

Table 3.32: Perinatal related mortality rates among babies born in multiple pregnancies by year 2007–2018

Year of death	Total multiple births	Fetal deaths				Neonatal deaths		Perinatal related deaths (total)	
		Termination of pregnancy		Stillbirths		n	Rate	n	Rate
		n	Rate	n	Rate				
2007	2,011	3	1.49	34	16.91	25	12.66	62	30.83
2008	1,924	3	1.56	33	17.15	18	9.53	54	28.07
2009	1,849	5	2.70	32	17.31	31	17.11	68	36.78
2010	1,906	9	4.72	35	18.36	35	18.80	79	41.45
2011	1,827	18	9.85	48	26.27	27	15.33	93	50.90
2012	1,806	14	7.75	34	18.83	32	18.20	80	44.30
2013	1,741	8	4.60	40	22.98	16	9.45	64	36.76
2014	1,727	10	5.79	34	19.69	40	23.77	84	48.64
2015	1,665	<3	s	29	17.42	20	12.24	51	30.63
2016	1,631	3	1.84	33	20.23	11	6.90	47	28.82
2017	1,552	4	2.58	29	18.69	22	14.48	55	35.44
2018	1,491	9	6.04	37	24.82	32	22.15	78	52.31
<b>Chi-squared test for trend (p)</b>		<b>0.47</b>		<b>0.20</b>		<b>0.39</b>		<b>0.091</b>	

's' indicates rate suppressed due to small numbers.

Sources: Numerator: PMMRC's perinatal data extract among babies born in multiple pregnancies 2007–2018; Denominator: MAT births among babies born in multiple pregnancies 2007–2018.

### Death investigation

Overall, around 40% of babies had optimal investigation into the cause(s) of their death. 'Optimal investigation' is defined here as post-mortem or karyotype confirming chromosomal abnormality, or clinical examination or investigation confirming the diagnosis. What is considered to be 'optimal' will vary depending on the clinical picture. The rate of optimal investigation was higher for terminations of pregnancy, and lower for stillbirths and neonatal deaths (Table 3.33).

Table 3.33: Perinatal related deaths and completeness of perinatal death investigations 2018

Perinatal death investigation	Fetal deaths				Neonatal deaths		Perinatal related deaths (total)	
	Termination of pregnancy		Stillbirths		n	%	n	%
	n	%	n	%				
<b>Optimal investigation*</b>	67	49.63	125	39.68	58	37.66	250	41.39
Post-mortem	35	25.93	108	34.29	37	24.03	180	29.80
Karyotype	29	21.48	16	5.08	14	9.09	59	9.77
Clinical examination/investigations confirm diagnosis	7	5.19	13	4.13	9	5.84	29	4.80
<b>Partial investigations#</b>	54	40.00	139	44.13	80	51.95	273	45.20
<b>Placental pathology performed*</b>	62	45.93	235	74.60	112	72.73	409	67.72
<b>No investigation^</b>	12	8.89	46	14.60	13	8.44	71	11.75
<b>Unknown</b>	<3	x	5	1.59	3	1.95	10	1.66

\* Optimal investigation is defined as post-mortem or karyotype confirming congenital abnormality, or clinical examination or investigation confirming diagnosis. Note: more than one option can be selected for each case.

# No full post-mortem undertaken; investigations may have included placental pathology, magnetic resonance imaging (MRI), ultrasound scan or x-ray.

+ Includes both placental histology with post-mortem and as part of partial investigation.

^ No post-mortem, placental pathology, MRI, ultrasound scan or x-ray.

'x' indicates percentage not calculated due to small numbers.

Source: PMMRC's perinatal data extract 2018.

Table 3.34 shows the degree to which perinatal deaths were investigated. A higher proportion of Māori mothers was offered a post-mortem that was then not undertaken, and consequently a higher number of Māori babies had no investigation than other ethnic groups. The proportion of women who were not offered a post-mortem for their babies was reasonably consistent among prioritised ethnic groups, with the

exception of MELAA, who were not offered a post-mortem more frequently than other groups (Table 3.34). In some clinical situations, a full post-mortem is not required to identify the cause of death.

Table 3.34: Perinatal related deaths and perinatal death investigations by maternal prioritised ethnic group\* 2014–2018

Post-mortem examination offered	Māori		Pacific peoples		Asian						European						Perinatal related deaths (total)			
					Indian		Other Asian		Total Asian		MELAA		NZ European		Other European				Total European	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Full post-mortem offered and undertaken	180	22.2	116	30.4	96	39.2	106	39.4	202	39.3	28	43.1	495	45.2	88	49.2	583	45.8	1,111	36.5
Full post-mortem offered and not undertaken	557	68.8	239	62.6	138	56.3	145	53.9	283	55.1	30	46.2	524	47.9	71	39.7	595	46.7	1,704	55.9
Full post-mortem not offered	63	7.8	23	6.0	8	3.3	18	6.7	26	5.1	7	10.8	63	5.8	17	9.5	80	6.3	199	6.5
Unknown <sup>#</sup>	10	1.2	4	1.0	3	1.2	-	-	3	0.6	-	-	12	1.1	3	1.7	15	1.2	32	1.1
Karyotype	41	5.1	28	7.3	20	8.2	39	14.5	59	11.5	11	16.9	115	10.5	23	12.8	138	10.8	277	9.1
Clinical examination/investigations confirm diagnosis <sup>†</sup>	34	4.2	11	2.9	5	2.0	11	4.1	16	3.1	<3	x	52	4.8	7	3.9	59	4.6	121	4.0
<b>Partial investigations<sup>^</sup></b>	367	45.3	193	50.5	117	47.8	104	38.7	221	43.0	22	33.8	420	38.4	52	29.1	472	37.1	1,275	41.9
<b>No investigation</b>	195	24.1	41	10.7	11	4.5	15	5.6	26	5.1	4	6.2	52	4.8	15	8.4	67	5.3	333	10.9
<b>Investigations unknown</b>	5	0.6	<3	x	-	-	<3	x	<3	x	-	-	10	0.9	-	-	10	0.8	18	0.6

† In some clinical situations, a full post-mortem is not required to determine the cause of death.

\* Excludes two unknown maternal ethnicity.

# Includes unknown and two cases where a post-mortem was offered and consent unknown.

^ Investigations may have included partial post-mortem, placental pathology, magnetic resonance imaging (MRI), ultrasound scan or x-ray.

'x' indicates percentage suppressed due to small numbers.

Source: PMMRC's perinatal data extract 2014–2018.