

PERINATAL MORTALITY RATE

1. Definition:

PERINATAL MORTALITY RATE is the sum of the number of resident fetal deaths of 28 or more weeks gestation plus the number of resident newborns dying under 7 days of age in a specified geographic area (country, state, county, etc.) divided by the sum of the number of resident live births plus the number of resident fetal deaths of 28 or more weeks gestation 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 28 or more weeks gestation + Number of resident newborns dying under 7 days of age) / (Number of resident live births + Number of resident fetal deaths of 28 or more weeks gestation)] x 1,000

$$\frac{(\text{Number of Resident Fetal Deaths of 28 or more weeks gestation} + \text{Number of Resident Newborns dying under 7 days of age})}{(\text{Number of Resident Live Births} + \text{Resident Fetal Deaths of 28 or more weeks gestation})} \times 1,000$$

[Additional links to State/National websites with calculation and/or definition - National Center for Health Statistics](#)

3. Examples:

700 fetal deaths of 28 or more weeks gestation in 2008 among state residents
300 newborns dying under 7 days of age in 2008 among state residents
150,000 live births in 2005 among state residents

$[(700 + 300) / (150,000 + 700)] \times 1,000 = \mathbf{6.6}$ perinatal deaths per 1,000 live births and fetal deaths of 28 or more weeks gestation in 2008 among state residents

4. Technical Notes:

- There are actually two different definitions used to calculate a perinatal mortality rate. The definition shown here (sometimes referred to as Definition I) includes infant deaths of less than seven days of age and fetal deaths of 28 or more weeks gestation. The second definition used (Definition II) is more inclusive and includes infant deaths of less than 28 days of age and fetal deaths of 20 or more weeks gestation. Definition I is preferred for international and state-to-state comparisons due to differences among countries/states in completeness of reporting of fetal deaths of 20-27 weeks gestation. Definition II is more useful for monitoring perinatal mortality throughout the gestational age periods since the majority of fetal deaths occur prior to 28 weeks gestation.
- The perinatal mortality rate is an important and unique health status indicator since it addresses the two related issues of late fetal deaths and early infant deaths many of which are considered preventable.
- Induced abortions or terminations of pregnancy are not included in the fetal death figures.
- In less densely populated areas, annual numbers of perinatal deaths may be small (<10 or 20) which would result in a perinatal 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. (see [North Carolina Statistical Primer, Problems with Rates Based on Small Numbers](#); [Pennsylvania: Technical Assistance – Small Area Analysis](#); [New York State: Rates Based on Small Numbers](#), [Washington State: Guidelines for Working with Small Numbers](#) and [Statistical Notes for Health Planners](#))

- 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