



*National Obstetric
Information System
(NOIS)*

**Trends in Obstetrics
Malta 2001 - 2010**

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The accuracy of information contained in this document may be limited by factors beyond the author's control, figures may differ minimally from those reported in previous annual reports due to new information arriving at the Department. Some data in this document may be subject to interpretation.

Data presented in this report is based on data which has been made available to the Department of Health Information and Research from the collaborating hospitals. Accuracy and completeness of data is the responsibility of the hospital providing data.

Users should always acknowledge the source in all works based on information supplied in this document.

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EXECUTIVE SUMMARY

The National Obstetric Information System (NOIS) of the Department of Health Information and Research has collected data for all births on the Maltese Islands regularly since 1999. This report presents an analysis of 10 years (2001-2010) of obstetric data collection.

Interesting trends are seen, several being similar to those being reported in other European countries. The average maternal age at time of delivery has increased, with a marked increase in mothers within the 30-34 year age group and a decrease in mothers in the 20-24 and 25 -29 year age group. No significant changing trends were found in the under 18 year age group. The proportion of mothers reported to be single has increased from 12.3% in 2001 to 24.6% in 2010. Also, the proportion of foreign national mothers has changed from 4.4% in 2001 to 9.2% in 2010; the greatest increases being seen in mothers of sub-Saharan and Asian nationalities. The most frequent pathologies encountered during pregnancy are pregnancy induced hypertension (6.0% of maternities) and gestational diabetes mellitus (2.4% of maternities). While the mode of delivery remains predominantly normal vaginal (overall 66%), the rate of caesarean section has increased from 24% in 2001 to 33% in 2010. On a more positive note, inductions of labour have been seen to decrease from 39.9% in 2001 to 28.5% in 2010. The use of assisted reproductive technologies has increased from 0.56% in 2001 to 1.64% in 2010. There were four maternal deaths reported over the 10-year period.

The total number of infant births has remained relatively stable over this 10-year period, at around 4000 births per year. Consistently more male than female infants are born. The rate of multiple deliveries (twins and triplets) has increased from 0.92 % to 2.02%. The proportion of low birth weight babies (<2500g) has also increased from 6.2% in 2001 to 7.6% in 2010. Fetal and neonatal mortality, although fluctuating, have remained stable over this period.

INTRODUCTION

A National Obstetric Information System (NOIS) was launched in 1999 with the aim of collecting comprehensive, population-based medical data on maternal and perinatal health in the Maltese Islands. The System now covers all deliveries to residents and non-residents taking place on the islands of Malta and Gozo.

Data collection and Sources of Information

Systematic data collection for NOIS commences once the mother delivers her baby. Information regarding the course and outcome of each pregnancy is recorded by the relevant staff at each centre and forwarded to the Department of Health Information and Research (DHIR) on a regular basis.

At the DHIR, the relevant sheets are processed and entered into the NOIS database. The system registers all infants/fetuses of 22 completed weeks gestation and over.

The maternity centres actively participating in this information system are: Mater Dei Hospital, Gozo General Hospital, St James Hospital Sliema and Zabbar and St Philip's Hospital (until 2009). Home deliveries that are not subsequently referred to a hospital may not be captured by this system. A standard NOIS Data Collection Sheet is used for data collection. These sheets collect extensive information for all deliveries, making data collection and reporting comprehensive and accurate. Data sheets are sent to the Registry from all hospitals on the Maltese Islands. Accuracy and completeness of data is the responsibility of the hospital providing data.

Data at the DHIR is kept in accordance with the Data Protection Act (2001) and confidentiality is protected at all times.

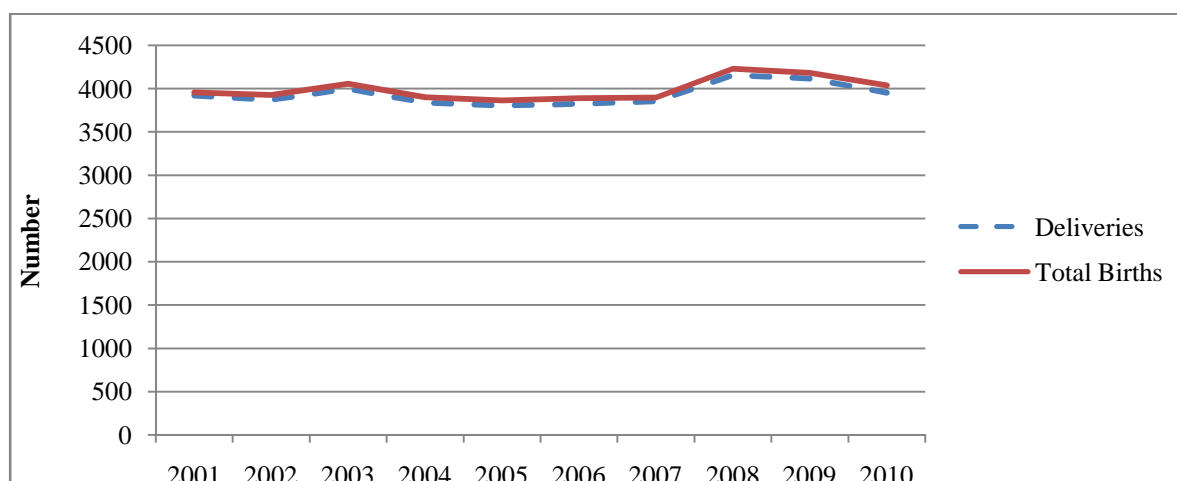
This report analyses the national deliveries and infant/fetal births reported to the Registry that occurred in the 10-year period between 2001 and 2010. It presents statistics for all deliveries and births reported to and registered into the system.

REPORT

Total Deliveries, Births, Stillbirths and maternal deaths 2001-2010 in Malta and Gozo

Over the past 10 years the number of deliveries and births have remained stable at around 4,000 per year, no significant changing trends are apparent. The total number of deliveries for the 10-year period was 39,320 resulting in a total of 39,935 births (Table 1). There were 4 maternal deaths during this period giving an overall maternal mortality ratio of 10.1 per 100,000 livebirths.

Figure 1 – Total deliveries and Births on the Maltese Islands 2001-2010



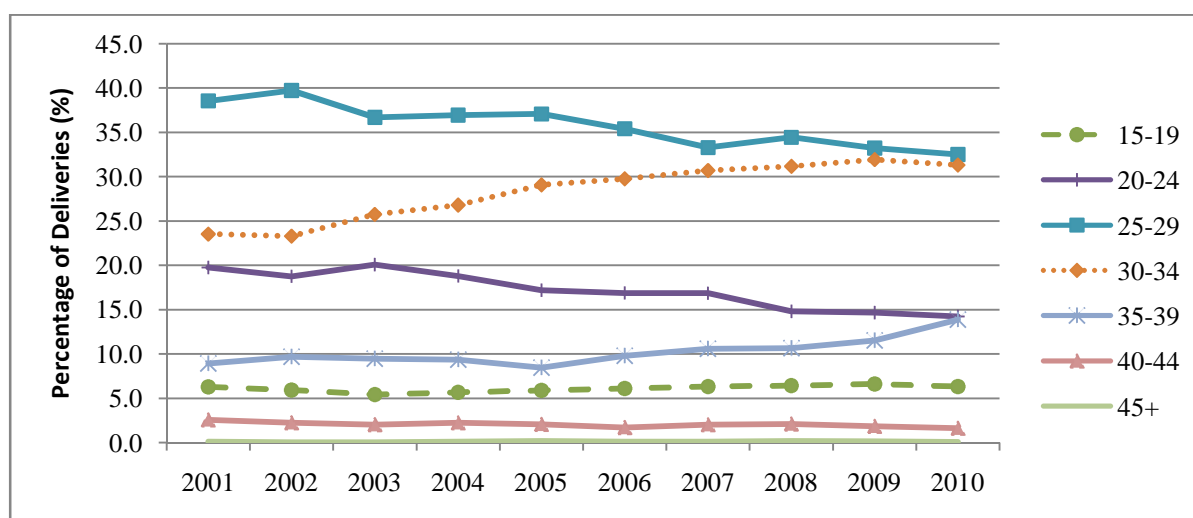
Over the 10-year period, 2876 (7.2%) births occurred in Gozo (Table 2).

Maternal Ages

The average maternal age has changed from 28 years in 2001 to 29 years in 2010 and the most frequent age at delivery has changed from 27 to 28 years (Table 3).

Figure 2 and Table 4 give a detailed breakdown of maternal age variation between 2001 and 2010. It is clear that while the 25-29 year ages group remains the most frequent age group at delivery, it is decreasing while the 30-34 year age group is increasing. Both these trends are significant and indicate the rising maternal age being seen on the Maltese Islands.

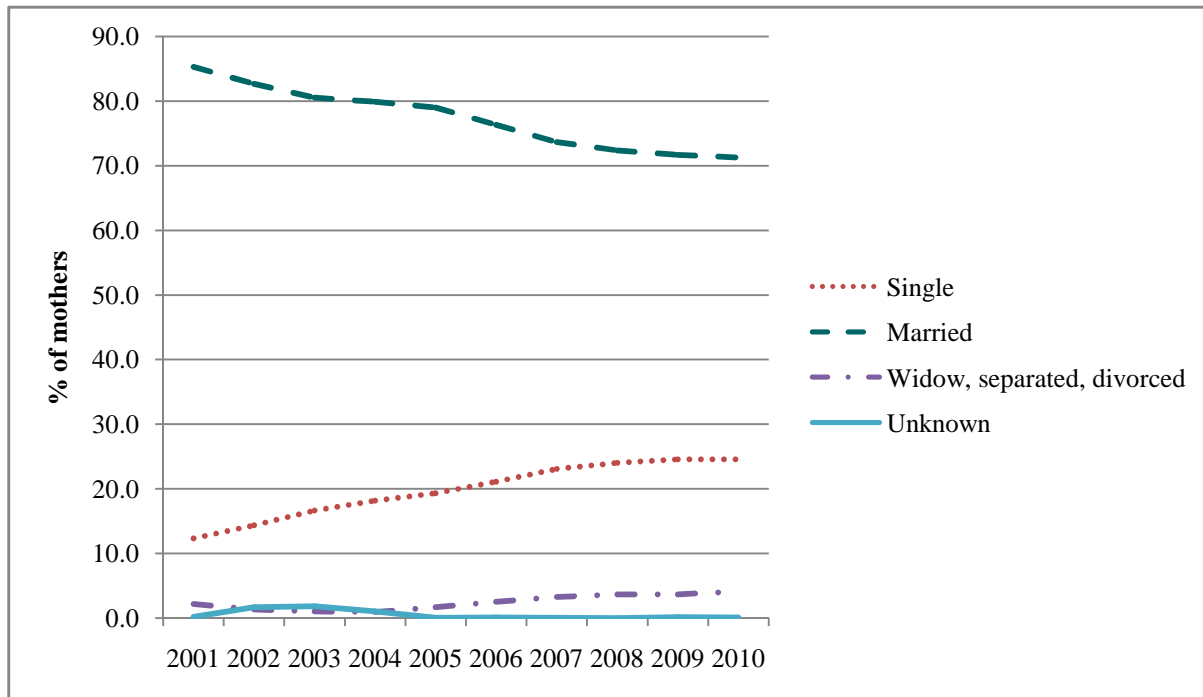
Figure 2 – Maternal age variation 2001 - 2010



Marital Status

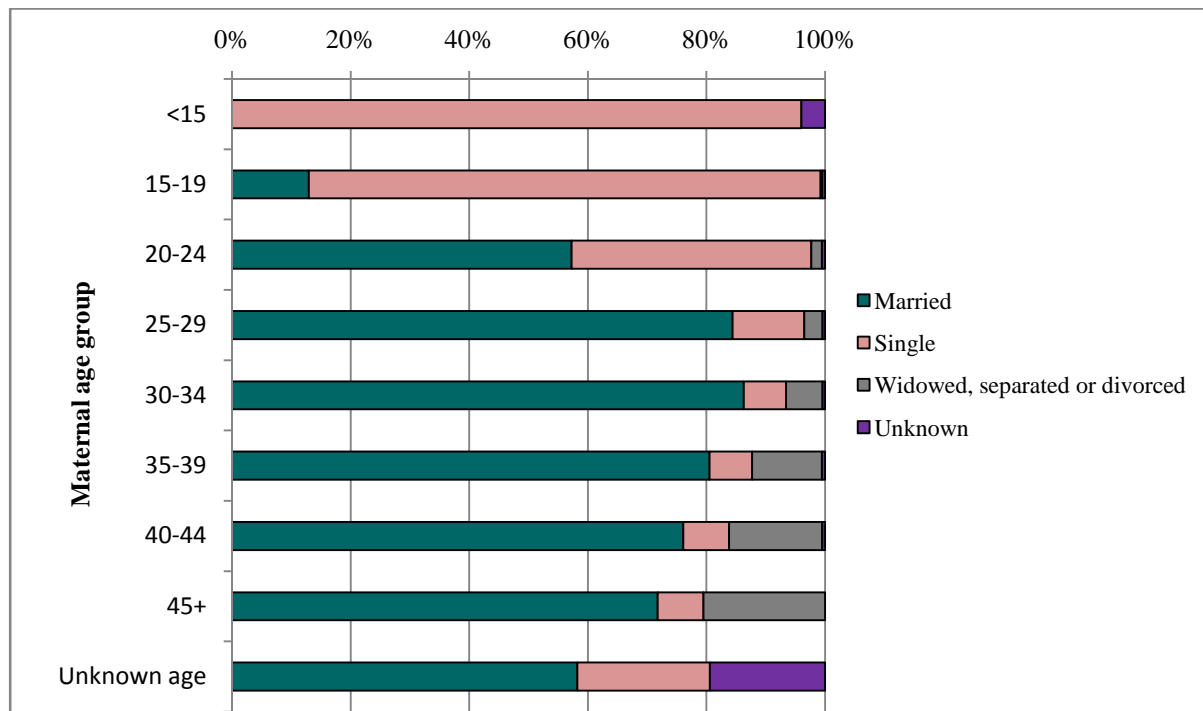
Analysis of maternal marital status over the period shows a significant increase in the proportion of single (never married) mothers as well as an increase in widowed / separated or divorced mothers. This is accompanied by a decrease in the proportion of married mothers (Figure 3 and Table 5).

Figure 3 – Proportion of mothers by marital status



As expected, the largest proportions of single mothers are found in the younger age groups, while the largest proportions of widowed, separated or divorced mothers are in the older age group as seen in the figure below.

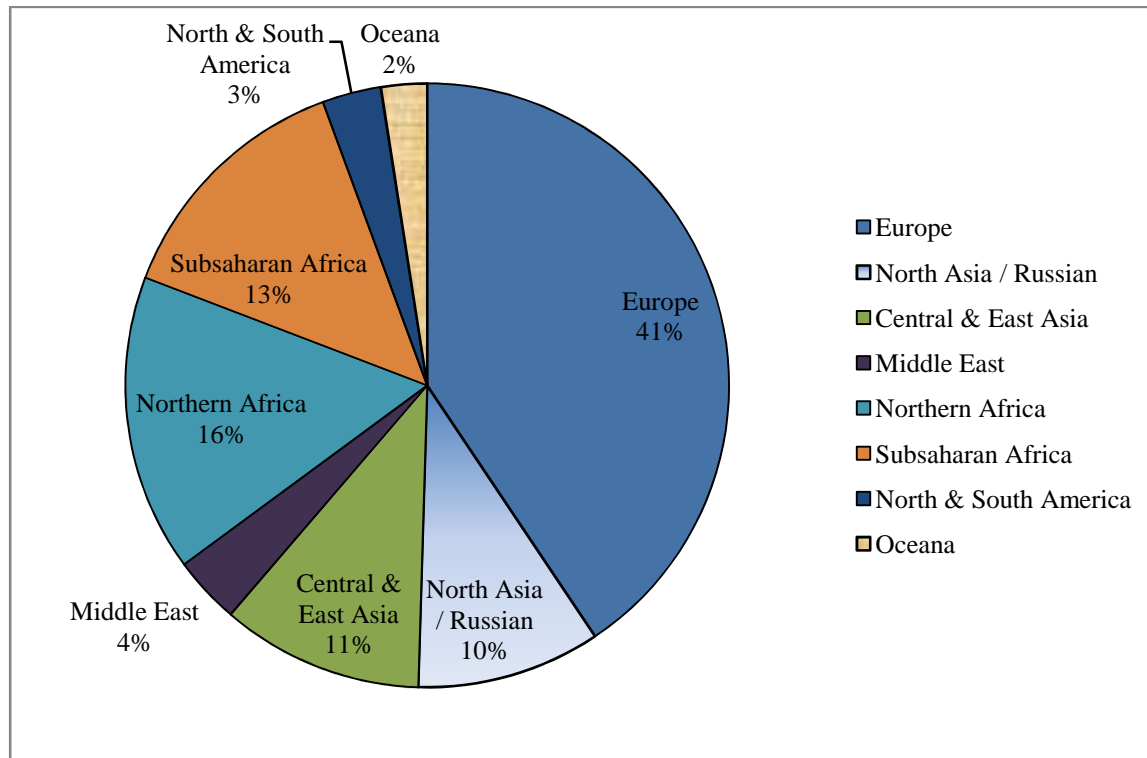
Figure 4 – Maternal marital status by age group



Maternal Nationality

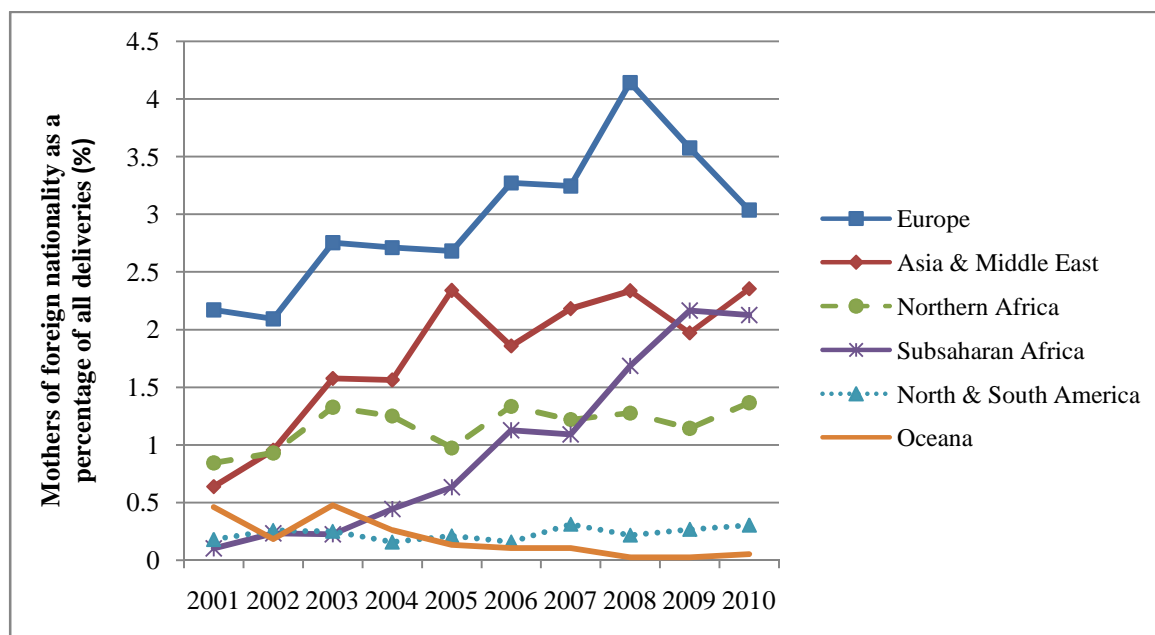
Over the past ten years Malta and Gozo have seen an increasing proportion of mothers of foreign nationality. Mothers of European nationality remain the most frequently encountered, followed by mothers of African and Asian nationality.

Figure 5 – Distribution of mothers of foreign nationality 2001-2010 (n=2883)



Over the ten year period, the greatest changes in maternal nationality have been seen in mothers of sub-Saharan and Asian Nationalities as seen in the figure below.

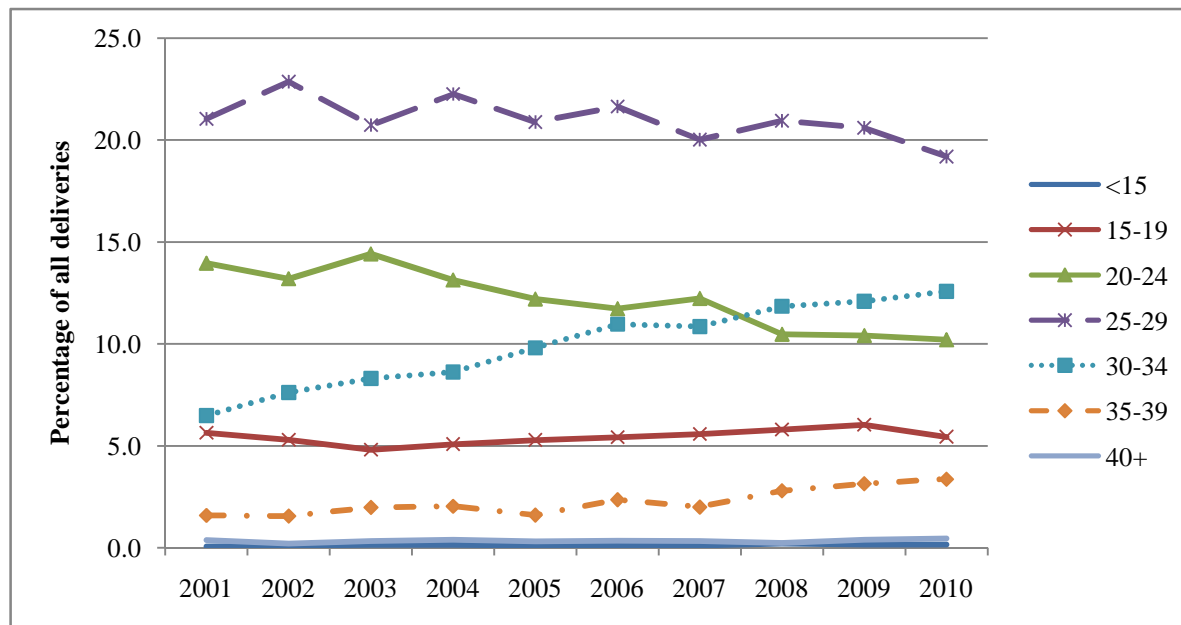
Figure 6 – Trends in mothers of foreign nationality as a percentage of all deliveries 2001-2010



Maternal Parity

The proportion of primiparous mothers has increased from 49.3% in 2001 to 51.4% in 2010. The greatest proportional increase of primiparous mothers occurred in the 30-34 year age group while a decrease was seen in the 20-24 and 25-29 year age groups (Table 8, Figure 7).

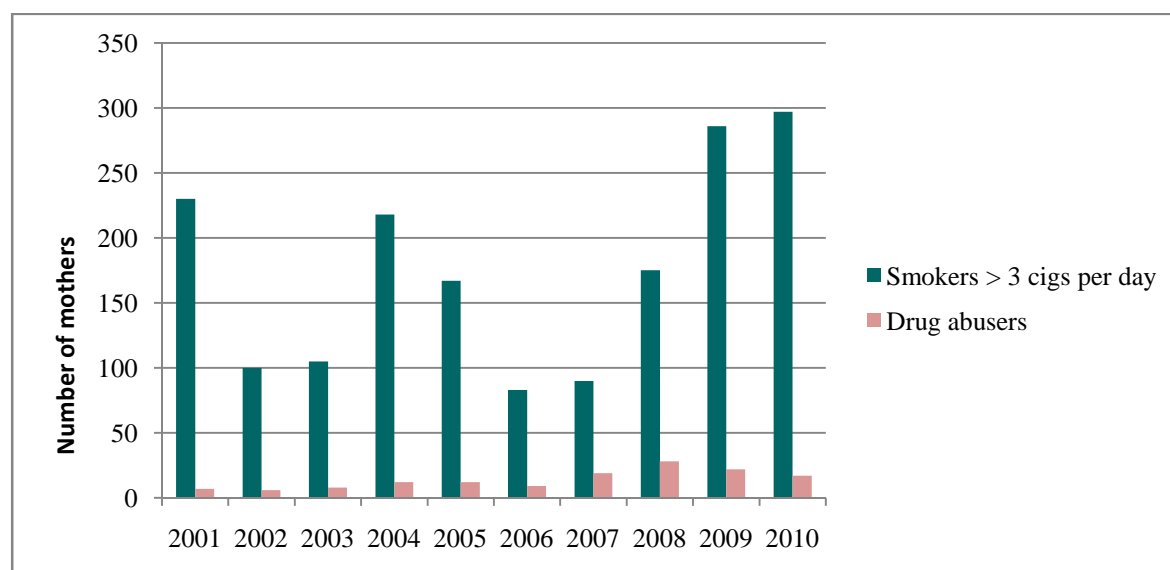
Figure 7 – Proportion of primiparas by maternal age



Maternal lifestyles

Maternal lifestyles are known to have an effect on infant outcome. Smoking and drug abuse are major such factors. The number of mothers reported as smokers and those reported as drug abusers during pregnancy is shown in Table 9 and Figure 8. Alcohol abuse is also known to be detrimental to infant development; however, this is often under-reported by mothers.

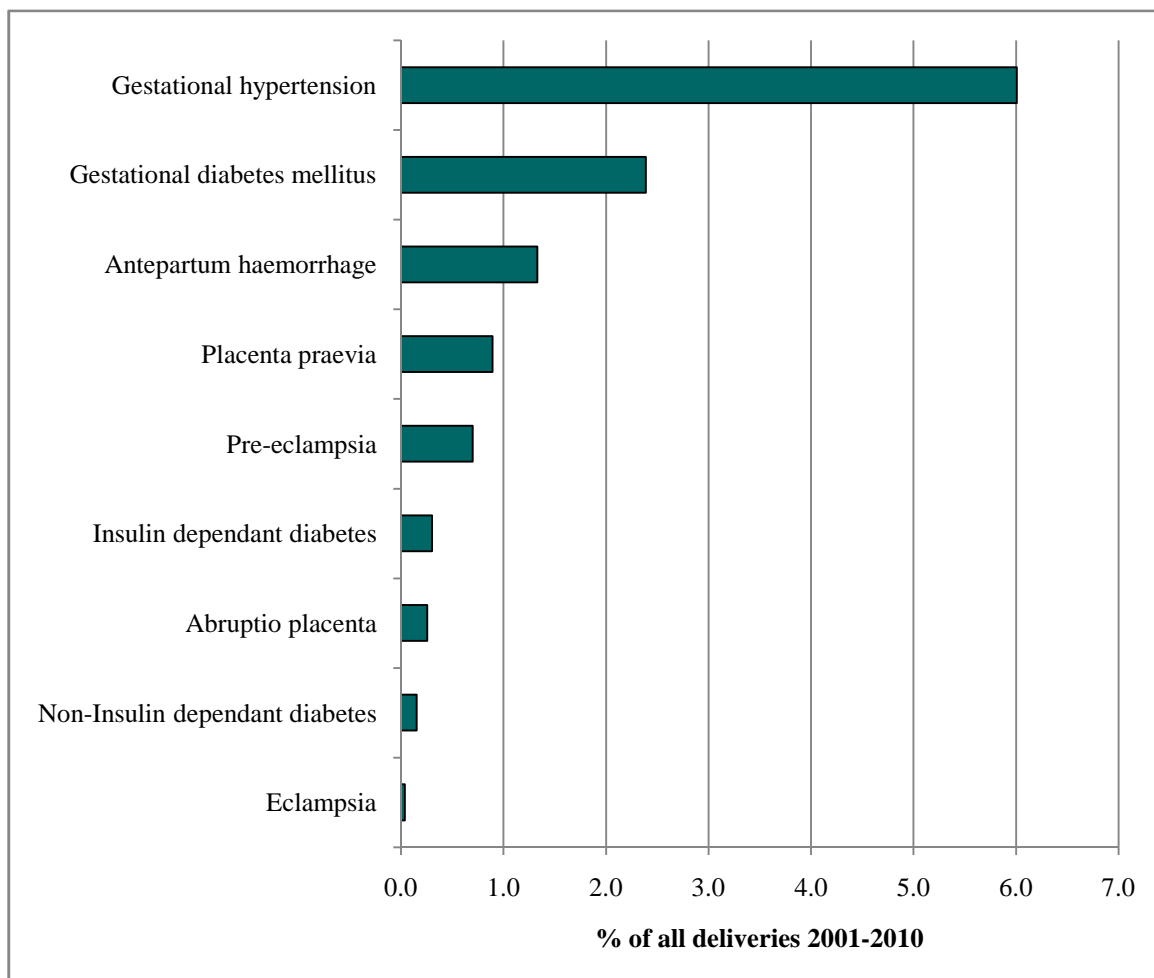
Figure 8 – Number of smoker and drug abuser mothers



Pathology during pregnancy

The most common maternal pathology reported was gestational hypertension which, over the 10-year period, was reported in 6% of pregnancies, this was followed by gestational diabetes mellitus which was reported in 2.4% of all deliveries (Table 10).

Figure 9 – Reported maternal pathology 2001-2010

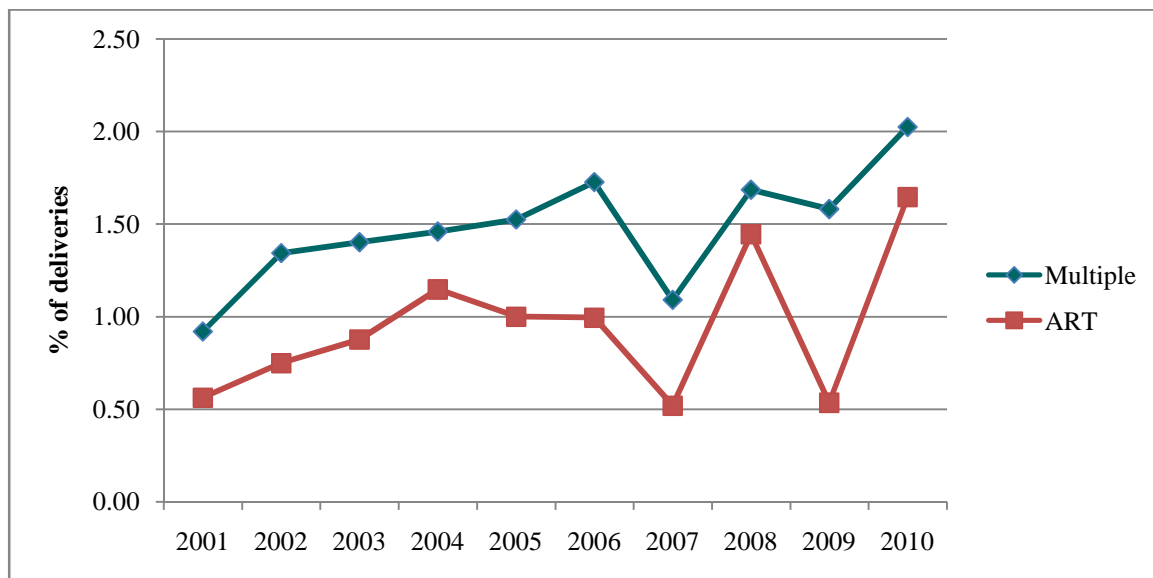


Singleton and multiple deliveries

The rate of multiple deliveries has increased over the 10 year period from 0.92% in 2001 to 2.02% in 2010 (Table 11). The reported cases of assisted reproductive therapy (which includes induction of ovulation, artificial insemination and IVF – in-vitro fertilisation) have also been seen to increase steadily from 0.56% in 2001 to 1.64% in 2010 (Table 12).

Figure 10 below shows that the trends of reported rates of multiple pregnancy are similar to those of the reported rates of assisted reproductive therapy (ART).

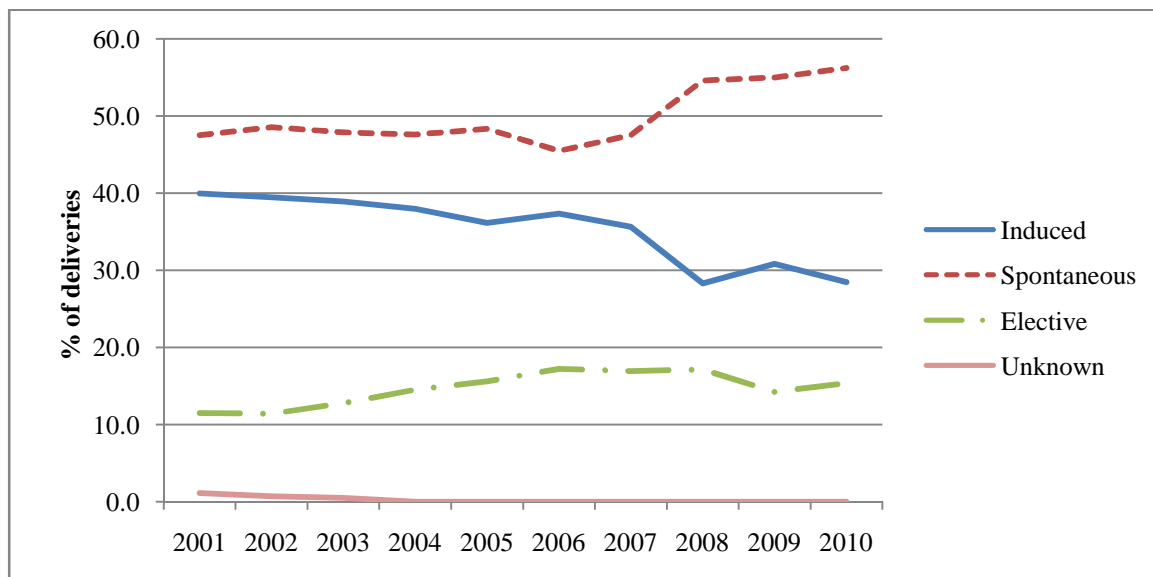
Figure 10 – Rates of reported multiple pregnancies and assisted reproductive treatment (ART)



Mode of Onset of Labour

Obstetric intervention is ideally avoided unless otherwise medically indicated; rising rates of such interventions are a cause of public health concern. Onset of labour may be spontaneous, induced or by elective Caesarean Section prior to the onset of labour. The figure below shows the rates of the various modes of onset of labour over the past ten years. There are significantly decreasing rates of inductions with a consequent increase in the rates of spontaneous onset, Table 13 gives further details.

Figure 11 - Variation in mode of onset of labour 2001-2010

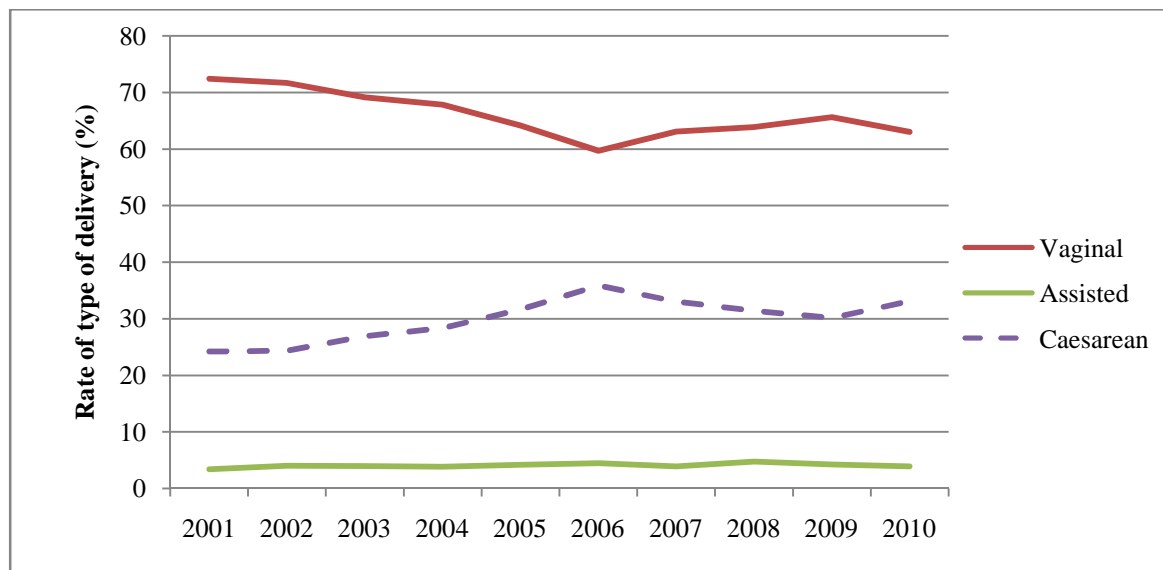


INFANT BIRTHS

Type of infant delivery

Rising rates of Caesarean sections are seen in many developed countries (PERISTAT, 2008), this has also been seen in the local scenario. Figure 12 shows the trends in different types of delivery, unassisted vaginal deliveries remain the most common mode of infant delivery. Between 2001 and 2006 there was a steady rise in the rate of Caesarean Section, which however appears to have reversed following 2006 (Table 14).

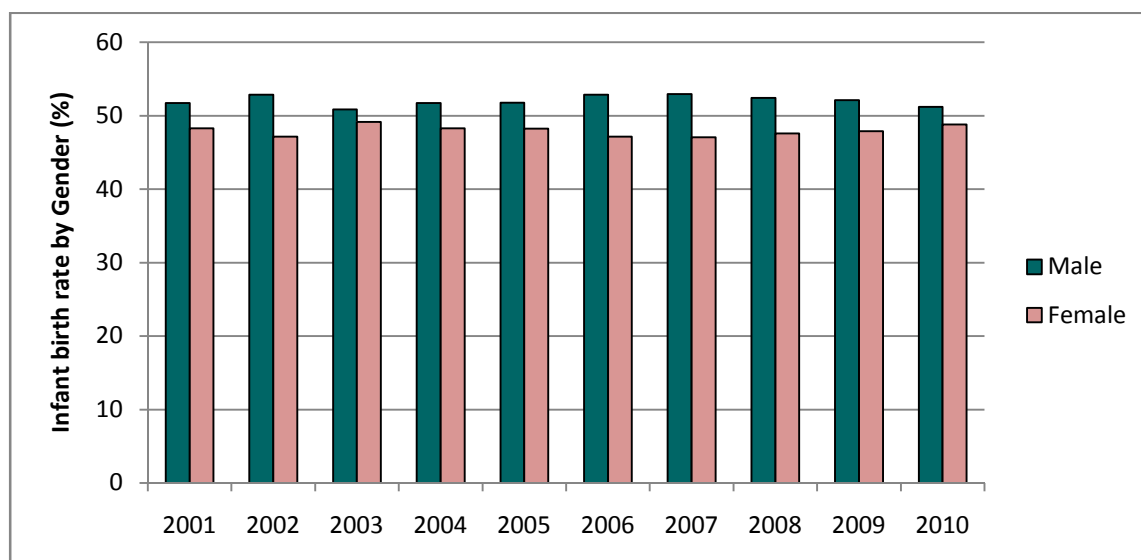
Figure 12 – Type of infant deliveries 2001 - 2010



Gender distribution of births

Over the past 10 years, there has been a consistently slightly higher number of male infants/fetuses born (Table 15). Over this period 52% of births were males and 48% were females.

Figure 13 – Infant birth rates by Gender

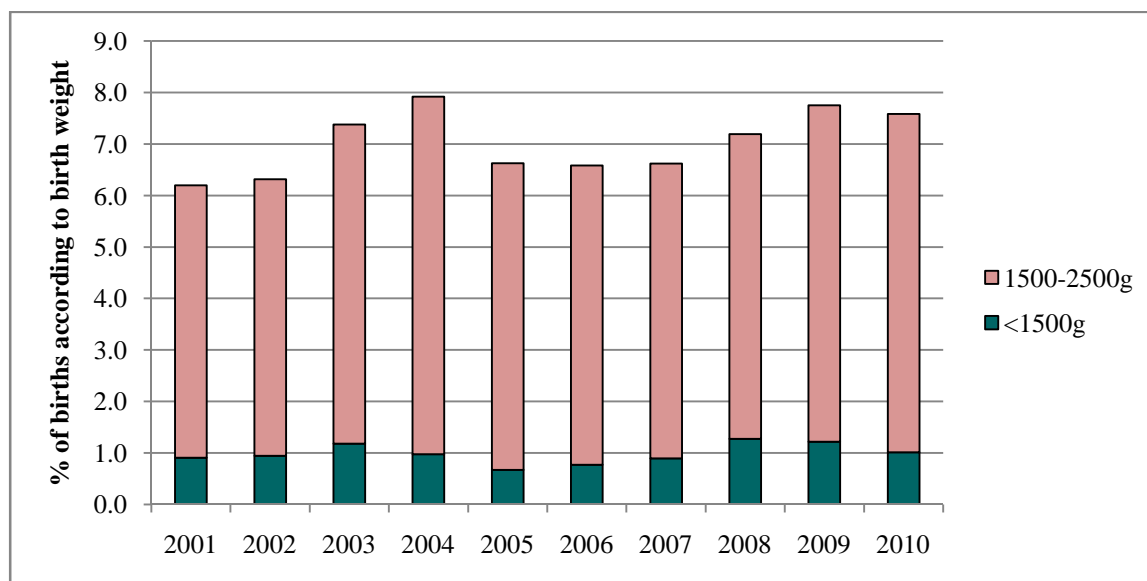


Birth weight distribution of infants

Babies with low birth weight have a greater risk of poor perinatal outcomes. Babies under 2500g are considered as having a low birth weight and being at risk, those under 1500g are very low birth weight babies and considered as being at highest risk.

Table 16 gives details of birth weight distribution of babies born between 2001-2010; Figure 14 shows the distribution of low and very low birth weight babies. Low birth weight babies (less than 2500g) fluctuated between 6 and 8% of births with an overall average of 7.0%, while the very low birth weight babies (less than 1500g) occurred in approximately 1% of births. No significant changing trends are noted over this 10 year period.

Figure 14 – Distribution of low and very low birth weight babies



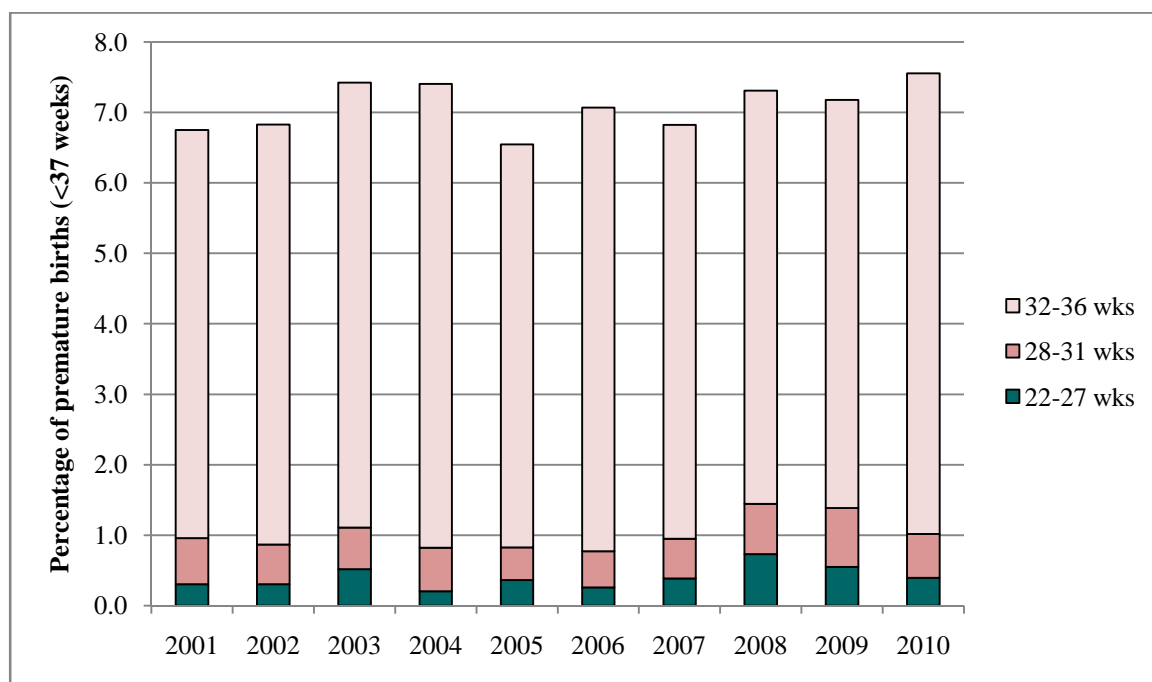
Distribution of infant gestational age at delivery.

Prematurity defined as a gestational age less than 37 weeks is associated with adverse perinatal outcomes and long-term health problems (EUROPERISTAT, 2008). A gestational age of 32-36 weeks is considered moderately preterm, while gestational ages 28-31 and 22-27 weeks are considered very preterm and extremely preterm respectively and are associated with the worst outcomes.

The NOIS register creates a calculated gestational age using date of birth and date of last menstrual period. Table 17 gives details of the gestational age of infants born between 2001 and 2010.

The figure below shows the frequency of pre-term births over the ten-year period. There has been a slight increase in very preterm and extremely preterm births over these years.

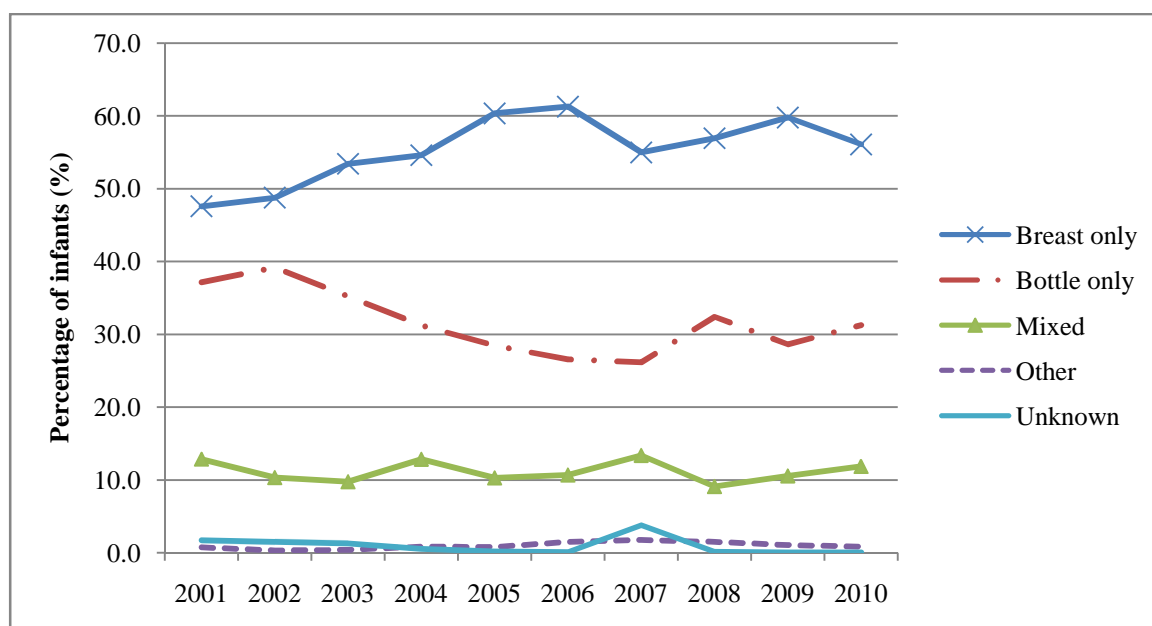
Figure 15 – Preterm births with gestational age <37 weeks



Infant method of feeding at time of discharge

Infant feeding habits are recorded by hospital staff at the time of discharge from hospital, which is usually 2-5 days after delivery. Little can be said on the longer-term infant feeding habits as these may change soon after discharge from the birthing facilities, however, breast feeding rates at time of discharge from hospital have shown an overall increasing trend (Table 18).

Figure 16 – Infant method of feeding at time of discharge (2001-2010)

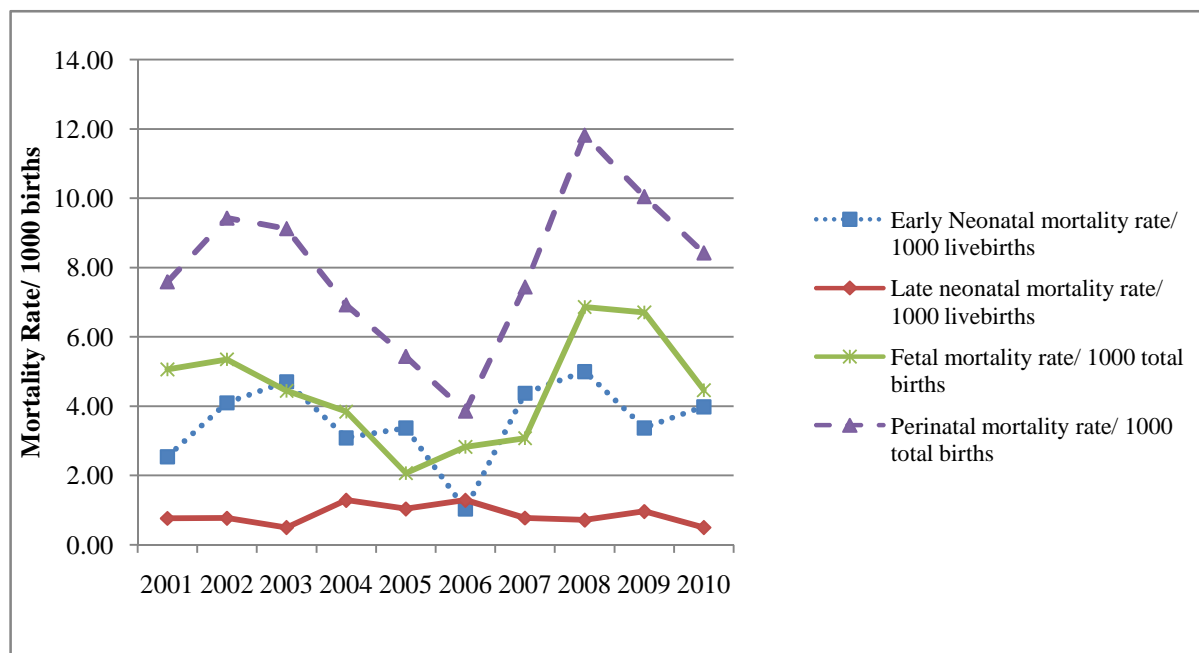


'Other' – includes babies who are still at hospital after 28 days and those who die before discharge.

Infant Outcomes

Over the 10-year period, there were a total of 180 stillbirths, 142 early neonatal deaths and 34 late neonatal deaths. Table 19 and Table 20 give details of this mortality and the graph below shows the variations in stillbirth, early neonatal and late neonatal mortality rates per 1000 births for infants/fetuses at or over 22 weeks of gestation .

Figure 17 – Fetal, neonatal and perinatal mortality rates for infants/fetuses of 22 weeks gestation and over.



TABLES

Table 1 - Total Deliveries, Births, Stillbirths and maternal deaths 2001-2010 in Malta and Gozo

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2001-2010
Maltese population*	394641	397296	399867	402668	405006	407810	410290	413609	414372	417617	4063176
Deliveries	3918	3872	3995	3838	3804	3822	3853	4154	4112	3952	39320
Total Births	3955	3926	4054	3902	3865	3891	3898	4228	4180	4036	39935
- Live births	3935	3905	4036	3887	3857	3880	3886	4199	4152	4018	39755
- Stillbirths	20	21	18	15	8	11	12	29	28	18	180
Fertility Rate*	1.72	1.46	1.48	1.37	1.37	1.41	1.37	1.4	1.4	1.4	n/a
Crude birth rate**	9.97	9.83	10.09	9.65	9.52	9.51	9.47	10.15	10.02	9.62	9.78
Maternal deaths	2	0	0	0	0	0	0	1	0	1	4

* Maltese population and Fertility rates taken from Demographic Reviews

** Crude birth rate calculated as livebirths per 1000 population

n/a: Not available

Table 2- Births in Malta and Gozo

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2001-2010
Births in Malta	3653	3631	3735	3633	3566	3617	3618	3919	3937	3750	37059
Births in Gozo	302	295	319	269	299	274	280	309	243	286	2876
Total Births	3955	3926	4054	3902	3865	3891	3898	4228	4180	4036	39935

Table 3 – Average and Median Maternal Ages Malta and Gozo 2001 – 2010

Maternal Age	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2001-2010
Average age (yrs)	28	28	28	28	28	28	28	29	29	29	28
Most frequent age at delivery (yrs)	27	27	28	28	28	30	30	29	29	28	28

Table 4 – Maternal Ages in 5-year age groups

Maternal age (yrs)	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<15	2	0.1	4	0.1	5	0.1	5	0.1	4	0.1	4	0.1	4	0.1	9	0.2	6	0.1	6	0.2	49	0.1
15-17	82	2.1	83	2.1	78	2.0	93	2.4	93	2.4	97	2.5	80	2.1	103	2.5	106	2.6	97	2.2	902	2.3
18-19	163	4.2	146	3.8	138	3.5	124	3.2	131	3.4	136	3.6	163	4.2	164	3.9	165	4.0	162	4.1	1492	3.8
20-24	774	19.8	726	18.8	802	20.1	721	18.8	654	17.2	645	16.9	649	16.8	615	14.8	603	14.7	562	14.2	6751	17.2
25-29	1510	38.5	1538	39.7	1465	36.7	1418	36.9	1410	37.1	1353	35.4	1282	33.3	1430	34.4	1366	33.2	1284	32.5	14056	35.7
30-34	921	23.5	901	23.3	1028	25.7	1028	26.8	1105	29.0	1137	29.7	1182	30.7	1294	31.2	1312	31.9	1237	31.3	11145	28.3
35-39	349	8.9	374	9.7	377	9.4	359	9.4	321	8.4	374	9.8	407	10.6	442	10.6	474	11.5	548	13.9	4025	10.2
40-44	100	2.6	86	2.2	81	2.0	85	2.2	78	2.1	65	1.7	77	2.0	87	2.1	75	1.8	64	1.6	798	2.0
45+	4	0.1	1	0.0	1	0.0	4	0.1	6	0.2	3	0.1	3	0.1	6	0.1	5	0.1	2	0.1	35	0.1
Unknown	13	0.3	13	0.3	20	0.5	1	0.0	2	0.1	8	0.2	6	0.2	4	0.1	0	0.0	0	0.0	67	0.2
Total	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 5 – Marital Status

Marital Status	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Single	483	12.3	555	14.3	665	16.6	697	18.2	734	19.3	806	21.1	888	23.0	997	24.0	1010	24.6	971	24.6	7806	19.9
Married	3342	85.3	3201	82.7	3216	80.5	3066	79.9	3005	79.0	2916	76.3	2838	73.7	3005	72.3	2946	71.6	2817	71.3	30352	77.2
Widow, separated, divorced	85	2.2	51	1.3	42	1.1	35	0.9	64	1.7	96	2.5	126	3.3	152	3.7	150	3.6	161	4.1	962	2.4
Unknown	8	0.2	65	1.7	72	1.8	40	1.0	1	0.0	4	0.1	1	0.0	0	0.0	6	0.1	3	0.1	200	0.5
Total	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 6 – Mothers by local or foreign nationality

Maternal Nationality	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Maltese	3739	95.4	3664	94.6	3696	92.5	3559	92.7	3512	92.3	3491	91.3	3511	91.1	3729	89.8	3711	90.2	3581	90.6	36193	92.05
Foreign Nationality	172	4.39	180	4.65	264	6.61	245	6.38	265	6.97	300	7.85	314	8.15	402	9.68	376	9.14	365	9.24	2883	7.33
Unknown	7	0.18	28	0.72	35	0.88	34	0.89	27	0.71	31	0.81	28	0.73	23	0.55	25	0.61	6	0.15	244	0.62
Total mothers	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 7 – Details of Maternal Nationality and proportion of all deliveries

Maternal Nationality	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Malta	3739	95.4	3664	94.6	3696	92.5	3559	92.7	3512	92.3	3491	91.3	3511	91.1	3729	89.8	3711	90.2	3581	90.6	36193	92.05
Europe	85	2.17	81	2.09	110	2.75	104	2.71	102	2.68	125	3.27	125	3.24	172	4.14	147	3.57	120	3.04	1171	2.98
North Asia / Russia	11	0.28	13	0.34	28	0.7	25	0.65	39	1.03	33	0.86	28	0.73	43	1.04	26	0.63	38	0.96	284	0.72
Central & East Asia	11	0.28	19	0.49	24	0.6	23	0.6	37	0.97	27	0.71	49	1.27	45	1.08	38	0.92	39	0.99	312	0.79
Middle East	3	0.08	5	0.13	11	0.28	12	0.31	13	0.34	11	0.29	7	0.18	9	0.22	17	0.41	16	0.4	104	0.26
Northern Africa	33	0.84	36	0.93	53	1.33	48	1.25	37	0.97	51	1.33	47	1.22	53	1.28	47	1.14	54	1.37	459	1.17
Subsaharan Africa	4	0.1	9	0.23	9	0.23	17	0.44	24	0.63	43	1.13	42	1.09	70	1.69	89	2.16	84	2.13	391	0.99
North & South America	7	0.18	10	0.26	10	0.25	6	0.16	8	0.21	6	0.16	12	0.31	9	0.22	11	0.27	12	0.3	91	0.23
Oceania	18	0.46	7	0.18	19	0.48	10	0.26	5	0.13	4	0.1	4	0.1	1	0.02	1	0.02	2	0.05	71	0.18
Unknown	7	0.18	28	0.72	35	0.88	34	0.89	27	0.71	31	0.81	28	0.73	23	0.55	25	0.61	6	0.15	244	0.62
Total mothers	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 8 – Parity by maternal age

Mothers	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Primiparous	1931	49.3	1975	51.0	2035	50.9	1982	51.6	1911	50.2	2011	52.6	1973	51.2	2175	52.4	2171	52.8	2030	51.4	20194	51.4
<15	2	0.1	4	0.1	5	0.1	5	0.1	4	0.1	4	0.1	4	0.1	8	0.2	6	0.1	6	0.2	48	0.1
15-19	221	5.6	205	5.3	192	4.8	195	5.1	201	5.3	207	5.4	215	5.6	241	5.8	248	6.0	215	5.4	2140	5.4
20-24	547	14.0	511	13.2	576	14.4	504	13.1	464	12.2	448	11.7	471	12.2	435	10.5	428	10.4	403	10.2	4787	12.2
25-29	824	21.0	885	22.9	828	20.7	854	22.3	794	20.9	827	21.6	771	20.0	870	20.9	847	20.6	758	19.2	8258	21.0
30-34	254	6.5	295	7.6	332	8.3	331	8.6	373	9.8	419	11.0	418	10.8	492	11.8	497	12.1	497	12.6	3908	9.9
35-39	62	1.6	60	1.5	79	2.0	78	2.0	61	1.6	90	2.4	77	2.0	116	2.8	129	3.1	133	3.4	885	2.3
40+	15	0.4	8	0.2	13	0.3	15	0.4	12	0.3	13	0.3	13	0.3	10	0.2	16	0.4	18	0.5	133	0.3
Unknown age	6	0.2	7	0.2	10	0.3	0	0.0	2	0.1	3	0.1	4	0.1	3	0.1	0	0.0	0	0.0	35	0.1
Multiparous	1984	50.6	1895	48.9	1958	49.0	1856	48.4	1893	49.8	1811	47.4	1880	48.8	1978	47.6	1940	47.2	1922	48.6	19117	48.6
<15	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	0	0.0	0	0.0	1	0.0
15-19	24	0.6	24	0.6	24	0.6	22	0.6	23	0.6	26	0.7	28	0.7	26	0.6	23	0.6	34	0.9	254	0.6
20-24	227	5.8	213	5.5	226	5.7	217	5.7	190	5.0	197	5.2	178	4.6	180	4.3	175	4.3	159	4.0	1962	5.0
25-29	685	17.5	653	16.9	637	15.9	564	14.7	616	16.2	526	13.8	511	13.3	559	13.5	518	12.6	526	13.3	5795	14.7
30-34	665	17.0	606	15.7	694	17.4	697	18.2	732	19.2	718	18.8	764	19.8	802	19.3	815	19.8	740	18.7	7233	18.4
35-39	287	7.3	314	8.1	298	7.5	281	7.3	260	6.8	284	7.4	330	8.6	326	7.8	345	8.4	415	10.5	3140	8.0
40+	89	2.3	79	2.0	69	1.7	74	1.9	72	1.9	55	1.4	67	1.7	83	2.0	64	1.6	48	1.2	700	1.8
Unknown age	7	0.2	6	0.2	10	0.3	1	0.0	0	0.0	5	0.1	2	0.1	1	0.0	0	0.0	0	0.0	32	0.1
Unknown parity	3	0.1	2	0.1	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0	0	0.0	9	0.02
Total mothers	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 9 – Maternal smoking and drug abuse

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Smokers >3cigs dly	230	5.9	100	2.6	105	2.6	218	5.7	167	4.4	83	2.2	90	2.3	175	4.2	286	7.0	297	7.5	1751	4.5
Drug abusers	7	0.2	6	0.2	8	0.2	12	0.3	12	0.3	9	0.2	19	0.5	28	0.7	22	0.5	17	0.4	140	0.4
Total mothers	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 10 – Maternal pathology during pregnancy

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Antepartum h'rrage	46	1.2	37	1.0	43	1.1	39	1.0	34	0.9	23	0.6	36	0.9	102	2.5	92	2.2	70	1.8	522	1.3
Gestational HT	208	5.3	211	5.5	260	6.5	237	6.2	261	6.9	202	5.3	242	6.3	268	6.5	275	6.7	198	5.0	2362	6.0
Pre-eclampsia	20	0.5	24	0.6	25	0.6	14	0.4	15	0.4	21	0.5	7	0.2	66	1.6	52	1.3	31	0.8	275	0.7
Eclampsia	0	0.0	1	0.0	0	0.0	5	0.1	0	0.0	0	0.0	1	0.0	3	0.1	4	0.1	0	0.0	14	0.0
Placenta praevia	17	0.4	24	0.6	25	0.6	11	0.3	19	0.5	34	0.9	56	1.5	71	1.7	45	1.1	49	1.2	351	0.9
Abruptio placenta	15	0.4	9	0.2	13	0.3	11	0.3	5	0.1	9	0.2	8	0.2	7	0.2	10	0.2	13	0.3	100	0.3
IDDM*	7	0.2	6	0.2	15	0.4	15	0.4	12	0.3	9	0.2	13	0.3	11	0.3	16	0.4	7	0.2	118	0.3
NIDDM*	3	0.1	3	0.1	4	0.1	2	0.1	1	0.0	2	0.1	1	0.0	4	0.1	4	0.1	2	0.1	60	0.2
GDM*	56	1.4	60	1.6	80	2.0	75	2.0	104	2.7	53	1.4	68	1.8	104	2.5	180	4.4	159	4.0	939	2.4
Total mothers	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

*IDDM= Insulin dependant diabetes mellitus; NIDDM = Non-insulin dependant diabetes mellitus and GDM = Gestational diabetes mellitus

Table 11 - Plurality

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Singleton	3882	99.1	3820	98.7	3939	98.6	3782	98.5	3746	98.5	3756	98.3	3811	98.9	4084	98.3	4047	98.4	3872	98.0	38739	98.5
All Multiples	36	0.92	52	1.34	56	1.40	56	1.46	58	1.52	66	1.73	42	1.09	70	1.69	65	1.58	80	2.02	581	1.48
Twins	35	0.89	50	1.29	53	1.33	50	1.30	55	1.45	63	1.65	40	1.04	66	1.59	62	1.51	74	1.87	548	1.39
Triplets	1	0.03	2	0.05	3	0.08	4	0.10	3	0.08	3	0.08	1	0.03	4	0.10	3	0.07	6	0.15	30	0.08
Quadruplets	0	0.00	0	0.00	0	0.00	2	0.05	0	0.00	0	0.00	1	0.03	0	0.00	0	0.00	0	0.00	3	0.01
All deliveries	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 12 – Rates of ART

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
ART	22	0.56	29	0.75	35	0.88	44	1.15	38	1.00	38	0.99	20	0.52	60	1.44	22	0.54	65	1.64	373	0.95
All deliveries	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

Table 13 – Mode of onset of labour

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-10	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Induced	1565	39.9	1527	39.4	1554	38.9	1456	37.9	1374	36.1	1427	37.3	1372	35.6	1175	28.3	1268	30.8	1125	28.5	13843	35.2
Spontaneous	1861	47.5	1878	48.5	1912	47.9	1825	47.6	1837	48.3	1737	45.4	1829	47.5	2267	54.6	2260	55.0	2221	56.2	19627	49.9
Elective	449	11.5	441	11.4	510	12.8	557	14.5	593	15.6	658	17.2	652	16.9	712	17.1	584	14.2	606	15.3	5762	14.7
Unknown	43	1.1	26	0.7	19	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	88	0.2
All deliveries	3918		3872		3995		3838		3804		3822		3853		4154		4112		3952		39320	

INFANT BIRTHS TABLES

Table 14 – Type of infant delivery

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Normal Vaginal	2863	72.4	2813	71.7	2801	69.1	2647	67.8	2480	64.2	2322	59.7	2458	63.1	2699	63.8	2743	65.6	2543	63.0	26369	66.0
Assisted vaginal	135	3.4	158	4.0	162	4.0	150	3.8	163	4.2	174	4.5	153	3.9	201	4.8	178	4.3	157	3.9	1631	4.1
Caesarean section	957	24.2	955	24.3	1091	26.9	1105	28.3	1222	31.6	1395	35.9	1287	33.0	1328	31.4	1259	30.1	1336	33.1	11935	29.9
Total Births	3955		3926		4054		3902		3865		3891		3898		4228		4180		4036		39935	

Table 15 – Distribution of Infant Gender

	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Male	2045	51.7	2075	52.9	2061	50.8	2019	51.7	2000	51.7	2057	52.9	2063	52.9	2216	52.4	2178	52.1	2066	51.2	20780	52.0
Female	1910	48.3	1851	47.1	1993	49.2	1883	48.3	1865	48.3	1834	47.1	1835	47.1	2012	47.6	2002	47.9	1970	48.8	19155	48.0
All Births	3955		3926		4054		3902		3865		3891		3898		4228		4180		4036		39935	

Table 16 – Birth weight distribution of infants/fetuses

Birth weight (g)	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0-499	0	0.0	1	0.0	3	0.1	0	0.0	0	0.0	1	0.0	4	0.1	3	0.1	8	0.2	2	0.0	22	0.1
500-999	16	0.4	15	0.4	24	0.6	10	0.3	14	0.4	11	0.3	12	0.3	29	0.7	20	0.5	12	0.3	163	0.4
1000-1499	20	0.5	21	0.5	21	0.5	28	0.7	12	0.3	18	0.5	19	0.5	22	0.5	23	0.6	27	0.7	211	0.5
1500-1999	51	1.3	40	1.0	54	1.3	61	1.6	39	1.0	45	1.2	36	0.9	57	1.3	48	1.1	49	1.2	480	1.2
2000-2499	158	4.0	171	4.4	197	4.9	210	5.4	191	4.9	181	4.7	187	4.8	193	4.6	225	5.4	216	5.4	1929	4.8
2500-2999	750	19.0	789	20.1	856	21.1	869	22.3	836	21.6	907	23.3	850	21.8	909	21.5	895	21.4	888	22.0	8549	21.4
3000-3499	1727	43.7	1676	42.7	1765	43.5	1566	40.1	1685	43.6	1688	43.4	1750	44.9	1829	43.3	1790	42.8	1685	41.7	17161	43.0
3500-3999	1001	25.3	999	25.4	950	23.4	932	23.9	908	23.5	859	22.1	877	22.5	957	22.6	982	23.5	962	23.8	9427	23.6
4000-4499	200	5.1	186	4.7	156	3.8	205	5.3	157	4.1	160	4.1	126	3.2	191	4.5	159	3.8	177	4.4	1717	4.3
4500-4999	22	0.6	20	0.5	17	0.4	17	0.4	18	0.5	17	0.4	17	0.4	13	0.3	20	0.5	16	0.4	177	0.4
5000+	1	0.03	5	0.13	2	0.05	1	0.03	1	0.03	0	0.00	0	0.00	4	0.09	4	0.10	1	0.02	19	0.05
Unknown	9	0.2	3	0.1	9	0.2	3	0.1	4	0.1	4	0.1	20	0.5	21	0.5	6	0.1	1	0.0	80	0.2
All Births	3955		3926		4054		3902		3865		3891		3898		4228		4180		4036		39935	

Table 17 – Distribution of infant gestational age at delivery

Gestation (wks)	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
22-27 wks	12	0.3	12	0.3	21	0.5	8	0.2	14	0.4	10	0.3	15	0.4	31	0.7	23	0.6	16	0.4	162	0.4
28-31 wks	26	0.7	22	0.6	24	0.6	24	0.6	18	0.5	20	0.5	22	0.6	30	0.7	35	0.8	25	0.6	246	0.6
32-36 wks	229	5.8	234	6.0	256	6.3	257	6.6	221	5.7	245	6.3	229	5.9	248	5.9	242	5.8	264	6.5	2425	6.1
37-41	3639	92.0	3544	90.3	3638	89.7	3572	91.5	3584	92.7	3592	92.3	3619	92.8	3913	92.5	3853	92.2	3725	92.3	36679	91.8
42+	49	1.2	112	2.9	102	2.5	41	1.1	28	0.7	24	0.6	13	0.3	6	0.1	27	0.6	6	0.1	408	1.0
Unknown	0	0.0	2	0.1	13	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	15	0.0
All Births	3955		3926		4054		3902		3865		3891		3898		4228		4180		4036		39935	

Table 18 – Infant method of feeding at time of discharge from hospital

Infant feeding	2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2001-2010	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Breast	1881	47.6	1914	48.8	2165	53.4	2130	54.6	2332	60.3	2384	61.3	2143	55.0	2407	56.9	2498	59.8	2263	56.1	22117	55.4
Bottle	1469	37.1	1537	39.1	1427	35.2	1218	31.2	1098	28.4	1032	26.5	1019	26.1	1370	32.4	1195	28.6	1260	31.2	12625	31.6
Mixed	508	12.8	405	10.3	395	9.7	501	12.8	397	10.3	415	10.7	521	13.4	384	9.1	441	10.6	478	11.8	4445	11.1
Other	29	0.7	12	0.3	16	0.4	32	0.8	31	0.8	57	1.5	68	1.7	62	1.5	44	1.1	33	0.8	360	0.9
Unknown	68	1.7	58	1.5	51	1.3	21	0.5	7	0.2	3	0.1	147	3.8	5	0.1	2	0.0	2	0.0	165	0.4
All Births	3955		3926		4054		3902		3865		3891		3898		4228		4180		4036		39935	

* 'Other' – includes babies who are still at hospital after 28 days and those who die before discharge

Table 19 – Infant outcome

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2001-2010
All livebirths	3935	3905	4036	3887	3857	3880	3886	4199	4152	4018	39755
Liveborn and lived 28 days	3922	3886	4015	3870	3840	3871	3866	4175	4134	4000	39579
Early neonatal death	10	16	19	12	13	4	17	21	14	16	142
Late neonatal deaths	3	3	2	5	4	5	3	3	4	2	34
Still births	20	21	18	15	8	11	12	29	28	18	180
Total live and stillbirths	3955	3926	4054	3902	3865	3891	3898	4228	4180	4036	39935

Table 20 – Fetal, neonatal and perinatal mortality rates / 1000 for infants/fetuses of 22 weeks gestation and over

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2001-2010
Early Neonatal mortality / 1000 livebirths	2.54	4.10	4.71	3.09	3.37	1.03	4.37	5.00	3.37	3.98	3.57
Late neonatal mortality / 1000 livebirths	0.76	0.77	0.50	1.29	1.04	1.29	0.77	0.71	0.96	0.50	0.86
Fetal mortality rate / 1000 total births	5.06	5.35	4.44	3.84	2.07	2.83	3.08	6.86	6.70	4.46	4.51
Perinatal mortality rate/ 1000 total births	7.59	9.42	9.13	6.92	5.43	3.86	7.44	11.83	10.05	8.42	8.06

DEFINITIONS

(Following the International Statistical Classification of Diseases and Related Health Problems – Tenth Revision, Volume II ICD-10, WHO 1994, Geneva)

Maternal Death

A maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Birth Weight

The first weight of the fetus or newborn obtained after birth.

Low birth weight is less than 2500g (up to and including 2499g).

Very low birth weight is less than 1500g (up to and including 1499g).

Extremely low birth weight is less than 1000g (up to and including 999g)

Gestational Age

The duration of gestation is measured from the first day of the last menstrual period. Gestational age is expressed in complete days or completed weeks.

For the purposes of calculation of gestational age from the date of the first day of the last normal menstrual period to the date of delivery, it should be borne in mind that the first day is day zero and not day one; days 0-6 therefore correspond to completed week zero;

Fetal Death

Fetal death is the death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy; the death is indicated by the fact that after such separation, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

Fetal Death Rate

The number of fetal deaths in a year expressed as a proportion of the total number of births (live births plus fetal deaths) in the same year. Rates are usually expressed per 1000 total births.

$$\text{Fetal death rate} = \frac{\text{no. of fetal deaths in a year}}{\text{no. of live births plus fetal deaths in that year}} * 1000$$

Live Birth

Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after separation, breathes or shows any evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of the voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born.

Neonatal Period

The neonatal period commences at birth and ends 28 completed days after birth. Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into early neonatal deaths, occurring during the first seven days of life, and late neonatal deaths, occurring after the seventh day but before 28 completed days of life.

Age at death during the first day of life (day 0) should be recorded in units of completed minutes or hours of life. For the second (day 1), third (day 2) and through 27 completed days of life, age at death should be recorded in days.

Neonatal Mortality Rate

The number of deaths during the neonatal period in that year expressed as a proportion of the total number of live births in the same year. Rates are expressed per 1000 live births.

$$\text{Neonatal mortality rate} = \frac{\text{no. of neonatal deaths in a year}}{\text{no. of live births in that year}} * 1000$$

Early Neonatal Mortality Rate

The number of deaths during the early neonatal period (during first 7 days of life) in that year expressed as a proportion of the total number of live births in the same year. Rates are expressed per 1000 live births.

$$\text{Early Neonatal mortality rate} = \frac{\text{no. of early neonatal deaths in a year}}{\text{no. of live births in that year}} * 1000$$

Late Neonatal Mortality Rate

The number of deaths during the late neonatal period (ie occurring after the seventh day but before 28 completed days of life) in that year, expressed as a proportion of the total number of live births in the same year. Rates are expressed per 1000 live births.

$$\text{Late Neonatal mortality rate} = \frac{\text{no. of early neonatal deaths in a year}}{\text{no. of live births in that year}} * 1000$$

Perinatal Period

The perinatal period commences at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500g) and ends at seven completed days after birth.

Perinatal Mortality Rate

The number of deaths during the perinatal period in a year expressed as a proportion of the total number of births (live births plus fetal deaths) in the same year.

$$\text{Perinatal mortality rate} = \frac{\text{no. of perinatal deaths in a year}}{\text{no. of live births plus fetal deaths in that year}} * 1000$$

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