# 4. Trends in New South Wales

# **Confinements and births by plurality**

The number of births in NSW rose from 85,626 in 2004 to 96,030 in 2007, a rise of 12.2%. In 2008, the number of births stabilised with 96,343 births occurring to 94,864

# mothers (Table 1). The number of multiple (twin and triplet) pregnancies has remained stable over recent years.

## Table 1. Plurality, NSW 2004–2008

Plurality					Ye	ear				
	20	04	20	05	20	06	20	07	20	08
	No.	%	No.	%	No.	%	No.	%	No.	%
Confinements				•						•
Singleton	82983	98.5	87699	98.4	89890	98.4	93194	98.5	93411	98.5
Twins	1274	1.5	1413	1.6	1386	1.5	1388	1.5	1428	1.5
Triplets	30	0.0	27	0.0	37	0.0	20	0.0	24	0.0
Quadruplets	1	0.0	1	0.0	2	0.0	0	0.0	1	0.0
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
Births										
Singleton	82983	96.9	87699	96.8	89890	96.9	93194	97.0	93411	97.0
Twins	2549	3.0	2826	3.1	2772	3.0	2776	2.9	2856	3.0
Triplets	90	0.1	81	0.1	111	0.1	60	0.1	72	0.1
Quadruplets	4	0.0	4	0.0	8	0.0	0	0.0	4	0.0
TOTAL	85626	100.0	90610	100.0	92781	100.0	96030	100.0	96343	100.0
Source: NSW Midwives Dat	a Collection (HOIST	). Centre for E	pidemiology a	nd Research, N	ISW Departme	nt of Health.				

# Health area of residence

The increase in births occurred mainly in the metropolitan areas, with the Sydney South West and Sydney West Areas reporting over 2,000 more births in 2007 compared to 2004; and Northern Sydney and Central Coast and South Eastern

Sydney and Illawarra Areas reporting over 1,000 more births in 2007 compared to 2004 (Table 2). In 2008, similar to previous years, over 40% of births in NSW occurred to mothers resident in Sydney South West and Sydney West Areas.



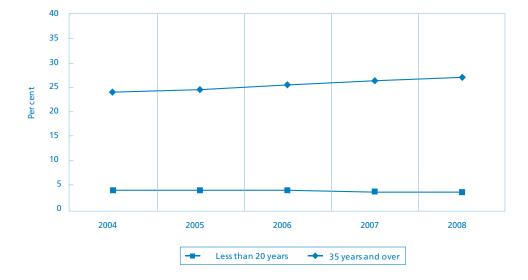
Health area					Ye	ear				
	20	04	20	05	20	006	20	007	20	08
	No.	%	No.	%	No.	%	No.	%	No.	%
Sydney South West	18720	22.2	19713	22.1	20426	22.4	21206	22.4	21347	22.5
South Eastern Sydney and Illawarra	14121	16.8	14619	16.4	15020	16.4	15597	16.5	15632	16.5
Sydney West	15834	18.8	17019	19.1	17210	18.8	18068	19.1	18213	19.2
Northern Sydney and Central Coast	13032	15.5	13697	15.4	14139	15.5	14447	15.3	14353	15.1
Hunter and New England	9672	11.5	10381	11.6	10579	11.6	10868	11.5	10726	11.3
North Coast	4690	5.6	4973	5.6	5100	5.6	5199	5.5	5332	5.6
Greater Southern	3838	4.6	3993	4.5	4059	4.4	4052	4.3	4024	4.2
Greater Western	3784	4.5	3985	4.5	4052	4.4	4062	4.3	4078	4.3
Other/Not stated	597	0.7	760	0.9	730	0.8	1103	1.2	1159	1.2
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
Source: NSW Midwives Data Collecti	on (HOIST). Cen	tre for Epider	niology and Re	search, NSW	Department o	f Health.				

# Maternal age

The percentage of mothers who were teenagers fell from 4.0% in 2004 to 3.5% in 2008. Over the same period the percentage of mothers aged 35 years increased from 19.9% to 22.8% of all mothers giving birth (Figure 1, Table 3).

The mean maternal age rose from 30.3 to 30.6 years over the 5 years 2004 to 2008. The trend towards later childbirth is evident among both primiparous and multiparous mothers:

the proportion of mothers giving birth for the first time who were aged 35 years or more increased from 13.1% to 15.3% over the 5 year period, and the proportion of multiparous mothers who were aged 35 years or more increased from 24.9% to 29.4%. The mean maternal age rose from 28.7 to 29.0 years for primiparous mothers and from 31.5 to 31.8 years for multiparous mothers.





#### Table 3. Maternal age, NSW 2004-2008

Maternal age (years)					Y	ear				
	2	004	20	005	2	006	2	007	20	800
	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 15	22	0.0	30	0.0	18	0.0	20	0.0	29	0.0
15–19	3365	4.0	3410	3.8	3453	3.8	3342	3.5	3331	3.5
20–24	12095	14.3	12739	14.3	12686	13.9	13150	13.9	13118	13.8
25–29	23113	27.4	24006	26.9	24553	26.9	25361	26.8	25405	26.8
30–34	28906	34.3	30502	34.2	30785	33.7	31124	32.9	30649	32.3
35–39	13808	16.4	15275	17.1	16526	18.1	18047	19.1	18582	19.6
40–44	2819	3.3	3017	3.4	3073	3.4	3375	3.6	3581	3.8
45+	142	0.2	149	0.2	163	0.2	166	0.2	158	0.2
Not stated	18	0.0	12	0.0	58	0.1	17	0.0	11	0.0
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
Source: NSW Midwives Data Colle	ection (HOIST). Cen	tre for Epider	niology and Re	esearch, NSW	Department o	of Health.				

# Maternal country of birth

In the period 2004–2008, 69.3% of mothers were born in Australia. In 2008, mothers born in the United Kingdom, New Zealand, China, India and Vietnam together accounted

for 11.5% of all mothers (Table 4). Further information on maternal country of birth is shown in Chapter 8.

## Table 4. Maternal country of birth, NSW 2004–2008<sup>#</sup>

Country of birth					Ye	ar				
	200	04	200	)5	200	)6	200	)7	200	08
	No.	%								
Australia	60961	72.3	64246	72.1	65226	71.4	66526	70.3	65700	69.3
United Kingdom	2229	2.6	2172	2.4	2288	2.5	2494	2.6	2532	2.7
New Zealand	1989	2.4	2233	2.5	2343	2.6	2450	2.6	2388	2.5
China	1672	2.0	1767	2.0	1787	2.0	2354	2.5	2321	2.4
India	888	1.1	1094	1.2	1294	1.4	1580	1.7	1940	2.0
Vietnam	1684	2.0	1652	1.9	1720	1.9	1752	1.9	1699	1.8
Lebanon	1594	1.9	1608	1.8	1547	1.7	1505	1.6	1557	1.6
Philippines	1083	1.3	1160	1.3	1220	1.3	1359	1.4	1373	1.4
Iraq	621	0.7	681	0.8	743	0.8	821	0.9	925	1.0
Indonesia	519	0.6	541	0.6	578	0.6	653	0.7	743	0.8
South Africa	547	0.6	579	0.6	598	0.7	599	0.6	687	0.7
Fiji	686	0.8	670	0.8	697	0.8	749	0.8	681	0.7
South Korea	389	0.5	419	0.5	485	0.5	564	0.6	609	0.6
Bangladesh	233	0.3	293	0.3	327	0.4	376	0.4	511	0.5
Pakistan	291	0.3	345	0.4	396	0.4	440	0.5	468	0.5
Thailand	277	0.3	290	0.3	309	0.3	382	0.4	421	0.4
United States of America	372	0.4	359	0.4	428	0.5	407	0.4	417	0.4
Hong Kong	314	0.4	332	0.4	338	0.4	392	0.4	414	0.4
Japan	260	0.3	339	0.4	288	0.3	352	0.4	378	0.4
Malaysia	283	0.3	339	0.4	315	0.3	386	0.4	371	0.4
Sri Lanka	310	0.4	320	0.4	324	0.4	339	0.4	362	0.4
Ireland	281	0.3	325	0.4	299	0.3	367	0.4	361	0.4
Afghanistan	159	0.2	263	0.3	335	0.4	334	0.4	336	0.4
Sudan	154	0.2	226	0.3	283	0.3	299	0.3	318	0.3
Cambodia	274	0.3	268	0.3	276	0.3	300	0.3	295	0.3
Western Samoa	289	0.3	306	0.3	298	0.3	299	0.3	277	0.3
Canada	237	0.3	227	0.3	262	0.3	250	0.3	267	0.3
Germany	205	0.2	211	0.2	240	0.3	236	0.2	262	0.3
Turkey	268	0.3	251	0.3	269	0.3	231	0.2	213	0.2
Iran	159	0.2	176	0.2	181	0.2	164	0.2	199	0.2
Tonga	246	0.3	222	0.2	212	0.2	187	0.2	191	0.2
Poland	130	0.2	127	0.1	163	0.2	152	0.2	175	0.2
Chile	172	0.2	194	0.2	189	0.2	218	0.2	174	0.2
Egypt	159	0.2	177	0.2	162	0.2	162	0.2	164	0.2
Singapore	119	0.1	146	0.2	121	0.1	144	0.2	164	0.2
France	119	0.1	122	0.1	138	0.2	149	0.2	161	0.2
Russian Federation (not USSR)	115	0.1	151	0.2	121	0.1	144	0.2	153	0.2
North Korea	153	0.2	140	0.2	124	0.1	169	0.2	152	0.2
Serbia and Montenegro	0	0.0	168	0.2	163	0.2	137	0.1	144	0.2
Nepal	46	0.1	75	0.1	78	0.1	119	0.1	137	0.1
Syria	159	0.2	147	0.2	132	0.1	163	0.2	132	0.1
Taiwan	80	0.1	107	0.1	102	0.1	122	0.1	129	0.1
Brazil	63	0.1	86	0.1	81	0.1	117	0.1	128	0.1
Zimbabwe	44	0.1	68	0.1	88	0.1	101	0.1	125	0.1
Papua New Guinea	156	0.2	106	0.1	126	0.1	136	0.1	122	0.1
Netherlands	97	0.1	87	0.1	99	0.1	132	0.1	116	0.1
Argentina	91	0.1	90	0.1	98	0.1	97	0.1	113	0.1
Macedonia	0	0.0	106	0.1	105	0.1	108	0.1	106	0.1
Former Yugoslavia	464	0.6	135	0.2	132	0.1	115	0.1	103	0.1
Other/Not stated	2647	3.1	2994	3.4	3187	3.5	2970	3.1	3150	3.3
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0

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

# Countries of birth for which 100 or more women gave birth in 2008.

# **Maternal Aboriginality**

The reported number of Aboriginal or Torres Strait Islander mothers giving birth increased from 2,308 in 2004 to 2,976 in 2008, an increase from 2.7% 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 2004–2008

Plurality										
	200	4	200	)5	200	)6	200	)7	200	8
	No.	%	No.	%	No.	%	No.	%	No.	%
Aboriginal or Torres Strait Islander	2308	2.7	2474	2.8	2611	2.9	2888	3.1	2976	3.1
Non-Aboriginal or Torres Strait Islander	81948	97.2	86570	97.1	88176	96.6	91519	96.7	91675	96.6
Not stated	32	0.0	96	0.1	528	0.6	195	0.2	213	0.2
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
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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% to 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 fifth or subsequent time rose by 30.6% from 1,312 in 2004 to 1,713 in 2008— however, these mothers comprised only 1.8% of all mothers in 2008.

## Table 6. Previous pregnancies, NSW 2004–2008

No. previous pregnancies					Yea	ar				
(>20 weeks gestation)	200	4	200	)5	200	)6	200	)7	200	8
	No.	%								
0	35796	42.5	37073	41.6	37855	41.5	39188	41.4	39451	41.6
1–4	47136	55.9	50566	56.7	51443	56.3	53496	56.5	53637	56.5
5+	1312	1.6	1441	1.6	1579	1.7	1483	1.6	1713	1.8
Not stated	44	0.1	60	0.1	438	0.5	435	0.5	63	0.1
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	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 2004 and 2008, the proportion of mothers starting antenatal care at 20-plus weeks gestation declined from 11.8% to 5.7% (Table 7). This has been accompanied

by an increase in the proportion of mothers starting antenatal care at less than 14 weeks gestation from 65.2% to 81.9% over the 5-year period.

## Table 7. Duration of pregnancy at first antenatal visit, NSW 2004-2008

Duration of pregnancy					Yea	ar				
(weeks)	200	4	200	)5	200	6	200	7	200	8
	No.	%	No.	%	No.	%	No.	%	No.	%
0–13	54939	65.2	60681	68.1	62757	68.7	72269	76.4	77647	81.9
14–19	18836	22.3	17775	19.9	17117	18.7	13512	14.3	10853	11.4
20+	9934	11.8	10169	11.4	10218	11.2	6827	7.2	5374	5.7
Not stated	579	0.7	515	0.6	1223	1.3	1994	2.1	990	1.0
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
Source: NSW Midwives Data Collection (HOI	ST). Centre for Epidemiol	ogy and Res	earch, NSW	Department	of Health.					

# Smoking in pregnancy

The proportion of mothers reporting any smoking during pregnancy declined between 2004 and 2008: 12,472 (14.8%) mothers reported smoking in pregnancy in 2004, 12,738 (14.3%) in 2005, 12,307 (13.5%) in 2006, 12,068 (12.8%) in 2007 and 12,094 (12.7%) in 2008.

Of mothers who smoked during pregnancy in 2008, 10.1% 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 2004–2008

Cigarettes smoked in the second					Ye	ar				
half of the pregnancy	200	04	20	05	200	06	20	07	200	08
	No.	%								
None	485	3.9	552	4.3	514	4.2	672	5.6	1227	10.1
1–10 per day	6303	50.5	6483	50.9	6243	50.7	6334	52.5	5929	49.0
More than 10 per day	5378	43.1	5129	40.3	5016	40.8	4430	36.7	4110	34.0
Smoked, amount not stated	297	2.4	572	4.5	455	3.7	631	5.2	825	6.8
Not stated	9	0.1	2	0.0	79	0.6	1	0.0	3	0.0
TOTAL	12472	100.0	12738	100.0	12307	100.0	12068	100.0	12094	100.0

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

# **Place of birth**

In 2008, the majority of mothers planned to give birth in a hospital labour ward, and 4.2% of mothers planned to give birth in a birth centre (Table 9). Seventy-three per cent of mothers who planned to give birth in a birth centre actually

did so. The total number of reported planned homebirths rose from 114 in 2004 to 243 in 2008, while the reported number of planned homebirths that occurred at home rose from 93 in 2004 to 200 in 2008.

## Table 9. Maternal place of birth, NSW 2004–2008

Place of birth					Ye	ar				
	20	04	20	05	200	06	20	07	200	08
	No.	%	No.	%	No.	%	No.	%	No.	%
Hospital	80701	95.7	85660	96.1	87567	95.9	90015	95.2	90143	95.0
Birth centre	2003	2.4	1830	2.1	1878	2.1	2714	2.9	2911	3.1
Planned birth centre/hospital admission	1126	1.3	1128	1.3	1240	1.4	1205	1.3	1063	1.1
Planned homebirth	93	0.1	112	0.1	125	0.1	144	0.2	200	0.2
Planned homebirth/hospital admission	21	0.0	40	0.0	47	0.1	31	0.0	43	0.0
Born before arrival	344	0.4	369	0.4	388	0.4	490	0.5	497	0.5
Not stated	0	0.0	1	0.0	70	0.1	3	0.0	7	0.0
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
Source: NSW Midwives Data Collection (HOIST). Centre for	Epidemiology and	Research.	NSW Depar	tment of H	lealth.					

# Hypertension and diabetes

Reporting of gestational diabetes was stable at 4% to 5% of mothers between 2004 and 2008, while 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.

Reporting of pre-eclampsia was replaced with reporting of proteinuric and non-proteinuric pregnancy induced hypertension. Overall, hypertension in pregnancy was reported among 7.2% of mothers in 2008, compared to 6.6% in 2004.

### Table 10. Maternal hypertension or diabetes, NSW 2004–2008

Condition	Year									
	200	4	200	)5	200	6	200	)7	2008	
	No.	%								
Diabetes	464	0.6	503	0.6	541	0.6	546	0.6	601	0.6
Gestational diabetes	3592	4.3	4165	4.7	4375	4.8	4091	4.3	4509	4.8
Essential hypertension	940	1.1	842	0.9	804	0.9	721	0.8	833	0.9
Pre-eclampsia <sup>#</sup>	4606	5.5	4553	5.1	3198	3.5	-	-	-	-
Pregnancy Induced Hypertension <sup>#</sup>										
– proteinuric	-	-	-	-	612	0.7	1625	1.7	1766	1.9
– non-proteinuric	-	-	-	-	626	0.7	3904	4.1	4216	4.4
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0

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

# During 2006, the reporting format changed so that reporting of pre-clampsia ceased and reporting of pregnancy induced hypertension commenced. This transition meant that in 2006, pre-eclampsia was reported in 3,198 of 55,078 mothers; and pregnancy induced hypertension was reported in 1,238 of 36,237 mothers.

# Labour

The rate of spontaneous onset of labour fell from 60.3% in 2004 to 57.7% in 2008 (Table 11). The rate of induction of labour was 25.3% in 2008, similar to previous years. The most common reported reason for induction of labour in 2008 was prolonged pregnancy (41 or more weeks) (26.5%),

followed by prelabour rupture of membranes (12.2%), hypertensive disease (10.3%), diabetes (6.7%), suspected intrauterine growth retardation (4.2%), fetal distress (1.6%) and fetal death (1.1%).

## Table 11. Onset and augmentation of labour, NSW 2004–2008

Onset of labour					Yea	ar				
	200	04	200	)5	200	)6	200	)7	200	8
	No.	%	No.	%	No.	%	No.	%	No.	%
Spontaneous	37137	44.1	38027	42.7	38706	42.4	38291	40.5	39076	41.2
Spontaneous augmented with ARM*	6090	7.2	6152	6.9	6318	6.9	7339	7.8	7069	7.5
Spontaneous augmented with oxytocics/ prostaglandins	7580	9.0	7812	8.8	8146	8.9	8553	9.0	8591	9.1
No labour	12930	15.3	14467	16.2	15516	17.0	15878	16.8	16120	17.0
Induced – oxytocics/ prostaglandins	7049	8.4	7417	8.3	7306	8.0	8607	9.1	8576	9.0
Induced – ARM only	1267	1.5	1595	1.8	1447	1.6	1648	1.7	1680	1.8
Induced – ARM+oxytocics/ prostaglandins	11912	14.1	13273	14.9	13389	14.7	14003	14.8	13577	14.3
Induced – other#	322	0.4	384	0.4	417	0.5	263	0.3	164	0.2
Not stated	1.0	0.0	13	0.0	70	0.1	20	0.0	11	0.0
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0
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Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

\* ARM: artificial rupture of membranes.

# This category includes other forms of induction such as Foley's catheter.

# **Birth**

Among NSW mothers, the rate of normal vaginal birth decreased from 62.1% in 2004 to 59.2% in 2008 (Table 12). The caesarean section rate increased from 27.2% to 29.5%. 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 50.3% in 2003 to 47.1% in 2007 and the caesarean section rate increased from 34.9% to 38.2%. Among publicly insured mothers the rate of normal vaginal birth fell from 67.2% to 66.0% and the caesarean section rate rose from 23.4% to 24.7%.

# Table 12. Type of birth, NSW 2004–2008

Type of delivery					Yea	ar				
	200	04	200	)5	200	6	200	)7	20	08
	No.	%								
Normal vaginal	52366	62.1	54568	61.2	55187	60.4	56648	59.9	56173	59.2
Forceps	2762	3.3	2801	3.1	2885	3.2	3273	3.5	3486	3.7
Vacuum extraction	5902	7.0	6372	7.1	6332	6.9	6779	7.2	6830	7.2
Vaginal breech	347	0.4	322	0.4	366	0.4	381	0.4	387	0.4
Elective caesarean section	12930	15.3	14467	16.2	15507	17.0	15878	16.8	16120	17.0
Emergency caesarean section <sup>#</sup>	9974	11.8	10610	11.9	10827	11.9	11572	12.2	11854	12.5
Not stated	7	0.0	0	0.0	211	0.2	71	0.1	14	0.0
TOTAL	84288	100.0	89140	100.0	91315	100.0	94602	100.0	94864	100.0

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

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

## Table 13. Maternal health insurance status by type of birth, NSW 2003–2007#

Insurance status – type of birth						ar					
	2003 2004					05		06	2007		
	No.	%	No.	%	No.	%	No.	%	No.	%	
Public											
Normal vaginal	33854	67.2	33614	66.6	36849	66.4	39387	66.2	41063	66.0	
Forceps	1422	2.8	1355	2.7	1346	2.4	1531	2.6	1795	2.9	
Vacuum extraction	3078	6.1	3112	6.2	3410	6.1	3486	5.9	3716	6.0	
Vaginal breech	249	0.5	227	0.5	216	0.4	266	0.4	268	0.4	
Elective caesarean section	5949	11.8	6102	12.1	7210	13.0	7985	13.4	8146	13.1	
Emergency caesarean section##	5821	11.6	6024	11.9	6469	11.7	6732	11.3	7216	11.6	
Not stated	0	0.0	0	0.0	0	0.0	70	0.1	38	0.1	
TOTAL	50373	100.0	50434	100.0	55500	100.0	59457	100.0	62242	100.0	
Private											
Normal vaginal	13726	50.3	13438	49.9	14017	48.8	14096	47.6	14622	47.1	
Forceps	1396	5.1	1323	4.9	1384	4.8	1326	4.5	1454	4.7	
Vacuum extraction	2545	9.3	2612	9.7	2785	9.7	2752	9.3	2996	9.6	
Vaginal breech	66	0.2	60	0.2	64	0.2	69	0.2	91	0.3	
Elective caesarean section	5997	22.0	5983	22.2	6725	23.4	7291	24.6	7623	24.5	
Emergency caesarean section##	3525	12.9	3482	12.9	3771	13.1	3930	13.3	4243	13.7	
Not stated	10	0.0	7	0.0	0	0.0	138	0.5	32	0.1	
TOTAL	27265	100.0	26905	100.0	28746	100.0	29602	100.0	31061	100.0	
Not stated											
Normal vaginal	5844	79.0	5314	76.5	3702	75.6	1704	75.5	963	74.1	
Forceps	57	0.8	84	1.2	71	1.5	28	1.2	24	1.8	
Vacuum extraction	165	2.2	178	2.6	177	3.6	94	4.2	67	5.2	
Vaginal breech	56	0.8	60	0.9	42	0.9	31	1.4	22	1.7	
Elective caesarean section	874	11.8	845	12.2	532	10.9	231	10.2	109	8.4	
Emergency caesarean section##	398	5.4	468	6.7	370	7.6	165	7.3	113	8.7	
Not stated	0	0.0	0	0.0	0	0.0	3	0.1	1	0.1	
TOTAL	7394	100.0	6949	100.0	4894	100.0	2256	100.0	1299	100.0	
TOTAL***											
Normal vaginal	53424	62.8	52366	62.1	54568	61.2	55187	60.4	56648	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	12820	15.1	12930	15.3	14467	16.2	15507	17.0	15878	16.8	
Emergency caesarean section##	9744	11.5	9974	11.8	10610	11.9	10827	11.9	11572	12.2	
Not stated	10	0.0	7	0.0	0	0.0	211	0.2	71	0.1	
TOTAL	85032	100.0	84288	100.0	89140	100.0	91315	100.0	94602	100.0	

Source: Linked data of the NSW Midwives Data Collection and NSW Admitted Patient Data Collection. Centre for Epidemiology and Research, NSW Department of Health. # Figures for 2003 to 2006 differ to those reported previously as the linkage has been updated.

# Figures for 2003 to 2006 differ to those reported previously as the linkage has been updated. ## Emergency caesarean section includes cases where caesarean section was reported but type of onset of labour was not reported. ### 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 2004, with slightly more male babies born than females in each year. In 2008, 49,253 (51.1%) of babies were male, 47,054 (48.8%) were female, 9 were of indeterminate sex, and sex was not reported for 27 babies. This compares with babies born in 2004, when 44,202 (51.6%) of babies were male, 41,390 (48.3%) were female, 19 were of indeterminate sex, and sex was not reported for 15 babies.

## Table 14. Gestational age, NSW 2004–2008

# **Gestational age**

In 2008, 7.5% of babies were born prematurely (less than 37 weeks gestation), compared to 7.3% in 2004 (Table 14). Over the 5 year period, about 91% of babies were born at term (37–41 weeks gestation). The percentage of postmature babies (41-plus weeks gestation) fell from 2.1% in 2004 to 0.8% in 2008.

Gestational age (weeks)		Year								
	200	04	200	2005		2006		)7	200	8
	No.	%								
28–31	667	0.8	654	0.7	675	0.7	660	0.7	683	0.7
32–36	4975	5.8	5248	5.8	5490	5.9	5703	5.9	5794	6.0
37–41	77614	90.6	82367	90.9	84424	91.0	88011	91.6	88353	91.7
42 +	1761	2.1	1709	1.9	1499	1.6	907	0.9	764	0.8
< 28	605	0.7	622	0.7	674	0.7	707	0.7	732	0.8
Not stated	4	0.0	10	0.0	19	0.0	42	0.0	17	0.0
TOTAL	85626	100.0	90610	100.0	92781	100.0	96030	100.0	96343	100.0
Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research. NSW Department of Health.										

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

# **Birth weight**

Since 2004, the pattern of birth weights has remained stable, with the rate of low birth weight (less than 2,500 grams) at

just over 6% each year (Table 15). The rate of low birth weight was 6.2% in 2008.

## Table 15. Birth weight, NSW 2004–2008

Birth weight (grams)					Ye	ar				
	20	04	20	2005 20		06		07	200	)8
	No.	%	No.	%	No.	%	No.	%	No.	%
Less than 500	214	0.2	227	0.3	239	0.3	255	0.3	266	0.3
500–999	395	0.5	392	0.4	411	0.4	422	0.4	422	0.4
1000–1499	558	0.7	513	0.6	562	0.6	512	0.5	525	0.5
1500–1999	1059	1.2	1100	1.2	1167	1.3	1119	1.2	1230	1.3
2000–2499	3231	3.8	3452	3.8	3554	3.8	3541	3.7	3551	3.7
2500–2999	12797	14.9	13675	15.1	13906	15.0	14265	14.9	14157	14.7
3000–3499	30238	35.3	32451	35.8	33074	35.6	34790	36.2	34612	35.9
3500–3999	26570	31.0	27822	30.7	28705	30.9	29648	30.9	29891	31.0
4000–4499	8931	10.4	9298	10.3	9389	10.1	9717	10.1	9889	10.3
4500+	1584	1.8	1613	1.8	1649	1.8	1653	1.7	1716	1.8
Not stated	49	0.1	67	0.1	125	0.1	108	0.1	84	0.1
TOTAL	85626	100.0	90610	100.0	92781	100.0	96030	100.0	96343	100.0
Source: NSW Midwives Data Collection (HOIST). Centre for Epidemiology and Research. NSW Department of Health.										

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

# **Apgar score**

In 2008, 2.1% of babies were born with an Apgar score of less than 7 at 5 minutes and 1.1% were born with an Apgar

score of less than 4 (Table 16). These rates are similar to those of previous years.

Table 16.	Apgar score a	at 5 minutes,	NSW 2004-2008#
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Apgar score	Year									
	200	2004		2005		2006		7	200	8
	No.	%								
0–4	921	1.1	963	1.1	1007	1.1	1093	1.1	1093	1.1
5–6	844	1.0	833	0.9	890	1.0	910	0.9	900	0.9
7+	83653	97.7	88621	97.8	90645	97.7	93685	97.6	94077	97.6
Not stated	208	0.2	193	0.2	239	0.3	342	0.4	273	0.3
TOTAL	85626	100.0	90610	100.0	92781	100.0	96030	100.0	96343	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 2004–2008 the perinatal mortality rate varied from 8.7 to 9.0 per 1,000 (Table 17). In 2008, 69.5% of all reported perinatal deaths were stillbirths and 30.5% were neonatal deaths.

In 2008, of the 841 perinatal deaths in NSW, 817 (97.1%) were reported among planned hospital births, 12 (1.4%) among planned birth centre births, 1 occurred in a planned home birth, and 11 were among babies born before arrival at hospital.

## Table 17. Perinatal outcomes, NSW 2004–2008\*

Year	Liveb surviv		Stillb	orn	Neon dea		Death not st		Not st	ated	Total k	births	Perinatal death rate/ 1,000 births <sup>##</sup>
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
2004	84849	99.1	561	0.7	212	0.2	0	0.0	4	0.0	85626	100.0	9.0
2005	89786	99.1	535	0.6	257	0.3	0	0.0	32	0.0	90610	100.0	8.7
2006	91840	99.0	592	0.6	229	0.2	6	0.0	114	0.1	92781	100.0	8.8
2007	94973	98.9	629	0.7	239	0.2	8	0.0	181	0.2	96030	100.0	9.0
2008	95440	99.1	585	0.6	256	0.3	7	0.0	55	0.1	96343	100.0	8.7

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.

## The perinatal death rate excludes deaths where the age at death was not stated.

# **Maternal deaths**

In the period 1990–2007, 178 deaths were reported among pregnant women or women who gave birth less than 6 weeks previously. Of these, 55 (30.9%) died of incidental causes not related to the pregnancy or its management, 77 (43.3%) deaths were found to be directly due to pregnancy or its management, and 43 (24.2%) 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 2007.

Year					c	lassification				
		Direct		Indirect	Tot	al: direct and indir	ect	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##	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###	2	2.3	2	2.3	4	4.7	2	2.3	7	8.2
2005##	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
2007	1	1.1	0	0.0	1	1.1	0	0.0	1	1.1

Source: NSW Maternal and Perinatal Committee.

# 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 was 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>

## 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.

### Total for 2004 includes one open coronial case.

## Table 19. Maternal deaths by cause, NSW 2007#

Classification	Cause	No.
Direct	Postpartum haemorrhage	1
Total		1
Source: NSW Maternal and Perir	natal Committee.	de alle te de la de constate e forme de activ

# 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.<sup>1</sup>

## Reference

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