

TECHNICAL NOTES

Definitions of Terminology and Rates

The following are definitions of terminology and rates that appear in this report.

TERMINOLOGY:

ADEQUATE PRENATAL CARE – The Adequacy of Prenatal Care Utilization Index (APNCU) measures two dimensions of care: the adequacy of initiation of care and the adequacy of the use of prenatal services once care has begun (by comparing actual use to the recommended number of visits based on the month of initiation of care and the length of the pregnancy). These dimensions are combined to classify each woman’s prenatal care history as inadequate, intermediate, adequate, or adequate-plus.

BIRTH WEIGHT – The first weight of the fetus or newborn obtained after birth. This weight should be measured preferably within the first hour of delivery, before significant postnatal weight loss has occurred.

DELIVERIES – Live births and fetal deaths

FETAL DEATH – Defined by law in Pennsylvania as the expulsion or extraction from its mother of a product of conception after 16 weeks gestation (for Objective MICH-1.1 – 20 weeks gestation), which shows no evidence of life after such expulsion or extraction

INFANT DEATH – Death of an infant under 1 year of age

LEVEL III HOSPITAL – A facility for high-risk deliveries and neonates that can provide care to very small infants, including mechanical ventilation, neonatal surgery, and special care for transferred patients. A full-time neonatologist must serve as the director for this type of facility.

LIVE BIRTH – According to Pennsylvania law, this is the expulsion or extraction from its mother of a product of conception, irrespective of the period of gestation, which shows any evidence of life at any moment after such expulsion or extraction.

LOW BIRTH WEIGHT – A birth weight under 2,500 grams or 5 pounds and 9 ounces

LOW-RISK – Full-term (37 or more weeks gestation), singleton, not breech or malpresentation

MATERNAL DEATH – The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

NEONATAL DEATH – An infant death occurring within the first 27 days of life

NEURAL TUBE DEFECTS (NTDs) – A set of birth defects that result from failure of the neural tube to close in utero. Two of the most common NTDs are anencephaly (absence of the majority of the brain) and spina bifida (incomplete development of the back and spine).

OCCURRENCE DATA – Data compiled as to the geographical place the event occurred, without regard to the actual residence

PERINATAL DEATHS – Fetal deaths of 28+ weeks gestation and (infant) deaths up to 6 days of age

POSTNEONATAL DEATH – An infant death occurring at 1 month (28 days) to 364 days of age

PRETERM – A birth at less than 37 weeks gestation

REPORTED PREGNANCY – Data on reported pregnancies are aggregated live births, fetal deaths 16+ weeks gestation, and induced abortions performed in-state.

RESIDENT DATA – Compiled per usual residence, regardless of the geographical place where the event occurred. For births, fetal deaths and infant deaths (if the newborn was never discharged from the hospital), the mother's usual residence is used as the place of residence.

VERY LOW BIRTH WEIGHT – A birth weight under 1,500 grams or 3 pounds and 5 ounces

RATES:

AGE-SPECIFIC REPORTED PREGNANCY RATE – Number of live births, fetal deaths (16+ weeks gestation), and induced abortions performed in-state among females of a specified age group per 1,000 females of the same specified age group

$((\text{Live births} + \text{Fetal deaths} + \text{Induced abortions for females of specified ages}) / (\text{Female population of same specified ages})) \times 1,000$

FETAL MORTALITY RATE – Fetal deaths per 1,000 deliveries. The number of deliveries consists of live births plus fetal deaths.

$(\text{Total fetal deaths} / (\text{Total live births} + \text{Total fetal deaths})) \times 1,000$

INFANT MORTALITY RATE – Deaths among infants under 1 year of age per 1,000 live births

$(\text{Total deaths among infants under 1 year of age} / \text{Total live births}) \times 1,000$

INFANT AND CAUSE-SPECIFIC MORTALITY RATE – Deaths among infants under 1 year of age due to a specific cause per 1,000 live births

$(\text{Total deaths among infants under 1 year of age due to a specified cause} / \text{Total live births}) \times 1,000$

MATERNAL MORTALITY RATE – Number of deaths from complications of pregnancy, childbirth, and the puerperium per 100,000 live births

$(\text{Total maternal deaths} / \text{Total live births}) \times 100,000$

NEONATAL MORTALITY RATE – Deaths among infants under 28 days of age per 1,000 live births

$(\text{Total deaths among infants} < 28 \text{ days of age} / \text{Total live births}) \times 1,000$

PERINATAL MORTALITY RATE – Perinatal deaths per 1,000 deliveries. The number of deliveries consists of live births plus fetal deaths of 28+ weeks gestation.

$(\text{Total perinatal deaths} / (\text{Total live births} + \text{Total fetal deaths of 28+ weeks gestation})) \times 1,000$

POSTNEONATAL MORTALITY RATE – Deaths among infants aged 1 month (28 days) to 364 days per 1,000 live births.

$(\text{Total deaths among infants 28-364 days of age} / \text{Total live births}) \times 1,000$

NOTES: Rates/percentages were not calculated and shown for small numbers of events due to unreliability for comparison/analysis. Percentages were not calculated and shown for BRFSS sample data if there were less than 50 total respondents. Unknowns for the characteristic being measured were excluded in calculations unless specified otherwise.

RELIABILITY OF RATES:

All rates are subject to variation. This variation is directly related to the number of events used to calculate the rate. The smaller the number of events used in the calculation of the rate, the higher will be the variability of the rate. A rate (or percentage or ratio) based on a small number of events (usually less than 10) over a specified period of time or for a sparsely populated geographic area should be of particular concern, considered unreliable, and used cautiously, if at all.

It is common practice among statisticians and data users familiar with health statistics to calculate a standard error (SE) of a rate when studying or comparing rates. This statistic defines a rate's variability and can be used to calculate a confidence interval (CI) to determine the range of possible values for the true rate. Rates for two different populations are considered to be significantly different when the values for their confidence intervals do not overlap.

There are various statistical formulas for comparing rates, depending on the types of rates or populations being studied and the number of events involved. If you are not familiar with the use of these statistical applications, we recommend review of publications addressing these issues and/or consultation with a statistician or other professional familiar with analyzing/comparing health statistics before pursuing any further study of the rates that appear in this report.

POPULATION:

All 2000 and 2010 population data used in this report are Bureau of the Census enumerated population figures. State or county population estimates as of July 1 for the intercensal years of 2001-2009 and 2011 used in this report to compute rates were produced jointly by the United States Bureau of the Census and the State Data Center of the Pennsylvania State University at Harrisburg under the Federal-State Cooperative Program for Local Population Estimates. These estimates are published by the Bureau of the Census in *Current Population Reports, Series P-26*. Population data by race (white and black) and Hispanic origin for 2001-2009 and 2011 were also produced and released by the Pennsylvania State Data Center. The historical estimates of state and county total populations have been revised by the Bureau of the Census from time to time. Those used in the computation of multiple-year average annual rates are the most recent available at the print date for this report.

CAUSE OF DEATH INTERNATIONAL CLASSIFICATION OF DISEASES (ICD) CODES:

The International Classification of Diseases codes for the selected causes of death shown in this report are as follows:

CAUSE OF DEATH

Motor vehicle accidents

ICD-10

V02-V04, V09.0, V09.2,
V12-V14, V19.0-V19.2,
V19.4-V19.6, V20-V79,
V80.3-V80.5, V81.0-V81.1, V82.0-
V82.1, V83-V86, V87.0-V87.8,
V88.0-V88.8, V89.0, V89.2

Homicide

U01-U02, X85-Y09, Y87.1

Birth defects

Q00-Q99

Congenital heart defects

Q20-Q28

Sudden infant death syndrome (SIDS)

R95

Maternal deaths

A34, O00-O95, O98-O99

DATA SOURCES/DISCLAIMERS:

SOURCE

OBJECTIVES

Bureau of Health Statistics and Research, Pa. Department of Health	FP-8.1, IVP-13.1, IVP-29, MICH-1.1, MICH-1.2, MICH-1.3, MICH-1.4, MICH-1.5, MICH-1.6, MICH-1.7, MICH-1.8, MICH-3.1, MICH-3.2, MICH-4.1, MICH-4.2, MICH-4.3, MICH-5, MICH-7.1, MICH-7.2, MICH-8.1, MICH-8.2, MICH-9.1, MICH-9.2, MICH-9.3, MICH-9.4, MICH-10.1, MICH-10.2, MICH-11.3, MICH-21.1, MICH-33, TU-6
Pa. Health Care Cost Containment Council	MICH-6, RD-2.1
Bureau of Epidemiology, Pa. Department of Health	HIV-8.2
National Immunization Survey (NIS) Centers for Disease Control and Prevention	IID-8
ChildLine and Abuse Registry, Pa. Department of Public Welfare	IVP-37, IVP-38
Division of School Health, Pa. Department of Health	NWS-10.2, NWS-10.3
Division of Newborn Screening and Genetics, Pa. Department of Health	ENT-VSL-1.2

DISCLAIMERS: Please note the following disclaimers and include them in any release of the data as specified below.

For data with the Bureau of Health Statistics and Research, Pa. Department of Health listed as the source:
"These data were provided by the Bureau of Health Statistics and Research, Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations or conclusions."

For data with the Pa. Health Care Cost Containment Council listed as source:
"The Pennsylvania Health Care Cost Containment Council (PHC4) is an independent state agency responsible for addressing the problem of escalating health costs, ensuring the quality of health care, and increasing access to health care for all citizens regardless of the ability to pay. PHC4 has provided data to this entity in an effort to further PHC4's mission of educating the public and containing health care costs in Pennsylvania. PHC4, its agents and staff, have made no representation, guarantee, or warranty, express or implied, that the data: financial, patient, payor, and physician specific information provided to this entity, are error-free, or that the use of the data will avoid differences of opinion or interpretation. This analysis was not prepared by PHC4. This analysis was done by the Bureau of Health Statistics and Research of the Pennsylvania Department of Health. PHC4, its agents and staff, bear no responsibility or liability for the results of the analysis, which are solely the opinion of this entity."

For data with the Division of School Health, Pa. Department of Health listed as the source:
"Data are reported annually to the Department of Health by school districts, comprehensive vocational-technical schools, and charter schools. Responsibility for data accuracy lies with these individual school entities. The Department specifically disclaims responsibility for any analyses, interpretations or conclusions made by the user."

REFERENCES

1. **Pennsylvania State Data Center**, Pennsylvania Population Estimates (2001-2009, 2011), The Pennsylvania State University at Harrisburg, Middletown, Pa.
2. **Pennsylvania State Data Center**, Selected Pennsylvania Data from U. S. Bureau of the Census Enumerated 2000 and 2010 Population, The Pennsylvania State University at Harrisburg, Middletown, Pa.
3. **National Center for Health Statistics, Healthy People 2020**, www.cdc.gov/nchs/hphome.htm
4. **Bureau of Health Statistics and Research**, www.health.state.pa.us/stats/