

## **PERCENT of PRETERM LIVE BIRTHS (PRETERM BIRTH RATE)**

### **1. Definition:**

PERCENT of PRETERM LIVE BIRTHS is the number of resident live births in a specified geographic area (country, state, county, etc.) with a gestational age of less than 37 completed weeks, divided by the number of resident live births for the same geographic area (for a specified time period, usually a calendar year). This figure is multiplied by 100 to get a percent.

Note: PRETERM BIRTH RATE is synonymous with PERCENT PRETERM BIRTHS.

### **2. Calculation:**

$$\frac{\text{Number of Resident Preterm} \\ \text{(< 37 completed weeks gestation) Live Births}}{\text{Number of Resident Live Births}} \times 100$$

### **3. Example:**

15,900 = preterm live births (<37 completed weeks gestation) in 2008 among state residents

127,000 = live births in 2008 to state residents

$(15,900/127,000) \times 100 = 12.5$  preterm live births per 100 live births in 2008 among state residents

(Another way to say this is 12.5% of all live births in 2008 among state residents were preterm births.)

### **4. Technical Notes:**

- The primary measure used by the National Center for Health Statistics (NCHS) to determine gestational age is the interval between the first day of the mother's last normal menstrual period (LMP) and the date of birth. It is subject to error for various reasons, including imperfect maternal recall or misidentification of the LMP.
- When information on the date of LMP is missing or when the birth weight is clearly inconsistent with the gestational age (normal birth weight of short gestation or very low birth weight reported to be full term), another item on the birth certificate (clinical/obstetric estimate of gestation) is used instead of gestational age calculated using LMP. This occurs in approximately 5% of the births reported to NCHS, mostly due to missing data for LMP.
- In less densely populated areas, annual numbers of preterm births may be small (<10 or 20) which would result in a percent preterm 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 preterm births and more reliable rates for analysis.
- Preterm infants are vulnerable to many complications, including respiratory, gastrointestinal, immune system, central nervous system, hearing and vision problems. Longer-term problems may include cerebral palsy, mental retardation, visual and hearing impairments, behavior and social-emotional concerns, learning

- difficulties, and poor health and growth. Half of all neurological disabilities in children are related to premature births.
- The percentage of preterm births has been growing fairly steadily since the mid-1980s. Multiple births (in part because of the increase in the use of assisted reproductive technologies) are responsible for a portion of this increase as well as changes in the medical management of pregnancy (i.e., increases in cesarean deliveries and induction of labor for preterm infants). More than one-third of all infant deaths in the United States each year are due to preterm-related causes of death, and this proportion has been growing. To remove the significant impact of multiple births, it is common practice to calculate the percent of preterm births for singletons only.
  - Preterm birth is associated with numerous modifiable risk factors, including the use of tobacco, alcohol or other drugs during pregnancy, low pre-pregnancy weight or low weight gain during pregnancy. Other important risk factors for preterm birth are vaginal infections and domestic violence.
  - Rates of preterm birth are higher for black mothers than for other races for reasons that are largely unexplained and that have been shown to be independent of other risk factors. Risk factors that black mothers may experience disproportionately include short inter-pregnancy intervals and exposure to psychosocial stress.
  - Additional information on preterm births can be found at:  
[http://www.marchofdimes.com/professionals/14332\\_1157.asp](http://www.marchofdimes.com/professionals/14332_1157.asp)  
[http://www.nichd.nih.gov/health/topics/Preterm\\_Labor\\_and\\_Birth.cfm](http://www.nichd.nih.gov/health/topics/Preterm_Labor_and_Birth.cfm)  
[http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57\\_12.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_12.pdf) .  
[http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57\\_07.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr57/nvsr57_07.pdf) .

(09/15/09)