# Investigation, Review and Reporting of Perinatal Deaths

**Summary** This document describes the procedures for investigation, review, classification and reporting of perinatal deaths to the Clinical Excellence Commission (CEC) and the NSW Perinatal Mortality Review committee (PMRC), a subcommittee of the NSW Maternal and Perinatal Mortality Review Committee (MPMRC).

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**Audience** Administration;Maternity and Paediatric Units;Clinicians

Secretary, NSW Health

NSW Health

POLICY DIRECTIVE

# Investigation, Review and Reporting of Perinatal Deaths

## POLICY STATEMENT

The NSW Health is committed to review maternal and perinatal morbidity and mortality in the State, through the Perinatal Mortality Review committee (PMRC). The PMRC is a subcommittee of the NSW Maternal and Perinatal Mortality Review Committee (MPMRC), constituted under *Health Administration Act 1982* (NSW).

## SUMMARY OF POLICY REQUIREMENTS

All NSW Health Services must report and review all perinatal deaths that meets its definition.

Perinatal deaths are defined as stillbirths (fetal deaths) and deaths of infants within the first 28 days of life (neonatal deaths).

Stillbirths include fetuses weighing at least 400 grams or having a gestational age of 20 weeks. Neonatal deaths comprise all deaths of liveborn babies within 28 days of birth, regardless of gestational age at birth.

Perinatal deaths must be managed and reported as per NSW Health Policy Directive *Incident Management* (PD2020_047) as set out in section 3 Reportable Incident Brief and Appendix D Reportable Incident Definition.

The investigation review and classification of perinatal deaths is based on the Perinatal Society of Australia and New Zealand (PSANZ) *Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death* to support a systematic approach to the provision of care.

Each Maternity service is to have a process in place to undertake clinical reviews and the classification of perinatal deaths. These reviews include analysis through a local perinatal morbidity and mortality committee. The chairperson of the committee is responsible for ensuring timely reporting of death classifications to the Clinical Excellence Commission.

From March 1st, 2022, following a review by the local perinatal mortality review committee, all perinatal mortality reports must be submitted to the Clinical Excellence Commission via local public hospital maternity database systems (eMaternity or CernerMaternity).

Private hospitals may access the Clinical Excellence Commission online form for reporting perinatal deaths.

The Clinical Excellence Commission access the reports quarterly and after the completion of a calendar year. Perinatal deaths for the previous year are to be completed by April 1st, in the following year.

## REVISION HISTORY

| Version | Approved By | Amendment Notes |
|---|---|---|
| PD2022_046<br>September-2022 | Deputy Secretary, Health System Strategy and Planning Division | Revises the process for managing and reporting perinatal deaths in accordance with PD2020_047. |
| July-2022<br>PD2022_026 | Deputy Secretary, Health System Strategy and Planning Division | Revises process for classifying and reporting perinatal deaths to the Clinical Excellence Commission. |
| December 2011<br>(PD2011_076) | Deputy Director-General Population Health | Replaced PD2006_006. Revises the process for classifying perinatal deaths and reporting of these deaths to the NSW Maternal and Perinatal Committee |
| January 2006<br>(PD2006_006) | Director-General | Replaced PD2005_228. Incorporated amendments on Pages 3 & 4 of Appendix 1 |
| January 2002<br>(PD2005_228) | Director-General | Originally issued as Circular 2002/6 |

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# 1. BACKGROUND

Australia is one of the safest places in the world for a baby to be born, yet every day in Australia 6 babies are stillborn and 2 die within 28 days of birth (neonatal death). Each year in NSW over 800 perinatal deaths impact women, families and the healthcare workers providing their care.

Investigation to determine the cause of death and identify contributing factors is important for both families and maternity services to ensure best practice and inform care in future pregnancies. Review of perinatal deaths by hospital and health services is a key opportunity for clinical staff to engage in the processes of patient safety and quality improvement.

Reporting of perinatal deaths on a state-wide basis allows for benchmarking and assessment of trends that inform system improvement.

In all cases of stillbirth and neonatal death, staff are to provide a supportive and safe environment to minimise the stress and trauma parent(s) and family experience.

## 1.1. About this document

This document describes the procedures for investigation, review, classification and reporting of perinatal deaths to the Clinical Excellence Commission (CEC) and the NSW Perinatal Mortality Review Committee (PMRC).

## 1.2. Key definitions

| | |
|---|---|
| **Perinatal Period** | Pregnancy at or after 20 weeks gestation up to the first 28 days after birth. |
| **Perinatal Death** | Perinatal deaths comprise stillbirths (fetal deaths) and deaths of infants within the first 28 days of life (neonatal deaths). Stillbirths are defined to include fetuses weighing at least 400 grams or having a gestational age of 20 weeks. Neonatal deaths comprise all deaths of liveborn babies within 28 days of birth, *regardless* of gestational age at birth. |

## 1.3. Legal and legislative framework

The NSW Perinatal Mortality Review Committee (PMRC) is a subcommittee of the NSW Maternal and Perinatal Mortality Review Committee (MPMRC). The NSW MPMRC is constituted under Section 20 of the *Health Administration Act 1982* (NSW). It has special privilege and is authorised to conduct investigations and research in accordance with section 23 of the *Health Administration Act 1982* (NSW).

The members are appointed by the Minister for Health to review maternal and perinatal morbidity and mortality in the State.

## 2. NSW PERINATAL MORTALITY REVIEW COMMITTEE

The primary purpose of the NSW Maternal and Perinatal Mortality Review Committee is to subject all maternal and perinatal deaths occurring in NSW for peer review. For information relating to the committee, please refer to its Terms of Reference.

The function of the NSW Perinatal Mortality Review Committee in relation to perinatal deaths occurring in NSW is to:

- Review aggregate data on perinatal deaths and identify groups of perinatal deaths which, through detailed inquiry, may provide information for the development of policies designed to reduce perinatal morbidity and mortality
- Identify risk trends or issues of safety and clinical practice which may have contributed to these deaths and/ or any potentially preventable factors
- Provide advice and feedback to the health system with recommendations to improve maternal, neonatal and child health outcomes through annual reports and clinical alerts.

## 3. INVESTIGATION OF PERINATAL DEATH

Investigation of stillbirths and neonatal deaths is based on the National Perinatal Society of Australia and New Zealand (PSANZ) *Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death*[2] to support a systematic approach to the provision of care.

PSANZ recognises that increased risk of perinatal death exists in Aboriginal and Torres Strait Islander women, some cultural groups and disadvantaged women.

All care is to be culturally responsive, including the provision of Aboriginal Liaison Services, interpreters, religious and cultural supports as required, and private spaces for discussions.

It is recommended that all clinicians providing maternity and newborn care complete the Improving Perinatal Mortality Review and Outcomes Via Education (IMPROVE) e-learning educational program.

### 3.1. PSANZ Investigation of Stillbirths

A non-selective approach according to the recommended core investigations is to be adopted for all stillbirths (unless the cause of death has been unequivocally determined antenatally).

Core investigations include:

- Comprehensive maternal (medical, social, family) and pregnancy history
- Kleihauer-Betke test/Flow cytometry for fetal to maternal haemorrhage
- External examination of the baby performed by a trained clinician
- Clinical photographs of the baby
- Autopsy should be discussed and offered for all unexpected intrauterine fetal deaths/stillbirths (as per the definition in section 1.2)
- Detailed macroscopic examination of the placenta and cord
- Placental histopathology

- Cytogenetics (Chromosomal microarray (CMA) or karyotype if CMA is not available).

Further sequential and/ or selective investigations must be undertaken according to the clinical scenario based on a comprehensive history, and information gained from core investigations (PSANZ *Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death*, Appendix A, Stillbirth Investigation Algorithm).

It is recommended that a trained clinician examine the baby to determine the presence of any possible congenital anomalies (refer to PSANZ *Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death*, Appendix D, Clinical examination of baby checklist).

This is particularly important where a post-mortem examination has been declined by the family following an informed consent process.

## 3.2. PSANZ Investigation of Neonatal Deaths

It is not feasible to a have a standardised investigation list that accommodates all neonatal death scenarios. Decisions regarding appropriate investigations must be made by the clinical team in consultation with the parents, based on the individual circumstances and accessing additional specialist expertise as required.

Obstetric and neonatal care teams must collaborate closely to ensure that all relevant maternal (pregnancy and birth) and neonatal factors are considered in the investigation of the neonate.

Recommended core investigations relevant to all neonatal deaths:

- Comprehensive maternal (medical, social, family) and pregnancy history
- Comprehensive neonatal history (including death scene analysis)
- A detailed external examination of the baby
- Accurate anthropometric parameters of birth weight, length and head circumference plotted on appropriate gender specific birth growth charts.
- Newborn screening blood sample
- Autopsy should be discussed and offered to parents in all cases of a neonatal death.

## 3.3. Perinatal Autopsy Including Placental Assessment

The perinatal autopsy remains the gold standard in diagnostic evaluation of the causes of perinatal death.[3] An autopsy can assist to:

- Identify an accurate cause of death
- Exclude some potential causes of death
- Identify disorders that have implications for counselling and monitoring in future pregnancies
- Provide other information related to the death, including excluding possibilities that may alleviate feelings of guilt
- Obtain tissues for genetic tests
- Assist grieving, by helping parents' understanding of the events surrounding the death.

Histopathological examination of the placenta is strongly recommended for all perinatal deaths. Consideration must be given to requests for return of the placenta for cultural reasons.

Pathology of the placenta, cord, or membranes may contribute to stillbirth in 11% to 65% of perinatal deaths.[4,5]

Consent for autopsy is ideally performed by an experienced senior clinician familiar to the family. The clinician must discuss:

- The value of the post-mortem examination
- Options for a full, or limited post-mortem examination
- The issue of retained tissues
- Implications for the timing of burial or cremation
- The possibility that the information gained may not benefit them but may be of benefit to others.

The NSW Health Perinatal Post-mortem Service provides support and information to both families and health professionals.

### 3.3.1. Alternatives to autopsy if declined

If permission for a full autopsy is not obtained, the following investigations are to be considered. Parents must be informed about the possibility of missing an important finding when a full autopsy is not undertaken:

- Formal external examination by pathologist
- X-ray (babygram)
- Clinical photographs
- Magnetic Resonance Imaging (MRI) in limited circumstances
- Small biopsy samples of a single organ via limited incision may be considered in the appropriate clinical setting
- Limited autopsy for focussed investigation of suspected abnormalities.

## 4. PERINATAL DEATH REVIEW COMMITTEES

Each Maternity service is to have a process in place to undertake clinical reviews and the classification of perinatal deaths. These reviews include analysis through a local perinatal morbidity and mortality committee.

Perinatal morbidity/ mortality review committees within maternity services provide a forum in which the cause of death, other adverse outcomes and their determinants are discussed.

Individual deaths are best reviewed by the local hospital or regional committees that include members who have had contact with the case. This has immediate benefits for participants in providing feedback and enables identification of possible avoidable factors that may be used to improve local services.

Guidelines for conducting Morbidity and Mortality meetings (M&Ms) can be accessed on the CEC website via CEC M&M meetings guidance.

## 4.1. Membership

Core membership of the committee includes:

- obstetric
- midwifery/nursing
- neonatology/paediatrics.

Additional membership may include representatives from:

- administration
- anaesthetics
- pathology
- clinical genetics
- pharmacy
- epidemiology/statistics
- social work
- endocrinology/diabetes management
- general practice.

The committee is kept at a reasonable size to ensure a meaningful discussion of the cases can occur.

The chairperson of the committee is responsible for ensuring timely reporting of death classifications to the CEC. They must create a safe, open, and respectful atmosphere for open discussion and learning, allowing all members to contribute.

## 4.2. Function

The committee may function at hospital or Local Health District level. Maternity services that have insufficient staff to carry out a multidisciplinary review are encouraged to seek support and collaborate with other maternity services within the Tiered Perinatal Network.

Maternity services are authorised to disclose information from one service to another to support the review of perinatal deaths of babies born at their facility but who died elsewhere. This may include confidential sharing of information (results, discharge summaries) or an invitation to the referring site's morbidity/ mortality meeting for the relevant case presentation.

The perinatal morbidity/ mortality (M&M) committee will abide by principles of confidentiality and impartiality and:

- review all perinatal deaths occurring within the maternity service and perinatal deaths who died elsewhere; (where a death has occurred in a Children's Hospital or other maternity service, the service must ensure that the referral hospital is informed, in order to complete this review and provide details or attend M&M as necessary)

- classify perinatal deaths according to the PSANZ Perinatal Death Classification (PDC) and, where appropriate, the PSANZ Neonatal Death Classification (NDC)
- evaluate the circumstances surrounding the death including a consideration of contributing and avoidable factors
- based on such considerations, identify opportunities for improving processes of care, ensuring feedback to families and clinicians; and
- provide a confidential report to the CEC (see section 4 reporting).

# 5. REPORTING OF PERINATAL DEATHS

Perinatal deaths must be managed and reported as per NSW Health Policy Directive *Incident Management* (PD2020_047) as set out in the section 3 Reportable Incident Brief and Appendix D Reportable Incident Definition.

If the death is a sudden unexpected death in infancy (SUDI) this is a reportable death under the *Coroners Act* 2009 and management is as per the NSW Health Policy Directive *Management of Sudden Unexpected Death in Infancy (SUDI)* (PD2019_035).

## 5.1. Electronic Reporting Process

### 5.1.1. Public hospitals reporting

From March 1st, 2022, following a review by the local perinatal mortality review committee all perinatal mortality reports which include the PSANZ classification of death must also be electronically submitted by completing the perinatal death report in eMaternity or Cerner PowerChart Maternity.

The CEC will upload/download the reports quarterly and after the completion of a calendar year.

### 5.1.2. Private hospitals reporting

From March 1st, 2022, following review by the local perinatal mortality review committee all perinatal mortality reports including the PSANZ classification of death, must be electronically submitted by completing an electronic form.

The link to the electronic form will be provided on a quarterly basis to private hospital maternity unit managers, or the person nominated by the maternity unit manager. If the electronic form is not accessible, a soft copy of the report must be submitted to the CEC (cec-patientsafety@health.nsw.gov.au).

### 5.1.3. Time Frame for reporting

Perinatal deaths for the previous year must be completed by April 1st, in the following year.

### 5.1.4. Requests for information

For additional assistance or further information contact the CEC:

Phone: CEC Clinical Lead, Maternal and Perinatal Patient Safety, 02 9269 5500.

Email: cec-patientsafety@health.nsw.gov.au

## 6. REFERENCES

1. Centre for Epidemiology and Evidence. *New South Wales Mothers and Babies 2019*. Sydney: NSW Ministry of Health, 2021.
2. Perinatal Society of Australia and New Zealand *Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death*, Third Edition, January 2020
3. Page JM, Christiansen-Lindquist L, Thorsten V, Parker CB, Reddy UM, Dudley DJ, Saade GR, Coustan D, Rowland Hogue CJ, Conway D, Bukowski R, Pinar H, Heuser CC, Gibbins KJ, Goldenberg RL, Silver RM. *Diagnostic Tests for Evaluation of Stillbirth: Results from the Stillbirth Collaborative Research Network*. Obstet Gynecol. 2017 Apr;129(4):699-706.
4. Ptacek I, Sebire NJ, Man JA, Brownbill P, Heazell AE. *Systematic review of placental pathology reported in association with stillbirth*. Placenta. 2014 Aug;35(8):552-62. doi: 10.1016/j.placenta.2014.05.011. Epub 2014 Jun 6. PMID: 24953162.
5. Man J, Hutchinson JC, Heazell AE, Ashworth M, Jeffrey I, Sebire NJ. *Stillbirth and intrauterine fetal death: role of routine histopathological placental findings to determine cause of death*. Ultrasound Obstet Gynecol. 2016 Nov;48(5):579-584.