misc/mvsact92aacc.pdf> ]

- Due to differences in reporting requirements between states, comparisons of rates across states must be done with caution. Some states require reporting of all fetal deaths regardless of gestational age or weight, while other combinations of age and weight are used up to 20 weeks and/or 500 grams.  
[ See page 14 of [http://www.cdc.gov/nchs/data/nvsr/nvsr55/nvsr55\\_06.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr55/nvsr55_06.pdf) for a summary of reporting requirements by jurisdiction.]
- As differing reportability criteria directly affect the comparability of rates between states, a comparison of rates across states is commonly made using fetal mortality rates based upon fetal deaths that are of 28 weeks or more in gestational age. This avoids reporting differences and the underreporting that is more prevalent with earlier fetal deaths.
- A fetal death report is a composite record that includes both death information and information about the pregnancy as found on a birth certificate, enabling risk analysis associated with factors such as maternal age, birth weight, smoking status of mother, when prenatal care began, etc.
- In less densely populated areas, annual numbers of fetal deaths may be small (<10 or 20) which would result in a fetal mortality rate considered to be too unstable or unreliable for analysis. Adding additional years (three or five-year average annual rates) and/or expanding the area to be studied should result in a larger number of deaths and more reliable rates for analysis.
- The fetal mortality rate is commonly called the fetal death rate or the stillbirth rate.
- The fetal mortality ratio differs from the fetal death rate in that the ratio is calculated based upon fetal deaths divided by live births and not including fetal deaths in the denominator.
- Fetal deaths are sometimes classified as early, intermediate or late fetal deaths based upon gestational age. A fetal death at 28 weeks or more is considered a late fetal death. Early fetal deaths are defined, generally, as under 20 weeks gestation, though some will define these as under 24 weeks. Intermediate fetal deaths are those at 20 weeks or more but less than 28 weeks of gestational age.
- The Division of Vital Statistics (DVS) at NCHS follows standards for use of the terms “death rate” and “mortality rate” in naming and reporting common vital statistics rates for deaths. The NAPHSIS standard measures shown here follow the DVS standards, primarily to maintain consistency with DVS for naming conventions. Please note that states/registration areas and other federal government organizations within and outside NCHS/CDC may not follow the DVS standards when naming and reporting death/mortality rates.
  - According to DVS standards, the following naming conventions are used for the common vital statistics rates for deaths:

Mortality Rates

Infant Mortality Rate  
 Neonatal Mortality Rate  
 Postneonatal Mortality rate  
 Perinatal Mortality Rate  
 Fetal Mortality Rate  
 Maternal Mortality Rate

Death Rates

Crude Death Rate  
 Age-Specific Death Rate  
 Cause-Specific Death Rate  
 Age-Adjusted Death Rate