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DIRECTORATE FOR HEALTH INFORMATION AND RESEARCH

NOIS

National Obstetric Information System

Annual Report 2015

DIRECTORATE FOR HEALTH INFORMATION AND RESEARCH

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The accuracy of information contained in this document may be limited by factors beyond the authors' 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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FACTS AND FIGURES 2015

General Information

4385 deliveries
4453 total births
4435 live birth
18 still births
66 twin and **1** triplet pregnancy
99.8% of deliveries occurred in hospital
97 Mothers registered as having made use of assisted reproduction

Mothers

Maternal Age

Commonest Age group : **30 to 34 years (36.3%)**
Range : **14 – 48 years**
Mode : **30 years**
Mean (Average) : **30 years**
Mean age in primiparae : **28.5 years**

Nationality

80.8% mothers of Maltese Nationality
19.1% mothers of non-Maltese Nationality

Education

33.8% of mothers reported having **Tertiary Level of Education**

Infants

Gender Distribution

51.3% - Male , 48.7% - Female

Birth weight

5 (0.1%) babies born weighing <500g but 22 weeks gestation
52 (1.2%) babies born in very low birth weight range 500-1499g
237 (5.3%) babies born in low birth weight range of 1500-2499g
23 (0.5%) babies born weighing 4500g and over
Commonest birth weight range: **3000 to 3499g** – 1843 (41.4%)
Mean birth weight: **3217g**

Maturity

315 babies (7.1%) born preterm : <37 weeks gestational age
54 babies (1.2%) born very or extremely preterm: < 32 weeks gestational age

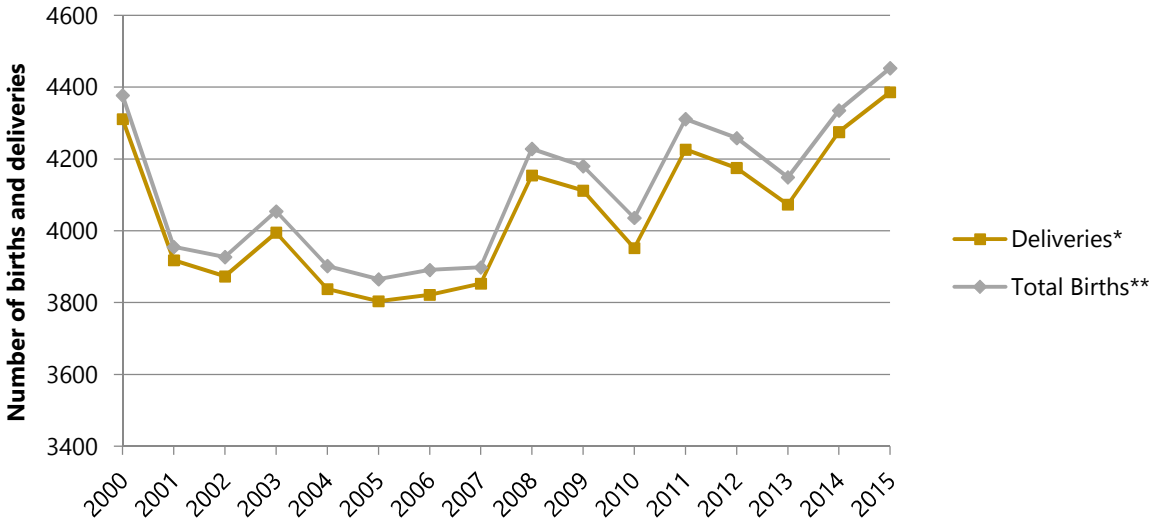
Mortality (500g and over)

Fetal Mortality: 3.1/1,000 total births
Neonatal Mortality: 3.4/1,000 live births
Early Neonatal Mortality: 2.5/1,000 live births
Late Neonatal Mortality: 0.9/1,000 live births
Perinatal Mortality Rate: 6.5/1,000 total births

COMMENTARY

Key Facts

In 2015, there were 4385 deliveries with a total of 4453 births, of which 4435 were live births and 18 still births. There was an increase of 118 total births in 2015 as compared to the previous year.



*Deliveries include only mothers, ** Births include all babies born live and stillbirths

Figure 1. Total births and deliveries – 2000 to 2015

In 2015, there were a total of 4318 (98.4%) singleton and 66 (1.5%) twin deliveries and 1 triplet delivery. 4375 (99.8%) occurred in hospital while 7 deliveries occurred at home and 3 deliveries occurred at other sites but were later transferred to hospital.

Maternal Age

In 2015, the greatest number of deliveries (36.3%) occurred in the age group 30 to 34 years, this is consistent with the trend of increasing maternal age over the past decade.

Marital Status

Of all deliveries, 1197 (27.3%) of mothers were reported as never married, 3009 (68.6%) were reported as married and 179 (4.1%) were reported as being widowed, separated or divorced.

Maternal Nationality

The proportion of deliveries in non-Maltese mothers has increased from 17.1% to 19.1% from 2014 to 2015. There has been an overall steady decline in deliveries to Maltese Nationals and an increase in deliveries to Non-Maltese Nationals over the past 15 years.

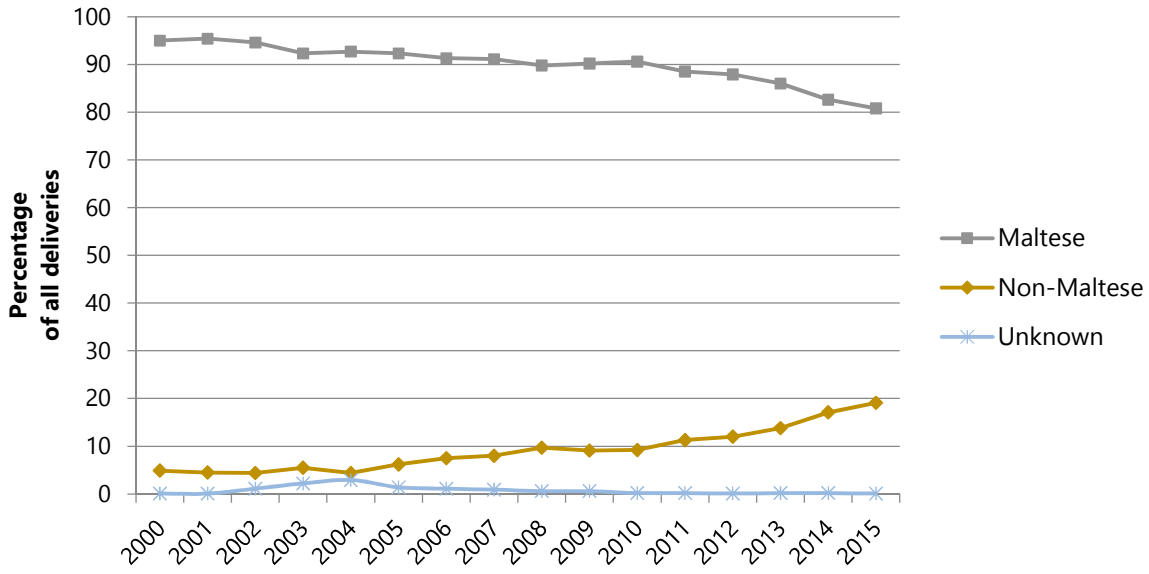


Figure 2. Deliveries by reported nationality of mother

Educational Level

33.8% of mothers were reported as having tertiary level education and 23.9% reported having a post-secondary education. 34.1% were reported as having completed secondary education while 3.0% were reported to have primary or no education. In 5.2% maternal education level was unspecified.

Maternal Lifestyle

In 2015, 7.7% of mothers were reported to smoke one or more cigarettes during their pregnancy. The proportion of mothers reported to smoke during their pregnancy and those reported to drink some alcohol or use drugs of abuse have essentially remained the same as in the past three years.

Pathology during Pregnancy

The commonest specific obstetric pathology reported during pregnancy in 2015 was gestational hypertension, which was reported in 5.5% of mothers. This was followed by suspected intrauterine growth retardation which was recorded in 4.6% of mothers. 158 (3.6%) of mothers were diagnosed with impaired glucose tolerance or gestational diabetes.

Method of Birth

In 2015, 2837 (63.7%) of births were delivered as a normal vertex delivery. 190 (4.3%) were delivered by assisted vaginal delivery and 1426 (32.0%) were delivered by emergency or elective Caesarean Section. This rate is similar to that observed in the past three years.

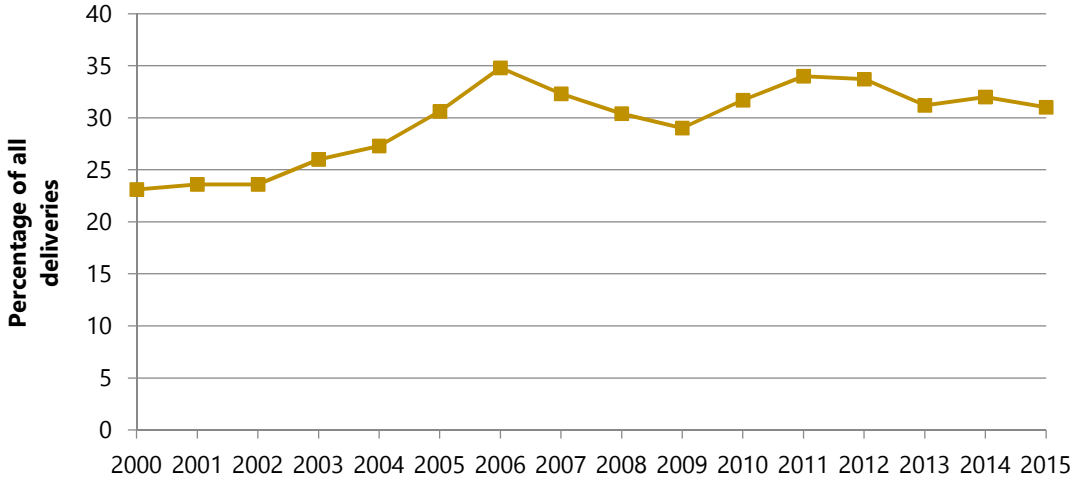


Figure 3. Proportion of deliveries by Caesarian Section

Perineal trauma

A total of 1058 (35%) of mothers having had a normal or assisted vaginal delivery were reported to have sustained no damage to the perineum, while the remaining 1968 (65%) had an episiotomy, tear/laceration or both.

Infant birth weight

Low birth weight babies are at higher risk of poor perinatal outcomes. The proportion of babies with birth weight under 2500g is taken as an indicator of babies at risk. In 2015, the average birth weight was 3217g, with 6.6% of babies having a birth weight of less than 2500g. The proportion of infants weighing less than 2500g has fluctuated between 6 and 8% of all births over the past 15 years.

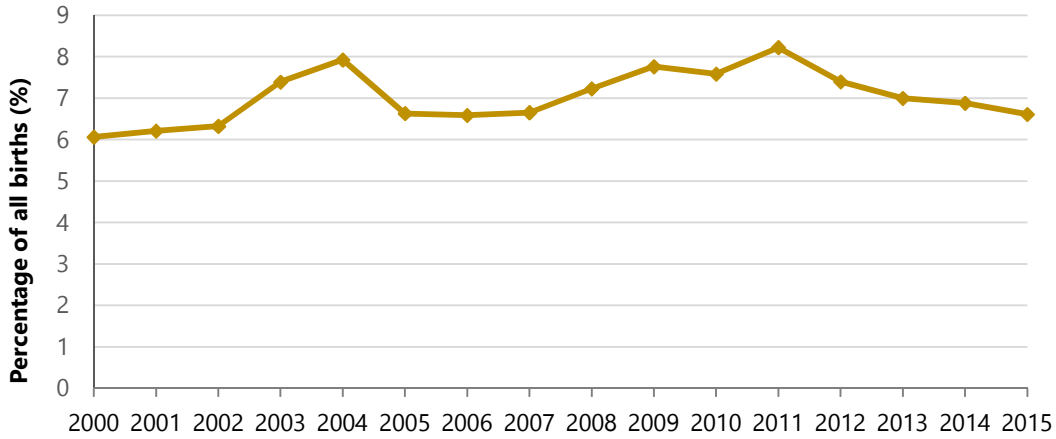


Figure 4. Proportion of births with birth weight less than 2500g

Maternal and perinatal mortality indicators

In 2015, there were no maternal deaths. The fetal, perinatal and neonatal mortality rates are shown in Figure 5 of the main report. No significant trends are noted in this time period.

NATIONAL OBSTETRIC INFORMATION SYSTEM (NOIS) ANNUAL REPORT - 2015

A National Obstetric Information System (NOIS) was launched at 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 Directorate for Health Information and Research (DHIR). 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 more.

The maternity centres actively participating in this information system in 2015 were: Mater Dei Hospital, Gozo General Hospital, St James Hospital Sliema and Zabbar. Home deliveries, which are not subsequently referred to a hospital, may not be captured by this system.

The Antenatal Booking Sheet and NOIS Data Collection Sheet implemented in 2008 are used to collect extensive and comprehensive information for all deliveries and births.

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 all deliveries and infant/fetal births occurring on the Maltese Islands and reported to the Registry and compares figures to those reported for previous years where appropriate. The data in this report includes all births occurring irrespective of residency of the parents.

Data is sent to the Registry from all hospitals on the Maltese Islands. Accuracy and completeness of data provided to DHIR is the responsibility of the hospital providing data. This report includes the latest updated data as at time of release of report.

ANALYSIS OF REPORTED DATA

There were a total of 4385 deliveries reported and registered for the Maltese Islands in 2015. These resulted in a total of 4453 infant/fetal births; this is an increase of 118 births when compared to 2014. This is the highest number of births recorded since 2000.

The table below gives the number of deliveries and births in Malta and Gozo and registered in NOIS since 2000.

Year	Deliveries*	Total Births**	Livebirths
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
2010	3952	4036	4018
2011	4226	4311	4283
2012	4175	4258	4239
2013	4073	4149	4127
2014	4275	4335	4308
2015	4385	4453	4435

* 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 2000-2015

Of the registered 4385 deliveries (4453 births) in 2015, 4096 deliveries (4163 births) occurred in Malta and 289 deliveries (290 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. In 2015, the greatest number of deliveries 1593 (36.3%), occurred in the age group 30 to 34 years while there were 3 deliveries occurring in the youngest age group of less than 15 years. The minimum age at delivery of the mothers was 14 years while the maximum age was 48 years. The most frequent maternal age at delivery was 30 years and average maternal age was also 30 years. The average age of first time mothers was 28.5 years.

The frequency distribution of deliveries in 2015 according to maternal age group is given in the following table.

Age group (years)	2015		2014	
	Frequency	%	Frequency	%
<15	3	*0.1*	0	*0*
15-19	130	*3.0*	152	*3.6*
20-24	507	*11.6*	576	*13.5*
25-29	1316	*30.0*	1298	*30.4*
30-34	1593	*36.3*	1423	*33.3*
35-39	707	*16.1*	709	*16.6*
40-44	126	*2.9*	110	*2.6*
45+	3	*0.1*	7	*0.2*
Unspecified	0	*0*	0	*0*

Table 2. Deliveries according to maternal age group

Marital Status

This year, 1197 (27.3%) of all deliveries occurred to mothers who were reported as never married (single); while 3009 (68.6%) of all deliveries occurred to mothers reported as married, and 179 (4.1%) were reported as being separated, divorced or widowed. All mothers had their marital status specified.

Maternal Nationality

80.8% (3544) of all deliveries this year occurred to women of Maltese nationality while 19.1% (838) were Non-Maltese. The remaining 0.1% (3) 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 since 2000.

Nationality	Maltese		Non-Maltese		Unknown	
Year	Number	%	Number	%	Number	%
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*
2010	3581	*90.6*	365	*9.2*	6	*0.2*
2011	3740	*88.5*	479	*11.3*	7	*0.2*
2012	3668	*87.9*	501	*12.0*	6	*0.1*
2013	3501	*86.0*	564	*13.8*	8	*0.2*
2014	3533	*82.6*	733	*17.1*	9	*0.2*
2015	3544	*80.8*	838	*19.1*	3	*0.1*

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

Parity

There were 50.7% (2223) of mothers who were primiparas in 2015. 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.

Mother's Age Group	Maternal Parity (previous livebirths and still births are included)							
	Primipara	1	2	3	4	>4th	Unknown	Total
Under 20	118	13	2	0	0	0	0	**133**
20-24	323	142	34	5	1	2	0	**507**
25-29	821	366	82	31	8	8	0	**1316**
30-34	723	671	141	35	17	6	0	**1593**
35-39	208	288	126	52	22	11	0	**707**
40-44	29	45	29	14	5	4	0	**126**
45+	1	0	2	0	0	0	0	**3**
Unknown	0	0	0	0	0	0	0	**0**
Total	**2224**	**1525**	**416**	**137**	**53**	**31**	**0**	**4386**

Table 4. Parity of Mothers by age group for 2015

Educational Level reached

It is documented that maternal educational level has a bearing on outcomes of pregnancy. In recent years, efforts have been made to improve the collection of maternal educational level data and in 2015 over 94% of mothers had their educational level reported.

Distribution of maternal educational level is presented in Table 5. 33.8% of mothers were reported as having a tertiary education.

Level of Education reached	2015	
	Number	%
Primary or no education	131	*3.0*
Secondary	1498	*34.1*
Post Secondary/Vocational non-tertiary	1047	*23.9*
Tertiary	1481	*33.8*
Unspecified	228	*5.2*

Table 5. Maternal Education distribution

MATERNAL LIFESTYLES

There were 336 (7.7%) of the mothers who were reported to smoke one or more cigarettes during their pregnancy this year. 5 mothers were reported to drink some alcohol during their pregnancy, while 16 mothers were reported as being illicit drug abusers.

Maternal Lifestyles	2015	2014
Cigarette smoking during pregnancy:		
1 to 3/day	102	80
>than 3/day	234	233
Do not smoke	4049	3962
Unspecified	0	0
Alcohol consumption during pregnancy:		
Up to 1 unit/day	4	7
>than 1 unit/day	1	1
None	4380	4267
Unspecified	0	0
Drug Abuse during pregnancy		
Yes	16	19
No	4369	4256
Unspecified	0	0

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

Maternal smoking is a well-established risk factor for adverse perinatal outcomes including low birth weight (EuroPeristat, 2013). In 2015, the average birth weight of all infants born was 3217g, with 6.6% (294) of these babies being less than 2500g.

The average birth weight of babies born to mothers reported to have smoked at some time during their pregnancy (339 babies) was 3102g, with 8.8% (30) of these babies being less than 2500g.

MATERNAL PATHOLOGY DURING PREGNANCY

In 2015 there were 97 mothers registered as having made use of assisted reproduction (ART), this includes all forms of ART namely ovulation stimulation, IVF and ICSI.

The table below gives the number of mothers reported with specific obstetric pathology during pregnancy. 5.5% of mothers were registered as having gestational hypertension.

Pathology during pregnancy	2015		2014	
	Number	%	Number	%
Antepartum Haemorrhage	77	*1.8*	57	*1.3*
Gestational hypertension	243	*5.5*	250	*5.8*
Pre-eclampsia	33	*0.8*	24	*0.6*
Eclampsia	0	*0*	1	*0.02*
Placenta praevia	32	*0.7*	38	*0.9*
Abruption of placenta	7	*0.2*	16	*0.4*
Suspected IUGR*	200	*4.6*	159	*3.7*
Cardiovascular disease	23	*0.5*	11	*0.3*

**IUGR – intrauterine growth retardation*

Table 7. Pathology during pregnancy

Diabetes in Pregnancy

In 2015 there were 13 mothers who were reported as being Insulin Dependent Diabetics before this pregnancy while there were 6 mothers reported with Non-Insulin Dependent diabetes prior to pregnancy. There was a total of 158 mothers registered with impaired glucose tolerance or gestational diabetes.

SINGLETON AND MULTIPLE DELIVERIES

For this year, there were a total of 4318 (98.4%) singleton, 66 (1.5%) twin deliveries and 1 triplet delivery.

Multiplicity	2015	2014
Singleton	4318	4216
Twin	66	58
Triplet	1	1
Quadruplet	0	0

Table 8. Deliveries by multiplicity

SITE OF DELIVERY

In 2015 of the total 4385 deliveries registered by NOIS, 4375 (99.8%) occurred in a hospital, 7 deliveries occurred at home and 3 deliveries occurred at other sites but later transferred to hospital.

ONSET OF DELIVERY

Of the total 4385 deliveries, 52.8% (2316) were reported as spontaneous onset of contractions, 28.3% (1243) were induced by drugs or artificial rupture of membranes and 17.4% (761) were carried out as elective caesarean sections, while 1.5% (65) were carried out as emergency caesarian sections for pathological conditions including antepartum haemorrhage, pre-eclampsia, fetal distress etc.

DAMAGE TO THE PERINEUM

A total of 3026 women were delivered by normal or assisted vaginal delivery. 2836 (93.7%) of these women were reported to have a normal vertex vaginal delivery, while 190 (6.3%) had assisted vaginal delivery (including ventouse, forceps and breech). A total of 1058 (35.0%) of these normal or assisted vaginal deliveries were reported to have sustained no damage to the perineum, while the remaining 1968 (65.0%) had an episiotomy, tear/laceration, or both.

Damage to perineum	Normal Vaginal Delivery (n= 2836)		Assisted Vaginal Delivery** (n= 190)	
	Number	%	Number	%
No Damage	1045	*36.8*	13	*6.8*
Episiotomy* only	448	*15.8*	102	*53.7*
Tear only	1261	*44.5*	43	*22.6*
Episiotomy and tear	82	*2.9*	32	*16.8*

* Episiotomy is defined as a surgical incision through the perineum to enlarge the vagina to assist delivery
**These include ventouse, forceps and breech extraction

Table 9. Damage to perineum in vaginal deliveries

INFANT / FETAL BIRTHS

METHOD OF BIRTH

In 2015 there were a total of 4453 infant/fetal births. Of these 2837 (63.7%) were delivered as a normal vertex delivery, 1426 (32.0%) by emergency or elective Caesarean Section and 190 (4.3%) by assisted vaginal delivery (includes forceps, ventouse and breech).

Mode of Delivery*	2015	2014
Vertex delivery	2837	2731
Elective/emergency Caesarean Section	1426	1425
Forceps	15	23
Ventouse	172	152
Breech deliveries	3	4

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

Table 10. Mode of delivery

For 2015 there were 1426 infants/fetuses delivered by caesarean section but 1359 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 2015 was 31.0% of the total 4385 maternal deliveries.

Year	Deliveries by Caesarean section	Caesarean section operation rate (% of all deliveries)
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*
2010	1252	*31.7*
2011	1435	*34.0*
2012	1409	*33.7*
2013	1270	*31.2*
2014	1368	*32.0*
2015	1359	*31.0*

Table 11. Caesarean Section rates 2000-2015

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.

Gender	2015		2014	
	Number	%	Number	%
Male	2283	*51.3*	2307	*53.2*
Female	2170	*48.7*	2028	*46.8*
Unknown	0	*0*	0	*0*

Table 12. Gender distribution of infants delivered

BIRTHWEIGHT OF INFANTS/FETUSES

In 2015, there were 4132 (92.8%) of the total births that occurred in the birth weight range of 2500g to 4499g. 237 (5.3%) of the total births were in the low birth weight range of 1500g to 2499g, while 52 (1.2%) of births were of very low birth weight 500g to 1499g. This year there were 5 babies of birth weight less than 500g but 22 completed weeks gestation, while another 23 babies were of birth weight 4500g and over. Birth weight was not recorded for 4 births.

The lowest birth weight recorded this year was 170g in an antepartum stillbirth which was one of twins. The highest birth weight recorded was 5320g. The average birth weight was 3217g. All infants / fetuses delivered at 22 weeks gestation and over are registered into the system.

Birth weight	2015		2014	
	Number	%	Number	%
<500g	5	*0.1*	6	*0.1*
500-999g	19	*0.4*	17	*0.4*
1000-1499g	33	*0.7*	31	*0.7*
1500-1999g	49	*1.1*	42	*1.0*
2000-2499g	188	*4.2*	202	*4.7*
2500-2999g	1012	*22.7*	918	*21.2*
3000-3499g	1843	*41.4*	1827	*42.1*
3500-3999g	1090	*24.5*	1070	*24.7*
4000-4499g	187	*4.2*	200	*4.6*
4500-4999g	22	*0.5*	15	*0.3*
5000+	1	*0.02*	2	*0.04*
Unspecified	4	*0.1*	5	*0.1*

Table 13. Birth weight distribution of infants/fetuses

GESTATIONAL AGE AT DELIVERY

Preterm births are associated with adverse obstetric outcomes and long term health problems. In 2015, 315 (7.1%) of babies born were preterm, having a gestational age of <37 weeks. 54 (1.2%) were born very or extremely preterm (<32 weeks).

Gestational age	2015		2014	
	Number	%	Number	%
Extremely preterm 22-27 weeks	24	*0.5*	23	*0.5*
Very preterm 28-31 weeks	30	*0.7*	33	*0.8*
Moderately preterm 32-36 weeks	261	*5.9*	251	*5.8*
Term 37 – 41 weeks	4130	*92.7*	4022	*92.8*
Post term 42+ weeks	8	*0.2*	6	*0.1*
Unspecified	0	*0*	0	*0*

Table 14. Gestational age at delivery

OUTCOME OF BIRTH

The number of live births registered in 2015 was 4435, which accounted for 99.6% of the total births at a national level. The remaining 18 births were reported as stillbirths. Of the live births, there were 12 cases of early neonatal deaths (of which one weighed less than 500g at birth) and 4 cases of late neonatal deaths (see table below). All births delivered at 22 weeks and over, irrespective of birth weight, are registered into the system.

Outcome of Birth	2015	2014
Livebirths	4435	4308
Stillbirths	18	27

Neonatal deaths	2015	2014
Early Neonatal deaths	12	15
Late Neonatal deaths	4	1

Table 15. Birth outcomes – livebirths, fetal, early and late neonatal deaths (22+ weeks gestation)

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.

Infant feeding methods at time of discharge	*2015*	*2014*
Breast only	2584	2513
Bottle only	1176	1232
Mixed (Breast & Bottle)	659	547
Other*	34	43
Unspecified	0	0

* '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 AND PERINATAL MORTALITY INDICATORS

Maternal, fetal, perinatal and neonatal mortality statistics are indicators of the quality of health care and these statistics are presented as of 2000. 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/hfadb/.

Year	Maternal Deaths
2000	0
2001	2
2002	0
2003	0
2004	0
2005	0
2006	0
2007	0
2008	1
2009	0
2010	1
2011	0
2012	0
2013	0
2014	0
2015	0

Table 17. Maternal Deaths 2000-2015

Year	Fetal death rate 500g and over	
	Number	Rate/1000 total births
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
2010	16	4.0
2011	23	5.3
2012	14	3.3
2013	18	4.3
2014	26	6.0
2015	14	3.1

Table 18. Fetal Death Rates 2000-2015

Year	Neonatal mortality rate (500g and over)	
	Number	Rate/1000 live births
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
2010	18	4.5
2011	22	5.1
2012	14	3.3
2013	16	3.9
2014	11	2.6
2015	15	3.4

Table 19. Neonatal Mortality rates 2000-2015

Year	Early neonatal mortality rate (500g and over)	
	Number	Rate/1000 live births
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
2010	16	4.0
2011	18	4.2
2012	12	2.8
2013	13	3.2
2014	10	2.3
2015	11	2.5

Table 20. Early Neonatal Mortality rates 2000-2015

Year	Late neonatal mortality rate (500g and over)	
	Number	Rate/1000 live births
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
2010	2	0.5
2011	4	0.9
2012	2	0.5
2013	3	0.7
2014	1	0.2
2015	4	0.9

Table 21. Late Neonatal Mortality Rates 2000-2015

Year	Perinatal mortality rate (500g and over)	
	Number	Rate/1000 total births
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
2010	32	7.9
2011	45	10.5
2012	28	6.6
2013	34	8.2
2014	36	8.3
2015	29	6.5

Table 22. Perinatal Mortality Rates 2000-2015

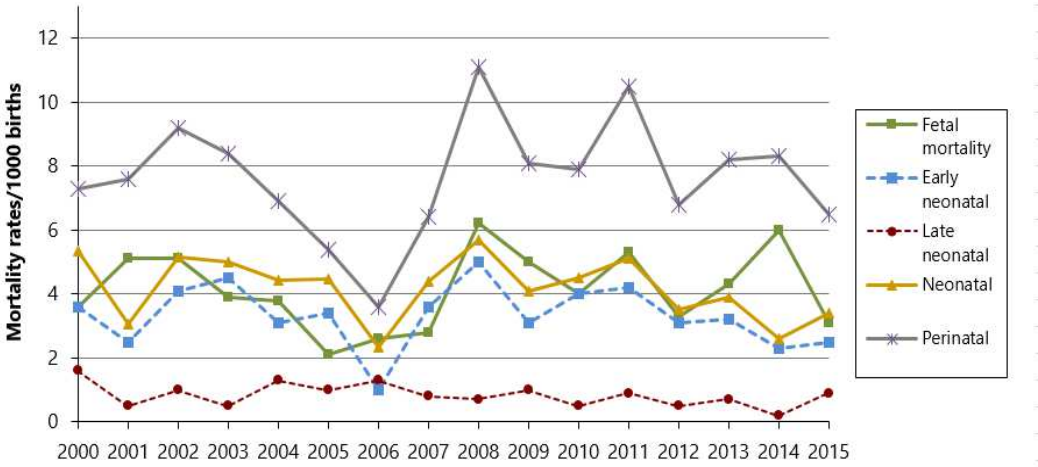


Figure 4. Fetal, neonatal and perinatal mortality rates 2000-2015
(fetal deaths include only fetuses of birth weight 500g and over)

Varying 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 mortality statistics for Malta and the EU.

ANNEX 1

Selected comparative statistics for Malta and EU – taken from the WHO – European Health for All Database (HFA-DB): http://data.euro.who.int/hfadb/ as available at May 2016.

Only data until 2013 is completed as of May 2016, 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	10.66	9.50
2005	9.55	10.58	9.74
2006	9.32	10.69	9.92
2007	9.26	10.74	10.12
2008	9.80	10.90	10.61
2009	9.77	10.71	10.67
2010	9.40	10.75	10.34
2011	10.00	10.54	9.82
2012	9.84	10.37	9.84
2013	9.52	10.09	9.59

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	1.56	1.26
2005	1.37	1.56	1.28
2006	1.41	1.58	1.31
2007	1.37	1.59	1.34
2008	1.40	1.62	1.40
2009	1.40	1.61	1.43
2010	1.40	1.62	1.39
2011	1.50	1.60	1.35
2012	1.40	1.60	1.36
2013	1.37	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*	5.23	17.79
2002	0	5.38	14.29
2003	0	5.39	15.56
2004	0	5.62	13.85
2005	0	4.95	10.11
2006	0	5.51	9.28
2007	0	5.09	8.46
2008	24.92*	5.15	10.17
2009	0	6.22	9.68
2010	25.65*	5.16	9.25
2011	0	4.57	9.11
2012	0	4.41	5.80
2013	0	4.56	6.24

*There were 2 maternal deaths in 2001, and 1 maternal death in each of 2008 and 2010.

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	4.38	5.40
2002	5.09	4.32	5.36
2003	3.95	4.23	5.23
2004	3.84	4.14	5.13
2005	2.07	4.92	4.96
2006	2.64	5.01	4.75
2007	3.18	4.88	4.64
2008	7.17	5.08	4.49
2009	6.90	5.44	4.44
2010	4.09	5.09	4.20
2011	5.49	5.00	4.30
2012	3.38	5.05	4.17
2013	3.95	5.04	4.05

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	5.10
2006	2.38	2.69	4.72
2007	5.31	2.64	4.46
2008	5.98	2.54	4.10
2009	4.47	2.52	4.12
2010	4.62	2.47	3.72
2011	5.76	2.44	3.63
2012	4.84	2.36	3.38
2013	4.46	2.32	3.30

Table 27. Neonatal Deaths per 1000 live births

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.

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

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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