



TECHNICAL NOTES

Sources of Data

The tables in Sections I and II are based on rates and ratios published in the *Arizona Health Status and Vital Statistics* annual report.

Information on live births and deaths in Sections III and IV is compiled from the original documents filed with the Arizona Department of Health Services' Office of Vital Records, and from transcripts of original certificates filed in other states but affecting Arizona residents (copies of certificates for births and deaths occurring to Arizona residents outside the United States are not sent to Arizona).

Definitions

Rates

Rate is a measure of the frequency of some event in relation to a unit of population during a specified time period such as a year; events in the numerator of the year occur to individuals in the denominator. Rates express the likelihood (or risk) of the event in the specified population during a particular time and are generally expressed as units of population in the denominator (per 1,000, per 100,000, and so forth).

Terms Related to Reproductive Health

Birth or Live Birth - The complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy which, after such expulsion or extraction, breaths or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached.

Birth weight - The weight of a neonate determined immediately after delivery or as soon thereafter as possible.

Infant death - Any death at any time from birth up to, but not including, the first year of age (364 days, 23 hours, 59 minutes from the moment of birth).

Infant mortality rate - Number of infant deaths per 1,000 live births.

Low-birthweight - any neonate weighing less than 2,500 grams at birth (less than 5 pounds 8 ounces).

Neonatal death - Death of a liveborn neonate before the neonate becomes 28 days old (up to and including 27 days, 23 hours, 59 minutes from the moment of birth).

Neonatal mortality rate - Number of neonatal deaths per 1,000 live births.

Postneonatal death - Any death of a liveborn infant at least 28 days of age but less than one year of age.

Postneonatal mortality rate - Number of postneonatal deaths per 1,000 live births.

Very low-birthweight - Any neonate whose weight at birth is 1,500 grams or less (less than 3 pounds 5 ounces).

Medical Terms Used on the Birth Certificate

Medical risk factors for this pregnancy

Anemia - Hemoglobin level of less than 10.0 g/dL during pregnancy, or hematocrit of less than 30 percent during pregnancy.

Cardiac disease - Disease of the heart.

Acute or chronic lung disease - Disease of the lungs during pregnancy.

Diabetes - Metabolic disorder characterized by excessive discharge of urine and persistent thirst; includes juvenile onset, adult onset, and gestational diabetes during pregnancy.

Genital herpes - Infection of the skin of the genital area by herpes simplex virus.

Hydramnios/Oligohydramnios - Any noticeable excess (hydramnios) or lack (oligohydramnios) of amniotic fluid.

Hemoglobinopathy - A blood disorder caused by alteration in the genetically determined molecular structure of hemoglobin (for example, sickle cell anemia).

Hypertension, chronic - Blood pressure persistently greater than 140/90, diagnosed prior to onset of pregnancy or before the 20th week of gestation.

Hypertension, pregnancy-associated - An increase in blood pressure of at least 30 mm hg systolic or 15 mm hg diastolic on two measurements taken 6 hours apart after the 20th week of gestation.

Eclampsia - The occurrence of convulsions and/or coma unrelated to other cerebral conditions in women with signs and symptoms of preeclampsia.

Incompetent cervix - Characterized by painless dilation of the cervix in the second trimester or early in the third trimester of pregnancy, with premature expulsion of membranes though cervix and ballooning of the membranes into vagina, followed by rupture of the membrane and subsequent expulsion of the fetus.

Previous infant 4,000+ grams - The birthweight of a previous live-born child was over 4,000 grams (8lbs.14oz.).

Previous preterm or small-for-gestational-age-infant - Previous birth of an infant prior to term (before 37 completed weeks of gestation) or of an infant weighing less than the 10th percentile for gestational age using a standard weight for age chart.

Renal disease - Kidney disease.

Rh Sensitization - The process or state of becoming sensitized to the Rh factor as when an Rh-negative woman is pregnant with an Rh-positive fetus.

Uterine bleeding - Any clinically significant bleeding during the pregnancy taking into consideration the stage of pregnancy; any second or third trimester bleeding or third trimester bleeding of the uterus prior to the onset of labor.

Complications of labor and/or delivery

Febrile - A fever greater than 100 degrees F. or 38 degrees C. occurring during labor and/or delivery.

Meconium, moderate/heavy - Meconium consists of undigested debris from swallowed amniotic fluid, various products of secretion and shedding by the gastrointestinal tract, moderate to heavy amounts of meconium in the amniotic fluid noted during labor and/or delivery.

Premature rupture of membranes (more than 12 hours) - Rupture of membranes at any time during pregnancy and more than 12 hours before the onset of labor.

Abruptio placenta - Premature separation of normally implanted placenta from the uterus.

Placenta previa - Implantation of the placenta over or near the internal opening of the cervix.

Other excessive bleeding - The loss of significant amount of blood from conditions other than abruptio placenta or placenta previa.

Seizures during labor - Maternal seizures occurring during labor from any cause.

Precipitous labor (less than 3 hours) - Extremely rapid labor and delivery lasting less than 3 hours.

Prolonged labor (more than 20 hours) - Abnormally slow progress of labor lasting more than 20 hours.

Dysfunctional labor - Failure to progress in a normal pattern of labor.

Breech/Malpresentation - At birth, the presentation of the fetal buttocks, rather than the head or other malpresentation.

Cephalopelvic disproportion - The relationship of the size, presentation, and position of the fetal head to the maternal pelvis, which prevents dilation of the cervix and/or descent of the fetal head.

Cord prolapse - Premature expulsion of the umbilical cord in labor before the fetus is delivered.

Anesthetic complications - Any complication during labor and/or delivery brought on by an anesthetic agent or agents.

Fetal distress - Signs indicating fetal hypoxia (deficiency in amount of oxygen reaching fetal tissues).

Abnormal conditions of the newborn

Anemia - Hemoglobin level of less than 13.0 g/dL, or a hematocrit of less than 39 percent.

Birth injury - Impairment of the infant's body function or structure due to adverse influences that occurred at birth.

Fetal alcohol syndrome - A syndrome of altered prenatal growth and development occurring in infants born of women who consumed excessive amounts of alcohol during pregnancy.

Hyaline membrane disease/RDS - A disorder primarily of prematurity, manifested clinically by respiratory distress and pathologically by pulmonary hyaline membranes and incomplete expansion of the lungs at birth.

Meconium aspiration syndrome - Aspiration of meconium by the fetus or newborn, affecting the lower respiratory system.

Assisted ventilation (less than 30 minutes) - A mechanical method of assisting respiration for newborns with respiratory failure.

Assisted ventilation (30 minutes or more) - Newborn placed on assisted ventilation for 30 minutes or longer.

Seizures - A seizure of any etiology.

Congenital anomalies of child

Anencephalus - Absence of the cerebral hemispheres.

Spina bifida/meningocele - Developmental anomaly characterized by defective closure of the bony encasement of the spinal cord, through which the cord and meninges may or may not protrude.

Hydrocephalus - Excessive accumulation of cerebrospinal fluid within the ventricles of the brain with consequent enlargement of cranium.

Microcephalus - A significantly small head.

Other central nervous system anomalies - Other specified anomalies of the brain, spinal cord, and nervous system.

Heart malformations - Congenital anomalies of heart.

Other circulatory/respiratory anomalies - Other specified anomalies of the circulatory and respiratory systems.

Rectal atresia/stenosis – Congenital absence, closure, or narrowing of the rectum.

Tracheo-esophageal fistula/Esophageal atresia – An abnormal passage between the trachea and the esophagus; esophageal atresia is the congenital absence or closure of the esophagus.

Omphalocele/Gastroschisis – An omphalocele is a protrusion of variable amounts of abdominal viscera from a midline defect at the base of the umbilicus. In gastroschisis, the abdominal viscera protrude through an abdominal wall defect, usually on the right side of the umbilical cord insertion.

Other gastrointestinal anomalies – Other specified congenital anomalies of the gastrointestinal system.

Malformed genitalia – Congenital anomalies of the reproductive organs.

Renal agenesis – One or both kidneys are completely absent.

Other urogenital anomalies – Other specified congenital anomalies of the organs concerned in the production and excretion of the urine, together with organs of reproduction.

Cleft lip/palate – Cleft lip is a fissure or elongated opening of the lip; cleft palate is a fissure in the roof of the mouth. These are failures of embryonic development.

Down's syndrome – The most common chromosomal defect with most cases resulting from an extra chromosome (trisomy 21).

Other chromosomal anomalies – All other chromosomal aberrations.

Polydactyly/Syndactyly/Adactyly– Polydactyly is the presence of more than five digits on either hands and/or feet; syndactyly is having fused or webbed fingers and/or toes; adactyly is the absence of fingers and/or toes.

Club foot – Deformities of the foot, which is twisted out of shape or position.

Diaphragmatic hernia – Herniation of the abdominal contents through the diaphragm into the thoracic cavity usually resulting in respiratory distress.

Other musculoskeletal/integumental anomalies – Other specified congenital anomalies of the muscles, skeleton, or skin.

Terms Related to Mortality

Age-adjusted mortality rates - Because mortality from most causes of death occurs predominately among the elderly, a population group with a larger proportion of older persons would have a higher mortality rate. The "age-adjustment" removes the effect of the age differences among sub-populations (or in the same population over time) by placing them all in a population with a standard age distribution. All age-adjusted mortality rates in this report were computed by the direct method, that is by weighting the age-specific rates for a given year by the age distribution of a standard population. The weighted age-specific rates are then added to produce the summary rate for all ages combined.

Beginning with the 2000 data year, a new population standard for the age adjustment of mortality rates has replaced the standard based on the 1940 population and used since 1943. The new standard uses the age composition of the 2000 U.S. projected population. The standard is expressed in terms of a "standard million": the relative distribution of the 2000 population of the United States totaling 1 million in 10-year age groups:

Age group	2010 population of American Indians	2010 deaths among American Indians	Age-specific rates for American Indians in 2010	2000 standard	Age-adjusted rate for American Indians In 2010
A	B	C	D (C/B)*100000	E	F D*E
<1	5,815	47	808.3	.013818	11.2
1-4	22,219	14	63.0	.055317	3.5
5-14	53,250	9	16.9	.145565	2.5
15-24	56,740	102	179.8	.138646	24.9
25-34	43,489	147	338.0	.135573	45.8
35-44	36,772	170	462.3	.162613	75.2
45-54	35,356	301	851.3	.134834	114.8
55-64	22,876	269	1175.9	.087247	102.6
65-74	12,371	255	2061.3	.066037	136.1
75-84	5,790	253	4369.6	.044842	195.9
85+	1,851	214	11561.3	.015508	179.3
	296,529	1,781			
				TOTAL	Σ 891.8

Age-specific mortality - Number of deaths in a specific age group during a calendar year.

Cause of death - For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and utilizing the international rules for selecting the underlying cause of death from the reported conditions.

Cause-specific mortality - Number of deaths from a specified cause during a calendar year.

Classification of causes of death - The cause of death used in this report is the underlying cause classified according to the *International Classification of Diseases (ICD)*. Beginning with the 2000 data year in Arizona (1999 nationally), a new revision of the International Classification of Diseases was implemented. The Tenth Revision (ICD-10) has replaced the Ninth Revision (ICD-9), which was in effect since 1979.

Drug-induced deaths – This category was expanded in 2003. Causes of death attributable to drug-related mortality include mental and behavioral disorders due to psychoactive substance use, accidental poisoning by and exposure to drugs, suicide by drugs, homicide by drugs and poisoning by drugs, undetermined intent.

Firearm mortality – Causes of death attributable to firearm mortality include accidental discharge of firearms, suicide by firearms, homicide by firearms, legal intervention involving discharge of firearms, terrorism involving firearms and discharge of firearms, undetermined intent.