

## 4. Trends in NSW

### Confinements and births by plurality

There were 96 030 births to 94 602 women reported in 2007 (Table 1). In 2003 and 2004, the numbers of births in NSW remained stable at about 86 000 per annum. In 2005, the number of births increased to 90 610, a rise of 5.8% compared with 2004; in 2006, the number of births

increased to 92 781, a rise of 7.9% compared with 2004; and in 2007, and the number of births increased to 96 030, a rise of 12.2% compared with 2004. The proportion of pregnancies that are multiple (twin and triplet) has remained stable at about 1.6% since 2003.

**Table 1. Plurality, NSW, 2003–2007**

Plurality	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Confinements</b>										
Singleton	83 677	98.4	82 983	98.5	87 699	98.4	89 890	98.4	93 194	98.5
Twins	1330	1.6	1274	1.5	1413	1.6	1386	1.5	1388	1.5
Triplets	23	0.0	30	0.0	27	0.0	37	0.0	20	0.0
Quadruplets	2	0.0	1	0.0	1	0.0	2	0.0	0	0.0
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0
<b>Births</b>										
Singleton	83 677	96.8	82 983	96.9	87 699	96.8	89 890	96.9	93 194	97.0
Twins	2660	3.1	2549	3.0	2826	3.1	2772	3.0	2776	2.9
Triplets	69	0.1	90	0.1	81	0.1	111	0.1	60	0.1
Quadruplets	8	0.0	4	0.0	4	0.0	8	0.0	0	0.0
TOTAL	86 414	100.0	85 626	100.0	90 610	100.0	92 781	100.0	96 030	100.0

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

### Health area of residence

In 2007, the largest number of births occurred in the Sydney South West Area, followed by Sydney West and

South Eastern Sydney and Illawarra Areas (Table 2). Compared with 2004, there were increases in the

**Table 2. Maternal health area of residence, NSW, 2003–2007**

Health area	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sydney South West	19 485	22.9	18 720	22.2	19 713	22.1	20 480	22.4	21 206	22.4
South Eastern Sydney and Illawarra	13 898	16.3	14 121	16.8	14 619	16.4	15 021	16.4	15 597	16.5
Sydney West	15 942	18.7	15 834	18.8	17 019	19.1	17 192	18.8	18 068	19.1
Northern Sydney and Central Coast	13 142	15.5	13 032	15.5	13 697	15.4	14 068	15.4	14 447	15.3
Hunter and New England	9694	11.4	9672	11.5	10 381	11.6	10 561	11.6	10 868	11.5
North Coast	4587	5.4	4690	5.6	4973	5.6	4989	5.5	5199	5.5
Greater Southern	3834	4.5	3838	4.6	3993	4.5	4026	4.4	4052	4.3
Greater Western	3898	4.6	3784	4.5	3985	4.5	4073	4.5	4062	4.3
Other/Not stated	552	0.6	597	0.7	760	0.9	905	1.0	1103	1.2
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

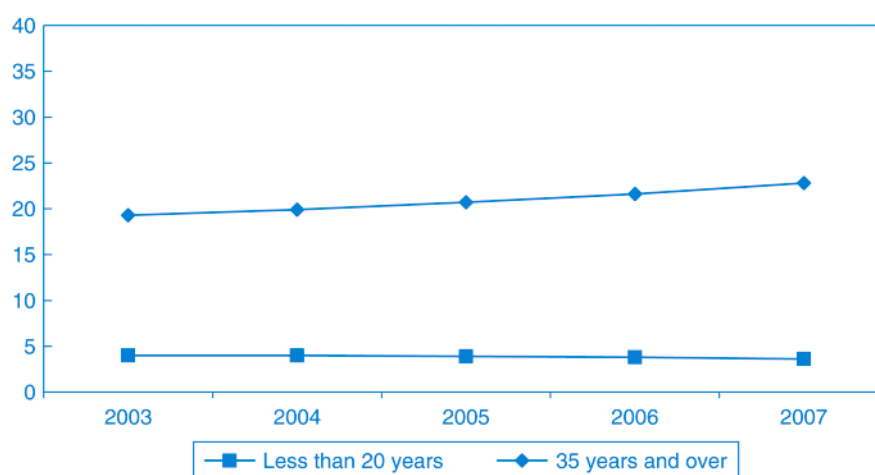
numbers of births in all health areas. The increase occurred mainly in the metropolitan areas, with the Sydney South West and Sydney West Areas reporting over 2000 more births in 2007 than in 2004; and Northern Sydney and Central Coast, and South Eastern Sydney and Illawarra Areas reporting over 1000 more births in 2007 than in 2004.

### Maternal age

The number of mothers giving birth was stable for teenage mothers and increased across all other age groups in 2007 compared with previous years, with the largest increase among mothers aged 35–39 years. The percentage of mothers who were teenagers fell from 4.0% in 2003 to

3.6% in 2007. The percentage of mothers aged 35 years and over increased from 19.3 to 22.8% of all mothers giving birth (Figure 1, Table 3).

The mean maternal age rose from 30.2 to 30.6 years over the 5 years from 2003 to 2007. The trend towards later childbirth is evident among both primiparous and multiparous mothers; the mean maternal age rose from 28.5 to 29.0 years for primiparous mothers and from 31.4 to 31.8 years for multiparous mothers. The proportion of mothers giving birth for the first time who were aged 35 years or more increased from 12.3 to 15.1% over the 5-year period, and the proportion of multiparous mothers who were aged 35 years or more increased from 24.5 to 28.4%.



**Figure 1. Mothers aged less than 20 years and 35 years and over, NSW, 2003–2007.** Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

**Table 3. Maternal age, NSW, 2003–2007**

Maternal age (years)	2003		2004		2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
<15	23	0.0	22	0.0	30	0.0	18	0.0	20	0.0
15–19	3363	4.0	3365	4.0	3410	3.8	3453	3.8	3342	3.5
20–24	12 529	14.7	12 095	14.3	12 739	14.3	12 686	13.9	13 150	13.9
25–29	24 138	28.4	23 113	27.4	24 006	26.9	24 553	26.9	25 361	26.8
30–34	28 522	33.5	28 906	34.3	30 502	34.2	30 785	33.7	31 124	32.9
35–39	13 582	16.0	13 808	16.4	15 275	17.1	16 526	18.1	18 047	19.1
40–44	2752	3.2	2819	3.3	3017	3.4	3073	3.4	3375	3.6
45+	113	0.1	142	0.2	149	0.2	163	0.2	166	0.2
Not stated	10	0.0	18	0.0	12	0.0	58	0.1	17	0.0
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

## Maternal country of birth

In the period 2003–2007, about 70% of mothers were born in Australia. In 2007, mothers born in the United Kingdom, New Zealand, China, Vietnam and India together

accounted for 11.2% of all mothers (Table 4). Further information on maternal country of birth is shown in Chapter 8.

**Table 4. Maternal country of birth, NSW, 2003–2007#**

Country of birth	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Australia	61 432	72.2	60 961	72.3	64 246	72.1	65 226	71.4	66 526	70.3
United Kingdom	2368	2.8	2229	2.6	2172	2.4	2288	2.5	2494	2.6
New Zealand	2121	2.5	1989	2.4	2233	2.5	2343	2.6	2450	2.6
China	1586	1.9	1672	2.0	1767	2.0	1787	2.0	2354	2.5
Vietnam	1863	2.2	1684	2.0	1652	1.9	1720	1.9	1752	1.9
India	810	1.0	888	1.1	1094	1.2	1294	1.4	1580	1.7
Lebanon	1696	2.0	1594	1.9	1608	1.8	1547	1.7	1505	1.6
Philippines	1192	1.4	1083	1.3	1160	1.3	1220	1.3	1359	1.4
Iraq	648	0.8	621	0.7	681	0.8	743	0.8	821	0.9
Fiji	691	0.8	686	0.8	670	0.8	697	0.8	749	0.8
Indonesia	489	0.6	519	0.6	541	0.6	578	0.6	653	0.7
South Africa	486	0.6	547	0.6	579	0.6	598	0.7	599	0.6
South Korea	328	0.4	389	0.5	419	0.5	485	0.5	564	0.6
Pakistan	260	0.3	291	0.3	345	0.4	396	0.4	440	0.5
United States of America	355	0.4	372	0.4	359	0.4	428	0.5	407	0.4
Hong Kong	301	0.4	314	0.4	332	0.4	338	0.4	392	0.4
Malaysia	271	0.3	283	0.3	339	0.4	315	0.3	386	0.4
Thailand	253	0.3	277	0.3	290	0.3	309	0.3	382	0.4
Bangladesh	198	0.2	233	0.3	293	0.3	327	0.4	376	0.4
Ireland	333	0.4	281	0.3	325	0.4	299	0.3	367	0.4
Japan	293	0.3	260	0.3	339	0.4	288	0.3	352	0.4
Sri Lanka	299	0.4	310	0.4	320	0.4	324	0.4	339	0.4
Afghanistan	143	0.2	159	0.2	263	0.3	335	0.4	334	0.4
Cambodia	295	0.3	274	0.3	268	0.3	276	0.3	300	0.3
Western Samoa	303	0.4	289	0.3	306	0.3	298	0.3	299	0.3
Sudan	117	0.1	154	0.2	226	0.3	283	0.3	299	0.3
Canada	225	0.3	237	0.3	227	0.3	262	0.3	250	0.3
Germany	237	0.3	205	0.2	211	0.2	240	0.3	236	0.2
Turkey	265	0.3	268	0.3	251	0.3	269	0.3	231	0.2
Chile	187	0.2	172	0.2	194	0.2	189	0.2	218	0.2
Tonga	219	0.3	246	0.3	222	0.2	212	0.2	187	0.2
North Korea	206	0.2	153	0.2	140	0.2	124	0.1	169	0.2
Iran	192	0.2	159	0.2	176	0.2	181	0.2	164	0.2
Syria	154	0.2	159	0.2	147	0.2	132	0.1	163	0.2
Egypt	173	0.2	159	0.2	177	0.2	162	0.2	162	0.2
Poland	116	0.1	130	0.2	127	0.1	163	0.2	152	0.2
France	96	0.1	119	0.1	122	0.1	138	0.2	149	0.2
Russian Federation (not USSR)	106	0.1	115	0.1	151	0.2	121	0.1	144	0.2
Singapore	129	0.2	119	0.1	146	0.2	121	0.1	144	0.2
Serbia and Montenegro	0	0.0	0	0.0	168	0.2	163	0.2	137	0.1
Papua New Guinea	148	0.2	156	0.2	106	0.1	126	0.1	136	0.1
Netherlands	93	0.1	97	0.1	87	0.1	99	0.1	132	0.1
Laos	114	0.1	124	0.1	108	0.1	92	0.1	127	0.1
Taiwan	96	0.1	80	0.1	107	0.1	102	0.1	122	0.1
Nepal	35	0.0	46	0.1	75	0.1	78	0.1	119	0.1
Brazil	53	0.1	63	0.1	86	0.1	81	0.1	117	0.1
Former Yugoslavia	571	0.7	464	0.6	135	0.2	132	0.1	115	0.1
Bosnia-Herzegovina	0	0.0	0	0.0	98	0.1	96	0.1	114	0.1
Macedonia	0	0.0	0	0.0	106	0.1	105	0.1	108	0.1
Zimbabwe	32	0.0	44	0.1	68	0.1	88	0.1	101	0.1
Other/Not stated	2454	2.9	2614	3.1	2878	3.2	3097	3.4	2826	3.0
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research, NSW Department of Health.  
#Countries of birth for which there were 100 or more confinements in 2007.

## Maternal Aboriginality

The reported number of Aboriginal or Torres Strait Islander mothers giving birth increased from 2161 in 2003 to 2888 in 2007, an increase from 2.5 to 3.1% of all mothers (Table 5). Further information on maternal Aboriginality and reporting of Aboriginality is shown in Chapter 7.

Table 5. Maternal Aboriginality, NSW, 2003–2007

Aboriginality	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Aboriginal or Torres Strait Islander	2161	2.5	2308	2.7	2474	2.8	2611	2.9	2888	3.1
Non-Aboriginal or Torres Strait Islander	82 831	97.4	81 948	97.2	86 570	97.1	88 176	96.6	91 519	96.7
Not stated	40	0.0	32	0.0	96	0.1	528	0.6	195	0.2
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

## Previous pregnancies

In recent years there were no substantial changes in the reported number of previous pregnancies greater than 20 weeks gestation (Table 6). The proportion of mothers giving birth for the first time has been stable at 41–42%, while the proportion of mothers giving birth to a second to fifth baby has been stable at about 56%. The number of women giving birth for the sixth or subsequent time rose by 17.9% from 1258 in 2003 to 1483 in 2007 – however, these mothers comprised only 1.6% of all mothers in 2007.

Table 6. Previous pregnancies, NSW, 2003–2007

No. previous pregnancies (>20 weeks gestation)	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
0	35 879	42.2	35 796	42.5	37 073	41.6	37 855	41.5	39 188	41.4
1–4	47 847	56.3	47 136	55.9	50 566	56.7	51 443	56.3	53 496	56.5
5+	1258	1.5	1312	1.6	1441	1.6	1579	1.7	1483	1.6
Not stated	48	0.1	44	0.1	60	0.1	438	0.5	435	0.5
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

## Duration of pregnancy at first antenatal visit

Between 2003 and 2007, the proportion of mothers commencing antenatal care before 20 weeks gestation rose from 86.6 to 90.7%, while the proportion of mothers starting antenatal care at 20+ weeks gestation declined from 12.9 to 7.2% between 2003 and 2007 (Table 7).

Table 7. Duration of pregnancy at first antenatal visit, NSW, 2003–2007

Duration of pregnancy (weeks)	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
0–19	73 615	86.6	73 775	87.5	78 456	88.0	79 874	87.5	85 781	90.7
20+	10 929	12.9	9934	11.8	10 169	11.4	10 218	11.2	6827	7.2
Not stated	488	0.6	579	0.7	515	0.6	1223	1.3	1994	2.1
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

## Smoking in pregnancy

The proportion of mothers reporting any smoking during pregnancy declined between 2003 and 2007: in 2003, 12 875 (15.1%) mothers reported smoking in pregnancy, 12 472 (14.8%) in 2004, 12 738 (14.3%) in 2005, 12 307 (13.5%) in 2006 and 12 068 (12.8%) in 2007.

Of mothers who smoked during pregnancy in 2007, 5.6% stopped smoking before the second half of pregnancy. Over the 5-year period, among those who smoked in the second half of pregnancy there was a trend towards smoking fewer cigarettes per day (Table 8).

**Table 8. Mothers who smoked at all during pregnancy by number of cigarettes smoked in the second half of pregnancy, NSW, 2003–2007**

Cigarettes smoked in the second half of the pregnancy	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
None	427	3.3	485	3.9	552	4.3	514	4.2	672	5.6
1–10 per day	6451	50.1	6303	50.5	6483	50.9	6243	50.7	6334	52.5
More than ten per day	5680	44.1	5378	43.1	5129	40.3	5016	40.8	4430	36.7
Smoked, amount not stated	317	2.5	297	2.4	572	4.5	455	3.7	631	5.2
Not stated	0	0.0	9	0.1	2	0.0	79	0.6	1	0.0
TOTAL	12 875	100.0	12 472	100.0	12 738	100.0	12 307	100.0	12 068	100.0

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

## Place of birth

In 2007, the majority of mothers planned to give birth in a hospital labour ward, and 4.1% of mothers planned to give birth in a birth centre (Table 9). Sixty-nine percent of mothers who planned to give birth in a birth centre actually

did so. The total number of reported planned homebirths rose slightly from 132 in 2003 to 175 in 2007, while the reported number of planned homebirths that occurred at home rose from 109 in 2003 to 144 in 2007.

**Table 9. Maternal place of birth, NSW, 2003–2007**

Place of birth	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Hospital	81 441	95.8	80 701	95.7	85 660	96.1	87 567	95.9	90 015	95.2
Birth centre	2075	2.4	2003	2.4	1830	2.1	1878	2.1	2714	2.9
Planned birth centre/hospital admission	1029	1.2	1126	1.3	1128	1.3	1240	1.4	1205	1.3
Planned homebirth	109	0.1	93	0.1	112	0.1	125	0.1	144	0.2
Planned homebirth/hospital admission	23	0.0	21	0.0	40	0.0	47	0.1	31	0.0
Born before arrival	355	0.4	344	0.4	369	0.4	388	0.4	490	0.5
Not stated	0	0.0	0	0.0	1	0.0	70	0.1	3	0.0
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

## Hypertension and diabetes

Reporting of gestational diabetes was stable at 4–5% of mothers between 2003 and 2007, whereas rates of diabetes mellitus have remained stable at about 0.6% over the 5-year period (Table 10). During 2006, there was a change in the format for reporting hypertension in pregnancy

where reporting of pre-eclampsia was replaced with reporting of proteinuric and non-proteinuric pregnancy-induced hypertension. Overall, hypertension in pregnancy was reported among 6.6% of mothers in 2007, compared with 6.5% in 2003.

Table 10. Maternal hypertension or diabetes, NSW, 2003–2007<sup>#</sup>

Condition	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Diabetes mellitus	505	0.6	464	0.6	503	0.6	541	0.6	546	0.6
Gestational diabetes	3792	4.5	3592	4.3	4165	4.7	4375	4.8	4091	4.3
Essential hypertension	879	1.0	940	1.1	842	0.9	804	0.9	721	0.8
Pre-eclampsia	4645	5.5	4606	5.5	4553	5.1	3198	3.5	–	–
Pregnancy induced hypertension <sup>#</sup>										
– proteinuric	–	–	–	–	–	–	612	0.7	1625	1.7
– non-proteinuric	–	–	–	–	–	–	626	0.7	3904	4.1
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

<sup>#</sup>During 2006, the reporting format changed so that reporting of pre-eclampsia ceased and reporting of pregnancy-induced hypertension commenced. This transition meant that in 2006, pre-eclampsia was reported in 3198 of 55 078 mothers; and pregnancy-induced hypertension was reported in 1238 of 36 237 mothers.

## Labour

The rate of spontaneous onset of labour fell from 60.4% in 2003 to 57.3% in 2007 (Table 11). The rate of induction of labour was 25.9% in 2007, similar to previous years. The most common reported reason for induction of labour in

2007 was prolonged pregnancy (41 or more weeks) (28.2%), followed by prelabour rupture of membranes (11.5%), hypertensive disease (7.9%), diabetes (5.8%), suspected intrauterine growth retardation (3.9%), fetal distress (1.7%) and fetal death (1.2%).

Table 11. Onset and augmentation of labour, NSW, 2003–2007

Onset of labour	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Spontaneous	38 110	44.8	37 137	44.1	38 027	42.7	38 706	42.4	38 291	40.5
Spontaneous augmented with ARM <sup>*</sup>	5992	7.0	6090	7.2	6152	6.9	6318	6.9	7339	7.8
Spontaneous augmented with oxytocics/ prostaglandins <sup>#</sup>	7258	8.5	7580	9.0	7812	8.8	8146	8.9	8553	9.0
No labour	12 820	15.1	12 930	15.3	14 467	16.2	15 516	17.0	15 878	16.8
Induced – oxytocics/prostaglandins	7265	8.5	7049	8.4	7417	8.3	7306	8.0	8607	9.1
Induced – ARM only	1331	1.6	1267	1.5	1595	1.8	1447	1.6	1648	1.7
Induced – ARM + oxytocics/prostaglandins	11 965	14.1	11 912	14.1	13 273	14.9	13 389	14.7	14 003	14.8
Induced – other <sup>#</sup>	289	0.3	322	0.4	384	0.4	417	0.5	263	0.3
Not stated	2	0.0	1	0.0	13	0.0	70	0.1	20	0.0
TOTAL	85 032	100.0	84 288	100.0	89 140	100.0	91 315	100.0	94 602	100.0

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

<sup>\*</sup>ARM: artificial rupture of membranes.

<sup>#</sup>This category includes other forms of induction such as Foley's catheter.

## Birth

Among NSW mothers, the rate of normal vaginal birth decreased from 62.8% in 2003 to 59.9% in 2007 (Table 12). The caesarean section rate increased from 26.5 to 29.0%. The rate of instrumental birth remained steady at 10 to 11%.

Operative and instrumental births are more common among privately than publicly-insured mothers (Table 13).

Among privately insured mothers, the rate of normal vaginal birth fell from 52.1% in 2003 to 47.7% in 2007 and the caesarean section rate increased from 32.4 to 37.9%. Among publicly insured mothers, the rate of normal vaginal birth fell from 69.5 to 66.5% and the caesarean section rate rose from 21.5 to 24.6%.

**Table 12. Type of birth, NSW, 2003–2007**

Type of birth	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
Normal vaginal	53 424	62.8	52 366	62.1	54 568	61.2	55 187	60.4	56 648	59.9
Forceps	2875	3.4	2762	3.3	2801	3.1	2885	3.2	3273	3.5
Vacuum extraction	5788	6.8	5902	7.0	6372	7.1	6332	6.9	6779	7.2
Vaginal breech	371	0.4	347	0.4	322	0.4	366	0.4	381	0.4
Elective caesarean section	12 820	15.1	12 930	15.3	14 467	16.2	15 507	17.0	15 878	16.8
Emergency caesarean section <sup>#</sup>	9744	11.5	9974	11.8	10 610	11.9	10 827	11.9	11 572	12.2
Not stated	10	0.0	7	0.0	0	0.0	211	0.2	71	0.1
<b>TOTAL</b>	<b>85 032</b>	<b>100.0</b>	<b>84 288</b>	<b>100.0</b>	<b>89 140</b>	<b>100.0</b>	<b>91 315</b>	<b>100.0</b>	<b>94 602</b>	<b>100.0</b>

Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research, NSW Department of Health.  
<sup>#</sup>Emergency caesarean section includes caesarean sections where the onset of labour was not stated.

**Table 13. Maternal health insurance by type of birth, NSW, 2002–2006<sup>#</sup>**

Insurance status – type of birth	2002		2003		Year 2004		2005		2006	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Public</b>										
Normal vaginal	35 698	69.5	35 607	67.8	36 085	67.4	38 652	67.0	39 934	66.5
Forceps	1431	2.8	1435	2.7	1375	2.6	1359	2.4	1517	2.5
Vacuum extraction	2963	5.8	3117	5.9	3161	5.9	3446	6.0	3477	5.8
Vaginal breech	231	0.4	262	0.5	247	0.5	231	0.4	277	0.5
Elective caesarean section	5599	10.9	6186	11.8	6452	12.1	7426	12.9	8053	13.4
Emergency caesarean section <sup>##</sup>	5425	10.6	5932	11.3	6202	11.6	6581	11.4	6733	11.2
Not stated	7	0.0	0	0.0	0	0.0	0	0.0	72	0.1
<b>TOTAL</b>	<b>51 354</b>	<b>100.0</b>	<b>52 539</b>	<b>100.0</b>	<b>53 522</b>	<b>100.0</b>	<b>57 695</b>	<b>100.0</b>	<b>60 063</b>	<b>100.0</b>
<b>Private</b>										
Normal vaginal	15 004	52.1	13 863	50.4	13 682	50.2	14 143	48.9	14 107	47.7
Forceps	1576	5.5	1401	5.1	1332	4.9	1388	4.8	1326	4.5
Vacuum extraction	2793	9.7	2558	9.3	2621	9.6	2791	9.7	2755	9.3
Vaginal breech	79	0.3	68	0.2	61	0.2	65	0.2	69	0.2
Elective caesarean section	5648	19.6	6043	22.0	6036	22.2	6747	23.3	7291	24.6
Emergency caesarean section <sup>##</sup>	3670	12.8	3545	12.9	3507	12.9	3778	13.1	3918	13.2
Not stated	12	0.0	10	0.0	7	0.0	0	0.0	138	0.5
<b>TOTAL</b>	<b>28 782</b>	<b>100.0</b>	<b>27 488</b>	<b>100.0</b>	<b>27 246</b>	<b>100.0</b>	<b>28 912</b>	<b>100.0</b>	<b>29 604</b>	<b>100.0</b>
<b>TOTAL<sup>###</sup></b>										
Normal vaginal	54 271	64.2	53 424	62.8	52 366	62.1	54 568	61.2	55 187	60.4
Forceps	3034	3.6	2875	3.4	2762	3.3	2801	3.1	2885	3.2
Vacuum extraction	5855	6.9	5788	6.8	5902	7.0	6372	7.1	6332	6.9
Vaginal breech	353	0.4	371	0.4	347	0.4	322	0.4	366	0.4
Elective caesarean section	11 720	13.9	12 820	15.1	12 930	15.3	14 467	16.2	15 507	17.0
Emergency caesarean section <sup>##</sup>	9335	11.0	9744	11.5	9974	11.8	10 610	11.9	10 827	11.9
Not stated	19	0.0	10	0.0	7	0.0	0	0.0	211	0.2
<b>TOTAL</b>	<b>84 587</b>	<b>100.0</b>	<b>85 032</b>	<b>100.0</b>	<b>84 288</b>	<b>100.0</b>	<b>89 140</b>	<b>100.0</b>	<b>91 315</b>	<b>100.0</b>

Source: Linked data of the NSW Midwives Data Collection and NSW Admitted Patient Data Collection. Centre for Epidemiology and Research, NSW Department of Health.  
<sup>#</sup>Figures for 2002–2005 differ from those reported previously as the linkage has been updated.  
<sup>##</sup>Emergency caesarean section includes cases where caesarean section was reported but type of onset of labour was not reported.  
<sup>###</sup>Total includes mothers where type of health insurance was not stated.

### Baby sex

There was no significant change in the pattern of baby sex since 2003, with slightly more male babies born than females in each year. In 2007, 49 313 (51.4%) of babies were male, 46 656 (48.6%) were female, 10 were of indeterminate sex, and sex was not reported for 51 babies. This compares with babies born in 2003, when 44 623 (51.6%) of 86 414 babies were male, 41 722 (48.3%) were female, 19 were of indeterminate sex, and sex was not reported for 50 babies.

### Gestational age

In 2007, 7.4% of babies were born prematurely (less than 37 weeks gestation), compared with 7.0% in 2003 (Table 14). Over the 5-year period, about 93% of babies were born at term (37–41 weeks gestation). Over the last 5 years, the percentage of postmature (42+ weeks gestation) has been declining, down from 2.5% in 2003 to 0.9% in 2007.

Table 14. Gestational age of babies, NSW, 2003–2007

Gestational age (weeks)	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
<28	586	0.7	605	0.7	622	0.7	674	0.7	707	0.7
28–31	639	0.7	667	0.8	654	0.7	675	0.7	660	0.7
32–36	4810	5.6	4975	5.8	5248	5.8	5490	5.9	5703	5.9
37–41	78 241	90.5	77 614	90.6	82 367	90.9	84 424	91.0	88 011	91.6
42+	2128	2.5	1761	2.1	1709	1.9	1499	1.6	907	0.9
Not stated	10	0.0	4	0.0	10	0.0	19	0.0	42	0.0
TOTAL	86 414	100.0	85 626	100.0	90 610	100.0	92 781	100.0	96 030	100.0

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

### Birth weight

Since 2003, the rate of low birth weight (less than 2500 g) has been just over 6% (Table 15). The rate was 6.1% in 2007.

Table 15. Birth weight of babies, NSW, 2003–2007

Birth weight (g)	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
<500	223	0.3	214	0.2	227	0.3	239	0.3	255	0.3
500–999	393	0.5	395	0.5	392	0.4	411	0.4	422	0.4
1000–1499	497	0.6	558	0.7	513	0.6	562	0.6	512	0.5
1500–1999	1049	1.2	1059	1.2	1100	1.2	1167	1.3	1119	1.2
2000–2499	3221	3.7	3231	3.8	3452	3.8	3554	3.8	3541	3.7
2500–2999	12 877	14.9	12 797	14.9	13 675	15.1	13 906	15.0	14 265	14.9
3000–3499	30 803	35.6	30 238	35.3	32 451	35.8	33 074	35.6	34 790	36.2
3500–3999	26 982	31.2	26 570	31.0	27 822	30.7	28 705	30.9	29 648	30.9
4000–4499	8810	10.2	8931	10.4	9298	10.3	9389	10.1	9717	10.1
4500+	1507	1.7	1584	1.8	1613	1.8	1649	1.8	1653	1.7
Not stated	52	0.1	49	0.1	67	0.1	125	0.1	108	0.1
TOTAL	86 414	100.0	85 626	100.0	90 610	100.0	92 781	100.0	96 030	100.0

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



## Apgar score

In 2007, 2.1% of babies were born with an Apgar score of less than 4 (Table 16). These rates are similar to those of less than 7 at 5 minutes and 1.1% were born with a score previous years.

**Table 16. Apgar score at 5 minutes, NSW, 2003–2007#**

Apgar score	2003		2004		Year 2005		2006		2007	
	No.	%	No.	%	No.	%	No.	%	No.	%
0–4	899	1.0	921	1.1	963	1.1	1007	1.1	1093	1.1
5–6	865	1.0	844	1.0	833	0.9	890	1.0	910	0.9
7+	84 473	97.8	83 653	97.7	88 621	97.8	90 645	97.7	93 685	97.6
Not stated	177	0.2	208	0.2	193	0.2	239	0.3	342	0.4
TOTAL	86 414	100.0	85 626	100.0	90 610	100.0	92 781	100.0	96 030	100.0

Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research, NSW Department of Health.  
#Includes stillbirths and live births.

## Perinatal outcome

In the period 2003–2007, the perinatal mortality rate varied from 8.6 to 9.0 per 1000 (Table 17). In 2007, 72.5% of all reported perinatal deaths were stillbirths and 27.5% were neonatal deaths.

In 2007, of the 868 perinatal deaths in NSW, 821 (94.6%) were reported among planned hospital births, 24 (2.8%) among planned birth-centre births, two occurred in a planned home birth, and 20 were among babies born before arrival at hospital.

**Table 17. Perinatal outcomes, NSW, 2003–2007#**

Year	Liveborn surviving		Stillbirth		Neonatal death		Death – age not stated		Not stated		Total births		Perinatal death rate/ 1000 births##
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
2003	85 669	99.1	523	0.6	221	0.3	0	0.0	1	0.0	86 414	100.0	8.6
2004	84 849	99.1	561	0.7	212	0.2	0	0.0	4	0.0	85 626	100.0	9.0
2005	89 786	99.1	535	0.6	257	0.3	0	0.0	32	0.0	90 610	100.0	8.7
2006	91 840	99.0	592	0.6	229	0.2	6	0.0	114	0.1	92 781	100.0	8.8
2007	94 973	98.9	629	0.7	239	0.2	8	0.0	181	0.2	96 030	100.0	9.0

Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research, NSW Department of Health.  
#Perinatal deaths include deaths reported to the MDC only. As the MDC form is completed at discharge or transfer of the baby, deaths occurring after this time may not be reported to the MDC.  
##Perinatal death rate excludes deaths where the age at death was not stated.

## Maternal deaths

In the period 1990–2006, 177 deaths were reported among pregnant women or women who gave birth less than 6 weeks previously. Of these, 55 (31.1%) died of incidental causes not related to the pregnancy or its management, 76 (42.9%) deaths were found to be directly due to pregnancy or its management, and 43

(24.3%) deaths were found to result from pre-existing disease or disease which developed during pregnancy (not due to direct obstetric causes), but which may have been aggravated by the physiologic effects of pregnancy (Table 18). Table 19 shows maternal deaths by cause in NSW for 2005 and 2006.

Table 18. Maternal deaths by year, NSW, 1990–2006<sup>#</sup>

Year	Classification									
	Direct		Indirect		Total direct and indirect		Incidental		TOTAL	
	No.	Ratio/100 000	No.	Ratio/100 000	No.	Ratio/100 000	No.	Ratio/100 000	No.	Ratio/100 000
1990	4	4.6	6	6.9	10	11.6	2	2.3	12	13.9
1991	4	4.7	1	1.2	5	5.8	1	1.2	6	7.0
1992	5	5.7	1	1.1	6	6.8	5	5.7	11	12.5
1993	6	6.9	1	1.2	7	8.1	6	6.9	13	15.0
1994	8	9.2	1	1.2	9	10.4	3	3.5	12	13.8
1995	7	8.1	2	2.3	9	10.4	6	7.0	15	17.4
1996	6	7.0	1	1.2	7	8.2	5	5.9	12	14.1
1997	7	8.1	2	2.3	9	10.5	5	5.8	14	16.1
1998	4	4.7	4	4.7	8	9.4	3	3.5	11	12.9
1999 <sup>##</sup>	4	4.7	1	1.2	5	5.8	6	7.0	12	14.0
2000	4	4.7	5	5.9	9	10.7	1	1.2	10	11.9
2001	4	4.7	4	4.7	8	9.5	1	1.2	9	10.7
2002	2	2.4	2	2.4	4	4.7	1	1.2	5	5.9
2003	1	1.2	3	3.5	4	4.7	3	3.5	7	8.2
2004 <sup>###</sup>	2	2.3	2	2.3	4	4.7	2	2.3	7	8.2
2005 <sup>##</sup>	4	4.5	4	4.5	8	9.0	2	2.2	11	12.3
2006	4	4.4	3	3.3	7	7.7	3	3.3	10	11.0

Source: NSW Maternal and Perinatal Committee.

<sup>#</sup>Includes all deaths of women who were pregnant at the time of death, or who died within 42 days of childbirth. Direct deaths include those resulting from obstetric complications of the pregnant state, including its management. Indirect deaths include those resulting from pre-existing disease or disease which developed during pregnancy and were not due to direct obstetric causes but which may have been aggravated by the physiological effects of pregnancy. Incidental deaths are those where the pregnancy is unlikely to have contributed significantly to the death.<sup>1</sup>

<sup>##</sup>Totals for 1999 and 2005 each include one death that was unable to be classified. Information for 2005 has been updated since the publication of the *NSW Mothers and Babies Report 2006*.<sup>1</sup>

<sup>###</sup>Total for 2004 includes one open coronial case.

Table 19. Maternal deaths by cause, NSW, 2005 and 2006<sup>#</sup>

Classification	Cause	No.
2005 <sup>##</sup>		
Direct	Suicide by hanging	2
Direct	Ruptured ectopic pregnancy	1
Direct	Thromboembolism	1
Indirect	Arrhythmia of unknown origin	1
Indirect	Suicide by hanging associated with pre-existing depression	1
Indirect	Heart failure associated with infective endocarditis	1
Indirect	Carcinoma of the stomach	1
Incidental	Cardiomyopathy of unknown origin	1
Incidental	Bronchopneumonia associated with cystic fibrosis	1
Unclassifiable	Collapse – cause unknown	1
TOTAL		11
2006		
Direct	Amniotic fluid embolism	3
Direct	Postpartum haemorrhage	1
Indirect	Stroke	1
Indirect	Hypoxic ischaemic encephalopathy following epileptic seizure	1
Indirect	Suicide by hanging associated with pre-existing depression	1
Incidental	Cerebral haemorrhage associated with midbrain arterio-venous malformation	1
Incidental	Hypertensive cardiomyopathy	1
Incidental	Hepatocellular carcinoma	1
TOTAL		10

Source: NSW Maternal and Perinatal Committee.

<sup>#</sup>Includes all deaths of women who were pregnant at the time of death, or who died within 42 days of childbirth. Direct deaths include those resulting from obstetric complications of the pregnant state, including its management. Indirect deaths include those resulting from pre-existing disease or disease which developed during pregnancy and were not due to direct obstetric causes but which may have been aggravated by the physiological effects of pregnancy. Incidental deaths are those where the pregnancy is unlikely to have contributed significantly to the death.

<sup>##</sup>Information for 2005 has been updated since the publication of the *NSW Mothers and Babies Report 2006*.<sup>1</sup>

## Reference

1. Sullivan EA, Hall B, King JF. *Maternal deaths in Australia 2003–2005*. Maternal deaths series no. 3 Cat. No. PER 42. Sydney: AIHW National Perinatal Statistics Unit; 2007.