

## Perinatal mortality appended tables

Table 3.41: Perinatal related death and perinatal death classification (PSANZ-PDC) 2008–2017

Perinatal death classification (PSANZ-PDC)	2008–2012		2013–2017	
	n=3,476		n=3,038	
	n	Rate	n	Rate
<b>Congenital abnormality</b>				
1.1 Central nervous system	189	0.59	159	0.53
1.2 Cardiovascular system	133	0.41	126	0.42
1.3 Urinary system	70	0.22	59	0.20
1.4 Gastrointestinal system	18	0.06	17	0.06
1.5 Chromosomal	301	0.93	266	0.88
1.6 Metabolic	14	0.04	11	0.04
1.7 Multiple/Non-chromosomal syndromes	124	0.38	100	0.33
1.8 Other congenital abnormality				
1.81 Musculoskeletal	45	0.14	50	0.17
1.82 Respiratory	5	0.02	4	0.01
1.83 Diaphragmatic hernia	30	0.09	14	0.05
1.84 Haematological	6	0.02	3	0.01
1.85 Tumours	11	0.03	7	0.02
1.88 Other specified congenital abnormality	16	0.05	10	0.03
1.9 Unspecified congenital abnormality	20	0.06	12	0.04
<b>Perinatal infection</b>				
2.1 Bacterial				
2.11 Group B <i>Streptococcus</i>	23	0.07	26	0.09
2.12 <i>E. coli</i>	12	0.04	10	0.03
2.13 <i>Listeria monocytogenes</i>	7	0.02	10	0.03
2.14 Spirochaetal (eg, syphilis)	<3	s	3	0.01
2.18 Other bacterial	13	0.04	22	0.07
2.19 Unspecified bacterial	11	0.03	16	0.05
2.2 Viral				
2.21 <i>Cytomegalovirus</i>	23	0.07	12	0.04
2.22 Parvovirus	9	0.03	3	0.01
2.23 Herpes simplex virus	3	0.01	3	0.01
2.28 Other viral	<3	s	-	-
2.29 Unspecified viral	<3	s	-	-
2.3 Protozoal (eg, <i>Toxoplasma</i> )	7	0.02	5	0.02
2.5 Fungal	-	-	<3	s
2.8 Other specified organism	<3	s	-	-
2.9 Other unspecified organism	9	0.03	9	0.03
<b>Hypertension</b>				
3.1 Chronic hypertension: essential	9	0.03	10	0.03
3.2 Chronic hypertension: secondary (eg, renal disease)	5	0.02	<3	s
3.3 Chronic hypertension: unspecified	4	0.01	<3	s
3.4 Gestational hypertension	10	0.03	4	0.01
3.5 Pre-eclampsia	63	0.20	37	0.12
3.51 Pre-eclampsia: With laboratory evidence of thrombophilia	4	0.01	4	0.01
3.6 Pre-eclampsia superimposed on chronic hypertension	16	0.05	7	0.02
3.61 Pre-eclampsia superimposed on chronic hypertension: With laboratory evidence of thrombophilia	3	0.01	-	-
3.9 Unspecified hypertension	4	0.01	3	0.01
<b>Antepartum haemorrhage (APH)</b>				
4.1 Placental abruption	188	0.58	129	0.43
4.11 Placental abruption: With laboratory evidence of thrombophilia	16	0.05	4	0.01

4.2	Placenta praevia	10	0.03	9	0.03
4.3	Vasa praevia	3	0.01	<3	s
4.8	Other APH	40	0.12	115	0.38
4.9	APH of undetermined origin	104	0.32	114	0.38
<b>Maternal conditions</b>					
5.1	Termination of pregnancy for maternal psychosocial indications	19	0.06	23	0.08
5.2	Diabetes/Gestational diabetes	62	0.19	58	0.19
5.3	Maternal injury	-	-	<3	s
5.31	Maternal injury: Accidental	6	0.02	17	0.06
5.32	Maternal injury: Non-accidental	5	0.02	5	0.02
5.4	Maternal sepsis	8	0.02	14	0.05
5.5	Antiphospholipid syndrome	15	0.05	11	0.04
5.51	Other maternal thrombophilia (if considered cause of death)	3	0.01	<3	s
5.6	Obstetric cholestasis	-	-	3	0.01
5.8	Other specified maternal conditions	37	0.11	34	0.11
<b>Specific perinatal conditions</b>					
6.1	Twin-twin transfusion	110	0.34	73	0.24
6.2	Fetomaternal haemorrhage	45	0.14	34	0.11
6.3	Antepartum cord complications (eg, cord haemorrhage; true knot with evidence of occlusion)	12	0.04	-	-
6.31	Cord haemorrhage	6	0.02	7	0.02
6.32	True knot with evidence of occlusion	13	0.04	13	0.04
6.38	Other	42	0.13	36	0.12
6.4	Uterine abnormalities (eg, bicornuate uterus, cervical incompetence)	61	0.19	65	0.22
6.5	Birth trauma (typically infants of >24 weeks' gestation or >600g birthweight)	<3	s	-	-
6.6	Alloimmune disease				
6.61	Alloimmune disease: Rhesus	<3	s	<3	s
6.64	Alloimmune disease: Alloimmune thrombocytopenia	3	0.01	3	0.01
6.63	Alloimmune disease: Kell	-	-	<3	s
6.68	Alloimmune disease: Other	-	-	<3	s
6.7	Idiopathic hydrops	20	0.06	20	0.07
6.8	Other specific perinatal conditions (includes iatrogenic conditions such as rupture of membranes after amniocentesis, termination of pregnancy for suspected but unconfirmed congenital abnormality)				
6.81	Rupture of membranes after amniocentesis	8	0.02	4	0.01
6.82	Termination of pregnancy for suspected but unconfirmed congenital abnormality	-	-	4	0.01
6.83	Fetal subdural haematoma	4	0.01	4	0.01
6.88	Other	33	0.10	57	0.19
6.89	Unspecified	-	-	<3	s
<b>Hypoxic peripartum death</b>					
7.1	With intrapartum complications				
7.11	With intrapartum complications: Uterine rupture	6	0.02	5	0.02
7.12	With intrapartum complications: Cord prolapse	13	0.04	6	0.02
7.13	With intrapartum complications: Shoulder dystocia	3	0.01	-	-
7.18	With intrapartum complications: Other	14	0.04	6	0.02
7.2	Evidence of non-reassuring fetal status in a normally grown infant (eg, abnormal fetal heart rate, fetal scalp pH/lactate, fetal pulse oximetry without intrapartum complications)	51	0.16	39	0.13
7.3	No intrapartum complications and no evidence of non-reassuring fetal status	7	0.02	10	0.03
7.9	Unspecified hypoxic peripartum death	28	0.09	5	0.02
<b>Fetal growth restriction (FGR)</b>					
8.1	With evidence of reduced vascular perfusion on Doppler studies and/or placental histopathology (eg, significant infarction, acute atherosclerosis, maternal and/or fetal vascular thrombosis or maternal floor infarction)	161	0.50	129	0.43
8.2	With chronic villitis	<3	s	10	0.03
8.3	No placental pathology	25	0.08	7	0.02
8.4	No examination of placenta	15	0.05	12	0.04
8.8	Other specified placental pathology	51	0.16	38	0.13

8.9	Unspecified or not known whether placenta examined	<3	s	<3	s
<b>Spontaneous preterm</b>					
9.1	Spontaneous preterm with intact membranes, or membrane rupture <24 hours before delivery	-	-	<3	s
9.11	Spontaneous preterm with intact membranes, or membrane rupture <24 hours before delivery: With chorioamnionitis	112	0.35	113	0.38
9.12	Spontaneous preterm with intact membranes, or membrane rupture <24 hours before delivery: Without chorioamnionitis	61	0.19	36	0.12
9.13	Spontaneous preterm with intact membranes, or membrane rupture <24 hours before delivery: No examination of placenta	7	0.02	11	0.04
9.17	No clinical signs of chorioamnionitis, no examination of placenta	59	0.18	44	0.15
9.19	Spontaneous preterm with intact membranes, or membrane rupture <24 hours before delivery: Unspecified or not known whether placenta examined	33	0.10	5	0.02
9.2	Spontaneous preterm with membrane rupture ≥24 hours before delivery				
9.21	Spontaneous preterm with membrane rupture ≥24 hours before delivery: With chorioamnionitis	130	0.40	121	0.40
9.22	Spontaneous preterm with membrane rupture ≥24 hours before delivery: Without chorioamnionitis	19	0.06	10	0.03
9.23	Spontaneous preterm with membrane rupture ≥24 hours before delivery: With clinical evidence of chorioamnionitis, no examination of placenta	21	0.07	12	0.04
9.27	No clinical signs of chorioamnionitis, no examination of placenta	20	0.06	25	0.08
9.29	Spontaneous preterm with membrane rupture ≥24 hours before delivery: Unspecified or not known whether placenta examined	11	0.03	3	0.01
9.3	Spontaneous preterm with membrane rupture of unknown duration before delivery				
9.31	Spontaneous preterm with membrane rupture of unknown duration before delivery: With chorioamnionitis	8	0.02	11	0.04
9.32	Spontaneous preterm with membrane rupture of unknown duration before delivery: Without chorioamnionitis	3	0.01	4	0.01
9.33	Spontaneous preterm with membrane rupture of unknown duration before delivery: With clinical evidence of chorioamnionitis, no examination of placenta	4	0.01	-	-
9.37	No clinical signs of chorioamnionitis, no examination of placenta	5	0.02	<3	s
9.39	Spontaneous preterm with membrane rupture of unknown duration before delivery: Unspecified or not known whether placenta examined	11	0.03	<3	s
<b>Unexplained antepartum death</b>					
10.1	With evidence of reduced vascular perfusion on Doppler studies and/or placental histopathology (eg, significant infarction, acute atherosclerosis, maternal and/or fetal vascular thrombosis or maternal floor infarction)	65	0.20	34	0.11
10.2	With chronic villitis	6	0.02	10	0.03
10.3	No placental pathology	114	0.35	110	0.37
10.4	No examination of placenta	92	0.29	75	0.25
10.8	Other specified placental pathology	161	0.50	211	0.70
10.9	Unspecified or not known whether placenta examined	16	0.05	<3	s
<b>No obstetric antecedent</b>					
11.1	Sudden infant death syndrome (SIDS)				
11.11	SIDS Category IA: Classic features of SIDS present, completely documented	-	-	<3	s
11.13	SIDS Category II: Infant deaths that meet Category I except for one or more features	<3	s	-	-
11.2	Postnatally acquired infection	10	0.03	5	0.02
11.3	Accidental asphyxiation	-	-	<3	s
11.4	Other accident, poisoning or violence (postnatal)	3	0.01	-	-
11.8	Other specified	3	0.01	4	0.01
11.9	Unknown/Undetermined	3	0.01	<3	s
11.91	Unclassified sudden infant death	22	0.07	21	0.07
11.92	Other Unknown/Undetermined	<3	s	<3	s

Sources: Numerator: PMMRC's perinatal data extract 2008–2017; Denominator: MAT births 2008–2017.

Table 3.42: Neonatal death and primary neonatal death classification (PSANZ-NDC) 2008–2017

Neonatal death classification (PSANZ-NDC)	2008–2012		2013–2017	
	n	Rate	n	Rate
<b>Congenital abnormality</b>				
1.1 Central nervous system	23	0.07	18	0.06
1.2 Cardiovascular system	34	0.11	30	0.10
1.3 Urinary system	26	0.08	15	0.05
1.4 Gastrointestinal system	4	0.01	6	0.02
1.5 Chromosomal	52	0.16	45	0.15
1.6 Metabolic	13	0.04	12	0.04
1.7 Multiple/Non-chromosomal syndromes	30	0.09	32	0.11
1.8 Other congenital abnormality				
1.81 Musculoskeletal	6	0.02	10	0.03
1.82 Respiratory	4	0.01	<3	s
1.83 Diaphragmatic hernia	21	0.07	8	0.03
1.84 Haematological	<3	s	<3	s
1.85 Tumours	<3	s	4	0.01
1.88 Other specified congenital abnormality	4	0.01	5	0.02
1.9 Unspecified congenital abnormality	-	-	<3	s
<b>Extreme prematurity</b>				
2.1 Not resuscitated	261	0.81	281	0.94
2.2 Unsuccessful resuscitation	54	0.17	24	0.08
2.9 Unspecified or not known whether resuscitation attempted	-	-	-	-
<b>Cardio-respiratory disorders</b>				
3.1 Hyaline membrane disease/Respiratory distress syndrome (RDS)	28	0.09	24	0.08
3.2 Meconium aspiration syndrome	-	-	2	0.01
3.3 Primary persistent pulmonary hypertension	3	0.01	4	0.01
3.4 Pulmonary hypoplasia	15	0.05	19	0.06
3.5 Chronic neonatal lung disease (typically, bronchopulmonary dysplasia)	5	0.02	-	-
3.6 Pulmonary haemorrhage	9	0.03	5	0.02
3.7 Pneumothorax	-	-	<3	s
3.8 Other	5	0.02	10	0.03
<b>Infection</b>				
4.1 Bacterial				
4.11 Congenital bacterial				
4.111 Congenital bacterial: Group B <i>Streptococcus</i>	14	0.04	10	0.03
4.112 Congenital bacterial: <i>E. coli</i>	9	0.03	8	0.03
4.113 Congenital bacterial: <i>Listeria monocytogenes</i>	<3	s	3	0.01
4.114 Congenital bacterial: Spirochaetal (eg, syphilis)	-	-	<3	s
4.118 Congenital bacterial: Other bacterial	9	0.03	6	0.02
4.119 Congenital bacterial: Unspecified bacterial	6	0.02	8	0.03
4.12 Acquired bacterial				
4.121 Acquired bacterial: Group B <i>Streptococcus</i>	4	0.01	<3	s
4.122 Acquired bacterial: <i>E. coli</i>	4	0.01	-	-
4.125 Acquired bacterial: Other Gram negative bacilli (other than <i>E. coli</i> )	3	0.01	<3	s
4.126 Acquired bacterial: <i>Staphylococcus aureus</i>	4	0.01	6	0.02
4.127 Acquired bacterial: Coagulase negative <i>Staphylococcus</i>	3	0.01	<3	s
4.128 Acquired bacterial: Other specified bacterial	7	0.02	3	0.01
4.129 Acquired bacterial: Unspecified bacterial	<3	s	<3	s
4.2 Viral				
4.21 Congenital viral				
4.211 Congenital viral: <i>Cytomegalovirus</i>	3	0.01	<3	s
4.213 Congenital viral: Herpes simplex virus	<3	s	3	0.01
4.218 Congenital viral: Other specified viral	<3	s	-	-
4.22 Acquired viral				
4.223 Acquired viral: Herpes simplex virus	<3	s	<3	s
4.228 Acquired viral: Other specified viral	3	0.01	<3	s

4.229	Acquired viral: Unspecified viral	<3	s	-	-
4.5	Fungal	-	-	3	0.01
4.9	Unspecified organism	7	0.02	<3	s
<b>Neurological</b>					
5.1	Hypoxic ischaemic encephalopathy/Perinatal asphyxia (typically infants of >24 weeks' gestation or >600g birthweight)	117	0.37	77	0.26
5.2	Intracranial haemorrhage				
5.21	Intraventricular haemorrhage	24	0.07	43	0.14
5.22	Subgaleal haemorrhage	<3	s	-	-
5.23	Subarachnoid haemorrhage	<3	s	-	-
5.24	Subdural haemorrhage	<3	s	<3	s
5.28	Other intracranial haemorrhage	<3	s	4	0.01
5.8	Other	3	0.01	-	-
<b>Gastrointestinal</b>					
6.1	Necrotising enterocolitis	15	0.05	14	0.05
6.8	Other	3	0.01	<3	s
<b>Other</b>					
7.1	Sudden infant death syndrome (SIDS)				
7.11	SIDS Category IA: Classic features of SIDS present and completely documented	-	-	<3	s
7.13	SIDS Category II: Infant deaths that meet category I except for one or more features	<3	s	-	-
7.2	Multisystem failure				
7.21	Multisystem failure: Secondary to intrauterine growth restriction	3	0.01	4	0.01
7.28	Multisystem failure: Other specified	4	0.01	9	0.03
7.29	Multisystem failure: Unspecified/undetermined primary cause or trigger event	<3	s	-	-
7.3	Trauma	-	-	<3	s
7.31	Trauma: Accidental	3	0.01	4	0.01
7.32	Trauma: Non-accidental	<3	s	-	-
7.4	Treatment complications				
7.41	Treatment complications: Surgical	-	-	<3	s
7.42	Treatment complications: Medical	<3	s	<3	s
7.8	Other specified	8	0.02	9	0.03
7.9	Unknown/Undetermined				
7.91	Unclassified sudden infant death	<3	s	3	0.01
7.911	Unclassified sudden infant death: Bed sharing	29	0.09	24	0.08
7.912	Unclassified sudden infant death: Not bed sharing	4	0.01	3	0.01

Sources: Numerator: PMMRC's perinatal data extract, neonatal deaths only, 2008–2017; Denominator: MAT births excluding fetal deaths 2008–2017.

Table 3.43: Perinatal death classification (PSANZ-PDC) of fetal death by gestational age 2013–2017

Perinatal death classification (PSANZ-PDC)	Total	Gestation age (weeks)													
		20–22		23–24		25–27		28–31		32–36		37–40		≥41 weeks	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
Congenital abnormality	656	342	52.1	129	19.7	59	9.0	42	6.4	55	8.4	24	3.7	5	0.8
Perinatal infection	72	16	22.2	12	16.7	7	9.7	11	15.3	7	9.7	14	19.4	5	6.9
Hypertension	56	6	10.7	6	10.7	13	23.2	8	14.3	14	25.0	8	14.3	<3	x
Antepartum haemorrhage	226	128	56.6	25	11.1	8	3.5	10	4.4	32	14.2	21	9.3	<3	x
Maternal conditions	134	48	35.8	16	11.9	11	8.2	14	10.4	21	15.7	20	14.9	4	3.0
Specific perinatal conditions	249	63	25.3	34	13.7	25	10.0	27	10.8	45	18.1	49	19.7	6	2.4
Hypoxic peripartum death	27	-	-	-	-	-	-	-	-	<3	x	20	74.1	6	22.2
Fetal growth restriction	184	17	9.2	19	10.3	39	21.2	32	17.4	37	20.1	33	17.9	7	3.8
Spontaneous preterm	168	129	76.8	26	15.5	3	1.8	5	3.0	5	3.0	-	-	-	-
Unexplained antepartum death	442	85	19.2	25	5.7	35	7.9	29	6.6	79	17.9	167	37.8	22	5.0
No obstetric antecedent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>2,214</b>	<b>834</b>	<b>37.7</b>	<b>292</b>	<b>13.2</b>	<b>200</b>	<b>9.0</b>	<b>178</b>	<b>8.0</b>	<b>296</b>	<b>13.4</b>	<b>356</b>	<b>16.1</b>	<b>58</b>	<b>2.6</b>

'x' indicates percentage suppressed due to small numbers.

Source: PMMRC's perinatal data extract, fetal deaths only, 2013–2017.

Table 3.44: Perinatal death classification (PSANZ-PDC) and neonatal death classification (PSANZ-NDC) of neonatal deaths by gestational age 2013–2017

Death classification (PSANZ)	Total	Gestation age (weeks)													
		20–22		23–24		25–27		28–31		32–36		37–40		≥41	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%
<b>Perinatal death classification (PSANZ-PDC)</b>															
Congenital abnormality	182	7	3.8	1	0.5	5	2.7	16	8.8	61	33.5	79	43.4	13	7.1
Perinatal infection	48	12	25.0	4	8.3	5	10.4	3	6.3	4	8.3	15	31.3	5	10.4
Hypertension	13	-	-	5	38.5	5	38.5	<3	x	<3	x	-	-	-	-
Antepartum haemorrhage	147	79	53.7	39	26.5	17	11.6	4	2.7	7	4.8	<3	x	-	-
Maternal conditions	33	9	27.3	4	12.1	3	9.1	3	9.1	9	27.3	5	15.2	-	-
Specific perinatal conditions	77	30	39.0	14	18.2	7	9.1	11	14.3	9	11.7	5	6.5	<3	x
Hypoxic peripartum death	44	-	-	-	-	-	-	<3	x	<3	x	34	77.3	8	18.2
Fetal growth restriction	14	-	-	-	-	<3	x	3	21.4	<3	x	6	42.9	<3	x
Spontaneous preterm	232	97	41.8	81	34.9	26	11.2	12	5.2	16	6.9	-	-	-	-
Unexplained antepartum death	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No obstetric antecedent	34	-	-	-	-	-	-	-	-	<3	x	26	76.5	6	17.6
<b>Neonatal death classification (PSANZ-NDC)</b>															
Congenital abnormality	188	7	3.7	<3	x	3	1.6	16	8.5	66	35.1	82	43.6	13	6.9
Extreme prematurity	305	226	74.1	75	24.6	4	1.3	-	-	-	-	-	-	-	-
Cardio-respiratory disorders	65	-	-	26	40.0	16	24.6	12	18.5	6	9.2	4	6.2	<3	x
Infection	63	-	-	8	12.7	18	28.6	4	6.3	9	14.3	19	30.2	5	7.9
Neurological	126	-	-	27	21.4	20	15.9	10	7.9	23	18.3	37	29.4	9	7.1
Gastrointestinal	15	<3	x	3	20.0	7	46.7	4	26.7	-	-	-	-	-	-
Other	62	-	-	8	12.9	<3	x	8	12.9	9	14.5	29	46.8	6	9.7
<b>Total</b>	<b>824</b>	<b>234</b>	<b>28.4</b>	<b>148</b>	<b>18.0</b>	<b>70</b>	<b>8.5</b>	<b>54</b>	<b>6.6</b>	<b>113</b>	<b>13.7</b>	<b>171</b>	<b>20.8</b>	<b>34</b>	<b>4.1</b>

'x' indicates percentage suppressed due to small numbers.

Source: PMMRC's perinatal data extract, neonatal deaths only, 2013–2017.