



*National Obstetric
Information System
(NOIS)*

Annual Report - 2009

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The accuracy of information contained in this document may be limited by factors beyond the author's control. 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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COMMENTARY

2009 was the 11th full year that the National Obstetric Information System has been collecting data on all deliveries taking place on the Maltese Islands. The following are some salient points from the 2009 Annual NOIS Report which covers pregnancy, delivery, and infant/fetal outcomes and trends over time.

Since the conception of NOIS, 1999 and 2000 were the years with the most deliveries, followed by a trend of decreasing births until 2005, after which figures started increasing again. While there was an 8.5% (330) increase in births from 2007 to 2008, 2009 showed a drop of 1.2% (48) births on 2008. In fact in 2009 there were a total of 4112 registered deliveries (4180 total births), of which 3871 deliveries (3937 births) occurred in Malta and the remaining 241 deliveries (243 births) occurred in Gozo. 99.8% (4102) of deliveries occurred in a hospital. The following table shows figures for the number of deliveries and births over the past 11 years, as well as the % change of total births from year to year.

<i>Year</i>	<i>Deliveries*</i>	<i>Total Births**</i>	<i>% change in births on previous year</i>	<i>Livebirths</i>
1999	4311	4382		4349
2000	4311	4377	- 0.1%	4361
2001	3918	3955	- 9.6%	3935
2002	3873	3927	- 0.7%	3906
2003	3995	4054	+ 3.2%	4036
2004	3838	3902	- 3.7%	3887
2005	3804	3865	- 0.9%	3857
2006	3822	3891	+ 0.7%	3880
2007	3853	3898	+ 0.2%	3886
2008	4154	4228	+ 8.5%	4199
2009	4112	4180	- 1.1%	4152

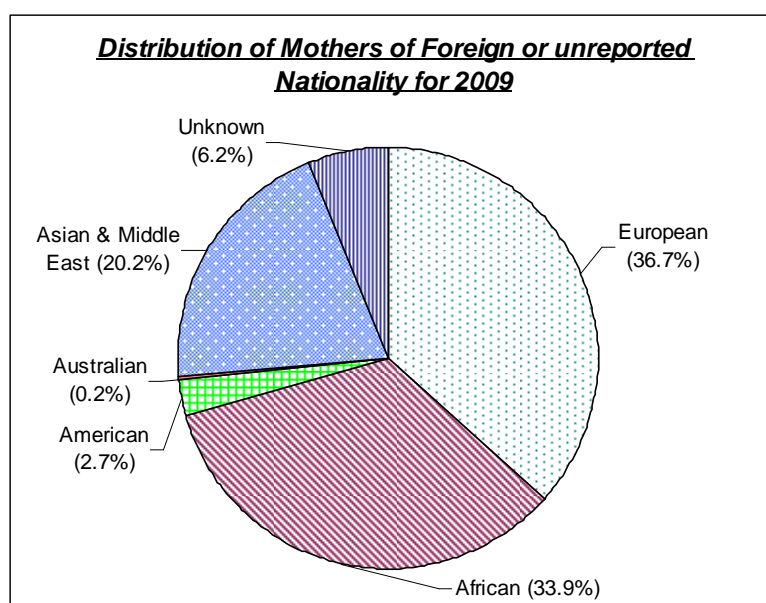
* Deliveries refer to maternal confinements irrespective of number of infants delivered

** Total Births include both live and still births that have been registered

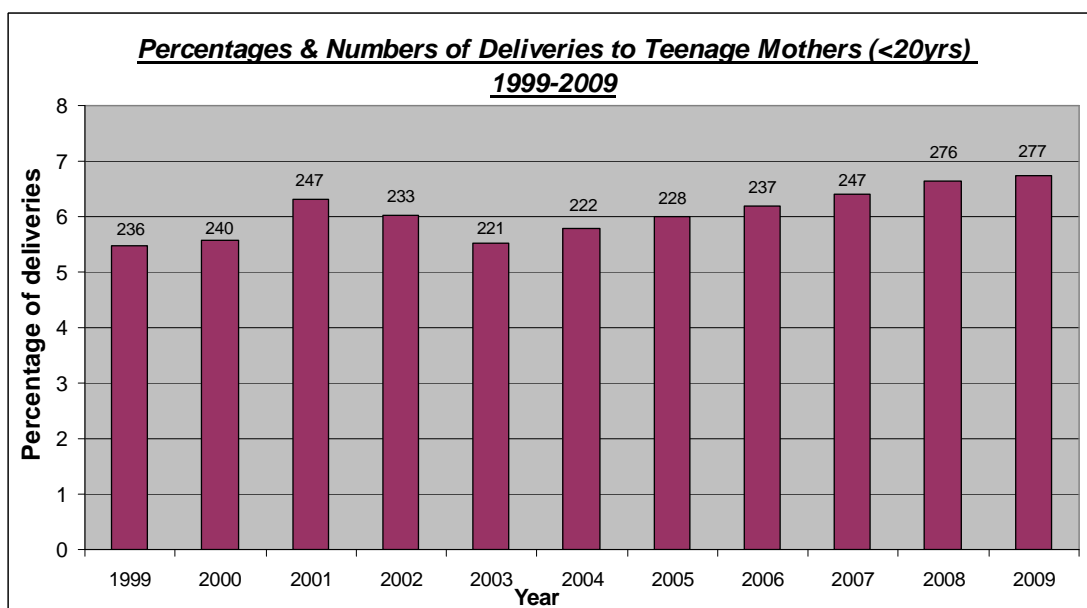
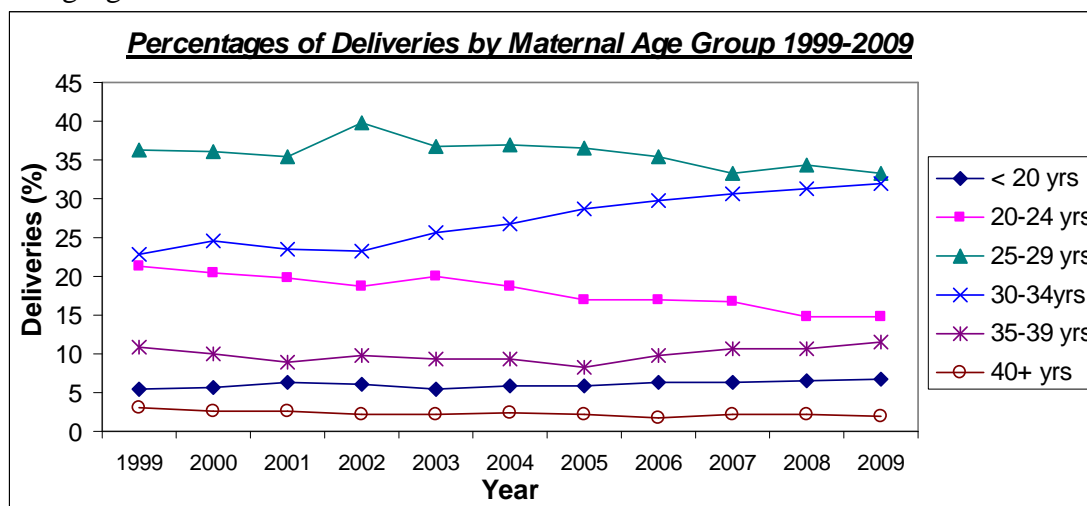
Number of deliveries and births in Malta and Gozo registered by NOIS since 1999

90.2% (3711) of deliveries occurred to women of Maltese Nationality. The percentage of non-Maltese mothers delivering on the Maltese Islands has practically doubled since 1999, when 4.5% (192) of 4311 deliveries were to non-Maltese. In 2009, 376 (9.2%) out of the total 4112 deliveries were to foreigners.

In 2009, mothers of Sub-Saharan African origin constituted the second largest group of non-Maltese national mothers (2.2% of all deliveries), following mothers of European nationalities (3.6% of all deliveries).

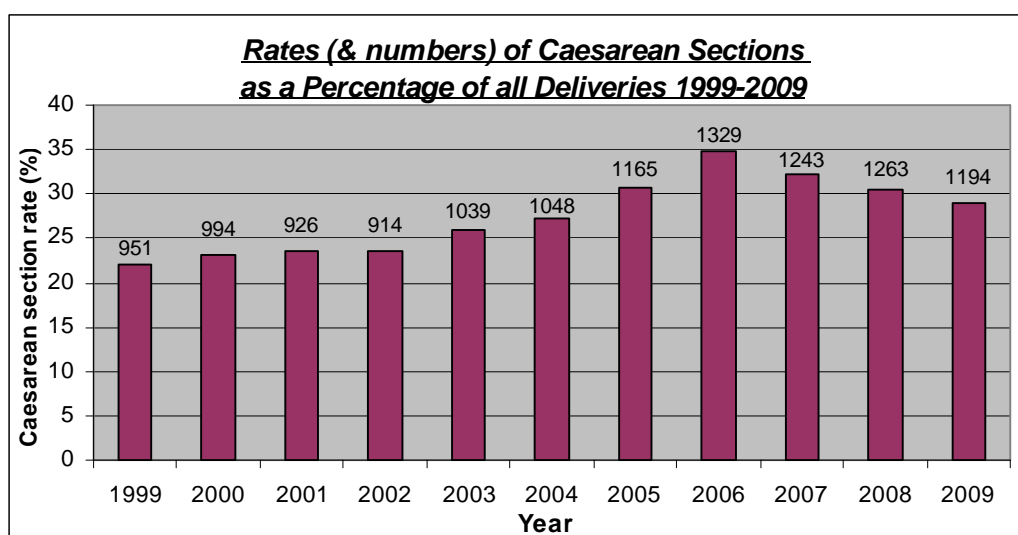


The maternal age group with the highest percentage of deliveries has consistently been the 25-29 year age group. In fact in 2009, 33.2% (1366) of deliveries were to mothers in this age-group, closely followed by the 30-34 year age group which represented 31.9% (1312) of mothers. Analysis of data from 2003 shows a steady decrease in the rate of deliveries to mothers aged 20-29 years while rates within other age groups showed an increase, most remarkable that being in the 30-34 year old age group. These trends can be seen in the following figures.



In 2009 there were a total of 4047 (98.4%) singleton and 62 (1.5%) twin deliveries, 3 triplet and no quadruplet deliveries. As usually seen, the gender distribution of the 4180 total births for 2009 was 52.1% (2178) male and 47.9% (2002) female, a similar ratio to previous years.

Of the 4180 infant/fetal births in 2009, 2743 (65%) were delivered as a normal vaginal delivery, 1259 (30.1%) by emergency or elective caesarian section, and 178 (4.3%) by assisted vaginal delivery (including forceps, ventouse and breech extraction). 1259 infants were delivered by caesarean section in 1194 caesarian operations. The operation rate was 29.0% of the total 4112 deliveries. This follows the decreasing trend since 2006, which reversed after several years of a steady increase and is demonstrated in the following bar graph.



The number of live births registered in 2009 was 4152, accounting for 99.3% of the total births. There were 28 stillbirths, of which 21 weighed 500g or more at birth. Of the live-births (4152), there were 14 cases of early neonatal deaths and 4 cases of late neonatal deaths. There were no maternal deaths in 2009.

Year	Fetal mortality rate ($\geq 500g$) Rate / 1000 total births	Neonatal mortality rate ($\geq 500g$) Rate / 1000 live births	Perinatal mortality rate ($\geq 500g$) Rate / 1000 total births
1999	6.2	4.8	9.9
2000	3.6	5.3	7.3
2001	5.1	3.0	7.6
2002	5.1	5.1	9.2
2003	3.9	5.0	8.4
2004	3.8	4.4	6.9
2005	2.1	4.4	5.4
2006	2.6	2.3	3.6
2007	2.8	4.4	6.4
2008	6.2	5.7	11.1
2009	5.0	4.1	8.1

Fetal, Neonatal and Perinatal mortality rates for infants and fetuses of birth weight 500g or more

2009 was a particular year as WHO announced an Influenza pandemic in April 2009. The first cases of Influenza H1N1 were reported in Malta in July 2009. With vaccination unavailable in 2009, the Health Authorities recommended that all pregnant women with signs and symptoms of influenza be tested and advised antiviral treatment if confirmed positive for influenza. Of the 4112 mothers delivering in 2009, 6 mothers were reported to have been confirmed to be Influenza A H1N1 positive and a further 4 mothers confirmed to be Influenza A positive during pregnancy. Seven of these pregnant mothers took antivirals.

Nine of the 10 mothers were of Maltese nationality and their age distribution was similar to the national one. All cases were singleton pregnancies and all mothers delivered at term (37-41 weeks gestation). Nine cases were delivered as a normal vaginal delivery and one was a planned elective caesarean section for an unrelated reason. The babies born were of normal birth weight, with a median birth weight of 3308g (range 2600g–3740g) while the median birth weight nationally was 3238g. All babies were born alive and survived the perinatal period; none were reported with perinatal pathology or congenital anomalies.

NATIONAL OBSTETRIC INFORMATION SYSTEM - NOIS ANNUAL REPORT - 2009

A National Obstetric Information System (NOIS) was launched in the beginning of 1999 and 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 on a standard NOIS sheet. Once the data are recorded, the sheets are 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.

The maternity centres actively participating in this information system in 2009 were: Mater Dei Hospital, Gozo General Hospital, St James Hospital Sliema and Zabbar and St. Philip's Hospital. Home deliveries which are not subsequently referred to a hospital are not captured by this system.

The Antenatal Booking Sheet and NOIS Data Collection Sheet implemented as methods of data collection in 2008 continued to be used. These sheets collect extensive information for all deliveries, making data collection and reporting more comprehensive and accurate and may account for the recent higher reporting and registration of certain exposures and conditions in pregnancy, delivery and infant outcome.

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

Report

This report analyses the national deliveries and infant/fetal births reported to the Registry that occurred in 2009 and compares it to the figures reported for 2008. The data in this report describes statistics for all deliveries and births reported to and registered into the system.

Data is sent to the Registry from all hospitals on the Maltese Islands. Accuracy and completeness of data is the responsibility of the hospital providing data.

ANALYSIS OF REPORTED DATA

There were a total of 4112 deliveries reported and registered for the Maltese Islands in 2009. These resulted in a total of 4180 infant/fetal births, this is a decrease of 48 births when compared to 2008.

The table below gives the number of deliveries and births in Malta and Gozo and registered in NOIS since 1999.

<i>Year</i>	<i>Deliveries*</i>	<i>Total Births**</i>	<i>Livebirths</i>
1999	4311	4382	4349
2000	4311	4377	4361
2001	3918	3955	3935
2002	3873	3927	3906
2003	3995	4054	4036
2004	3838	3902	3887
2005	3804	3865	3857
2006	3822	3891	3880
2007	3853	3898	3886
2008	4154	4228	4199
2009	4112	4180	4152

* Deliveries refer to maternal confinements irrespective of number of infants delivered.

** Total births include all reported live and still births

Table 1 - Total births and deliveries 1999-2009

Of the registered 4112 deliveries (4180 births) in 2009, 3871 deliveries (3937 births) occurred in Malta and 241 deliveries (243 births) occurred in Gozo.

DELIVERIES

DEMOGRAPHY

Maternal Age

The maternities have been grouped into 5-year age groups and the frequency distribution of deliveries according to maternal age group is given. Just like 2008, in 2009, the greatest number of deliveries 1366 (33%), occurred in the age group 25 to 29 years whilst the least number of deliveries 5 (<1%) occurred in the oldest age group 45+ years. There were 6 deliveries in the youngest age group less than 15 years. The minimum age at delivery of the mothers was 13 years while the maximum age was 49 years. The most frequent maternal age at delivery was 29 years and average maternal age was also 29 years (28.6 years).

The frequency distribution of deliveries in 2009 according to maternal age group is given in the following table.

<i>Age group (years)</i>	<i>2009</i>		<i>2008</i>	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
<15	6	<1	9	<1
15-19	271	7	267	6
20-24	603	15	615	15
25-29	1366	33	1430	34
30-34	1312	32	1294	31
35-39	474	12	442	11
40-44	75	2	87	2
45+	5	<1	6	<1
Unspecified	0	0	4	<1

Table 2 – 2009 Deliveries according to maternal age group

Marital Status

This year, 1010 (24.6%) of all deliveries occurred to mothers who were reported as never married (single); while 2946 (71.7%) of all deliveries occurred to mothers reported as married, and 150 (3.7%) were reported as being widowed, separated or divorced. 6 mothers (<1%) did not have their marital status specified.

In 2009, according to the data registered in NOIS, all mothers were reported as ‘having support at home to raise the infant’.

Nationality

90.2% (3711) of all deliveries this year, occurred to women of Maltese nationality while 9.1% (376) were Non-Maltese. In the remaining 0.6% (25) did not have a nationality specified. The table below gives the number of mothers of Maltese and non-Maltese Nationality delivering on the Maltese Islands.

<i>Nationality</i>	<i>Maltese</i>		<i>Non-Maltese</i>		<i>Unknown</i>	
<i>Year</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
1999	4116	95.5	192	4.5	3	0.1
2000	4096	95.0	211	4.9	4	0.1
2001	3737	95.4	178	4.5	3	0.1
2002	3662	94.6	170	4.4	41	1.1
2003	3687	92.3	220	5.5	88	2.2
2004	3558	92.7	168	4.4	112	2.9
2005	3512	92.3	237	6.2	55	1.4
2006	3491	91.3	288	7.5	43	1.1
2007	3511	91.1	308	8.0	34	0.9
2008	3729	89.8	402	9.7	23	0.6
2009	3711	90.2	376	9.1	25	0.6

Table 3 – Deliveries by reported Nationality of Mother for all deliveries on the Maltese Islands

Parity

There were 52.8% (2172) of mothers who were primiparas in 2009. The following table gives a breakdown of mothers by age and previous parity (includes all previous live and still births). Parity and maternal age were specified for all mothers.

<i>Mother's Age Group</i>	<i>Maternal Parity (previous livebirths and still births are included)</i>						
	<i>Primipara</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>>4th</i>	<i>Total</i>
Under 20	254	21	2	0	0	0	277
20-24	428	145	23	6	1	0	603
25-29	848	399	86	19	11	3	1366
30-34	497	606	151	42	9	7	1312
35-39	129	189	102	39	10	5	474
40-44	16	19	19	10	5	6	75
45+	0	0	2	2	1	0	5
Total	2172	1379	385	118	37	21	4112

Table 4 – Parity of Mothers by age group for 2009

Educational Level reached

It is documented that maternal educational level has a bearing on outcomes of pregnancy. Since 2008 efforts have been made to improve the collection of maternal educational level data. In fact in 2007 only 10.6% of mothers had their educational level reported; in 2008 this collection increased to 65 % of mothers, and in 2009 it now stands at 70% of mothers having their educational level reported. Distribution of maternal educational level is presented in Table 5. Of the 2885 mothers whose level of education was reported 32.5% had a tertiary education, 66.7% had a secondary level of education and 0.7% were reported as having only primary or no education.

<i>Level of Education reached</i>	<i>2009</i>	
	<i>Number</i>	<i>%</i>
Primary or no education	21	0.5
Secondary	1926	46.8
Tertiary	938	22.8
Unspecified	1227	29.8

Table 5 – Maternal Education distribution

MATERNAL LIFESTYLES

There were 358 (8.7%) of the 4112 mothers who were reported to smoke one or more cigarettes during their pregnancy this year. Only two mothers were reported to drink alcohol regularly during their pregnancy, while 22 (0.5%) mothers were reported as being illicit drug abusers.

Details are given in Table 6 below. For 2009 there were 12 mothers in whom smoking, alcohol and drug habits were unspecified

<i>Maternal Lifestyles</i>	<i>2009</i>	<i>2008</i>
<i>Cigarette smoking during pregnancy:</i>		
1 to 3/day	72	89
>than 3/day	286	175
Do not smoke	3742	3827
Unspecified	12	63
<i>Alcohol consumption during pregnancy:</i>		
Up to 1 unit/day	2	3
>than 1 unit/day	0	0
None	4098	4088
Unspecified	12	63
<i>Drug Abuse during pregnancy</i>		
Yes	22	28
No	4078	4061
Unspecified	12	65

Table 6 – Reported smoking, alcohol and drug habits of mothers

MATERNAL PATHOLOGY DURING PREGNANCY

In 2008 there were 22 mothers registered as having made use of assisted reproduction (ART), this includes all forms of ART namely ovulation stimulation, IVF and ICSI.

The table overleaf gives the number of mothers reported with specific obstetric pathology during pregnancy. The most frequently reported was gestational hypertension, with 6.7% of mothers being registered as having gestational hypertension.

<i>Pathology during pregnancy</i>	<i>2009</i>		<i>2008</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Antepartum Haemorrhage	92	2.2	102	2.5
Gestational hypertension	275	6.7	268	6.5
Pre-eclampsia	52	1.3	66	1.6
Eclampsia	4	0.1	3	0.1
Placenta praevia	45	1.1	71	1.7
Abruption of placenta	10	0.2	7	0.2
Suspected IUGR*	266	6.5	232	5.6
Cardiovascular disease	14	0.3	23	0.6

*IUGR – intrauterine growth retardation

Table 7- Pathology during pregnancy

Diabetes in Pregnancy

In 2009 there were 16 mothers who were reported as being Insulin Dependent Diabetic before this pregnancy while there were 4 mothers reported with Non-Insulin Dependent diabetes prior to pregnancy. In addition, there were a total of 180 mothers registered with gestational diabetes who were controlled without the use of insulin, and no mothers registered as having gestational diabetes treated with insulin.

SINGLETON AND MULTIPLE DELIVERIES

For this year, there were a total of 4047 (98.4%) singleton and 62 (1.5%) twin deliveries, 3 triplet and no quadruplet deliveries.

<i>Multiplicity</i>	<i>2009</i>	<i>2008</i>
Singleton	4047	4084
Twin	62	66
Triplet	3	4
Quadruplet	0	0

Table 8 – Deliveries by multiplicity

SITE OF DELIVERY

In 2009 of the total 4112 deliveries registered by NOIS, 4102 (99.8%) occurred in a hospital while there were 9 deliveries that occurred at home and 1 at another site but were later referred to a hospital. One of the hospital deliveries was reported as occurring underwater.

ONSET OF DELIVERY

Of the total 4112 deliveries, 55.0% (2260) were reported as spontaneous onset of contractions, 30.8% (1268) were induced by drugs or artificial rupture of membranes and 14.2% (584) were carried out as elective caesarean sections.

DAMAGE TO THE PERINEUM

A total of 2918 women were delivered by normal or assisted vaginal delivery. 2741 (94.3%) of these women were reported to have a normal vertex vaginal delivery, while 177 (5.7%) had assisted vaginal delivery (including ventouse, forceps and breech). A total of 977 (33.4%) of these normal or assisted vaginal deliveries were reported to have sustained no damage to the perineum, while the remaining 1941 had an episiotomy, tear/laceration, or both.

<i>Damage to perineum</i>	<i>Normal Vaginal Delivery (n=2741)</i>		<i>Assisted Vaginal Delivery** (n=177)</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
No Damage	964	35.2	13	7.3
Episiotomy* only	631	23.0	111	62.7
Tear only	1045	38.1	25	14.1
Episiotomy and tear	101	3.7	28	15.8

Table 9 – Damage to perineum in vaginal deliveries

* Episiotomy is defined as a surgical incision through the perineum to enlarge the vagina to assist delivery

**These include ventouse, forceps and breech extraction

Note: These figures exclude 2 cases of episiotomies in failed ventouse deliveries resulting in delivery by emergency CS.

INFANT / FETAL BIRTHS

METHOD OF BIRTH

In 2009 there were a total of 4180 infant/fetal births. Of these 2743 (65.6%) were delivered as a vertex delivery, 1259 (30.1%) by emergency or elective Caesarean Section and 178 (4.3%) by assisted vaginal delivery (includes forceps, ventouse and breech).

<i>Mode of Delivery*</i>	<i>2009</i>	<i>2008</i>
Vertex delivery	2743	2699
Elective/emergency Caesarean Section	1259	1328
Forceps	16	14
Ventouse	160	181
Breech deliveries	2	6

**Data analysed according to total infant/ fetal births*

Table 10 – Mode of delivery

For 2009 there were 1259 infants/fetuses delivered by caesarean section but 1194 caesarean operations performed, this due to the fact that a number of caesareans are done in multiple birth deliveries. The Caesarean section operation rate in 2009 was 29.0% of the total 4112 maternal deliveries.

The Caesarean section operation rate has increased in all developed countries over the past years. The table below gives the reported caesarean section rates for Malta and Gozo since 1999.

<i>Year</i>	<i>Deliveries by Caesarean section</i>	<i>Caesarean section operation rate (% of all deliveries)</i>
1999	951	22.1
2000	994	23.1
2001	926	23.6
2002	914	23.6
2003	1039	26.0
2004	1048	27.3
2005	1165	30.6
2006	1329	34.8
2007	1243	32.3
2008	1263	30.4
2009	1194	29.0

Table 11 – Caesarean Section rates 1999-2009

GENDER DISTRIBUTION OF BIRTHS

The gender distribution of births is given in the table below. As usually seen, there were more male infants/fetuses delivered than female.

<i>Gender</i>	<i>2009</i>		<i>2008</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Male	2178	52.1	2216	52.4
Female	2002	47.9	2012	47.6

Table 12 – Gender distribution of infants delivered

BIRTHWEIGHT OF INFANTS/FETUSES

In 2009, there were 3826 (91.5%) of the total births that occurred in the birth weight range of 2500g to 4499g. 273 (6.5%) of the total births were in the low birth weight range of 1500g to 2499g, while 43 (1 %) of births were of very low birth weight 500g to 1499g. This year there were 8 babies of birth weight less than 500g but 22 completed weeks gestation, while 24 babies were of birth weight 4500g and over. In 6 babies, the birth weight was not recorded.

The lowest birth weight recorded this year was 350g in 2 babies. One of these babies was a stillbirth at 29 completed weeks gestation, while the other was born at 22 completed weeks gestation but passed away very soon after delivery. The highest birth weight recorded was 5520g in a baby with a gestational age of 39 weeks. The average birth weight was 3200g. All infants / fetuses of 22 weeks gestation and over are registered into the system.

<i>Birth weight</i>	<i>2009</i>		<i>2008</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
<500g	8	0.2	3	0.1
500-999g	20	0.5	29	0.7
1000-1499g	23	0.6	22	0.5
1500-1999g	48	1.1	57	1.3
2000-2499g	225	5.4	193	4.6
2500-2999g	895	21.4	909	21.5
3000-3499g	1790	42.8	1829	43.3
3500-3999g	982	23.5	957	22.6
4000-4499g	159	3.8	191	4.5
4500-4999g	20	0.5	13	0.3
5000+	4	0.1	4	0.1
Unspecified	6	0.1	21	0.5

Table 13 – Birth weight distribution of infants/fetuses

GESTATIONAL AGE AT DELIVERY

Prematurity is associated with adverse obstetric outcomes and long term health problems. In 2009, 300 (7.2%) of babies born were premature, having a gestational age of <37 weeks. 58 (1.4%) were born very or extremely preterm (<32 weeks).

<i>Gestational age</i>	<i>2009</i>		<i>2008</i>	
	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
Extremely preterm 22-27 weeks	23	0.6	31	0.7
Very preterm 28-31 weeks	35	0.8	30	0.7
Moderately preterm 32-36 weeks	242	5.8	248	5.9
Term 37 – 41 weeks	3853	92.2	3913	92.5
Post term 42+ weeks	27	0.6	6	0.1
Unspecified	0	0	0	0

Table 14 – Gestational age at delivery

OUTCOME OF BIRTH

The number of live births registered in 2009 was 4152 which accounted for 99.3% of the total births at a national level. The remaining 28 births were reported as stillbirths of which 21 weighed 500g or more at birth. Of the livebirths, there were 14 cases of early neonatal deaths and 4 cases of late neonatal deaths (see tables below). All births of 22 weeks and over irrespective of birth weight are registered into the system.

<i>Outcome of Birth</i>	<i>2009</i>	<i>2008</i>
Livebirths	4152	4199
Stillbirths	28	29

<i>Neonatal deaths</i>	<i>2009</i>	<i>2008</i>
Early Neonatal deaths	14	21
Late Neonatal deaths	4	3

Table 15 – Birth outcomes – livebirths, fetal, early and late neonatal deaths

INFANT FEEDING METHODS AT 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 actual infant feeding habits as these may change soon after discharge from the birthing facilities.

<i>Infant feeding methods at time of discharge</i>	<i>2009</i>	<i>2008</i>
Breast only	2498	2407
Bottle only	1195	1370
Mixed (Breast & Bottle)	441	384
Other*	44	62
Unspecified	2	5

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

Table 16 – Infant feeding methods at time of discharge

MATERNAL, FETAL, PERINATAL AND NEONATAL MORTALITY INDICATORS

(Compiled in conjunction with the National Mortality Register of the Department of Health Information and Research)

Maternal, fetal, perinatal and neonatal mortality statistics are good indicators of the quality of health care and these statistics have been presented since 1999 when the NOIS database was started in the format it is today.

Definitions of the various rates presented are given below and follow the definitions given by WHO ICD-10 (International Statistical Classification of Diseases and Related Health Problems – Tenth Revision). Indicators given in the tables below refer to fetuses having a birth weight 500g and over to allow for comparison with the WHO – European Health for All Database (HFA-DB): <http://data.euro.who.int/hfad/>.

Year	Maternal Deaths
1999	1
2000	0
2001	2
2002	0
2003	0
2004	0
2005	0
2006	0
2007	0
2008	1
2009	0

Table 17 – Maternal Deaths 1999-2009

Year	Fetal death rate 500g and over	
	Number	Rate/1000 total births
1999	27	6.2
2000	16	3.6
2001	20	5.1
2002	20	5.1
2003	16	3.9
2004	15	3.8
2005	8	2.1
2006	10	2.6
2007	11	2.8
2008	26	6.2
2009	21	5.0

Table 18 – Fetal Death Rates 1999-2009

Year	Neonatal mortality rate (500g and over)	
	Number	Rate/1000 live births
1999	21	4.8
2000	23	5.3
2001	12	3.0
2002	20	5.1
2003	20	5.0
2004	17	4.4
2005	17	4.4
2006	9	2.3
2007	17	4.4
2008	24	5.7
2009	17	4.1

Table 19 – Neonatal Mortality rates 1999-2009

Year	Early neonatal mortality rate (500g and over)	
	Number	Rate/1000 live births
1999	16	3.7
2000	16	3.6
2001	10	2.5
2002	16	4.1
2003	18	4.5
2004	12	3.1
2005	13	3.4
2006	4	1.0
2007	14	3.6
2008	21	5.0
2009	13	3.1

Table 20 – Early Neonatal Mortality rates 1999-2009

Year	Late neonatal mortality rate (500g and over)	
	Number	Rate/1000 live births
1999	5	1.2
2000	7	1.6
2001	2	0.5
2002	4	1.0
2003	2	0.5
2004	5	1.3
2005	4	1.0
2006	5	1.3
2007	3	0.8
2008	3	0.7
2009	4	1.0

Table 21 – Late Neonatal Mortality Rates 1999-2009

Year	Perinatal mortality rate (500g and over)	
	Number	Rate/1000 total births
1999	43	9.9
2000	32	7.3
2001	30	7.6
2002	36	9.2
2003	34	8.4
2004	27	6.9
2005	21	5.4
2006	14	3.6
2007	25	6.4
2008	47	11.1
2009	34	8.1

Table 22 – Perinatal Mortality Rates 1999-2009

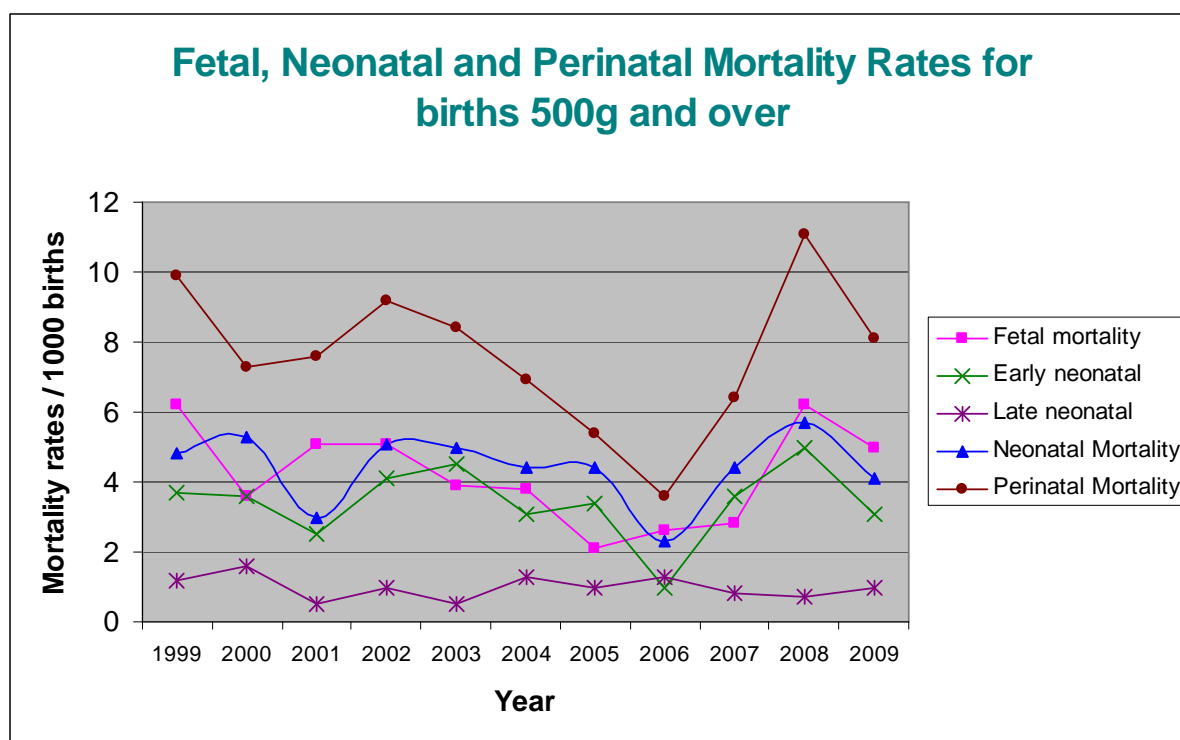


Figure 1 – Fetal, neonatal and perinatal mortality rates 1999-2008
(includes only fetuses of birth weight 500g and over)

Improved data collection systems and reporting of smaller babies (namely 22-24 weeks gestation) may account for some of the changes in mortality rates.

Annex I gives some selected comparative birth and perinatal mortality statistics for Malta and the EU.

ANNEX I

Selected comparative statistics for Malta and EU – taken from the WHO – European Health for All Database (HFA-DB): <http://data.euro.who.int/hfad/> as available at May 2010. Only data until 2007 is completed as of May 2010, data in the HFA database is continually updated as necessary.

Year	Malta	EU members before May 2004	EU members since 2004 or 2007
2001	10.01	10.59	9.45
2002	9.86	10.52	9.27
2003	10.12	10.57	9.32
2004	9.69	10.67	9.50
2005	9.56	10.59	9.74
2006	9.55	10.69	9.94
2007	9.50	10.69	10.13
2008	10.19	na	10.54

Table 23 – Live births per 1000 population

Year	Malta	EU members before May 2004	EU members since 2004 or 2007
2001	1.50	1.50	1.25
2002	1.40	1.50	1.25
2003	1.50	1.53	1.24
2004	1.37	1.55	1.26
2005	1.37	1.56	1.28
2006	1.41	1.57	1.31
2007	1.37	1.58	1.34
2008	1.40	1.59	1.35

Table 24 – Total Fertility Rate

Year	Malta	EU members before May 2004	EU members since 2004 or 2007
2001	50.83*	5.20	16.38
2002	0	5.28	12.01
2003	0	5.30	13.29
2004	0	5.56	11.72
2005	0	4.81	8.94
2006	0	5.46	7.98
2007	0	5.36	7.07
2008	23.82*	na	8.08

*There were 2 maternal deaths in 2001, and 1 maternal death in 2008.

10 year average for Malta = 7.56 Maternal Deaths per 100,000 live births

Table 25 – Maternal Deaths per 100 000 live births

Year	Malta	EU members before May 2004	EU members since 2004 or 2007
2001	5.06	4.37	5.40
2002	5.09	4.34	5.36
2003	3.95	4.22	5.23
2004	3.84	4.15	5.13
2005	2.07	4.05	4.99
2006	2.57	4.04	4.78
2007	3.08	4.02	4.67
2008	6.86	na	4.53

Table 26 – Fetal Deaths (500g and over) per 1000 births

Year	Malta	EU members before May 2004	EU members since 2004 or 2007
2001	3.05	3.11	6.13
2002	5.38	3.01	5.83
2003	5.20	2.93	5.64
2004	4.37	2.86	5.74
2005	4.41	2.74	5.20
2006	2.32	2.70	4.83
2007	5.15	2.63	4.58
2008	5.72	na	4.38

Table 27 – Neonatal Deaths per 1000 live births

na = not available as at May 2010

DEFINITIONS

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

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

