

# Appendix 1: Definitions and abbreviations

## Apgar score

A measure of the physical condition of a newborn infant. It is obtained by adding points (2, 1 or 0) for heart rate, respiratory effort, muscle tone, response to stimulation and skin coloration; a score of 10 represents the best possible condition.

## Child death

Child death refers to the death of a child occurring after and including the first birthday and up to, but not including, the 18th birthday (1–17 years).

## Confinements

Confinements refer to the number of women who gave birth to one or more live births and/or stillbirths (regardless of plurality) with a pregnancy of 20 weeks' gestation or more.

## Congenital anomaly (formerly 'birth anomaly')

A congenital anomaly is any anomaly of prenatal origin, arising from conception or occurring before the end of pregnancy. This includes structural, functional, genetic, chromosomal and biochemical anomalies.

PSANZ coding uses the wording 'congenital abnormality', and where PSANZ codes are used in this report 'congenital abnormality' is used.

CCOPMM uses the wording 'congenital anomaly' in all other areas of this report.

## Crude birth rate

The crude birth rate is measured by the number of live births (see definition above) per 1,000 estimated female resident population aged 14–44 years for a given calendar year.

## Episiotomy

A surgical cut made at the opening of the vagina during childbirth to aid a difficult delivery and prevent rupture of tissues.

## Estimated resident population

The estimated resident population (ERP) is an Australian Bureau of Statistics measure of the population based on the concept of residence and refers to all people, regardless of nationality or citizenship, who usually live in Australia, with the exception of foreign diplomatic personnel and their families. The CCOPMM report uses estimated female resident population (EFRP), aged 15–44 years, in its tables.

## Infant death

Infant death refers to the death of a live-born infant occurring within one year of birth. Infant death can be divided into 'neonatal death' referring to the death of a live-born infant less than 28 days after birth, of at least 20 weeks' gestation or, if gestation is unknown, weighing at least 400 g, and 'post-neonatal infant death', referring to the death of an infant between 28 days and 364 days.

## Late maternal death

Late maternal death refers to the death of a woman after 42 days but within a year of the birth or end of the pregnancy. The death may be due to direct, indirect or incidental causes. These late deaths are not included in the maternal mortality ratio.

## Live birth

A live birth is the birth of a child who, after delivery, breathes or shows any evidence of life such as a heartbeat.

## Maternal death

### For classification of cause of death

For classification purposes, maternal death refers to the death of a woman while pregnant or within 42 days of the end of the pregnancy, irrespective of the cause of death. This definition allows for classification of maternal deaths based on direct, indirect or incidental causes, as follows:

- **direct** – the death is considered to be due to a complication of the pregnancy (for example, haemorrhage from placenta praevia)
- **indirect** – the death is considered to be due to a pre-existing or newly diagnosed condition aggravated by the physiological or pathological changes of pregnancy (for example, deterioration in pre-existing heart disease or diabetes). Deaths consequent on psychiatric disease are usually categorised as indirect, except for puerperal psychosis, which is classified as direct
- **incidental** – the death is considered unrelated to pregnancy (for example, passenger in motor vehicle accident)
- **late maternal death** – when the death occurs after 42 days but within a year of the birth or end of pregnancy.

### For calculating the maternal mortality ratio

The World Health Organization (WHO) defines maternal death as 'the death of a woman during pregnancy, childbirth or in the 42 days of the puerperium, irrespective of the duration and site of the pregnancy, from any cause related to, or aggravated by, the pregnancy or its management'. This WHO definition allows for identification of maternal deaths as either direct or indirect only. It includes deaths from abortion and ectopic pregnancy, however, excludes incidental deaths from causes unrelated to pregnancy, such as deaths from injury or malignancy. CCOPMM uses the WHO definition to calculate the maternal mortality ratio.

## Perinatal death

Perinatal deaths refer to stillbirths and live births with only brief survival and are grouped on the assumption that similar factors are associated with these losses. CCOPMM defines perinatal death to include stillbirth and neonatal deaths within 28 days of birth of infants of gestation  $\geq 20$  weeks or, if gestation is unknown, of birthweight  $\geq 400$  g.

For national statistics, CCOPMM also reports on perinatal deaths of infants with a birthweight of  $\geq 500$  g or, if the birthweight is unknown, infants of  $\geq 22$  weeks' gestation. This definition has certain advantages because it excludes from the calculation those mostly pre-viable live births of  $< 500$  g and also the majority of cases where the pregnancy was terminated for fetal or maternal indications.

For international comparison and as recommended by WHO, only fetuses and infants of at least 1,000 g birthweight, or where birthweight is unavailable, the corresponding gestational age (28 weeks) or body length (35 cm crown–heel), are included in the perinatal mortality ratio.

## Post-neonatal infant, child and adolescent deaths classification

These deaths are classified under the following categories:

- determined at birth
- SUDI, including sudden infant death syndrome
- unintentional injury
- acquired disease
- intentional injury
- undetermined.

## Standardised mortality ratio

This is a risk ratio where the observed mortality pattern in a group is compared with what would have been expected if the variable–specific mortality rates had been the same as the specified reference population. Indirect standardisation adjusts for differences in the distribution of the variable of interest (for example, age) between the study and reference population.

## Stillbirth

A stillbirth is defined as the birth of an infant of at least 20 weeks' gestation or, if gestation is unknown, weighing at least 400 g, who shows no signs of life at birth.

## Sudden unexpected deaths in infancy (SUDI)

This group of deaths includes all infants (under one year of age) who die suddenly and unexpectedly after they are placed for sleeping. SUDI can be classified into explained SUDI and unexplained SUDI and can include deaths related to:

- unexplained:
  - sudden infant death syndrome (SIDS) – the sudden unexpected death of an infant under one year of age, with onset of the fatal episode apparently occurring during sleep
  - unclassified sudden infant death (USID), with or without autopsy
  - undetermined

- explained:
  - suffocation while sleeping (including asphyxiation by bedclothes and overlaying)
  - infection, metabolic disorders, congenital anomalies, genetic conditions
  - other, for example non-accidental injury.

Some international definitions of SUDI include unexpected events such as unintentional injury (for example, motor vehicle accidents). CCOPMM does not include unintentional injuries in its SUDI definitions, but details of unintentional injury in infants are listed elsewhere in the report. SUDI deaths where a cause of death is identified (usually at autopsy) are included in the ‘explained’ category and are also included within other appropriate categories (for example, congenital anomalies or genetic conditions, infection) elsewhere in the report. Unexplained SUDI deaths are classified according to the Krous definition (Krous et al. 2004). See below:

### **General Definition of SIDS**

SIDS is defined as the sudden unexpected death of an infant <1 year of age, with onset of the fatal episode apparently occurring during sleep, that remains unexplained after a thorough investigation, including performance of a complete autopsy and review of the circumstances of death and the clinical history.

### **Category IA SIDS**

Category IA includes deaths that meet the requirements of the general definition and also all of the following requirements.

Clinical:

- >21 days and <9 months of age
- normal clinical history including term pregnancy (gestational age  $\geq 37$  weeks)
- normal growth and development
- no similar deaths among siblings, close genetic relatives (uncles, aunts or first degree cousins) or other infants in the custody of the same caregiver.

Circumstances of death:

- investigation of the various scenes where incidents leading to death might have occurred and determination that they do not provide an explanation for the death
- found in a safe sleeping environment, with no evidence of accidental death.

Autopsy:

- absence of potentially fatal pathologic findings. Minor respiratory system inflammatory infiltrates are acceptable; intrathoracic petechial haemorrhage is a supportive but not obligatory or diagnostic finding
- no evidence of unexplained trauma, abuse, neglect or unintentional injury
- no evidence of substantial thymic stress effect (thymic weight of < 15 g and/or moderate/ severe cortical lymphocyte depletion). Occasional ‘starry sky’ macrophages or minor cortical depletion is acceptable
- negative results of toxicologic, microbiologic, radiologic, vitreous chemistry and metabolic screening studies.

**Category IB SIDS**

Category IB includes infant deaths that meet the requirements of the general definition and also meet all of the criteria for category IA except that investigation of the various scenes where incidents leading to death might have occurred was not performed or  $\geq 1$  of the following analyses were not performed: toxicologic, microbiologic, radiologic, vitreous, chemistry or metabolic screening studies.

**Category II SIDS**

Category II includes infants that meet category I except for  $\geq 1$  of the following.

Clinical:

- age range outside that of category IA or IB (that is 0-21 days or 270 days [9 months] through to first birthday)
- similar deaths among siblings, close relatives or infants in the custody of the same caregiver that are not recognised suspect for infanticide or recognised genetic disorders
- neonatal or perinatal conditions (for example those resulting from preterm birth) that have resolved by the time of death.

Circumstances of death:

- mechanical asphyxia or suffocation caused by overlaying not determined with certainty.

Autopsy:

- abnormal growth or development not thought to have contributed to death
- marked inflammatory changes or abnormalities not sufficient to be unequivocal causes of death.

**Unclassified sudden infant death**

Includes deaths that do not meet the criteria for category I or II SIDS, but for which alternative diagnoses of natural or unnatural conditions are equivocal, including cases where autopsies were not performed.

**Post-resuscitation cases**

Infants found in extremis who are not resuscitated and later die ('temporarily interrupted SIDS') may be included in the aforementioned categories, depending on the fulfilment of relevant criteria.

## Twin-to-twin transfusion syndrome

A disease that affects identical twins who share a common placenta. Blood vessels that connect the two umbilical cords on the surface of the placenta allow blood from one twin (the donor) to flow into the other twin (the recipient). This transfusion of blood occurs when there is an imbalance of blood flow from the donor twin to the recipient twin, which causes twin-to-twin transfusion syndrome.

## Acronyms and abbreviations

BMI	body mass index
CI	confidence interval
CCOPMM	Consultative Council on Obstetric and Paediatric Morbidity and Mortality
COPE	Centre for Perinatal Excellence
CPAP	continuous positive airway pressure
DHHS	Department of Health and Human Services
ECG	electrocardiogram
EFRP	estimated female resident population
ERP	estimated resident population
GBS	Group B Streptococcus
GCS	Glasgow Coma Scale
GDM	gestational diabetes mellitus
IMR	infant mortality rate
IRSD	Index of Relative Social Disadvantage
KMS	Koori Maternity Services
MMR	maternal mortality ratio
NPDC	National Perinatal Data Collection
NMR	neonatal mortality rate
NPESU	National Perinatal Epidemiology and Statistics Unit
ORT	opiate replacement therapy
PGD	pre-gestational diabetes
PIPER	Paediatric Infant Perinatal Emergency Retrieval
PMR	perinatal mortality rate
PPH	postpartum haemorrhage
PSANZ	Perinatal Society of Australia and New Zealand
RR	relative risk
SEIFA	Socio-Economic Indexes for Areas
SIDS	Sudden Infant Death Syndrome
SUDEP	sudden unexplained death in epilepsy
SUDI	sudden unexpected death in infancy
TOP	termination of pregnancy
VCAR	Victorian Congenital Anomalies Register
VPDC	Victorian Perinatal Data Collection
ViCTOR	Victorian Children's Tool for Observation and Response
WHO	World Health Organization