

7. Aboriginal and Torres Strait Islander Mothers and Babies

Reporting of Aboriginality

Maternal Aboriginality is under-reported on the PDC. One method of assessing the extent of under-reporting and monitoring changes over time is to compare the reporting of maternal Aboriginality to the PDC with reporting of maternal Aboriginality on birth registrations held by the NSW Registry of Births, Deaths and Marriages. Using capture-recapture methods, an estimate of the total number of babies born to Aboriginal or Torres Strait Islander mothers was obtained and compared with the number of babies born to Aboriginal or Torres Strait Islander mothers as reported to the PDC (Table 69). An estimate of the total number of babies born to Aboriginal or Torres Strait Islander mothers or fathers was also obtained and compared with the number of babies born to Aboriginal or Torres Strait Islander mothers as reported to the PDC (Table 70). The method used here is described in Chapter 3 (page 11).

For NSW overall, the estimated percentage of births to Aboriginal or Torres Strait Islander mothers reported to the PDC ranged from 63% to 68% between 2006 and 2008. In 2008, reporting varied markedly between Local Health Districts, ranging from 14% in the Northern Sydney Local Health District to 93% in the Mid North Coast Local Health District, with reporting generally better in rural compared to

urban areas (Table 69, Figure 2). Under-reporting means that numbers of births presented in this chapter should be interpreted with caution. The total number of babies born to Aboriginal or Torres Strait Islander mothers in 2008 is estimated to be 4,716, about one and a half times higher than the number reported to the PDC.

Table 70 shows the number of babies born to Aboriginal or Torres Strait Islander mothers as reported to the PDC and the number of babies born to Aboriginal or Torres Strait Islander mothers or fathers as reported to the NSW Registry of Births, Deaths and Marriages between 2006 and 2008. Using capture-recapture methods, an estimate of the total number of babies born to Aboriginal or Torres Strait Islander mothers or fathers was obtained from both data sources. For NSW overall, the estimated percentage of births to Aboriginal or Torres Strait Islander mothers or fathers ranged from 44% to 46% between 2006 and 2008. In 2008, reporting ranged from 11% in the Northern Sydney Local Health District to 63% in the Western NSW and Far West Local Health Districts. There are therefore a substantial number of babies with non-Aboriginal or Torres Strait Islander mothers and Aboriginal or Torres Strait Islander fathers who are not represented in the numbers reported in this chapter.

Table 69. Births to Aboriginal mothers by source of birth report, year of birth and Local Health District of residence, NSW 2006–2008#

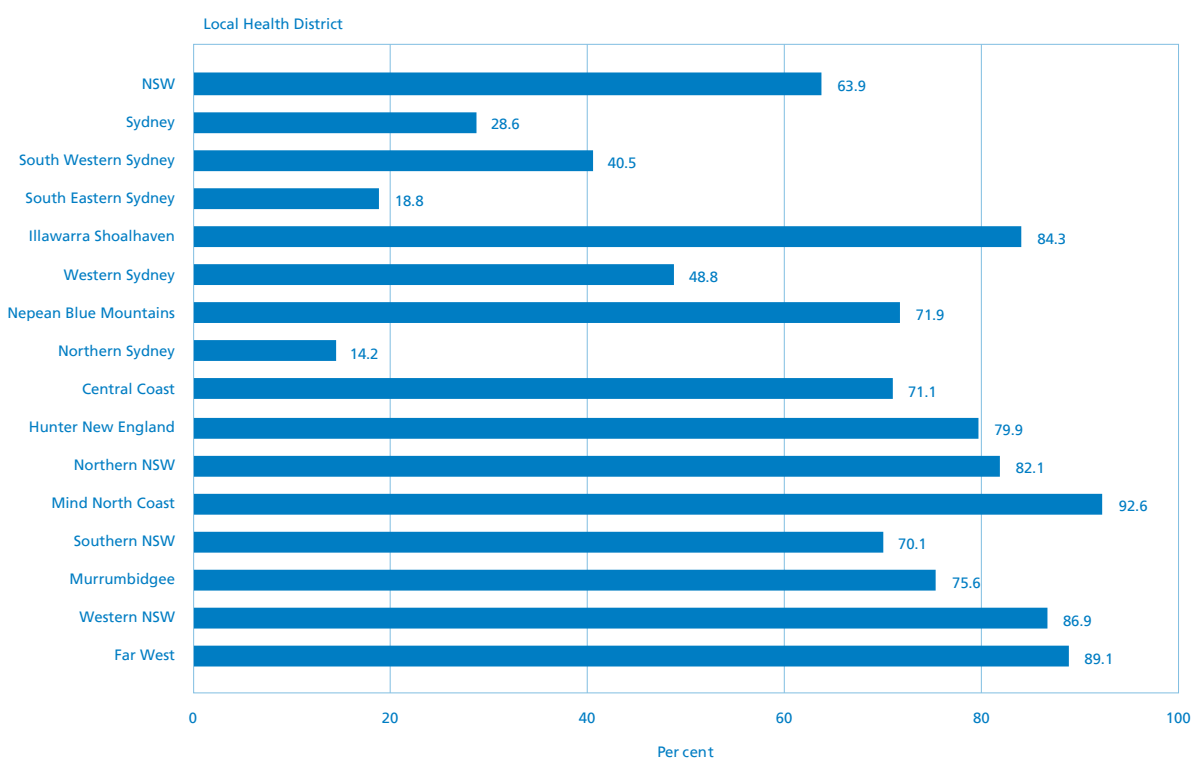
Year of birth– Local Health District of residence	MDC births	RBDM births	Births reported to both MDC/RBDM	Total estimated Aboriginal births	Estimated Aboriginal births reported to MDC	95% confidence interval of estimated births reported
	No.	No.	No.	No.	%	
2006						
Sydney	99	115	64	177	55.8	48.5–63.1
South Western Sydney	118	215	72	351	33.6	28.7–38.5
South Eastern Sydney	74	99	52	141	52.7	44.4–60.9
Illawarra Shoalhaven	155	142	108	204	76.1	70.3–82.0
Western Sydney	194	209	123	329	58.9	53.6–64.2
Nepean Blue Mountains	91	93	56	151	60.4	52.6–68.2
Northern Sydney	16	38	6	94	17.1	9.5–24.7
Central Coast	88	106	64	146	60.5	52.5–68.4
Hunter New England	598	499	361	826	72.4	69.3–75.4
Northern NSW	203	143	115	252	80.5	75.6–85.4
Mid North Coast	158	87	75	183	86.3	81.3–91.3
Southern NSW	70	39	32	85	82.3	74.2–90.4
Murrumbidgee	121	88	66	161	75.1	68.5–81.8
Western NSW	527	380	330	607	86.9	84.2–89.5
Far West	44	34	31	48	91.3	83.3–99.2
Other-not stated	91	68	56	110	82.5	75.4–89.5
NSW	2647	2355	1611	3869	68.4	66.9–69.9
2007						
Sydney	97	126	58	210	46.2	39.5–52.9
South Western Sydney	160	237	87	434	36.8	32.3–41.4
South Eastern Sydney	86	106	33	273	31.5	26.0–37.0
Illawarra Shoalhaven	163	121	96	205	79.4	73.9–84.9
Western Sydney	221	222	118	415	53.3	48.5–58.1
Nepean Blue Mountains	144	124	81	220	65.4	59.2–71.7

Table 69. (Continued)

Year of birth– Local Health District of residence	MDC births	RBDM births	Births reported to both MDC/RBDM	Total estimated Aboriginal births	Estimated Aboriginal births reported to MDC	95% confidence interval of estimated births reported
	No.	No.	No.	No.	%	
Northern Sydney	28	57	13	119	23.5	15.9–31.1
Central Coast	111	99	70	157	70.8	63.7–77.9
Hunter New England	661	506	383	873	75.7	72.9–78.6
Northern NSW	230	139	121	264	87.1	83.1–91.1
Mid North Coast	149	83	75	165	90.4	85.9–94.9
Southern NSW	67	37	31	80	84.0	76.0–92.1
Murrumbidgee	169	129	103	212	79.9	74.5–85.3
Western NSW	511	360	318	578	88.3	85.7–91.0
Far West	44	25	20	55	80.4	69.9–90.9
Other-not stated	82	68	51	109	75.1	67.0–83.2
NSW	2923	2439	1658	4300	68.0	66.6–69.4
2008						
Sydney	103	218	62	361	28.6	23.9–33.2
South Western Sydney	174	233	94	430	40.5	35.8–45.1
South Eastern Sydney	59	188	35	314	18.8	14.5–23.1
Illawarra Shoalhaven	196	146	123	233	84.3	79.6–89.0
Western Sydney	202	238	116	414	48.8	44.0–53.6
Nepean Blue Mountains	148	117	84	206	71.9	65.8–78.0
Northern Sydney	21	80	11	148	14.2	8.6–19.9
Central Coast	123	114	81	173	71.1	64.4–77.9
Hunter New England	750	576	460	939	79.9	77.3–82.4
Northern NSW	203	139	114	247	82.1	77.3–86.9
Mid North Coast	172	94	87	186	92.6	88.8–96.4
Southern NSW	59	43	30	84	70.1	60.3–79.9
Murrumbidgee	150	106	80	198	75.6	69.6–81.6
Western NSW	535	328	285	616	86.9	84.2–89.6
Far West	53	27	24	59	89.1	81.2–97.0
Other-not stated	66	57	42	89	73.8	64.7–83.0
NSW	3014	2704	1728	4716	63.9	62.5–65.3

Source: Linked records of the NSW Perinatal Data Collection and Registry of Births, Deaths and Marriages birth registration data.
#Information for 2006 and 2007 differs slightly from that reported previously as the linked datasets have been updated.

Figure 2. Level of reporting of maternal Aboriginality to the NSW Perinatal Data Collection by year of birth and Local Health District of residence, NSW 2008



Source: Linked records of the NSW Perinatal Data Collection and Registry of Births, Deaths and Marriages birth registration data.

Table 70. Births to Aboriginal mothers and fathers by source of birth report, year of birth and Local Health District of residence, NSW 2006–2008#

Year of birth– Local Health District of residence	MDC births No.	RBDM births No.	Births reported to both MDC/RBDM No.	Total estimated Aboriginal births No.	Estimated Aboriginal births reported to MDC %	95% confidence interval of estimated births reported
2006						
Sydney	99	153	68	222	44.6	38.0–51.1
South Western Sydney	118	314	72	512	23.0	19.4–26.7
South Eastern Sydney	74	155	52	220	33.7	27.4–39.9
Illawarra Shoalhaven	155	239	110	336	46.1	40.8–51.4
Western Sydney	194	326	127	497	39.0	34.7–43.3
Nepean Blue Mountains	91	185	57	294	30.9	25.7–36.2
Northern Sydney	16	61	7	131	12.2	6.6–17.9
Central Coast	88	179	66	238	37.0	30.8–43.1
Hunter New England	598	835	372	1342	44.6	41.9–47.2
Northern NSW	203	212	116	370	54.8	49.7–59.9
Mid North Coast	158	136	76	282	56.0	50.3–61.8
Southern NSW	70	85	33	179	39.2	32.0–46.4
Murrumbidgee	121	145	69	253	47.7	41.6–53.9
Western NSW	527	516	332	819	64.4	61.1–67.6
Far West	44	50	31	71	62.2	50.9–73.5
Other-not stated	91	112	57	178	51.1	43.7–58.4
NSW	2647	3703	1645	5958	44.4	43.2–45.7
2007						
Sydney	97	165	64	249	38.9	32.9–45.0
South Western Sydney	160	352	91	617	25.9	22.5–29.4
South Eastern Sydney	86	148	34	369	23.3	19.0–27.6
Illawarra Shoalhaven	163	227	101	366	44.6	39.5–49.7
Western Sydney	221	341	123	611	36.2	32.3–40.0
Nepean Blue Mountains	144	203	83	351	41.0	35.9–46.2
Northern Sydney	28	86	13	179	15.6	10.3–20.9
Central Coast	111	177	73	268	41.4	35.5–47.2
Hunter New England	661	811	394	1360	48.6	46.0–51.3
Northern NSW	230	238	132	414	55.5	50.8–60.3
Mid North Coast	149	141	76	276	54.1	48.2–59.9
Southern NSW	67	67	33	135	49.6	41.2–58.1
Murrumbidgee	169	188	112	283	59.6	53.9–65.4
Western NSW	511	525	331	810	63.1	59.7–66.4
Far West	44	34	22	67	65.2	53.8–76.6
Other-not stated	82	109	54	165	49.7	42.1–57.3
NSW	2923	3812	1736	6418	45.5	44.3–46.8
2008						
Sydney	103	258	64	413	24.9	20.7–29.1
South Western Sydney	174	352	96	636	27.4	23.9–30.8
South Eastern Sydney	59	237	35	396	14.9	11.4–18.4
Illawarra Shoalhaven	196	236	128	361	54.3	49.2–59.4
Western Sydney	202	335	116	582	34.7	30.8–38.6
Nepean Blue Mountains	148	195	86	335	44.2	38.9–49.5
Northern Sydney	21	108	12	183	11.4	6.8–16.1
Central Coast	123	186	84	272	45.3	39.3–51.2
Hunter New England	750	865	464	1398	53.7	51.0–56.3
Northern NSW	203	233	122	387	52.4	47.5–57.4
Mid North Coast	172	159	91	300	57.4	51.8–63.0
Southern NSW	59	74	33	131	44.9	36.4–53.4
Murrumbidgee	150	178	87	306	49.0	43.4–54.6
Western NSW	535	475	299	849	63.0	59.7–66.2
Far West	53	40	25	84	63.0	52.7–73.3
Other-not stated	66	89	43	136	48.5	40.1–56.9
NSW	3014	4020	1785	6787	44.4	43.2–45.6

Source: Linked records of the NSW Perinatal Data Collection and Registry of Births, Deaths and Marriages birth registration data.
#Information for 2006 and 2007 differs slightly from that reported previously as the linked datasets have been updated.

Trends in births

Between 2005 and 2009, the number of reported births to Aboriginal or Torres Strait Islander mothers rose from 2,507 to 2,931, representing 2.8% and 3.0% respectively of all babies born in NSW. In 2009, 2,784 babies were born to Aboriginal

mothers, 45 babies were born to Torres Strait Islander mothers and 102 babies were born to mothers of both Aboriginal and Torres Strait Islander background (Table 71).

Table 71. Aboriginal and Torres Strait Islander mothers and babies, NSW 2005–2009#

Aboriginal and Torres Strait Islander mothers and babies	2005		2006		Year 2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Mothers										
Aboriginal but not Torres Strait Islander	2347	94.9	2429	93.0	2700	93.5	2801	94.1	2757	94.9
Torres Strait Islander but not Aboriginal	30	1.2	50	1.9	53	1.8	61	2.0	45	1.5
Both Aboriginal and Torres Strait Islander	97	3.9	132	5.1	135	4.7	114	3.8	102	3.5
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0
Babies										
Aboriginal but not Torres Strait Islander	2376	94.8	2463	93.0	2736	93.5	2836	94.1	2784	95.0
Torres Strait Islander but not Aboriginal	31	1.2	51	1.9	54	1.8	61	2.0	45	1.5
Both Aboriginal and Torres Strait Islander	100	4.0	135	5.1	136	4.6	118	3.9	102	3.5
TOTAL	2507	100.0	2649	100.0	2926	100.0	3015	100.0	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers of mothers are about one-and-a-half times higher than shown, and the true numbers of babies are about two times higher than shown.

Plurality

Between 2005 and 2009 multiple pregnancies (twins, triplets etc.) were reported for about 1% of all pregnancies. In 2009,

1.8% of babies born to Aboriginal or Torres Strait Islander mothers were twins (Table 72).

Table 72. Aboriginal and Torres Strait Islander mothers and babies by plurality, NSW 2005–2009#

Plurality	2005		2006		Year 2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Mothers										
Singleton	2443	98.7	2574	98.6	2851	98.7	2937	98.7	2877	99.1
Twins	29	1.2	36	1.4	36	1.2	39	1.3	27	0.9
Triplets	2	0.1	1	0.0	1	0.0	0	0.0	0	0.0
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0
Babies										
Singleton	2443	97.4	2574	97.2	2851	97.4	2937	97.4	2877	98.2
Twins	58	2.3	72	2.7	72	2.5	78	2.6	54	1.8
Triplets	6	0.2	3	0.1	3	0.1	0	0.0	0	0.0
TOTAL	2507	100.0	2649	100.0	2926	100.0	3015	100.0	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers of mothers are about one-and-a-half times higher than shown, and the true numbers of babies are about two times higher than shown.

Previous pregnancies

In 2009, one-third of Aboriginal or Torres Strait Islander mothers gave birth for the first time (Table 73), 57.7% of mothers reported between one and four previous births and

7.8% of mothers had previously given birth to 5 or more babies. This pattern has not changed substantially since 2005.

Table 73. Previous pregnancies among Aboriginal and Torres Strait Islander mothers, NSW 2005–2009#

No. previous pregnancies (>20 weeks)	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
0	787	31.8	844	32.3	952	33.0	986	33.1	1000	34.4
1–4	1472	59.5	1551	59.4	1683	58.3	1735	58.3	1677	57.7
5+	214	8.6	199	7.6	237	8.2	253	8.5	227	7.8
Not stated	1	0.0	17	0.7	16	0.6	2	0.1	0	0.0
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown.

Maternal age

The reported number of Aboriginal or Torres Strait Islander mothers giving birth has increased at all ages over recent years. The percentage of Aboriginal or Torres Strait Islander mothers

who were teenagers fell from 20.4% in 2005 to 18.9% in 2009. The percentage of mothers giving birth at 35 years of age or more has been stable at about 9% (Table 74).

Table 74. Age of Aboriginal and Torres Strait Islander mothers, NSW 2005–2009#

Maternal age (years)	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
12–19	504	20.4	534	20.5	543	18.8	589	19.8	549	18.9
20–34	1739	70.3	1851	70.9	2080	72.0	2109	70.9	2074	71.4
35+	231	9.3	222	8.5	264	9.1	278	9.3	281	9.7
Not stated	0	0.0	4	0.2	1	0.0	0	0.0	0	0.0
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown.

Local Health District of residence

Between 2005 and 2009, the reported number of Aboriginal or Torres Strait Islander mothers rose in most Local Health Districts. The reported number of Aboriginal or Torres Strait Islander mothers who gave birth in 2009 ranged from 28 in the Northern Sydney Local Health District to 654 in the Hunter

New England Local Health District (Table 75). The proportion of mothers who were teenagers varied from 15.3% in the Northern NSW Local Health District to 28.3% in the Nepean Blue Mountains Local Health District (Table 76).

Table 75. Local Health District of residence of Aboriginal and Torres Strait Islander mothers, NSW 2005–2009#

Local Health District	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sydney	74	3.0	97	3.7	96	3.3	102	3.4	105	3.6
South Western Sydney	106	4.3	117	4.5	157	5.4	173	5.8	170	5.9
South Eastern Sydney	70	2.8	69	2.6	85	2.9	57	1.9	64	2.2
Illawarra Shoalhaven	124	5.0	151	5.8	162	5.6	190	6.4	170	5.9
Western Sydney	180	7.3	191	7.3	221	7.7	201	6.8	203	7.0
Nepean Blue Mountains	87	3.5	87	3.3	141	4.9	140	4.7	113	3.9
Northern Sydney	17	0.7	17	0.7	27	0.9	21	0.7	28	1.0
Central Coast	71	2.9	88	3.4	109	3.8	122	4.1	110	3.8
Hunter New England	603	24.4	589	22.6	647	22.4	730	24.5	654	22.5
Northern NSW	172	7.0	205	7.9	228	7.9	210	7.1	203	7.0
Mid North Coast	168	6.8	190	7.3	195	6.8	203	6.8	234	8.1
Southern NSW	73	3.0	71	2.7	66	2.3	58	1.9	68	2.3
Murrumbidgee	143	5.8	128	4.9	178	6.2	152	5.1	156	5.4
Western NSW	511	20.7	521	20.0	499	17.3	526	17.7	553	19.0
Far West	42	1.7	43	1.6	43	1.5	51	1.7	35	1.2
Other-not stated	33	1.3	47	1.8	34	1.2	40	1.3	38	1.3
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown. The level of under-reporting varies between Local Health Districts (Table 69).

Table 76. Local Health District of residence of Aboriginal and Torres Strait Islander mothers by age, NSW 2009#

Local Health District	Maternal age (years)					
	Under 20		20-plus		TOTAL	
	No.	%	No.	%	No.	%
Sydney	19	18.1	86	81.9	105	100.0
South Western Sydney	38	22.4	132	77.6	170	100.0
South Eastern Sydney	10	15.6	54	84.4	64	100.0
Illawarra Shoalhaven	32	18.8	138	81.2	170	100.0
Western Sydney	41	20.2	162	79.8	203	100.0
Nepean Blue Mountains	32	28.3	81	71.7	113	100.0
Northern Sydney	-	-	-	-	28	100.0
Central Coast	17	15.5	93	84.5	110	100.0
Hunter New England	128	19.6	526	80.4	654	100.0
Northern NSW	31	15.3	172	84.7	203	100.0
Mid North Coast	45	19.2	189	80.8	234	100.0
Southern NSW	13	19.1	55	80.9	68	100.0
Murrumbidgee	30	19.2	126	80.8	156	100.0
Western NSW	103	18.6	450	81.4	553	100.0
Far West	7	20.0	28	80.0	35	100.0
Other-not stated	-	-	-	-	38	100.0
TOTAL	549	18.9	2355	81.1	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown. The level of under-reporting varies between Local Health Districts (Table 69). Data not shown for cell counts less than five.

Duration of pregnancy at first antenatal visit

Between 2005 and 2009, the proportion of Aboriginal or Torres Strait Islander mothers who commenced antenatal care at less than 14 weeks gestation rose from 56.4% to 69.2%, and the proportion who commenced antenatal care at less than 20 weeks gestation rose from 74.9% to 83.4% (Table 77). This compares with 79.2% of non-Aboriginal or Torres Strait Islander mothers who commenced antenatal care at less

than 14 weeks gestation, and 89.2% who commenced antenatal care at less than 20 weeks gestation in 2009.

In 2009, the proportion of Aboriginal or Torres Strait Islander mothers who commenced antenatal care at less than 14 weeks gestation varied from 34.3% in the Sydney Local Health District to 86.4% in the Central Coast Local Health District (Table 78).

Table 77. Duration of pregnancy at first antenatal visit among Aboriginal and Torres Strait Islander mothers, NSW 2005–2009#

Duration of pregnancy (weeks)	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-13	1396	56.4	1531	58.6	1840	63.7	2045	68.7	2011	69.2
14-19	458	18.5	421	16.1	456	15.8	437	14.7	410	14.1
20-plus	561	22.7	550	21.1	461	16.0	404	13.6	428	14.7
Not stated	59	2.4	109	4.2	131	4.5	90	3.0	55	1.9
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown.

Table 78. Duration of pregnancy at first antenatal visit among Aboriginal and Torres Strait Islander mothers by Local Health District of residence, NSW 2009#

Local Health District	Duration of pregnancy (weeks)									
	0-13		14-19		20-plus		Not stated		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sydney	36	34.3	27	25.7	35	33.3	7	6.7	105	100.0
South Western Sydney	87	51.2	36	21.2	44	25.9	3	1.8	170	100.0
South Eastern Sydney	37	57.8	20	31.3	6	9.4	1	1.6	64	100.0
Illawarra Shoalhaven	127	74.7	22	12.9	21	12.4	0	0.0	170	100.0
Western Sydney	171	84.2	8	3.9	20	9.9	4	2.0	203	100.0
Nepean Blue Mountains	91	80.5	10	8.8	10	8.8	2	1.8	113	100.0
Northern Sydney	24	85.7	-	-	-	-	0	0.0	28	100.0
Central Coast	95	86.4	8	7.3	6	5.5	1	0.9	110	100.0
Hunter New England	463	70.8	88	13.5	93	14.2	10	1.5	654	100.0
Northern NSW	150	73.9	25	12.3	22	10.8	6	3.0	203	100.0
Mid North Coast	155	66.2	40	17.1	34	14.5	5	2.1	234	100.0
Southern NSW	43	63.2	12	17.6	13	19.1	0	0.0	68	100.0
Murrumbidgee	103	66.0	25	16.0	27	17.3	1	0.6	156	100.0
Western NSW	380	68.7	76	13.7	83	15.0	14	2.5	553	100.0
Far West	19	54.3	8	22.9	8	22.9	0	0.0	35	100.0
Other-not stated	30	78.9	-	-	-	-	1	2.6	38	100.0
TOTAL	2011	69.2	410	14.1	428	14.7	55	1.9	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

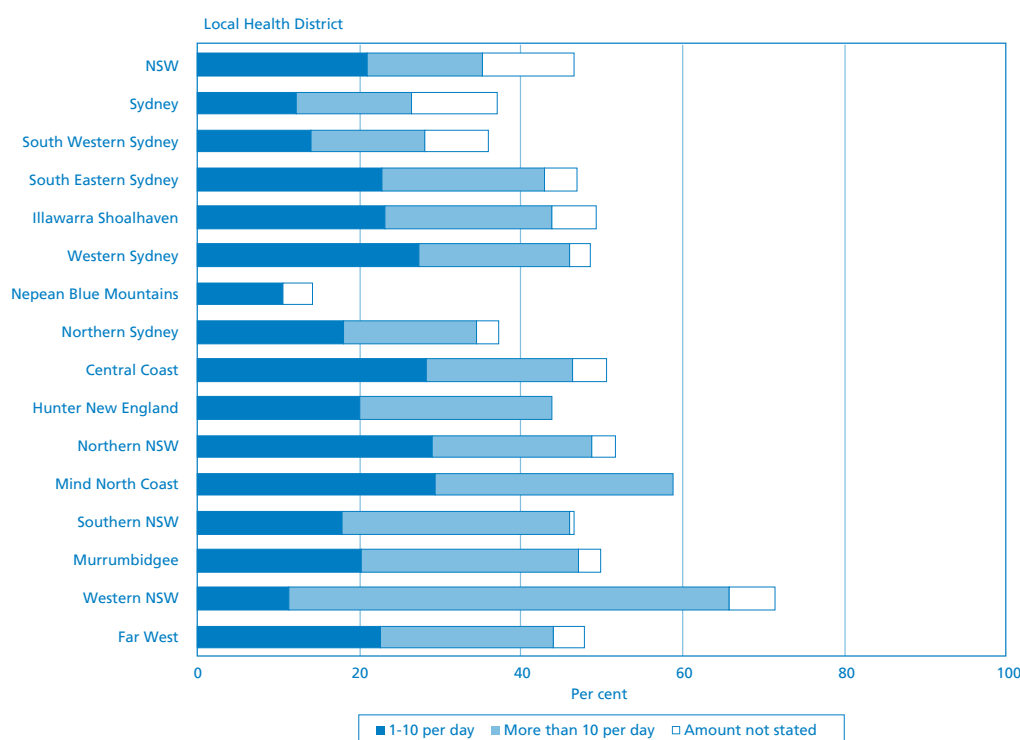
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown. The level of under-reporting varies between Local Health Districts (Table 69). Data not shown for cell counts less than five.

Smoking in pregnancy

In 2009, 50.5% of Aboriginal or Torres Strait Islander mothers reported smoking at some time during pregnancy, compared to 55.3% in 2005. This compares with 10.5% of non-Aboriginal or Torres Strait Islander mothers who reported smoking at some time during pregnancy in 2009.

Smoking in the second half of pregnancy poses the greatest risk to the health of both mother and baby. In 2009, 47.9% of Aboriginal or Torres Strait Islander mothers reported smoking in the second half of pregnancy. This percentage varied from 14.3% in the Northern Sydney Local Health District to 58.8% in the Southern NSW Local Health District (Figure 3).

Figure 3. Smoking in the second half of pregnancy among Aboriginal and Torres Strait Islander mothers by amount smoked and Local Health District of residence, NSW 2009#



Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research. NSW Ministry of Health.

Due to under-reporting of Aboriginal mothers on the PDC, it is likely that the true numbers are about one and a half times higher than shown. The level of reporting varies between Local Health Districts (Table 69).

Medical conditions and obstetric complications

In 2009, there was a lower rate of gestational diabetes and pregnancy-induced hypertension and a higher rate of diabetes mellitus reported among Aboriginal or Torres Strait Islander mothers compared with non-Aboriginal or Torres Strait Islander mothers (Table 79). The number of Aboriginal or

Torres Strait Islander mothers with medical conditions and obstetric complications reported to the PDC is low, even after taking into account under-reporting of Aboriginal mothers. The low numbers may be due to under-detection and/or under-reporting.

Table 79. Maternal medical conditions and obstetric complications among Aboriginal and non-Aboriginal mothers, NSW 2009#

Condition	Aboriginality							
	Aboriginal/ Torres Strait islander		Non-Aboriginal/ Torres Strait islander		Not stated		TOTAL	
	No.	%	No.	%	No.	%	No.	%
Diabetes mellitus	22	0.8	503	0.5	0	0.0	525	0.6
Gestational diabetes	96	3.3	5050	5.5	11	6.3	5157	5.4
Essential hypertension	26	0.9	730	0.8	0	0.0	756	0.8
Pregnancy-induced hypertension	160	5.5	5987	6.5	6	3.4	6153	6.5
TOTAL	2904	100.0	91963	100.0	176	100.0	95043	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown.

Labour and birth

The rate of spontaneous onset of labour among Aboriginal or Torres Strait Islander mothers fell from 65.2% in 2005 to 63.8% in 2009 (Table 80), while the rate of induction of labour was stable at about 23% to 24%. The rate of induction of labour among Aboriginal or Torres Strait Islander mothers was slightly lower than the rate of 25.8% reported among non-Aboriginal or Torres Strait Islander mothers in 2009.

Between 2005 and 2009, the rate of normal vaginal birth fell from 70.4% to 63.8%. The caesarean section rate rose from 23.3% to 24.3% (Table 81). The rate of instrumental delivery rose slightly from 5.4% to 6.5%, and about 1% of all births were vaginal breech births.

Table 80. Labour onset for Aboriginal and Torres Strait Islander mothers, NSW 2005–2009#

Labour onset	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Spontaneous	1613	65.2	1728	66.2	1884	65.2	1966	66.1	1852	63.8
No labour##	277	11.2	329	12.6	315	10.9	339	11.4	357	12.3
Induced	584	23.6	552	21.1	688	23.8	669	22.5	695	23.9
Not stated	0	0.0	2	0.1	1	0.0	2	0.1	0	0.0
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown.

No labour indicates elective caesarean section.

Table 81. Type of birth among Aboriginal and Torres Strait Islander mothers, NSW 2005–2009#

Labour onset	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Normal vaginal	1741	70.4	1868	71.5	2015	69.8	2074	69.7	1984	68.3
Forceps	42	1.7	46	1.8	42	1.5	75	2.5	64	2.2
Vacuum extraction	91	3.7	84	3.2	121	4.2	124	4.2	126	4.3
Vaginal breech	24	1.0	17	0.7	27	0.9	25	0.8	23	0.8
Elective caesarean section	277	11.2	329	12.6	315	10.9	339	11.4	357	12.3
Emergency caesarean section##	299	12.1	259	9.9	365	12.6	336	11.3	350	12.1
Not stated	0	0.0	8	0.3	3	0.1	3	0.1	0	0.0
TOTAL	2474	100.0	2611	100.0	2888	100.0	2976	100.0	2904	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about one-and-a-half times higher than shown.

Emergency caesarean section includes caesarean section where the onset of labour was not stated.

Birth weight

Since 2005, the rate of low birth weight (less than 2,500 grams) in Aboriginal or Torres Strait Islander babies has been over 10% and was 10.8% in 2009 (Table 82). This is about twice the rate for babies born to non-Aboriginal or Torres

Strait Islander mothers, which was 5.8% in 2009. In 2009, the largest number of low birth weight babies was in the Hunter New England Local Health District (Table 83).

Table 82. Weight of Aboriginal and Torres Strait Islander babies, NSW 2005–2009#

Birth weight (grams)	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 1,000	36	1.4	26	1.0	57	1.9	39	1.3	36	1.2
1,000–1,499	20	0.8	29	1.1	23	0.8	36	1.2	22	0.8
1,500–2,499	257	10.3	273	10.3	276	9.4	272	9.0	259	8.8
2,500+	2193	87.5	2318	87.5	2563	87.6	2665	88.4	2610	89.0
Not stated	1	0.0	3	0.1	7	0.2	3	0.1	4	0.1
TOTAL	2507	100.0	2649	100.0	2926	100.0	3015	100.0	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown.

Table 83. Weight of Aboriginal and Torres Strait Islander babies by Local Health District of residence, NSW 2009#

Local Health District	Birth weight (grams)							
	< 2,500		2,500+		Not stated		TOTAL	
	No.	%	No.	%	No.	%	No.	%
Sydney	15	14.0	92	86.0	0	0.0	107	100.0
South Western Sydney	16	9.2	156	90.2	1	0.6	173	100.0
South Eastern Sydney	6	9.2	59	90.8	0	0.0	65	100.0
Illawarra Shoalhaven	14	8.2	157	91.8	0	0.0	171	100.0
Western Sydney	28	13.7	176	86.3	0	0.0	204	100.0
Nepean Blue Mountains	13	11.3	102	88.7	0	0.0	115	100.0
Northern Sydney	-	-	-	-	-	-	28	100.0
Central Coast	10	9.1	100	90.9	0	0.0	110	100.0
Hunter New England	82	12.4	579	87.5	1	0.2	662	100.0
Northern NSW	21	10.3	183	89.7	0	0.0	204	100.0
Mid North Coast	29	12.2	207	87.3	1	0.4	237	100.0
Southern NSW	5	7.4	63	92.6	0	0.0	68	100.0
Murrumbidgee	12	7.6	144	91.7	1	0.6	157	100.0
Western NSW	56	10.1	501	89.9	0	0.0	557	100.0
Far West	-	-	-	-	-	-	35	100.0
Other-not stated	5	13.2	33	86.8	0	0.0	38	100.0
TOTAL	317	10.8	2610	89.0	4	0.1	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown. The level of under-reporting varies between Local Health Districts (Table 70). Data not shown for cell counts less than five.

Gestational age

Since 2005, over 10% of Aboriginal or Torres Strait Islander babies have been premature (less than 37 weeks gestation) (Table 84). The rate of prematurity was 10.5% in 2009—compared with a rate of 7.2% for babies born to

non-Aboriginal or Torres Strait Islander mothers. In 2009, the largest number of premature babies was born in the Hunter New England Local Health District (Table 85).

Table 84. Gestational age of Aboriginal and Torres Strait Islander babies, NSW 2005–2009#

Gestational age (weeks)	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
< 28	30	1.2	25	0.9	56	1.9	44	1.5	39	1.3
28-31	27	1.1	26	1.0	28	1.0	40	1.3	26	0.9
32-36	244	9.7	235	8.9	289	9.9	284	9.4	244	8.3
37-41	2180	87.0	2330	88.0	2518	86.1	2622	87.0	2589	88.3
42 +	26	1.0	31	1.2	32	1.1	24	0.8	33	1.1
Not stated	0	0.0	2	0.1	3	0.1	1	0.0	0	0.0
TOTAL	2507	100.0	2649	100.0	2926	100.0	3015	100.0	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown.

Table 85. Gestational age of Aboriginal and Torres Strait Islander babies by Local Health District of residence, NSW 2009#

Local Health District	Gestational age (weeks)					
	Less than 37		37+		TOTAL	
	No.	%	No.	%	No.	%
Sydney	9	8.4	98	91.6	107	100.0
South Western Sydney	15	8.7	158	91.3	173	100.0
South Eastern Sydney	8	12.3	57	87.7	65	100.0
Illawarra Shoalhaven	16	9.4	155	90.6	171	100.0
Western Sydney	24	11.8	180	88.2	204	100.0
Nepean Blue Mountains	15	13.0	100	87.0	115	100.0
Northern Sydney	-	-	-	-	28	100.0
Central Coast	7	6.4	103	93.6	110	100.0
Hunter New England	90	13.6	572	86.4	662	100.0
Northern NSW	15	7.4	189	92.6	204	100.0
Mid North Coast	25	10.5	212	89.5	237	100.0
Southern NSW	-	-	-	-	68	100.0
Murrumbidgee	12	7.6	145	92.4	157	100.0
Western NSW	60	10.8	497	89.2	557	100.0
Far West	-	-	-	-	35	100.0
Other-not stated	4	10.5	34	89.5	38	100.0
TOTAL	309	10.5	2622	89.5	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown. The level of under-reporting varies between Local Health Districts (Table 70). Data not shown for cell counts less than five.

Apgar score

In 2009, 3.1% of Aboriginal or Torres Strait Islander babies had an Apgar score less than seven (Table 86), slightly higher

than the rate of 2.0% for babies born to non-Aboriginal or Torres Strait Islander mothers.

Table 86. Apgar score of Aboriginal and Torres Strait Islander babies, NSW 2005–2009#

Apgar score at 5 minutes	Year									
	2005		2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-4	42	1.7	36	1.4	73	2.5	62	2.1	53	1.8
5-6	33	1.3	24	0.9	42	1.4	45	1.5	39	1.3
7+	2416	96.4	2571	97.1	2794	95.5	2886	95.7	2819	96.2
Not stated	16	0.6	18	0.7	17	0.6	22	0.7	20	0.7
TOTAL	2507	100.0	2649	100.0	2926	100.0	3015	100.0	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.
Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown.

Infant feeding

In 2009, 62.4% of babies born to Aboriginal or Torres Strait Islander mothers were fully breastfed at discharge from hospital, 4.5% were partially breastfed and 31.3% received infant formula only (Table 87). This compares with 80.6% of

babies born to non-Aboriginal or Torres Strait Islander mothers who were fully breastfed in 2009. Rates of full breastfeeding ranged from 51.0% in the Western Sydney Local Health District to 92.9% in the Northern Sydney Local Health District.

Table 87. Infant feeding among Aboriginal and Torres Strait Islander liveborn babies by Local Health District of residence, NSW 2009#

Local Health District	Infant feeding									
	Full breast-feeding		Any breast-feeding		Infant formula only		Not stated		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sydney	64	59.8	13	12.1	29	27.1	1	0.9	107	100.0
South Western Sydney	90	52.0	17	9.8	64	37.0	2	1.2	173	100.0
South Eastern Sydney	48	73.8	-	3.1	14	21.5	-	-	65	100.0
Illawarra Shoalhaven	109	63.7	-	2.3	53	31.0	-	-	171	100.0
Western Sydney	104	51.0	9	4.4	87	42.6	4	2.0	204	100.0
Nepean Blue Mountains	65	56.5	5	4.3	43	37.4	2	1.7	115	100.0
Northern Sydney	26	92.9	-	-	-	-	-	-	28	100.0
Central Coast	76	69.1	-	-	29	26.4	-	-	110	100.0
Hunter New England	410	61.9	30	4.5	205	31.0	17	2.6	662	100.0
Northern NSW	140	68.6	13	6.4	47	23.0	4	2.0	204	100.0
Mid North Coast	182	76.8	7	3.0	44	18.6	4	1.7	237	100.0
Southern NSW	51	75.0	0	0.0	16	23.5	1	1.5	68	100.0
Murrumbidgee	95	60.5	-	-	57	36.3	-	-	157	100.0
Western NSW	319	57.3	21	3.8	210	37.7	7	1.3	557	100.0
Far West	21	60.0	5	14.3	9	25.7	0	0.0	35	100.0
Other-not stated	28	73.7	0	0.0	7	18.4	3	7.9	38	100.0
TOTAL	1828	62.4	131	4.5	916	31.3	56	1.9	2931	100.0

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown. The level of under-reporting varies between Local Health Districts (Table 69). Data not shown for cell counts less than five.

Perinatal mortality

Since 2005, the perinatal mortality rate among Aboriginal or Torres Strait Islander babies has varied from 12.1 to 22.6 per 1,000 births (Table 88). The rate of 12.6 per 1,000 in 2009 is

substantially higher than the rate of 8.5 per 1,000 experienced by babies born to non-Aboriginal or Torres Strait Islander mothers.

Table 88. Perinatal deaths among Aboriginal and Torres Strait Islander babies, NSW 2005–2009#

Perinatal deaths	Year									
	2005		2006		2007		2008		2009	
	No.	Rate/ 1,000	No.	Rate/ 1,000	No.	Rate/ 1,000	No.	Rate/ 1,000	No.	Rate/ 1,000
Stillbirth	22	8.8	16	6.0	41	14.0	34	11.3	27	9.2
Neonatal death	16	6.4	16	6.0	25	8.5	12	4.0	10	3.4
TOTAL	38	15.2	32	12.1	66	22.6	46	15.3	37	12.6

Source: NSW Perinatal Data Collection (HOIST). Centre for Epidemiology and Research, NSW Ministry of Health.

Perinatal deaths include deaths reported to the PDC only. As the PDC form is completed at discharge or transfer of the baby, deaths occurring after this time may not be reported to the MDC. Due to under-reporting of Aboriginality to the PDC, it is likely that the true numbers are about two times higher than shown.