

Perinatal Statistics Report

Health Research and Information Division

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2010



ACKNOWLEDGEMENTS

The production of this annual report requires commitment and hard work from many individuals. Responsibility for the collection of perinatal data for the National Perinatal Reporting System (NPRS) rests with colleagues in maternity hospitals and units throughout Ireland together with independent midwives. We gratefully acknowledge the input of medical records staff, IT personnel, and administrative departments, together with hospital managers. We are indebted to these individuals for their support and efforts.

In addition to financing the NPRS, the Department of Health and the Health Service Executive continue to provide essential support for the operation and development of this system. In particular, we would like to express our gratitude to Professor Michael Turner (Director of the HSE Obstetrics and Gynaecology programme), Alan Cahill and Lorna Collins (DoH) for their valuable contributions and comments on an early draft of this report.

The NPRS team within the Economic and Social Research Institute's Health Research and Information Division (HRID) oversees a wide range of tasks related to the management of this system, including personnel training, data quality and audit, data management and analysis, and information dissemination. We acknowledge gratefully the dedication, skill and expertise that all the members of this team bring to their work on this system. Collection and preparation of the data are undertaken by Malgorzata Chance, Catherine Glennon, Anna Lewandowska, and Izabela Sikora. The IT Department of the HRID supports the development of the NPRS software system for data entry and validation and this is gratefully acknowledged. We would also like to thank specifically Aoife Brick, Jacqui Curley and Deirdre Murphy for reviewing and commenting on earlier drafts of this report.

Inevitably, a small number of individuals have to carry most of the responsibility for producing a report of this type. In this case Sheelagh Bonham, Eoin Feeney, Conor Keegan, Aisling Mulligan, and Sinead O'Hara, were to the fore in the preparation of the report for publication. We wish to express our sincere thanks to these colleagues for all of their hard work on the report. Their commitment, enthusiasm and professionalism are gratefully acknowledged and sincerely appreciated.

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KEY FINDINGS

The Perinatal Statistics Report 2010 presents national statistics on perinatal events in Ireland. This report is based on data collected for the National Perinatal Reporting System (NPRS) and provides information on mothers giving birth and babies born in 2010.

SUMMARY STATISTICS, 2010

Live Births, Stillbirths, Early Neonatal Deaths, Perinatal Deaths, and Adjusted Perinatal Deaths

	Total Births	Live Births	Stillbirths		Early Neonatal Deaths		Perinatal Deaths		Adjusted Perinatal Deaths [#]	
	Number	Number	Number	Rate*	Number	Rate*	Number	Rate*	Number	Rate*
Singleton	73,046	72,709	337	4.6	135	1.9	472	6.5	146	4.5
Multiple	2,554	2,536	18	7.0	26	10.3	44	17.2	2	16.5
Total	75,600	75,245	355	4.7	161	2.1	516	6.8	148	4.9

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix A for further details on calculation of rates.

In this and subsequent tables, 'Adjusted Perinatal Rate' excludes all deaths due to congenital anomalies.

BABIES, 2010

- 6% were preterm (less than 37 weeks gestation)
- 5% of live births were low birthweight (less than 2,500 grams)
- 3% of live births were high birthweight (4,500 grams or more)
- 54% of babies recorded any breastfeeding at discharge from hospital in 2010, compared to 49% in 2006 and 42% in 2001
- 46% of babies were exclusively breastfed at discharge from hospital, compared to 44% in 2006 and 39% in 2001
- 27% of total live births were delivered by caesarean section, with 26% of singleton and 65% of multiple live births delivered by this method. In 2001, 22% of total live births were delivered by caesarean section
- 96% of singleton births and 65% of multiple births were discharged from hospital within 5 days of birth
- The perinatal mortality rate was 6.8 per 1,000 live births and stillbirths (6.5 per 1,000 singleton births and 17.2 per 1,000 multiple births). This rate has fallen by 21% since 2001, when it was 8.6 per 1,000 live births and stillbirths
- At 11.4 per 1,000 live births and stillbirths, the perinatal mortality rate was highest for babies born to mothers aged 40 to 44 years. The lowest perinatal mortality rate of 5.7 per 1,000 live births and stillbirths was for babies born to mothers aged 30 to 34 years.

MOTHERS, 2010

- The average age of mothers has increased from 30.3 years in 2001 to 31.5 years in 2010
- 28% of mothers were aged 35 years or older, up from 22% in 2001
- 16% of first births were to women aged 35 years or older compared to 10% in 2001
- 3% of total mothers giving birth were aged 19 years or younger, compared to 5% in 2001
- 42% gave birth for the first time, with an average age for first time mothers of 29.4 years
- 33% of births were to single mothers, who had an average age of 28.0 years
- 2% had a multiple pregnancy
- 54% of mothers recorded any breastfeeding at discharge from hospital, compared to 49% in 2006 and 42% in 2001
- 46% of mothers exclusively breastfed at discharge from hospital, compared to 44% in 2006 and 39% in 2001
- 58% of women having a singleton live birth delivered spontaneously, while deliveries using forceps accounted for 4%, vacuum extractions for 12%, and 26% by caesarean section
- For women having a singleton birth 55% had a postnatal length of stay of 2 days or less and 43% had a postnatal length of stay of 3-5 days
- For women having a multiple birth 13% had a postnatal length of stay of 2 days or less and 73% had a postnatal length of stay of 3-5 days
- 25% of births in 2010 were to mothers born outside Ireland compared to 18% in 2006.

SECTION ONE

INTRODUCTION

INTRODUCTION

The National Perinatal Reporting System (NPRS) within the Health Research and Information Division (HRID) at the Economic and Social Research Institute (ESRI) is responsible for the collection, processing, management and reporting of data on all births nationally. As the only complete national reporting system on births, it is a valuable resource for informing policy and service planning. The analysis presented in this report is based on data collected from Part 3 of the Birth Notification Form (BNF01/2003) which is used to notify local registrars of all live births and stillbirths occurring in Ireland (see Appendix B). Since 1999 the ESRI has managed the NPRS on behalf of the Department of Health and the Health Service Executive.

PURPOSE OF THIS REPORT

The principal aim of this report is to present national statistics on perinatal events for the year 2010.¹ In so doing, the report aims to

- describe the fundamental social and biological characteristics of mothers and their babies
- report on pregnancy outcomes with particular reference to perinatal mortality
- highlight important aspects of perinatal care
- stimulate a wider interest in research in the area of perinatal epidemiology
- promote a general recognition of the importance of having an accurate and complete perinatal reporting system at a national level.

STRUCTURE OF THIS REPORT

SECTION ONE provides background information relating to the NPRS system, explains conventions used in the report, and provides details relating to the data elements collected in the system.

SECTION TWO contains summary data on selected variables since 2001 and trends in international comparisons.

SECTION THREE contains tables relating to the following variables: maternal age, marital status, socio-economic group of mother and father (derived from collection of data on occupation), nationality of mother and father, maternal parity, distribution of previous stillbirths, interval since last birth, birthweight, gestational age, and month of birth.

SECTION FOUR presents tables relating to variables which fall more naturally into the category of the use of health care facilities, and deals in particular with the following: type of antenatal care received, timing of first antenatal visit, length of mother's antenatal and postnatal stay, whether hospital admission was

¹ Previous reports in this series can be downloaded from www.esri.ie/health_information/nprs/nprs_reports/

booked or not, mother's immunity to rubella, method of delivery, classification of outcome according to size of maternity unit, transfer of infants between hospitals, length of infant's hospital stay, and type of feeding.

SECTION FIVE deals with perinatal outcomes in detail, examining perinatal deaths by birthweight and gestational age, with particular focus on cause of death. In this section tables are presented on the following variables: numbers of antepartum and intrapartum stillbirths and early neonatal deaths by birthweight groups and gestational age, numbers and rates for cause of death, age at death for early neonatal deaths, and numbers and percentages of stillbirths and early neonatal deaths undergoing post-mortem examinations.

SECTION SIX deals with domiciliary births, including trends since 2001. Tables are provided that examine the maternal characteristics of maternal age, parity, and marital status, and details of perinatal characteristics and care, including gestational age, birthweight and type of feeding.

APPENDICES include definitions, source data tables for figures, and other relevant information for use when reading the report.

CONVENTIONS USED IN THIS REPORT

- In accordance with the World Health Organization (WHO) guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data. (See www.who.int/classifications/icd/ICD-10_2nd_ed_volume2.pdf ; pg 96, 5.7.2. Reporting Criteria)
- The majority of tables report total, singleton and multiple births alongside the number of maternities, where applicable. Other tables report total maternities by primiparous and multiparous women for selected variables (see Appendix A for definitions).
- Unless otherwise stated, discussion on total births in this report includes live births and stillbirths for singleton and multiple births.
- Caution should be exercised when interpreting rates based on small numbers. *Rates based on 20 observations or fewer are distinguished by italic type as a warning to the user that their reliability as a measure may be affected by the small number of observations.* For further information on calculation of rates see Appendix A.
- Throughout this report 'Not Stated' values are not included in the calculation of percentages used in discussion or in compilation of figures. 'Not Stated' values are presented in data tables. 'Not Stated' values are reported by hospitals when information is not available.
- Deliveries under hospital schemes (including domino, early transfer home, planned community midwives, and midwifery-led units) are treated as hospital births.
- Fathers' details are only required for registration purposes where mother's marital status is recorded as 'married'. As a result, the proportion of records for which information is available is not

complete and a category of 'not applicable' is required, this category is combined with 'not stated' for the purposes of presenting data on father's occupation and father's nationality in this report.

NATIONAL MINIMUM DATA SET

The NPRS data set provides a national minimum data set, which is intended to serve as a basis for the analyses of key indicators over time. Births are registered and notified on a standard four-part Birth Notification Form (BNF01/2003) used to notify local registrars of all live births and stillbirths occurring in Ireland. The third part of the form has all identifying information removed and is sent to the HRID at the ESRI (see Appendix B). Figure 1.1 provides a diagrammatic representation of the information system around the registration of births. All the tables in this report are based on data contained in the third part of the standard form.

The data collected by the NPRS can be grouped logically into demographic, clinical and administrative data as follows:

DEMOGRAPHIC DATA

- Date of infant's birth, sex of infant
- Date of father's birth, father's county and country of residence, father's occupation, father's nationality (from 2004)
- Date of mother's birth, mother's county and country of residence, mother's occupation, mother's nationality (from 2004)
- Marital status of mother and date of present marriage

CLINICAL DATA

- Infant's birthweight and period of gestation, and mother's obstetric history (including parity)
- Multiple birth indicator
- Autopsy indicator
- Whether stillbirth occurred before or during labour
- Main cause of death and one secondary cause of death for infant
- Maternal immunity to rubella, method of delivery
- Infant's BCG vaccination
- Main maternal disease or condition and one secondary maternal disease or condition affecting the infant or foetus
- Main disease or congenital malformation and one secondary disease or congenital malformation affecting the infant or foetus

ADMINISTRATIVE DATA

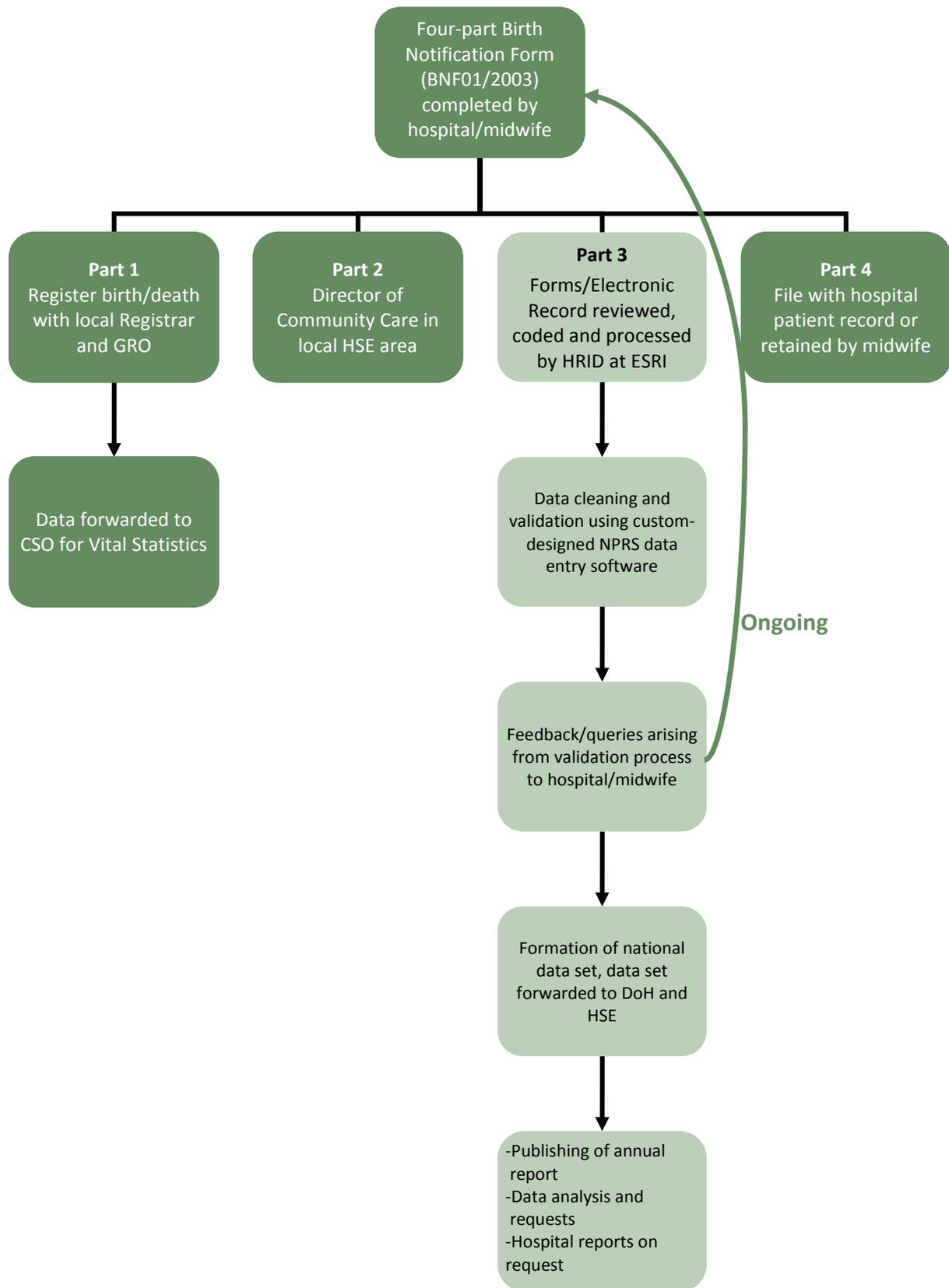
- Hospital number, case number (unique to hospital of birth)
- Type of birth indicator, place of birth
- Date of last birth (live birth or stillbirth)
- Type of death indicator, place of death
- Type of antenatal care received, dates of first visits to doctor and hospital during pregnancy
- Type of feeding, pre-booked admission indicator, dates of mother's admission and discharge, date of infant's discharge
- Infant transfer indicator, number for hospital to which infant was transferred.

DATA COLLECTION AND QUALITY

The link between the Birth Notification Form and the birth registration process for the General Register Office (GRO) ensures complete coverage of all births for the NPRS (see Figure 1.1). With the objective of preserving confidentiality, each birth is recorded using case reference numbers unique to each hospital/maternity unit. Missing records can be identified using this unique case reference number system. Where a record is found to be missing, a request is made to the hospital/maternity unit to provide the birth notification form for any missing records. Similarly, independent midwives are requested to submit an annual summary of all births attended for a specified year, which is cross-checked against the birth notification forms received.

The Information Technology and Support team at the HRID has developed a custom-designed data entry and validation software system for NPRS data. Data are received, either in electronic or paper format, from the hospitals/independent midwives and entered in the NPRS data system. Quality checks include the application of a comprehensive series of edits, which are built into this software system to check for completeness, validity, logic, and coding errors. If problems are identified, clarification can be confirmed with the hospital or midwife and corrections can be made at the point of data entry. This data validation process is continuously reviewed incorporating new checks based on data quality activities and research. The completeness of each record is dependent on the commitment of those persons responsible for notification and registration of the births in each hospital/maternity unit throughout the country and each independent midwife working in the community.

FIGURE 1.1
National Perinatal Reporting System, Data Collection



Notes: CSO denotes Central Statistics Office.
HSE denotes Health Service Executive.

DoH denotes Department of Health.
GRO denotes General Register Office.

SECTION TWO

TIME TRENDS AND INTERNATIONAL COMPARISONS

INTRODUCTION

This section presents selected statistics and data on three key indicators

- 1) perinatal mortality
- 2) birth rate
- 3) fertility.

At a national level, data presented here show how these parameters have changed over time. International comparisons then allow the most recent statistics for Ireland to be compared with those for other European countries. The indicators for Ireland were calculated using data from the NPRS for the period 2001 to 2010.² The method of delivery for the period 2001-2010 is also presented.

TRENDS IN SELECTED STATISTICS, 2001–2010

Table 2.1 presents selected statistics for mothers for the period 2001 to 2010.

- Mothers giving birth in Ireland in 2010 (31.5 years) were on average 1.2 years older than those who gave birth in 2001 (30.3 years).
- The percentage of total births to single mothers has increased from 30.1 to 33.0 per cent, representing a 9.6 per cent increase over the decade. The average age of single mothers has increased from 25.4 years in 2001 to 28.0 years in 2010.
- Average parity (number of previous live births and stillbirths) has decreased slightly from 1.1 to 1.0 over the period. Interval in years since last delivery has remained relatively stable and was 3.9 years in 2010.
- Immunity to rubella for mothers increased from 86.8 per cent in 2001 to 92.3 per cent in 2010.
- The percentage of women recording any breastfeeding at the time of hospital discharge was 41.6 per cent in 2001. This rate has increased to 54.1 per cent in 2010.
- The percentage of women exclusively breastfeeding at the time of hospital discharge has increased from 39.1 per cent in 2001 to 46.2 per cent in 2010.

Additional data relating to the birth episode show that:

- Mother's average length of stay was recorded at 4.4 days in 2001 and has decreased by 1 day to 3.4 days in 2010.
- The number of women choosing combined antenatal care has increased by 10.4 per cent over the decade, with 2010 recording the highest percentage to date at 80.9 per cent; booked admissions for 2010 are estimated at 99.3 per cent.

² Previous reports in this series can be downloaded from www.esri.ie/health_information/nprs/nprs_reports/

Method of delivery is reported by total live births and by total maternities.

- For total live births the percentage of spontaneous deliveries fell from 63.2 per cent in 2001 to 56.5 per cent in 2010. The upward trend in delivery by Caesarean section continues with a rate of 22.0 per cent reported in 2001 compared with a rate of 27.1 per cent for 2010. This represents an increase of 23.2 per cent in the proportion of Caesarean section deliveries for live births over the decade.
- For total maternities, the percentage of spontaneous deliveries fell from 63.9 per cent in 2001 to 57.2 per cent in 2010. The trend in delivery by Caesarean section has increased from 21.5 per cent in 2001 to 26.3 per cent in 2010, which represents an increase of 22.3 per cent in the proportion of Caesarean section deliveries for maternities over the decade.

Regarding babies' characteristics, trends have been largely consistent over the decade 2001 to 2010.

- The average birthweight for total births was 3,468.4 grams in 2010 which is consistent with previous years.
- While the average birthweight for singleton births, of 3504.0 grams, remained consistent, slightly more variation is observed for multiple births ranging from a high of 2,489.7 grams in 2002 to a low of 2,421.4 grams in 2007 and 2,447.2 grams in 2010.
- The percentage of total births recording low birthweight (<2,500 grams) was 5.2 per cent in 2001 and is recorded at 5.1 per cent for 2010.
- The percentage of total births classified as high birthweight (4,500 grams or more) has decreased from 3.0 per cent in 2001 to 2.7 per cent in 2010.
- For babies, the 4.1 days average length of stay recorded in 2001 declined to 3.2 days in 2010.

TABLE 2.1

Trends in Selected Statistics, 2001–2010

			2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change 2001–2010
Maternal Characteristics													
Age of mother (years) ¹	Avg		30.3	30.4	30.6	30.8	31.0	31.0	31.1	31.1	31.3	31.5	4.0
Age of single mother (years) ^{1,2}	Avg		25.4	25.7	26.1	26.4	26.6	26.8	27.1	27.3	27.5	28.0	10.2
Single mothers ^{1,2}	%		30.1	30.0	30.2	30.6	30.7	31.5	31.8	32.4	32.4	33.0	9.6
Maternal parity ¹	Avg		1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	-9.1
Number of previous stillbirths per 1,000 maternities ¹	Avg		13.6	12.6	12.6	12.6	12.8	10.6	10.8	10.9	11.7	11.5	-15.4
Gestational age at delivery (weeks) ¹	Avg		39.5	39.5	39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.4	-0.3
Interval since last birth (years) ³	Avg		3.8	3.9	3.8	3.7	3.8	3.8	3.9	3.9	3.8	3.9	2.6
Immunity to rubella ¹	%		86.8	86.5	87.3	90.5	90.3	92.2	92.4	90.0	90.5	92.3	6.3
Any breastfeeding ^{1,4,5,6}	%		41.6	43.9	44.8	45.7	47.7	48.9	50.7	51.2	52.8	54.1	30.0
Exclusive breastfeeding ^{1,4,5}	%		39.1	41.1	41.3	42.5	44.1	44.5	45.2	44.7	45.5	46.2	18.2
Mother's length of stay (days) ^{1,4,7}	Avg		4.4	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.5	3.4	-22.7
Perinatal Care													
Hospital & GP combined antenatal care ¹	%		73.3	74.1	75.9	77.3	77.5	79.0	77.5	79.4	80.8	80.9	10.4
Booked hospital admissions ^{1,7}	%		98.3	97.7	97.6	98.4	98.5	99.0	99.1	98.9	99.0	99.3	1.0
Method of delivery ⁸ Total live births ⁹	Spontaneous	%	63.2	62.4	61.2	59.6	59.0	58.8	57.3	56.6	56.4	56.5	-10.6
	Caesarean section	%	22.0	22.4	24.2	25.2	25.9	25.4	26.2	26.7	26.9	27.1	23.2
	Forceps ¹⁰	%	3.2	3.2	2.9	2.5	2.8	3.0	3.7	3.7	4.1	4.0	25.0
Method of delivery ⁸ Total maternities	Spontaneous	%	63.9	63.0	61.9	60.2	59.7	59.4	58.0	57.4	57.0	57.2	-10.5
	Caesarean section	%	21.5	21.9	23.6	24.6	25.3	24.8	25.5	25.9	26.2	26.3	22.3
	Forceps ¹⁰	%	3.2	3.2	2.9	2.5	2.8	3.0	3.7	3.7	4.1	4.0	25.0
Infant Characteristics													
Birthweight (grams) ⁴	Total births	Avg	3477.0	3474.1	3471.1	3476.6	3472.0	3473.0	3465.4	3464.0	3466.1	3468.4	-0.2
	Singleton births	Avg	3509.4	3503.7	3500.6	3508.0	3503.2	3503.9	3499.3	3501.9	3498.9	3504.0	-0.2
	Multiple births	Avg	2470.4	2489.7	2487.1	2471.2	2469.2	2464.8	2421.4	2424.5	2465.2	2447.2	-0.9
Low birthweight (<2500 grams) ⁴	Total births	%	5.2	4.9	5.1	5.0	5.0	5.0	5.3	5.3	5.0	5.1	-1.9
	Singleton births	%	3.8	3.8	3.9	3.7	3.8	3.7	3.8	3.8	3.7	3.6	-5.3
	Multiple births	%	46.5	44.2	45.1	45.6	45.6	46.4	50.4	48.4	45.4	47.6	2.4
High birthweight (≥4500 grams) ⁴	Total births	%	3.0	2.9	2.8	2.8	2.9	2.9	2.8	2.7	2.7	2.7	-10.0
Infant's length of stay (days) ^{4,5,7}	Total births	Avg	4.1	3.9	3.8	3.8	3.7	3.7	3.5	3.4	3.3	3.2	-22.0
	Singleton births	Avg	3.9	3.7	3.6	3.6	3.5	3.5	3.3	3.1	3.1	3.0	-23.1
	Multiple births	Avg	11.5	10.2	10.1	10.6	10.1	9.9	10.0	9.9	9.0	9.5	-17.4
Post-mortems for early neonatal deaths	%		33.6	42.1	41.7	38.2	24.4	26.9	30.8	29.7	34.0	34.4	2.4

Notes: ¹Not Stated' values are not included in the calculation of percentages.

²Based on maternities. ³Data recording marital status as 'never married' are classified as 'single' in this report. ⁴Based on multiparous maternities. ⁵Based on live births. ⁶Excludes early neonatal deaths. ⁷Any breastfeeding includes type of feeding recorded as either breast or combined at discharge from hospital. ⁸Excludes domiciliary births. ⁹See also Section 4 'Method of Delivery for Primiparous and Multiparous Women'. ¹⁰These figures were based on total live births, as each infant in a multiple pregnancy can have a different method of delivery. ¹¹Excludes breech deliveries.

PERINATAL MORTALITY

Despite improvements in reducing perinatal mortality in recent decades, the perinatal period continues to be a time of relatively high risk.³ Stillbirths account for 68.8 per cent of perinatal deaths.^{4,5} Table 2.2 presents the numbers and rates for total births and perinatal deaths for Ireland from 2001 to 2010.

- In 2010 approximately 1 in every 213 births was stillborn and 1 in every 467 live births died in the first week of life.
- In 2001 the perinatal mortality rate was 8.6 per 1,000 live births and stillbirths which declined to 6.8 per 1,000 in 2010 (see Figure 2.1).

TABLE 2.2

Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change 2001–2010
	Number of Births and Perinatal Deaths										
Total Births	58,261	60,865	61,989	62,406	61,786	65,810	71,963	75,587	76,023	75,600	29.8
Live Births	57,922	60,522	61,632	62,067	61,480	65,502	71,570	75,229	75,651	75,245	29.9
Stillbirths	339	343	357	339	306	308	393	358	372	355	4.7
Early Neonatal Deaths	160	170	177	168	139	152	132	159	155	161	0.6
Perinatal Deaths	499	513	534	507	445	460	525	517	527	516	3.4
Adjusted Perinatal Deaths	356	396	384	382	330	345	383	384	381	368	3.4
	Rates (per 1,000 births)*										
Stillbirths	5.8	5.6	5.8	5.4	5.0	4.7	5.5	4.7	4.9	4.7	-19.0
Early Neonatal Deaths	2.8	2.8	2.9	2.7	2.3	2.3	1.8	2.1	2.0	2.1	-25.0
Perinatal Deaths	8.6	8.4	8.6	8.1	7.2	7.0	7.3	6.8	6.9	6.8	-20.9
Adjusted Perinatal Deaths	6.1	6.5	6.2	6.1	5.4	5.3	5.3	5.1	5.0	4.9	-19.7

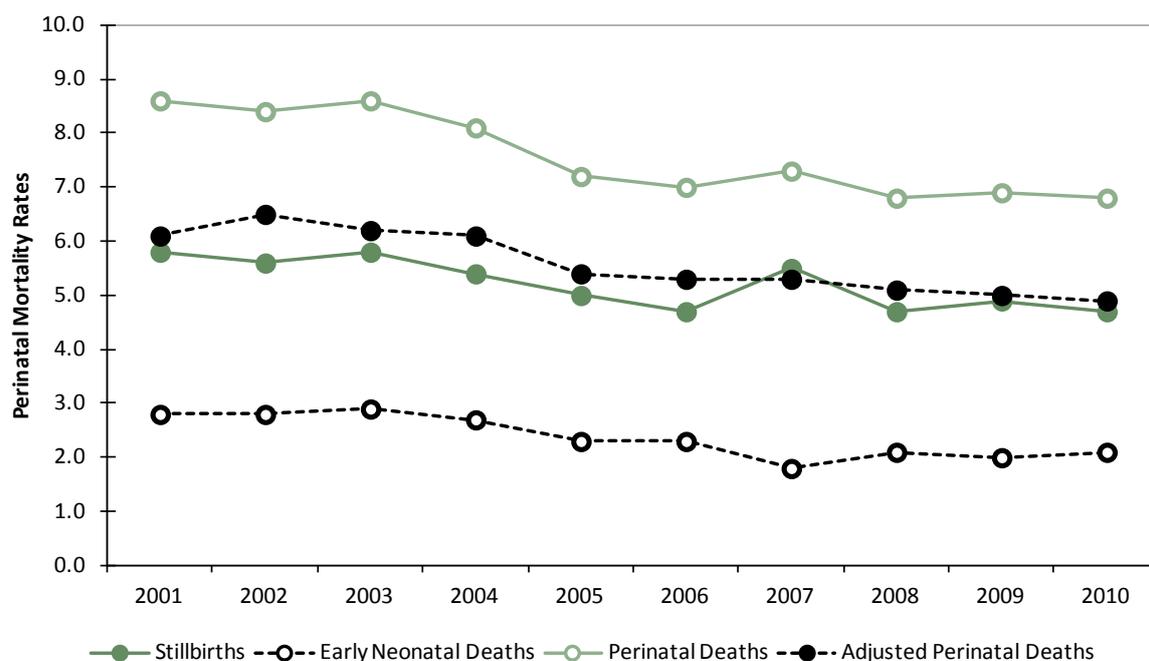
Notes: * For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. For numbers and rates by singleton and multiple births see Section Two 'Singleton and Multiple Births'. Data for 2009 have been revised from that previously published.

³ EURO-PERISTAT Project, with SCPE, EUROCAT, EURONEOSTAT. European Perinatal Health Report, 2008. www.europeristat.com

⁴ Details on rate calculations are in Appendix A.

⁵ Section 5 of this report focuses on perinatal outcomes in more detail, examining perinatal deaths by birthweight and gestational age, with particular focus on cause of death.

FIGURE 2.1
Stillbirth, Early Neonatal and Perinatal Mortality Rates, Ireland, 2001–2010



Note: See Table 2.2 for data.

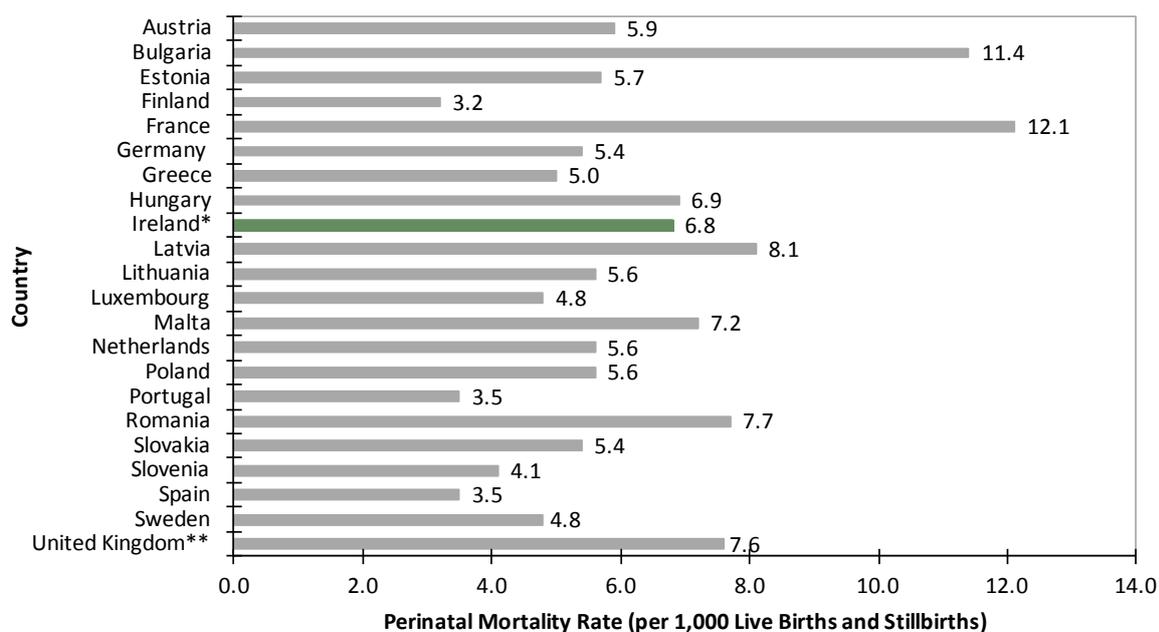
Using available data, a European comparison⁶ on perinatal mortality rates in Figure 2.2 shows that for the countries included;

- France recorded the highest perinatal mortality rate for 2010, at 12.1 per 1,000 live births and stillbirths.
- Finland had the lowest perinatal mortality rate recording 3.2 per 1,000 live births and stillbirths.

⁶ When countries are compared it should be remembered that rates are affected by many factors, such as national policies on abortion, screening for congenital anomalies, availability of services related to fertility treatment, differences in the comprehensiveness and accuracy of registration and notification systems, and variations in definitions employed (in particular, for stillbirth).

FIGURE 2.2

Perinatal Mortality Rates for Selected EU Countries, 2010



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted May 2012. <http://epp.eurostat.ec.europa.eu>

* National Figure compiled by NPRS. See Table 2.2 for data.

** Perinatal Mortality Rate for UK is based on 2009 data.

BIRTH RATES⁷

The birth rate is based on the total number of live births per 1,000 population.⁸ Figure 2.3 presents trends in birth rates for selected EU countries over the decade 2001 to 2010.

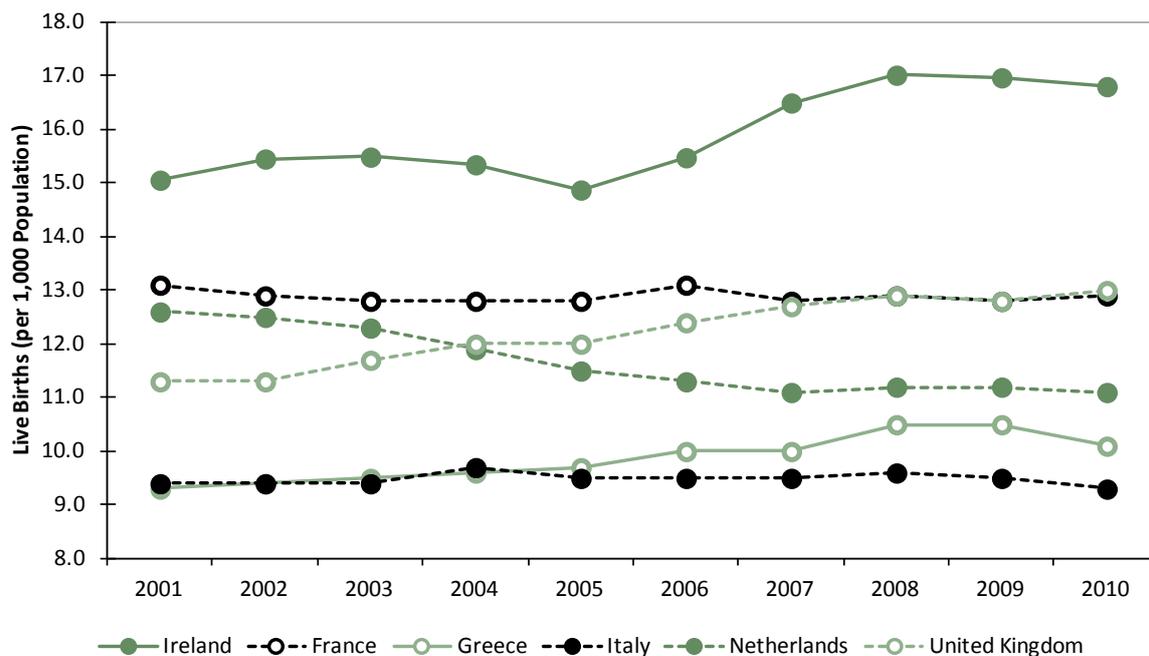
- Of the countries reviewed Ireland has consistently had the highest birth rate over the period, increasing from 15.1 per 1000 population in 2001 to 16.8 per 1,000 population in 2010.⁹
- After Ireland, the countries with the next highest birth rates are the United Kingdom and France (13.0 and 12.9 respectively) followed by Cyprus and Sweden (12.4 and 12.3). In 2010, Germany (8.3) had the lowest birth rate with Latvia (8.6) next in line (see Figure 2.4).

⁷ It should be noted that the crude birth rate could rise or fall depending on the numbers of women in the age cohorts from 15 to 49 years old. Changes in the crude birth rate often mask underlying trends in fertility.

⁸ The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted June 2012. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0

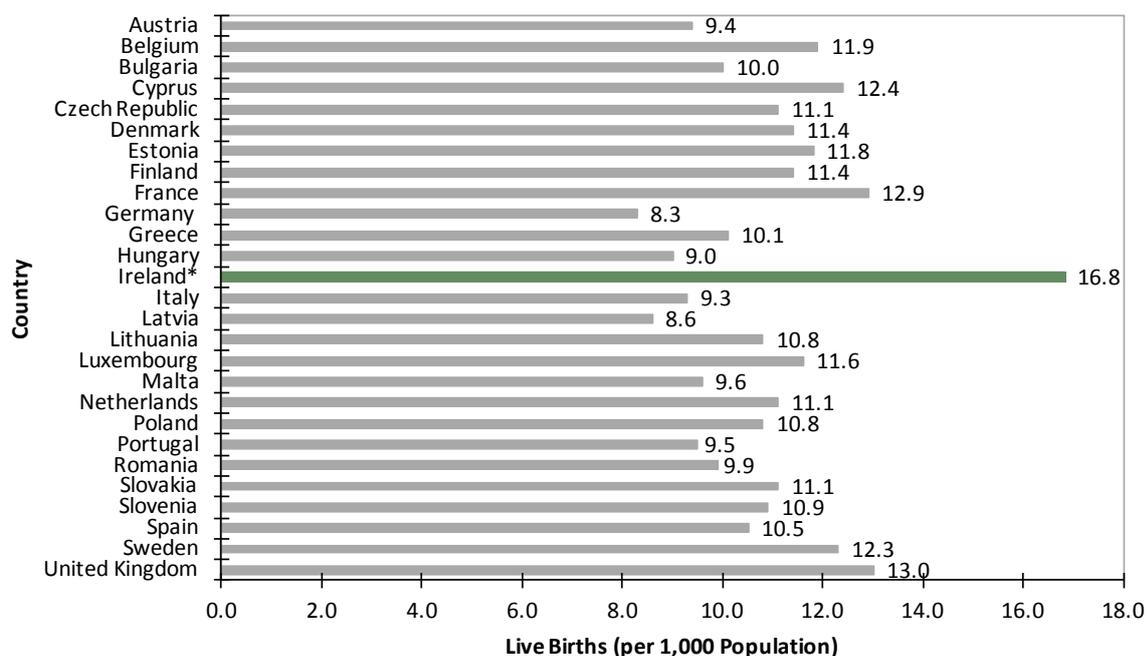
⁹ The CSO estimates the Irish birth rate at 16.5 per 1,000 of the population for 2010. See Vital Statistics, Fourth Quarter and Yearly Summary 2010, June 2011. CSO 2010 data are provisional and are based on the number of births registered within the year as opposed to occurring in the year.

FIGURE 2.3
Trends in Birth Rates for Selected EU Countries, 2001–2010



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted May 2012. <http://epp.eurostat.ec.europa.eu>
 *Data for Ireland are based on NPRS data on live births from 2001 onwards. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted June 2012. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0

FIGURE 2.4
Birth Rates per 1,000 Population for EU Countries, 2010



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted May 2012. <http://epp.eurostat.ec.europa.eu>
 * Data for Ireland are based on NPRS data on live births. Population estimates for 2010 were obtained from the CSO Statistical Databases, date consulted June 2012. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0

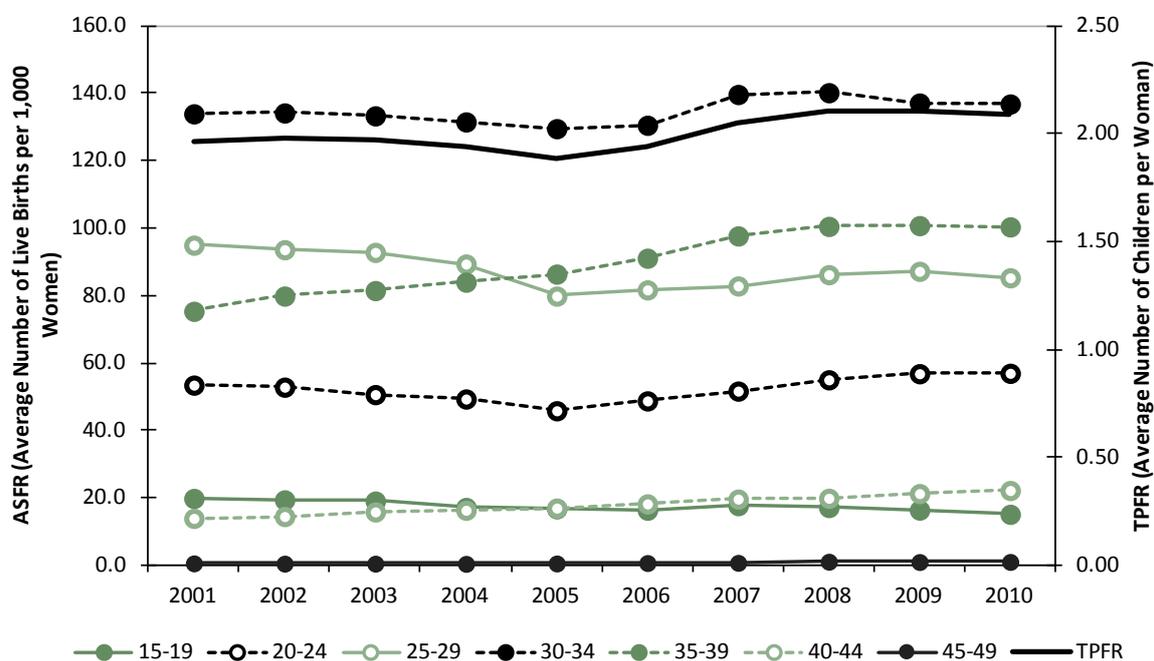
FERTILITY

The Total Period Fertility Rate (TPFR) for a given year indicates the number of children a woman could expect to have if the Age-Specific Fertility Rates (ASFR) for that year applied throughout her fertile years.¹⁰ Figure 2.5 displays the trend in the TPFR in Ireland from 2001 to 2010.

- The Irish TPFR has increased overall from an average of 1.96 in 2001 to 2.09 in 2010.¹¹
- The ASFRs show women aged 35 to 39 recorded an increase in fertility each year between 2001 and 2009 and reported a slight decrease between 2009 and 2010.
- Whilst women in the younger age groups (20 to 24 years) recorded decreasing rates up to 2005, these rates have been increasing in recent years.
- In all years the 30 to 34 year age group recorded the highest ASFR.
- The ASFR for the 40 to 44 year age group was greater than that reported for the 15 to 19 year age group in 2010, a trend observed since 2005.

FIGURE 2.5

Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2001–2010



Sources: Total period fertility rates (TPFRs) and age-specific fertility rates (ASFRs) are calculated using NPRS data from 2001 onwards. Female population estimates were obtained from the CSO Statistical Databases, date consulted June 2012. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0

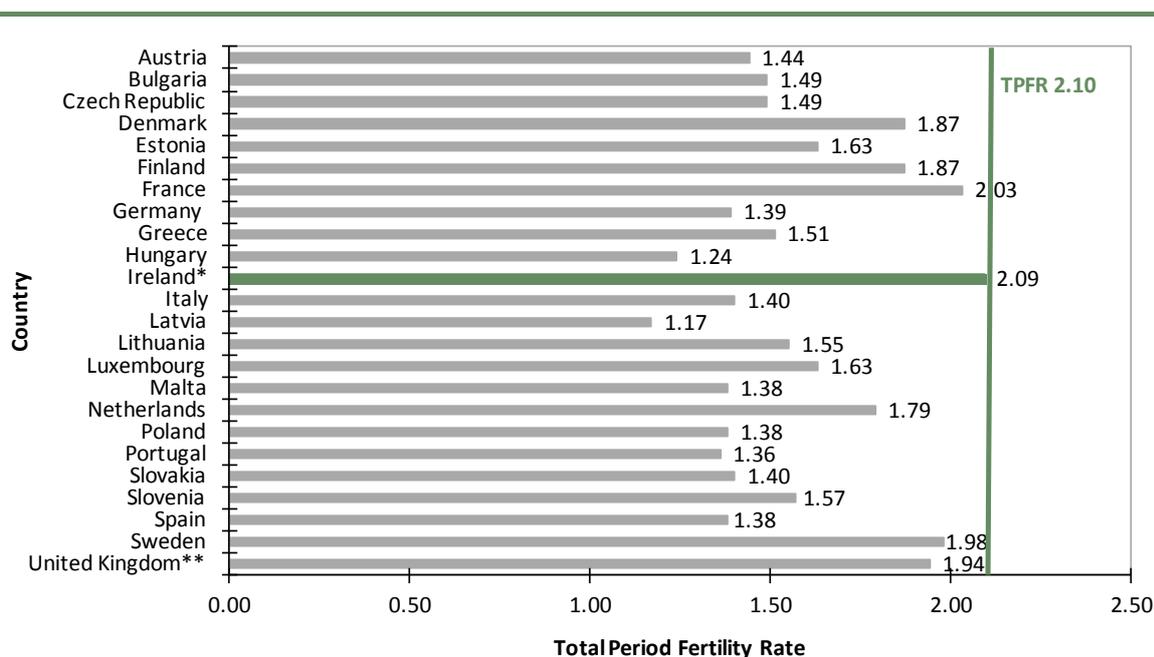
¹⁰ See Appendix A, Definitions for calculation of TPFR and ASFR.

¹¹ The CSO estimates the TPFR at 2.07 for 2010. See Vital Statistics, Fourth Quarter and Yearly Summary 2010, June 2011. CSO 2010 data are provisional and are based on the number of births registered within the year as opposed to occurring in the year.

The TFR for Ireland is based on estimated population data for 2010, and at 2.09 is now almost at the level required for the long-term replacement of the population in the absence of any net inward migration (2.10). Figure 2.6 uses data from Eurostat and the NPRS.

- Ireland had the highest TFR in the 23 EU countries for which 2010 data were available.
- France and Sweden were just behind with a TFR of 2.03 and 1.98 respectively, while Latvia (1.17) and Hungary (1.24) recorded the lowest TFR in 2010.

FIGURE 2.6
Total Period Fertility Rates for Selected EU Countries, 2010



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted May 2012. <http://epp.eurostat.ec.europa.eu>
 * Data for Ireland are based on NPRS data on live births. Population estimates for 2010 were obtained from the CSO Statistical Databases, date consulted June 2012. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0
 ** Total Period Fertility Rate for UK is based on 2009 data.

SINGLETON AND MULTIPLE BIRTHS

Table 2.3 shows the numbers of singleton and multiple births each year for the period 2001 to 2010.

- There were 73,046 singleton births, 2,480 twin births and 74 triplet births in 2010.¹²
- The twinning rate was 16.7 per 1,000 maternities in 2010.

¹² In accordance with the World Health Organization (WHO) guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data. In 2010, there were 73,084 singleton births, 2,508 twin births and 75 triplets reported to the NPRS; of these 67 births weighed less than 500 grams (including 38 singleton births and 29 multiple births).

TABLE 2.3

Singleton and Multiple Births, 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change 2001–2010
Singleton births	56,422	59,071	60,164	60,499	59,902	63,839	69,692	72,916	73,603	73,046	29.5
Twin births	1,756	1,728	1,747	1,849	1,833	1,916	2,185	2,575	2,377	2,480	41.2
Triplet births	71	54	78	54	47	51	83	92	39	74	4.2
Quadruplet births	7	12	0	4	4	4	3	4	4	0	-100.0
Quintuplet births	5	0	0	0	0	0	0	0	0	0	-100.0
Twinning rate (per 1,000 maternities)	15.3	14.4	14.3	15.0	15.1	14.8	15.4	17.3	15.9	16.7	9.2

Notes: See Appendix A for details on calculation of twinning rate.
Please note the twinning rate for 2008 has been revised from that previously published.

The number of stillbirths and early neonatal deaths for singleton and multiple births between 2001 and 2010 is presented in Table 2.4.

- Higher mortality rates were observed for multiple births when compared to singleton births.
- The stillbirth mortality rate for singleton births has fluctuated slightly over the decade ranging from 5.4 in 2001 to 4.4 in 2006, to the current rate of 4.6 per 1,000 live births and stillbirths in 2010.
- The early neonatal mortality rate for singleton births decreased to 1.9 per 1,000 live births in 2010 compared to a rate of 2.4 per 1000 live births in 2001.

TABLE 2.4

Live Births, Stillbirths and Early Neonatal Deaths, Numbers and Rates, Singleton and Multiple Births, 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change 2001–2010
Number of Births and Perinatal Deaths											
Total Births	58,261	60,865	61,989	62,406	61,786	65,810	71,963	75,587	76,023	75,600	29.8
Singleton	56,422	59,071	60,164	60,499	59,902	63,839	69,692	72,916	73,603	73,046	29.5
Multiple	1,839	1,794	1,825	1,907	1,884	1,971	2,271	2,671	2,420	2,554	38.9
Live Births	57,922	60,522	61,632	62,067	61,480	65,502	71,570	75,229	75,651	75,245	29.9
Singleton	56,115	58,752	59,837	60,186	59,621	63,555	69,318	72,582	75,247	72,709	29.6
Multiple	1,807	1,770	1,795	1,881	1,859	1,947	2,252	2,647	2,404	2,536	40.3
Stillbirths	339	343	357	339	306	308	393	358	372	355	4.7
Singleton	307	319	327	313	281	284	374	334	356	337	9.8
Multiple	32	24	30	26	25	24	19	24	16	18	-43.8
Early Neonatal Deaths	160	170	177	168	139	152	132	159	155	161	0.6
Singleton	136	149	156	140	109	129	118	138	142	135	-0.7
Multiple	24	21	21	28	30	23	14	21	13	26	8.3
Rates (per 1,000 births)*											
Stillbirths	5.8	5.6	5.8	5.4	5.0	4.7	5.5	4.7	4.9	4.7	-19.0
Singleton	5.4	5.4	5.4	5.2	4.7	4.4	5.4	4.6	4.8	4.6	-14.8
Multiple	17.4	13.4	16.4	13.6	13.3	12.2	8.4	9.0	6.6	7.0	-59.8
Early Neonatal Deaths	2.8	2.8	2.9	2.7	2.3	2.3	1.8	2.1	2.0	2.1	-25.0
Singleton	2.4	2.5	2.6	2.3	1.8	2.0	1.7	1.9	1.9	1.9	-20.8
Multiple	13.3	11.9	11.7	14.9	16.1	11.8	6.2	7.9	5.4	10.3	-22.6

Note: * For stillbirths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

METHOD OF DELIVERY FOR PRIMIPAROUS¹³ AND MULTIPAROUS¹⁴ WOMEN

Table 2.5 outlines trends in the method of delivery for primiparous and multiparous women over the decade 2001 to 2010.

- Delivery by Caesarean section has increased for total maternities from 21.4 per cent in 2001 to 26.3 per cent in 2010.
- 27.6 per cent of primiparous women delivered by Caesarean section in 2010 compared to 24.4 per cent in 2001, with the rate of increase for Caesarean section delivery higher for multiparous women, increasing from 19.4 per cent in 2001 to 25.4 per cent in 2010 (see Figure 2.7).
- Spontaneous deliveries have fallen for total maternities from 63.9 per cent in 2001 to 57.2 per cent in 2010 with similar decreasing rates for primiparous and multiparous women.

TABLE 2.5

Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2001–2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change 2001–2010
Total Maternities											
Spontaneous	63.9	63.0	61.9	60.2	59.7	59.4	58.0	57.4	57.0	57.2	-10.5
Breech/forceps	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	25.0
Forceps	3.2	3.2	2.9	2.5	2.8	3.0	3.7	3.7	4.1	4.0	25.0
Vacuum extraction	10.6	11.2	11.0	12.0	11.7	12.2	12.2	12.6	12.2	11.9	12.3
Caesarean section	21.4	21.9	23.6	24.6	25.3	24.8	25.5	25.9	26.2	26.3	22.9
Other	0.4	0.3	0.2	0.3	0.1	0.2	0.2	0.1	0.1	0.0	-100.0
Total	100										
Primiparous											
Spontaneous	50.2	49.6	47.8	45.4	45.0	45.6	44.1	43.5	42.7	42.7	-14.9
Breech/forceps	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.5	0.5	0.7	16.7
Forceps	6.2	6.2	5.7	5.1	5.6	5.8	7.2	7.2	8.2	8.0	29.0
Vacuum extraction	18.2	19.5	19.4	21.2	21.0	21.5	21.0	21.4	21.2	21.0	15.4
Caesarean section	24.4	23.8	26.3	27.7	27.7	26.3	27.1	27.3	27.3	27.6	13.1
Other	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.0	-100.0
Total	100										
Multiparous											
Spontaneous	73.5	72.2	71.5	70.1	69.5	69.1	68.0	67.6	67.4	67.5	-8.2
Breech/forceps	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	33.3
Forceps	1.1	1.1	1.0	0.8	0.9	1.0	1.2	1.1	1.1	1.2	9.1
Vacuum extraction	5.4	5.5	5.3	5.9	5.5	5.7	5.8	6.0	5.7	5.4	0.0
Caesarean section	19.4	20.6	21.7	22.5	23.7	23.7	24.4	24.8	25.4	25.4	30.9
Other	0.4	0.3	0.2	0.4	0.1	0.2	0.2	0.1	0.1	0.1	-75.0
Total	100										

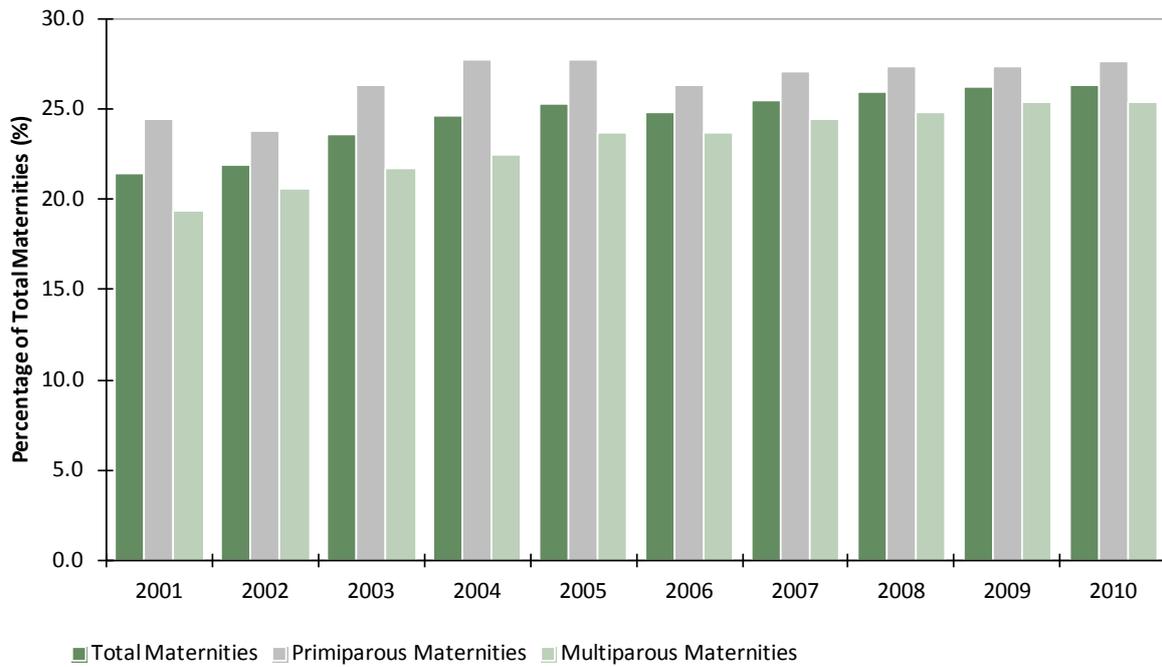
Note: There were 4 maternities with 'not stated' parity; these were excluded from the table.

¹³ Women who have had no previous pregnancy resulting in a live birth or stillbirth.

¹⁴ Women who have had at least one previous pregnancy resulting in a live birth or stillbirth.

FIGURE 2.7

Percentage Distribution of Maternities Delivering by Caesarean Section for Total, Primiparous and Multiparous Women, 2001–2010



Note: See Table 2.5 for data

SECTION THREE

GENERAL CHARACTERISTICS

INTRODUCTION

This section presents more detailed analyses of data reported to the NPRS for 2010 and provides some longitudinal comparisons.¹⁵ Detailed data for a selection of variables are presented including:

- mother's age, marital status, occupation, nationality, parity, number of previous stillbirths, and interval since last birth;
- father's occupation and nationality; and
- infant's birthweight, gestational age, and month of birth.

For selected variables, the tables outline data for live births, stillbirths and early neonatal deaths, together with their corresponding rates, as well as presenting the number of maternities.

¹⁵ Data for 2006–2010 will be presented in this section. Previous reports in this series can be downloaded from www.esri.ie/health_information/latest_hipe_nprs_reports/

MATERNAL AGE

The average maternal age for total births was 31.5 years in 2010; in 2006 it was 31.1 years. The percentage of births to mothers aged 19 years and under fell from 3.6 to 2.7 per cent over the five-year period. Mothers aged 35 years and over accounted for 26.3 per cent of births in 2006 compared with 28.1 per cent of births in 2010.¹⁶

Table 3.1 presents data on maternal age.

- In 2010, over 34 per cent of total births were to mothers aged 30 to 34 years, representing just over a third of all mothers having either a singleton or multiple birth.

TABLE 3.1

Age of Mother by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Under 15 Years	7	0.0	7	0	0.0	0	0.0	0.0	0.0	7
15-19 Years	2,050	2.7	2,037	13	6.3	3	1.5	7.8	6.8	2,032
20-24 Years	8,164	10.8	8,118	46	5.6	21	2.6	8.2	5.9	8,077
25-29 Years	17,903	23.7	17,820	83	4.6	38	2.1	6.8	5.4	17,681
30-34 Years	26,211	34.7	26,106	105	4.0	44	1.7	5.7	4.1	25,797
35-39 Years	17,577	23.3	17,497	80	4.6	40	2.3	6.8	4.6	17,165
40-44 Years	3,507	4.6	3,481	26	7.4	14	4.0	11.4	6.6	3,396
45 Years and Over	166	0.2	164	2	12.0	1	6.1	18.1	0.0	148
Not Stated	15	0.0	15	0	0.0	0	0.0	0.0	0.0	15
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Under 15 Years	7	0.0	7	0	0.0	0	0.0	0.0	0.0	7
15-19 Years	2,014	2.8	2,001	13	6.5	3	1.5	7.9	7.0	2,014
20-24 Years	7,988	10.9	7,942	46	5.8	17	2.1	7.9	5.6	7,988
25-29 Years	17,464	23.9	17,391	73	4.2	28	1.6	5.8	4.4	17,464
30-34 Years	25,382	34.7	25,282	100	3.9	41	1.6	5.6	3.9	25,382
35-39 Years	16,758	22.9	16,681	77	4.6	32	1.9	6.5	4.2	16,758
40-44 Years	3,288	4.5	3,262	26	7.9	13	4.0	11.9	6.7	3,288
45 Years and Over	130	0.2	128	2	15.4	1	7.8	23.1	0.0	130
Not Stated	15	0.0	15	0	0.0	0	0.0	0.0	0.0	15
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Under 15 Years	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
15-19 Years	36	1.4	36	0	0.0	0	0.0	0.0	0.0	18
20-24 Years	176	6.9	176	0	0.0	4	22.7	22.7	17.1	89
25-29 Years	439	17.2	429	10	22.8	10	23.3	45.6	45.6	217
30-34 Years	829	32.5	824	5	6.0	3	3.6	9.7	9.7	415
35-39 Years	819	32.1	816	3	3.7	8	9.8	13.4	12.2	407
40-44 Years	219	8.6	219	0	0.0	1	4.6	4.6	4.6	108
45 Years and Over	36	1.4	36	0	0.0	0	0.0	0.0	0.0	18
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

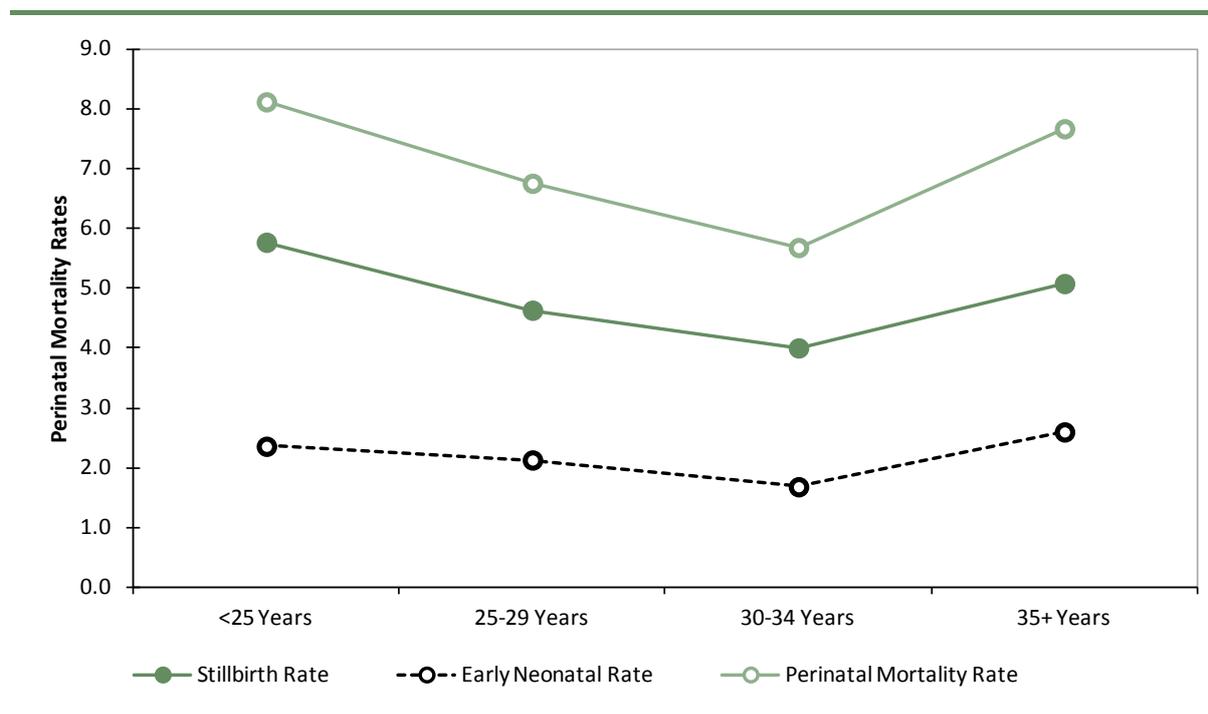
Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

¹⁶ Throughout this section, 'Not Stated' values are not included in the calculation of percentages for discussion.

Figure 3.1 presents perinatal mortality rates.

- The perinatal mortality rate is highest for mothers aged less than 25 years, with a rate of 8.1 per 1,000 live births and stillbirths, whilst the lowest perinatal mortality rate was recorded for the 30 to 34 year age group (5.7 per 1,000 live births and stillbirths).
- At 5.8 per 1,000 live births and stillbirths the highest stillbirth rate was recorded for mothers aged less than 25 years, whilst the lowest stillbirth rate was recorded for the 30 to 34 year age group (4.0 per 1,000 live births and stillbirths).
- At 2.6 per 1,000 live births the highest early neonatal rate was recorded for mothers aged 35 years and older, whilst the lowest early neonatal rate was recorded for the 30 to 34 year age group (1.7 per 1,000 live births).

FIGURE 3.1
Age-Specific Stillbirth, Early Neonatal and Perinatal Mortality Rates, Total Births



Note: See Table 3.1 for data.

MOTHER'S MARITAL STATUS

Table 3.2 presents data on mother's marital status.

- Close to two-thirds of births were to married women, and under one-third to single women.¹⁷
- Just over 72 per cent of multiple births were to married women.

TABLE 3.2

Mother's Marital Status by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Married	49,588	65.6	49,361	227	4.6	107	2.2	6.7	4.5	48,660
Single	24,829	32.8	24,709	120	4.8	49	2.0	6.8	5.2	24,494
Widowed	85	0.1	83	2	23.5	2	24.1	47.1	47.1	82
Separated	590	0.8	588	2	3.4	2	3.4	6.8	6.8	581
Divorced	444	0.6	443	1	2.3	0	0.0	2.3	2.3	437
Not Stated	64	0.1	61	3	46.9	1	16.4	62.5	62.5	64
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Married	47,742	65.4	47,528	214	4.5	93	2.0	6.4	4.2	47,742
Single	24,159	33.1	24,044	115	4.8	39	1.6	6.4	4.8	24,159
Widowed	79	0.1	77	2	25.3	0	0.0	25.3	25.3	79
Separated	572	0.8	570	2	3.5	2	3.5	7.0	7.0	572
Divorced	430	0.6	429	1	2.3	0	0.0	2.3	2.3	430
Not Stated	64	0.1	61	3	46.9	1	16.4	62.5	62.5	64
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Married	1,846	72.3	1,833	13	7.0	14	7.6	14.6	14.1	918
Single	670	26.2	665	5	7.5	10	15.0	22.4	20.9	335
Widowed	6	0.2	6	0	0.0	2	333.3	333.3	333.3	3
Separated	18	0.7	18	0	0.0	0	0.0	0.0	0.0	9
Divorced	14	0.5	14	0	0.0	0	0.0	0.0	0.0	7
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

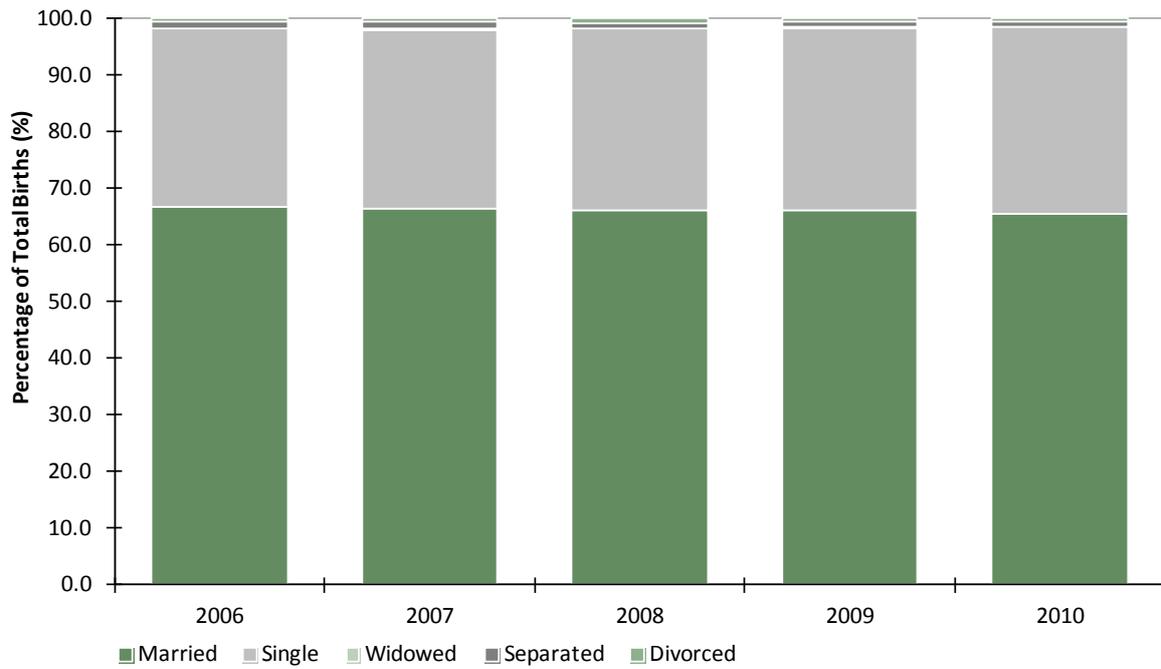
Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

Figures 3.2 and 3.3 present data on mother's marital status.

- The distribution of total births by mother's marital status has remained fairly consistent between 2006 and 2010 (see Figure 3.2).
- Figure 3.3 presents the distribution of births to single mothers by county of residence. In Dublin City the estimate is 39.7 per cent, with Roscommon reporting just less than a quarter of births to single mothers (See Appendix E for details of county of residence classification).

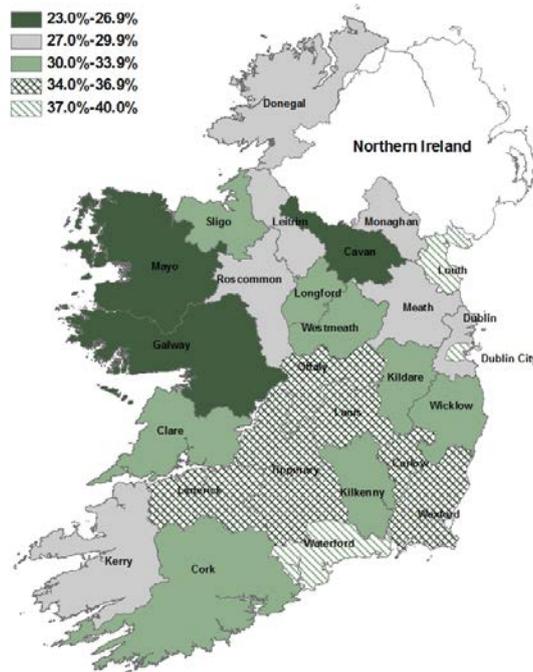
¹⁷ Data recording marital status as 'never married' are classified as 'single' in discussion in this report.

FIGURE 3.2
Percentage of Births by Mother's Marital Status, Total Births, 2006–2010



Note: See Appendix G, Table G1 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 3.3
Percentage of Births to Single Mothers by Mother's County of Residence, Total Births



Notes: See Appendix G, Table G2 for data. 'Not Stated' values are not included in the calculation of percentages.
Example: Of all births to mothers resident in Carlow, 35.7 per cent were to single mothers.

OCCUPATION

MOTHER'S OCCUPATION

Table 3.3 presents data on mother's occupation.

- The highest proportions of total births were to mothers whose occupation was recorded as either 'intermediate non-manual workers' (21.4 per cent) or 'home duties' (20.8 per cent).
- Mothers classified as 'lower professional' accounted for 15.3 per cent of total births, while mothers in the 'other non-manual workers' category accounted for a further 13.2 per cent of total births.
- Where rates are calculated on more than 20 observations, the highest perinatal mortality rate of 9.0 per 1,000 live births and stillbirths was reported for 'unemployed' mothers and those whose occupation was reported as 'not classifiable'.
- At 4.8 per 1,000 live births and stillbirths, the lowest perinatal mortality rate was recorded for mothers with an occupation in the 'higher professional' category, while a perinatal mortality rate of 5.0 per 1,000 live births and stillbirths was recorded for mothers in the 'lower professional' category (see Figure 3.4).¹⁸

¹⁸ For further discussion and analysis on this issue see Layte, R., and Clyne, B., Did the Celtic Tiger Decrease Socio-Economic Differentials in Perinatal Mortality in Ireland?, *The Economic and Social Review*, Vol 41, No.2, June 2010.

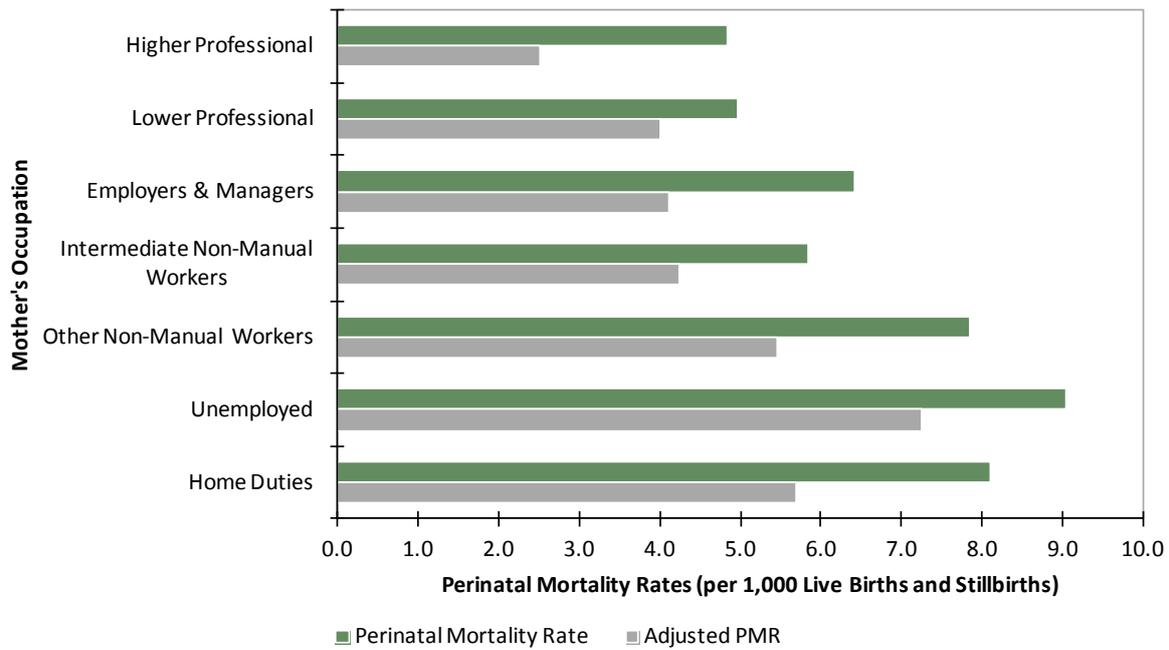
TABLE 3.3

Mother's Occupation by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Farmers & Farm Managers	61	0.1	61	0	0.0	0	0.0	0.0	0.0	60
Other Agricultural Occupations & Fishermen	65	0.1	65	0	0.0	0	0.0	0.0	0.0	65
Higher Professional	4,762	6.3	4,746	16	3.4	7	1.5	4.8	2.5	4,650
Lower Professional	11,497	15.2	11,460	37	3.2	20	1.7	5.0	4.0	11,265
Employers & Managers	5,617	7.4	5,589	28	5.0	8	1.4	6.4	4.1	5,520
Salaried Employees	1,152	1.5	1,146	6	5.2	0	0.0	5.2	4.3	1,134
Intermediate Non-Manual Workers	16,076	21.3	16,010	66	4.1	28	1.7	5.8	4.2	15,779
Other Non-Manual Workers	9,931	13.1	9,882	49	4.9	29	2.9	7.9	5.5	9,788
Skilled Manual Workers	1,222	1.6	1,216	6	4.9	4	3.3	8.2	7.4	1,202
Semi-Skilled Manual Workers	2,548	3.4	2,532	16	6.3	5	2.0	8.2	6.3	2,508
Unskilled Manual Workers	6	0.0	6	0	0.0	0	0.0	0.0	0.0	6
Unemployed	3,318	4.4	3,296	22	6.6	8	2.4	9.0	7.2	3,280
Not Classifiable	3,335	4.4	3,314	21	6.3	9	2.7	9.0	6.0	3,297
Home Duties	15,657	20.7	15,573	84	5.4	43	2.8	8.1	5.7	15,416
Not Stated	353	0.5	349	4	11.3	0	0.0	11.3	5.7	348
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Farmers & Farm Managers	59	0.1	59	0	0.0	0	0.0	0.0	0.0	59
Other Agricultural Occupations & Fishermen	65	0.1	65	0	0.0	0	0.0	0.0	0.0	65
Higher Professional	4,539	6.2	4,523	16	3.5	6	1.3	4.8	2.6	4,539
Lower Professional	11,036	15.1	11,004	32	2.9	17	1.5	4.4	3.4	11,036
Employers & Managers	5,421	7.4	5,397	24	4.4	7	1.3	5.7	3.3	5,421
Salaried Employees	1,116	1.5	1,110	6	5.4	0	0.0	5.4	4.5	1,116
Intermediate Non-Manual Workers	15,489	21.2	15,425	64	4.1	18	1.2	5.3	3.6	15,489
Other Non-Manual Workers	9,644	13.2	9,596	48	5.0	28	2.9	7.9	5.4	9,644
Skilled Manual Workers	1,182	1.6	1,176	6	5.1	4	3.4	8.5	7.6	1,182
Semi-Skilled Manual Workers	2,469	3.4	2,455	14	5.7	4	1.6	7.3	5.3	2,469
Unskilled Manual Workers	6	0.0	6	0	0.0	0	0.0	0.0	0.0	6
Unemployed	3,243	4.4	3,221	22	6.8	4	1.2	8.0	6.2	3,243
Not Classifiable	3,259	4.5	3,239	20	6.1	8	2.5	8.6	5.5	3,259
Home Duties	15,175	20.8	15,094	81	5.3	39	2.6	7.9	5.5	15,175
Not Stated	343	0.5	339	4	11.7	0	0.0	11.7	5.9	343
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Farmers & Farm Managers	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Other Agricultural Occupations & Fishermen	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Higher Professional	223	8.7	223	0	0.0	1	4.5	4.5	0.0	111
Lower Professional	461	18.1	456	5	10.8	3	6.6	17.4	17.4	229
Employers & Managers	196	7.7	192	4	20.4	1	5.2	25.5	25.5	99
Salaried Employees	36	1.4	36	0	0.0	0	0.0	0.0	0.0	18
Intermediate Non-Manual Workers	587	23.0	585	2	3.4	10	17.1	20.4	20.4	290
Other Non-Manual Workers	287	11.2	286	1	3.5	1	3.5	7.0	7.0	144
Skilled Manual Workers	40	1.6	40	0	0.0	0	0.0	0.0	0.0	20
Semi-Skilled Manual Workers	79	3.1	77	2	25.3	1	13.0	38.0	38.0	39
Unskilled Manual Workers	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Unemployed	75	2.9	75	0	0.0	4	53.3	53.3	53.3	37
Not Classifiable	76	3.0	75	1	13.2	1	13.3	26.3	26.3	38
Home Duties	482	18.9	479	3	6.2	4	8.4	14.5	12.5	241
Not Stated	10	0.4	10	0	0.0	0	0.0	0.0	0.0	5
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix C for a description of the classification system for occupation.

FIGURE 3.4
Perinatal Mortality Rates by Mother's Occupation, Total Births



Note: See Table 3.3 for data. Rates based on 20 or fewer observations are not included in this Figure.

FATHER'S OCCUPATION

Fathers' details are only required for registration purposes where mother's marital status is recorded as 'married'. As a result, the proportion of records for which information is available is not complete and a category of 'not applicable' is required. This category is combined with 'not stated' for the purposes of presenting data on father's occupation in this report. With respect to availability and access to fathers' details, data quality measures are ongoing with hospital staff in an effort to improve completeness of returns for all fathers' details.

Table 3.4 presents data on father's occupation.

- Excluding 'not stated/not applicable', over 27 per cent of all births were to fathers whose occupation was recorded as 'skilled manual workers'.
- Fathers recorded as 'other non-manual workers' accounted for 12.0 per cent of total births.
- Where rates are calculated on more than 20 observations, the occupations recording the highest perinatal mortality rates were 'unemployed' which recorded a perinatal mortality rate of 9.1 per 1,000 live births and stillbirths and 'higher professional' which recorded a perinatal mortality rate of 8.4 per 1,000 live births and stillbirths (see Figure 3.5).
- The lowest perinatal mortality rates were recorded for 'intermediate non-manual workers' at 4.9 per 1,000 live births and stillbirths and 'semi-skilled manual workers' at 5.7 per 1,000 live births and stillbirths.

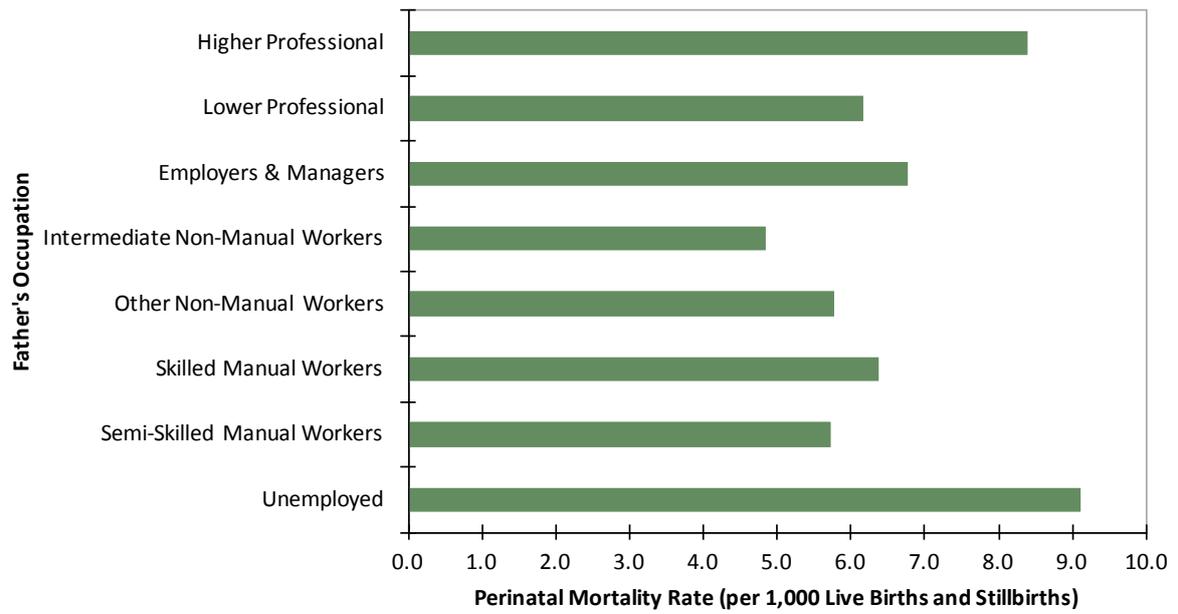
TABLE 3.4

Father's Occupation by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Farmers & Farm Managers	1,986	2.6	1,981	5	2.5	3	1.5	4.0	2.0	1,953
Other Agricultural Occupations & Fishermen	655	0.9	652	3	4.6	1	1.5	6.1	3.1	644
Higher Professional	5,481	7.3	5,451	30	5.5	16	2.9	8.4	4.8	5,375
Lower Professional	4,048	5.4	4,031	17	4.2	8	2.0	6.2	4.5	3,970
Employers & Managers	5,449	7.2	5,426	23	4.2	14	2.6	6.8	5.1	5,334
Salaried Employees	1,317	1.7	1,312	5	3.8	5	3.8	7.6	6.1	1,293
Intermediate Non-Manual Workers	6,390	8.5	6,370	20	3.1	11	1.7	4.9	3.1	6,264
Other Non-Manual Workers	6,908	9.1	6,878	30	4.3	10	1.5	5.8	3.9	6,821
Skilled Manual Workers	15,636	20.7	15,560	76	4.9	24	1.5	6.4	4.3	15,364
Semi-Skilled Manual Workers	3,659	4.8	3,646	13	3.6	8	2.2	5.7	3.8	3,589
Unskilled Manual Workers	501	0.7	497	4	8.0	1	2.0	10.0	8.0	489
Unemployed	3,841	5.1	3,818	23	6.0	12	3.1	9.1	7.6	3,785
Not Classifiable	1,697	2.2	1,687	10	5.9	5	3.0	8.8	6.5	1,669
Home Duties	135	0.2	134	1	7.4	0	0.0	7.4	7.4	133
Not Stated/Not Applicable	17,897	23.7	17,802	95	5.3	43	2.4	7.7	6.1	17,635
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Farmers & Farm Managers	1,920	2.6	1,915	5	2.6	3	1.6	4.2	2.1	1,920
Other Agricultural Occupations & Fishermen	633	0.9	631	2	3.2	1	1.6	4.7	1.6	633
Higher Professional	5,271	7.2	5,243	28	5.3	16	3.1	8.3	4.6	5,271
Lower Professional	3,891	5.3	3,875	16	4.1	8	2.1	6.2	4.4	3,891
Employers & Managers	5,221	7.1	5,199	22	4.2	8	1.5	5.7	4.0	5,221
Salaried Employees	1,269	1.7	1,265	4	3.2	4	3.2	6.3	4.7	1,269
Intermediate Non-Manual Workers	6,138	8.4	6,118	20	3.3	8	1.3	4.6	2.8	6,138
Other Non-Manual Workers	6,735	9.2	6,705	30	4.5	8	1.2	5.6	3.7	6,735
Skilled Manual Workers	15,096	20.7	15,027	69	4.6	22	1.5	6.0	3.9	15,096
Semi-Skilled Manual Workers	3,521	4.8	3,508	13	3.7	8	2.3	6.0	4.0	3,521
Unskilled Manual Workers	478	0.7	474	4	8.4	1	2.1	10.5	8.4	478
Unemployed	3,729	5.1	3,710	19	5.1	12	3.2	8.3	6.7	3,729
Not Classifiable	1,641	2.2	1,631	10	6.1	3	1.8	7.9	6.1	1,641
Home Duties	131	0.2	130	1	7.6	0	0.0	7.6	7.6	131
Not Stated/Not Applicable	17,372	23.8	17,278	94	5.4	33	1.9	7.3	5.7	17,372
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Farmers & Farm Managers	66	2.6	66	0	0.0	0	0.0	0.0	0.0	33
Other Agricultural Occupations & Fishermen	22	0.9	21	1	45.5	0	0.0	45.5	45.5	11
Higher Professional	210	8.2	208	2	9.5	0	0.0	9.5	9.5	104
Lower Professional	157	6.1	156	1	6.4	0	0.0	6.4	6.4	79
Employers & Managers	228	8.9	227	1	4.4	6	26.4	30.7	30.7	113
Salaried Employees	48	1.9	47	1	20.8	1	21.3	41.7	41.7	24
Intermediate Non-Manual Workers	252	9.9	252	0	0.0	3	11.9	11.9	11.9	126
Other Non-Manual Workers	173	6.8	173	0	0.0	2	11.6	11.6	11.6	86
Skilled Manual Workers	540	21.1	533	7	13.0	2	3.8	16.7	16.7	268
Semi Skilled Manual Workers	138	5.4	138	0	0.0	0	0.0	0.0	0.0	68
Unskilled Manual Workers	23	0.9	23	0	0.0	0	0.0	0.0	0.0	11
Unemployed	112	4.4	108	4	35.7	0	0.0	35.7	35.7	56
Not classifiable	56	2.2	56	0	0.0	2	35.7	35.7	18.2	28
Home Duties	4	0.2	4	0	0.0	0	0.0	0.0	0.0	2
Not Stated/Not Applicable	525	20.6	524	1	1.9	10	19.1	21.0	19.1	263
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix C for a description of the classification system for occupation. For 2010 the categories 'Not Stated' and 'Not Applicable' have been combined into the category 'Not Stated/ Not Applicable'. In previous Perinatal Statistics Reports these were reported as individual categories.

FIGURE 3.5
 Perinatal Mortality Rates by Father's Occupation, Total Births



Notes: See Table 3.4 for data. Rates based on 20 or fewer observations are not included in this Figure.
 Adjusted Perinatal Mortality Rates are not presented due to small numbers associated with the majority of categories.

NATIONALITY

MOTHER'S NATIONALITY

Mother's nationality relates to 'place of birth' of the mother. Table 3.5 presents data on mother's nationality.

- After births to mothers from Ireland the next highest proportion of total births were to mothers from the EU15 to EU27 at 11.3 per cent, followed by mothers from Asia at 3.9 per cent.
- Where rates are calculated on more than 20 observations, the highest perinatal mortality rate was recorded for babies born to mothers from Africa (16.2 per 1,000 live births and stillbirths) and the lowest perinatal mortality rates were reported for babies born to mothers from Ireland at 6.3 per 1,000 live births and stillbirths.

Over the period 2006 to 2010 the proportion of births to Irish mothers fell from 81.6 per cent to 75.5 per cent. Figure 3.6 presents the distribution of births by nationality for non-Irish born mothers between 2006 and 2010.

- The proportion of total births to mothers from Africa decreased slightly from 4.0 per cent in 2006 to 3.0 per cent in 2010.

Figure 3.7 presents the average age of mother by mother's nationality for 2010.

- The average age of all mothers giving birth was 31.5 years and the average age of mothers from Ireland was slightly higher at 31.9 years.
- Mothers giving birth from the EU15 to EU27 were on average younger at 28.6 years, whilst mothers from Australia and the EU15 (excluding Ireland and United Kingdom) recorded the highest average maternal age at 33.6 years and 33.1 years respectively.

TABLE 3.5

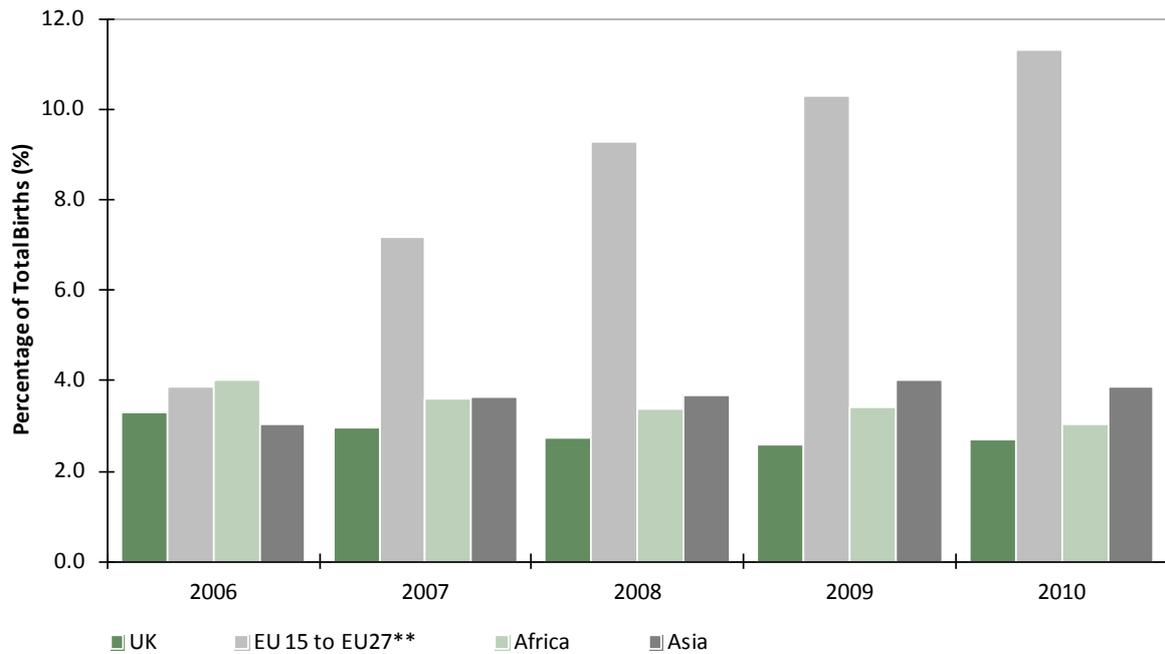
Mother's Nationality by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Ireland	56,965	75.4	56,714	251	4.4	110	1.9	6.3	4.3	55,939
UK	2,037	2.7	2,025	12	5.9	8	4.0	9.8	7.9	2,003
EU15 (excluding Ireland & UK)	1,160	1.5	1,159	1	0.9	1	0.9	1.7	0.9	1,134
EU15 to EU27	8,561	11.3	8,514	47	5.5	20	2.3	7.8	6.5	8,455
Rest of Europe	664	0.9	663	1	1.5	0	0.0	1.5	1.5	658
Africa	2,278	3.0	2,252	26	11.4	11	4.9	16.2	13.2	2,240
Asia	2,910	3.8	2,895	15	5.2	6	2.1	7.2	6.5	2,885
America	686	0.9	686	0	0.0	1	1.5	1.5	0.0	674
Australia	143	0.2	142	1	7.0	1	7.0	14.0	14.0	138
New Zealand and Other Oceania	52	0.1	52	0	0.0	1	19.2	19.2	0.0	51
Other Nationality	4	0.0	4	0	0.0	0	0.0	0.0	0.0	4
Not Stated	140	0.2	139	1	7.1	2	14.4	21.4	7.2	137
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Ireland	54,922	75.2	54,684	238	4.3	93	1.7	6.0	3.9	54,922
UK	1,969	2.7	1,957	12	6.1	7	3.6	9.6	7.6	1,969
EU15 (excluding Ireland & UK)	1,108	1.5	1,107	1	0.9	1	0.9	1.8	0.9	1,108
EU15 to EU27	8,350	11.4	8,307	43	5.1	15	1.8	6.9	5.6	8,350
Rest of Europe	652	0.9	651	1	1.5	0	0.0	1.5	1.5	652
Africa	2,204	3.0	2,178	26	11.8	9	4.1	15.9	12.7	2,204
Asia	2,858	3.9	2,844	14	4.9	6	2.1	7.0	6.3	2,858
America	662	0.9	662	0	0.0	1	1.5	1.5	0.0	662
Australia	133	0.2	132	1	7.5	0	0.0	7.5	7.5	133
New Zealand and Other Oceania	50	0.1	50	0	0.0	1	20.0	20.0	0.0	50
Other Nationality	4	0.0	4	0	0.0	0	0.0	0.0	0.0	4
Not Stated	134	0.2	133	1	7.5	2	15.0	22.4	7.6	134
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Ireland	2,043	80.0	2,030	13	6.4	17	8.4	14.7	13.7	1,017
UK	68	2.7	68	0	0.0	1	14.7	14.7	14.7	34
EU15 (excluding Ireland & UK)	52	2.0	52	0	0.0	0	0.0	0.0	0.0	26
EU15 to EU27	211	8.3	207	4	19.0	5	24.2	42.7	42.7	105
Rest of Europe	12	0.5	12	0	0.0	0	0.0	0.0	0.0	6
Africa	74	2.9	74	0	0.0	2	27.0	27.0	27.0	36
Asia	52	2.0	51	1	19.2	0	0.0	19.2	19.2	27
America	24	0.9	24	0	0.0	0	0.0	0.0	0.0	12
Australia	10	0.4	10	0	0.0	1	100.0	100.0	100.0	5
New Zealand and Other Oceania	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Other Nationality	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	6	0.2	6	0	0.0	0	0.0	0.0	0.0	3
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix F for a description of the classification system for nationality.

FIGURE 3.6

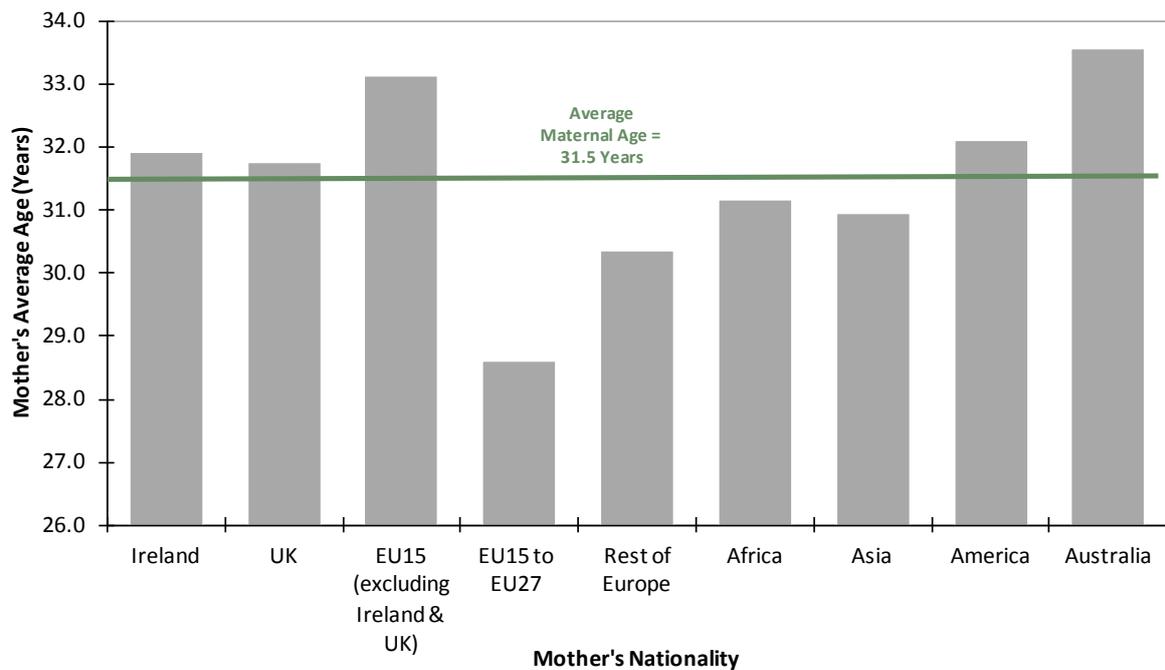
Percentage Distribution of Births by Nationality for Non-Irish Born Mothers, Total Births, 2006–2010*



Notes: See Appendix G, Table G3 for data. 'Not Stated' values are not included in the calculation of percentages.
 *Mothers from the United Kingdom, EU 15-27, Africa, and Asia accounted for 20.9 per cent of total births in 2010.
 **Please note that Bulgaria and Romania joined the EU in 2007.

FIGURE 3.7

Average Age of Mother by Mother's Nationality, Total Births



Notes: See Appendix G, Table G4 for data.
 Average ages calculated for nationalities with greater than 100 births.

FATHER'S NATIONALITY

Father's nationality relates to 'place of birth' of the father. Fathers' details are only required for registration purposes where mother's marital status is recorded as 'married'. As a result, the proportion of records for which information is available is not complete and a category of 'not applicable' is required. This category is combined with 'not stated' for the purposes of presenting data on father's nationality in this report.

Table 3.6 presents information on father's nationality

- Excluding births where father's details are not available and are, therefore, classified as 'not stated/not applicable', 76.7 per cent of total births occurred to Irish fathers.
- Births to fathers from the EU15 to EU27 accounted for 9.9 per cent of total births.

Between 2006 and 2010

- The proportion of total births to fathers from Asia was 4.0 per cent in 2010 compared to 3.0 per cent in 2006.
- Births to fathers from Africa were 3.1 per cent of total births in 2010 compared to 4.3 per cent of total births in 2006.

TABLE 3.6

Father's Nationality by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Ireland	44,683	59.1	44,492	191	4.3	89	2.0	6.3	4.1	43,847
UK	1,805	2.4	1,798	7	3.9	2	1.1	5.0	3.3	1,772
EU15 (excluding Ireland & UK)	696	0.9	692	4	5.7	1	1.4	7.2	5.8	683
EU15 to EU27	5,794	7.7	5,762	32	5.5	11	1.9	7.4	6.0	5,719
Rest of Europe	505	0.7	504	1	2.0	0	0.0	2.0	2.0	497
Africa	1,787	2.4	1,774	13	7.3	9	5.1	12.3	9.5	1,752
Asia	2,330	3.1	2,315	15	6.4	6	2.6	9.0	7.7	2,309
America	426	0.6	424	2	4.7	0	0.0	4.7	4.7	419
Australia	141	0.2	141	0	0.0	0	0.0	0.0	0.0	139
New Zealand and Other Oceania	75	0.1	75	0	0.0	1	13.3	13.3	0.0	74
Other Nationality	1	0.0	1	0	0.0	0	0.0	0.0	0.0	1
Not Stated/ Not Applicable	17,357	23.0	17,267	90	5.2	42	2.4	7.6	5.9	17,106
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Ireland	43,019	58.9	42,841	178	4.1	75	1.8	5.9	3.6	43,019
UK	1,738	2.4	1,731	7	4.0	1	0.6	4.6	2.9	1,738
EU15 (excluding Ireland & UK)	671	0.9	667	4	6.0	1	1.5	7.5	6.0	671
EU15 to EU27	5,645	7.7	5,615	30	5.3	8	1.4	6.7	5.3	5,645
Rest of Europe	489	0.7	488	1	2.0	0	0.0	2.0	2.0	489
Africa	1,719	2.4	1,706	13	7.6	7	4.1	11.6	8.8	1,719
Asia	2,286	3.1	2,272	14	6.1	6	2.6	8.7	7.4	2,286
America	412	0.6	410	2	4.9	0	0.0	4.9	4.9	412
Australia	137	0.2	137	0	0.0	0	0.0	0.0	0.0	137
New Zealand and Other Oceania	73	0.1	73	0	0.0	1	13.7	13.7	0.0	73
Other Nationality	1	0.0	1	0	0.0	0	0.0	0.0	0.0	1
Not Stated/ Not Applicable	16,856	23.1	16,768	88	5.2	36	2.1	7.4	5.7	16,856
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Ireland	1,664	65.2	1,651	13	7.8	14	8.5	16.2	15.6	828
UK	67	2.6	67	0	0.0	1	14.9	14.9	14.9	34
EU15 (excluding Ireland & UK)	25	1.0	25	0	0.0	0	0.0	0.0	0.0	12
EU15 to EU27	149	5.8	147	2	13.4	3	20.4	33.6	33.6	74
Rest of Europe	16	0.6	16	0	0.0	0	0.0	0.0	0.0	8
Africa	68	2.7	68	0	0.0	2	29.4	29.4	29.4	33
Asia	44	1.7	43	1	22.7	0	0.0	22.7	22.7	23
America	14	0.5	14	0	0.0	0	0.0	0.0	0.0	7
Australia	4	0.2	4	0	0.0	0	0.0	0.0	0.0	2
New Zealand and Other Oceania	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Other Nationality	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated/ Not Applicable	501	19.6	499	2	4.0	6	12.0	16.0	14.0	250
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix F for a description of the classification system for nationality. For 2010 the categories 'Not Stated' and 'Not Applicable' have been combined into the category 'Not Stated/ Not Applicable'. In previous Perinatal Statistics Reports these were reported as individual categories.

MATERNAL PARITY

Maternal parity is a mother's total number of previous live births and stillbirths. Table 3.7 presents data on maternal parity.

- Primiparous mothers accounted for 41.5 per cent of all maternities with 58.5 per cent of maternities having one or more previous live births or stillbirths.
- Of mothers aged less than 20 years, 89.6 per cent gave birth for the first time, with only 9.2 per cent delivering for the second time and 1.3 per cent delivering a third time or more (see Figure 3.8).
- For women aged 30 to 34 years 39.0 per cent gave birth for the first time and 36.6 per cent delivered for the second time.

TABLE 3.7

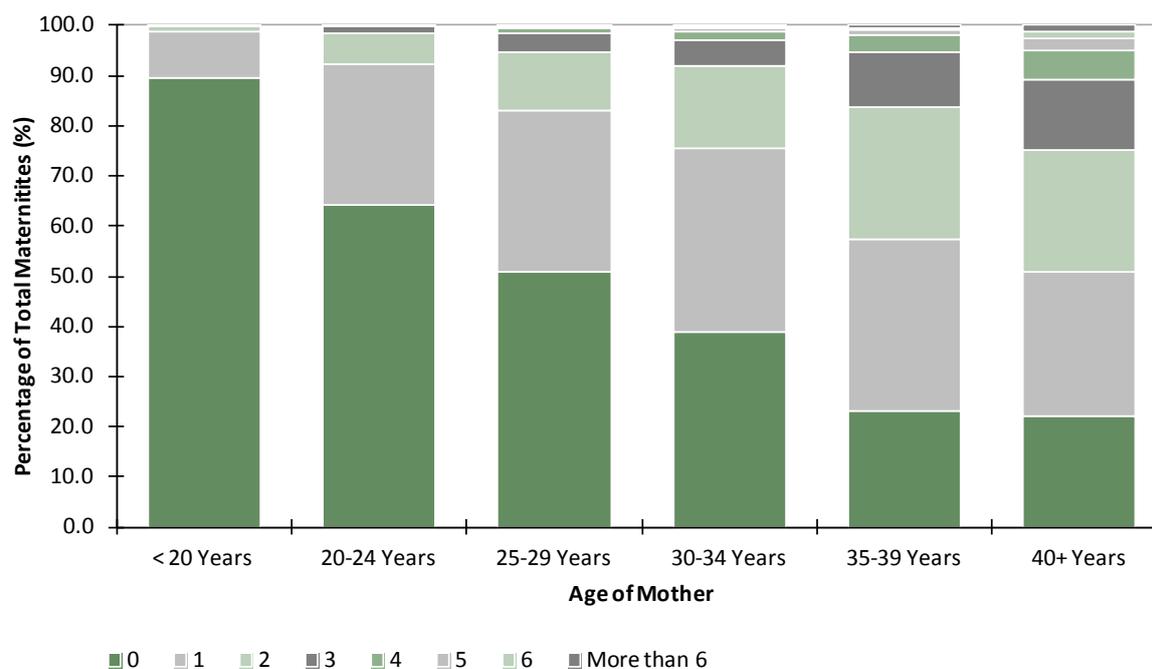
Maternal Parity by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
0	31,434	41.6	31,282	152	4.8	78	2.5	7.3	5.5	30,833
1	24,899	32.9	24,798	101	4.1	37	1.5	5.5	3.9	24,493
2	12,390	16.4	12,338	52	4.2	25	2.0	6.2	4.0	12,228
3	4,513	6.0	4,483	30	6.6	14	3.1	9.7	7.1	4,437
4	1,442	1.9	1,432	10	6.9	2	1.4	8.3	3.5	1,425
5	489	0.6	485	4	8.2	1	2.1	10.2	6.2	482
6	221	0.3	217	4	18.1	3	13.8	31.7	27.3	217
More than 6	208	0.3	207	1	4.8	1	4.8	9.6	9.6	199
Not Stated	4	0.0	3	1	250.0	0	0.0	250.0	250.0	4
Total	75,600	100.0	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
0	30,241	41.4	30,099	142	4.7	63	2.1	6.8	4.9	30,241
1	24,087	33.0	23,990	97	4.0	29	1.2	5.2	3.6	24,087
2	12,066	16.5	12,018	48	4.0	24	2.0	6.0	3.7	12,066
3	4,362	6.0	4,332	30	6.9	14	3.2	10.1	7.4	4,362
4	1,408	1.9	1,398	10	7.1	1	0.7	7.8	2.9	1,408
5	475	0.7	471	4	8.4	1	2.1	10.5	6.3	475
6	213	0.3	209	4	18.8	3	14.4	32.9	28.3	213
More than 6	190	0.3	189	1	5.3	0	0.0	5.3	5.3	190
Not Stated	4	0.0	3	1	250.0	0	0.0	250.0	250.0	4
Total	73,046	100.0	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
0	1,193	46.7	1,183	10	8.4	15	12.7	21.0	20.1	592
1	812	31.8	808	4	4.9	8	9.9	14.8	13.6	406
2	324	12.7	320	4	12.3	1	3.1	15.4	15.4	162
3	151	5.9	151	0	0.0	0	0.0	0.0	0.0	75
4	34	1.3	34	0	0.0	1	29.4	29.4	29.4	17
5	14	0.5	14	0	0.0	0	0.0	0.0	0.0	7
6	8	0.3	8	0	0.0	0	0.0	0.0	0.0	4
More than 6	18	0.7	18	0	0.0	1	55.6	55.6	55.6	9
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100.0	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

FIGURE 3.8

Parity by Age of Mother, Total Maternities



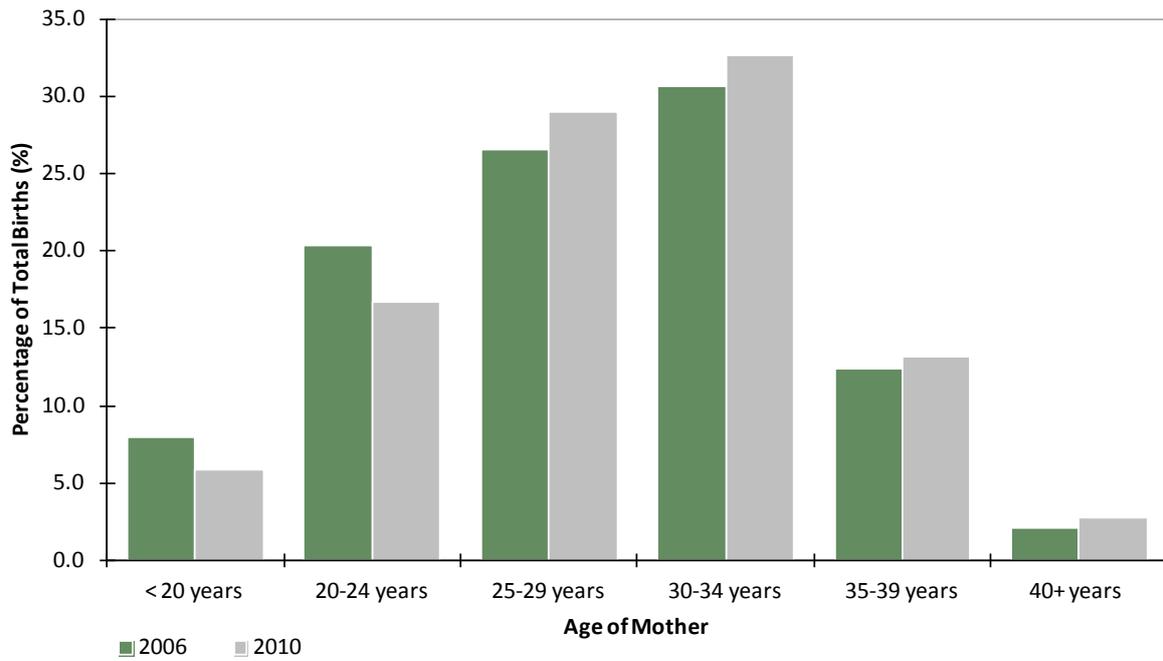
Note: See Appendix G, Table G5 for data. 'Not Stated' values are not included in the calculation of percentages.

Over the period 2006 to 2010 the average maternal age rose from 28.8 years to 29.5 years for primiparous women and from 32.7 years to 32.9 years for multiparous women.

Figures 3.9 to 3.10 present data on maternal parity for 2006 and 2010.

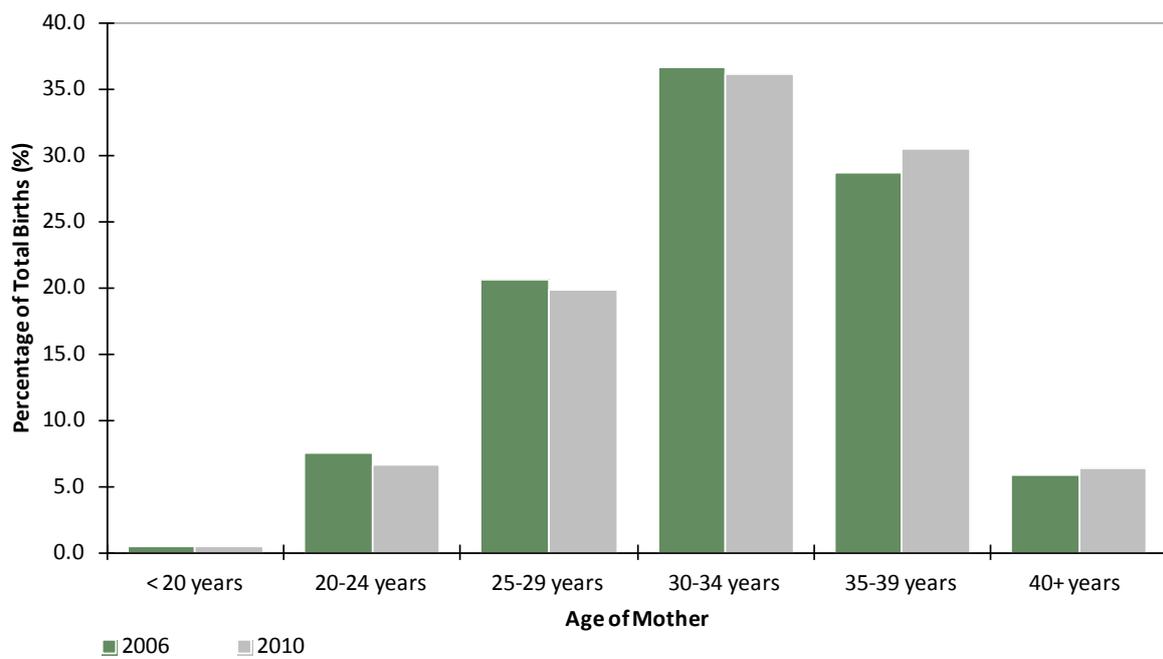
- The proportion of mothers giving birth for the first time and aged less than 25 years fell between 2006 and 2010; births to primiparous women aged less than 20 years accounted for 8.0 per cent of births in 2006 compared to 5.9 per cent in 2010, births to primiparous women aged 20 to 24 years accounted for 20.3 per cent of births in 2006 and 16.7 per cent of births in 2010.
- The proportion of mothers giving birth for a second time or more fell for all mothers aged between 20 and 34 years, with a slight increase recorded for mothers aged 35 years or more.

FIGURE 3.9
Total Births to Primiparous Women by Mother's Age Group, 2006 and 2010



Note: See Appendix G, Table G6 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 3.10
Total Births to Multiparous Women by Mother's Age Group, 2006 and 2010



Note: See Appendix G, Table G7 for data. 'Not Stated' values are not included in the calculation of percentages.

NUMBER OF PREVIOUS STILLBIRTHS

In 2010, 98.2 per cent of multiparous women giving birth recorded no previous stillbirths while 1.6 per cent recorded at least 1 previous stillbirth (see Table 3.8).

TABLE 3.8

Previous Stillbirths by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
0	43,386	98.2	43,199	187	4.3	78	1.8	6.1	4.1	42,721
1	699	1.6	685	14	20.0	5	7.3	27.2	21.6	684
2	61	0.1	61	0	0.0	0	0.0	0.0	0.0	60
3 and over	16	0.0	15	1	62.5	0	0.0	62.5	62.5	16
Total	44,162	100	43,960	202	4.6	83	1.9	6.5	4.4	43,481
Singleton Births										
0	42,057	98.3	41,876	181	4.3	67	1.6	5.9	3.9	42,057
1	669	1.6	657	12	17.9	5	7.6	25.4	19.5	669
2	59	0.1	59	0	0.0	0	0.0	0.0	0.0	59
3 and over	16	0.0	15	1	62.5	0	0.0	62.5	62.5	16
Total	42,801	100	42,607	194	4.5	72	1.7	6.2	4.1	42,801
Multiple Births										
0	1,329	97.6	1,323	6	4.5	11	8.3	12.8	12.0	664
1	30	2.2	28	2	66.7	0	0.0	66.7	66.7	15
2	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
3 and over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,361	100	1,353	8	5.9	11	8.1	14.0	13.2	680

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

This table only includes women having second and subsequent births. Primiparous women (i.e. women who have had no previous pregnancy resulting in a live birth or stillbirth) are not included in this table.

There were 4 maternities with unknown parity; these were excluded from this table.

INTERVAL SINCE LAST BIRTH

Table 3.9 shows the interval since the last birth for multiparous women.

- Almost 53 per cent of all multiparous mothers had their previous birth within the last three years.
- Almost 17 per cent had their previous birth more than six years earlier.

TABLE 3.9

Interval in Years since Last Birth by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
1 year or less	590	1.3	585	5	8.5	4	6.8	15.3	10.2	573
>1 year to 2 years	10,850	24.6	10,809	41	3.8	21	1.9	5.7	3.9	10,678
>2 years to 3 years	11,656	26.4	11,603	53	4.5	23	2.0	6.5	4.7	11,480
>3 years to 4 years	6,783	15.4	6,751	32	4.7	9	1.3	6.0	4.3	6,690
>4 years to 5 years	3,961	9.0	3,944	17	4.3	10	2.5	6.8	4.6	3,900
>5 years to 6 years	2,628	6.0	2,617	11	4.2	1	0.4	4.6	3.8	2,588
More than 6 years	7,279	16.5	7,243	36	4.9	15	2.1	7.0	4.3	7,162
Not Stated	415	0.9	408	7	16.8	0	0.0	16.8	9.7	410
Total	44,162	100	43,960	202	4.6	83	1.9	6.5	4.4	43,481
Singleton Births										
1 year or less	555	1.3	550	5	9.0	4	7.3	16.2	10.9	555
>1 year to 2 years	10,506	24.5	10,466	40	3.8	16	1.5	5.3	3.4	10,506
>2 years to 3 years	11,304	26.4	11,255	49	4.3	22	2.0	6.3	4.4	11,304
>3 years to 4 years	6,598	15.4	6,568	30	4.5	6	0.9	5.5	3.6	6,598
>4 years to 5 years	3,838	9.0	3,821	17	4.4	8	2.1	6.5	4.4	3,838
>5 years to 6 years	2,547	6.0	2,537	10	3.9	1	0.4	4.3	3.5	2,547
More than 6 years	7,048	16.5	7,012	36	5.1	15	2.1	7.2	4.4	7,048
Not Stated	405	0.9	398	7	17.2	0	0.0	17.2	9.9	405
Total	42,801	100	42,607	194	4.5	72	1.7	6.2	4.1	42,801
Multiple Births										
1 year or less	35	2.6	35	0	0.0	0	0.0	0.0	0.0	18
>1 year to 2 years	344	25.3	343	1	2.9	5	14.6	17.4	17.4	172
>2 years to 3 years	352	25.9	348	4	11.4	1	2.9	14.2	14.2	176
>3 years to 4 years	185	13.6	183	2	10.8	3	16.4	27.0	27.0	92
>4 years to 5 years	123	9.0	123	0	0.0	2	16.3	16.3	8.2	62
>5 years to 6 years	81	6.0	80	1	12.3	0	0.0	12.3	12.3	41
More than 6 years	231	17.0	231	0	0.0	0	0.0	0.0	0.0	114
Not Stated	10	0.7	10	0	0.0	0	0.0	0.0	0.0	5
Total	1,361	100	1,353	8	5.9	11	8.1	14.0	13.2	680

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. This table only includes women having second and subsequent births. Primiparous women (i.e. women who have had no previous pregnancy resulting in a live birth or stillbirth) are not included in this table. There were 4 maternities with unknown parity; these were excluded from this table.

BIRTHWEIGHT

The birthweight of a baby is widely used as a key indicator of health status. According to the World Health Organization (WHO), low birthweight babies are defined as weighing less than 2,500 grams. This is further divided into very low birthweight (weighing less than 1,500 grams) and extremely low birthweight (weighing less than 1,000 grams). Low birthweight babies are more likely to have poor perinatal outcomes with consequences for later life experience.¹⁹

- The average birthweight of live births was 3,504 grams for singletons, 2,447 grams for multiples and 3,468 grams for total live births.
- The average birthweight of live births was 3,527 grams for males compared to 3,407 grams for females.
- 66.3 per cent of stillbirths were classified as low birthweight, with the average birthweight for total stillbirths at 1,942 grams.

Table 3.10 presents data on baby birthweight.

- The percentage of total live births classified as low birthweight was 5.1 per cent (3.6 per cent of singletons and 47.6 per cent of multiples).
- There was considerable variation in very low birthweight rates between singleton and multiple births with 0.6 per cent of singleton live births weighing less than 1,500 grams compared to 8.3 per cent for multiple births (see Figure 3.11).
- 92.2 per cent of total live births were in the healthy birthweight category weighing between 2,500 and 4,499 grams (see Figure 3.12).
- A marginally smaller proportion of male live births were low birthweight (4.7 per cent) compared with female live births (5.4 per cent) (see Figure 3.13).

¹⁹ EURO-PERISTAT Project, with SCPE, EUROCAT, EURONEOSTAT. European Perinatal Health Report, 2008. www.euoperistat.com

TABLE 3.10

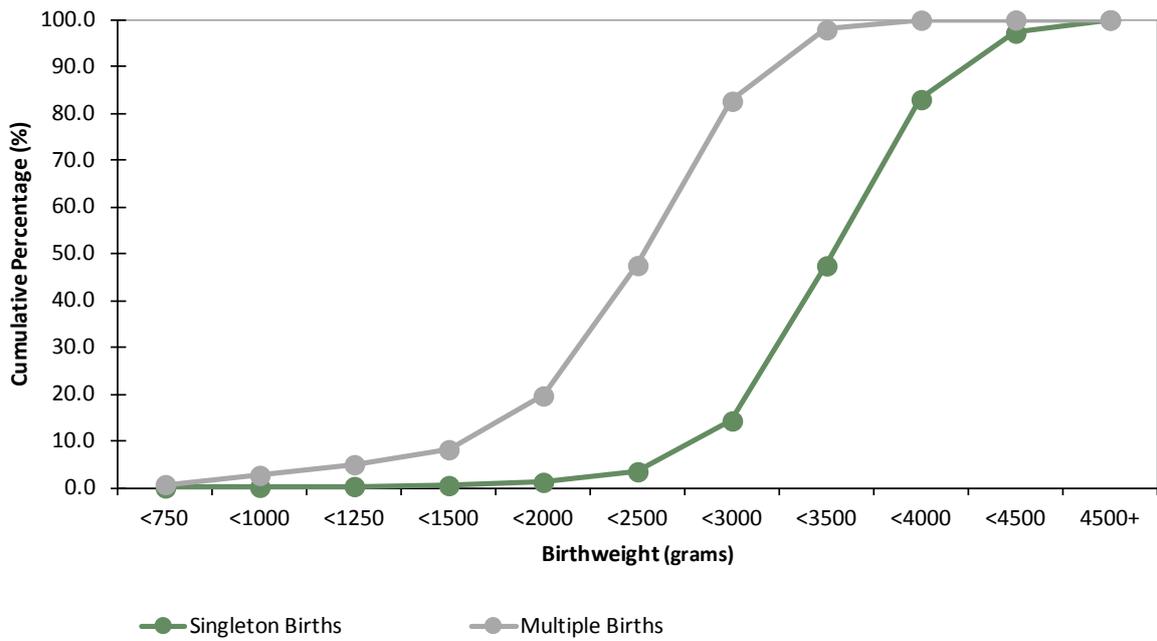
Birthweight (grams) by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
500-749	180	0.2	111	69	383.3	40	360.4	605.6	579.9	168
750-999	183	0.2	149	34	185.8	16	107.4	273.2	208.3	155
1000-1249	200	0.3	176	24	120.0	9	51.1	165.0	111.7	165
1250-1499	254	0.3	230	24	94.5	13	56.5	145.7	95.8	209
1500-1999	841	1.1	792	49	58.3	21	26.5	83.2	48.1	690
2000-2499	2,381	3.1	2,347	34	14.3	16	6.8	21.0	11.0	2,033
2500-2999	8,817	11.7	8,778	39	4.4	15	1.7	6.1	4.1	8,371
3000-3499	24,491	32.4	24,454	37	1.5	15	0.6	2.1	1.5	24,303
3500-3999	25,876	34.2	25,850	26	1.0	11	0.4	1.4	1.2	25,848
4000-4499	10,327	13.7	10,315	12	1.2	3	0.3	1.5	1.2	10,327
4500 and Over	2,042	2.7	2,037	5	2.4	1	0.5	2.9	2.9	2,042
Not Stated	8	0.0	6	2	250.0	1	166.7	375.0	375.0	7
Total	75,600	100.0	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
500-749	148	0.2	90	58	391.9	29	322.2	587.8	554.7	148
750-999	133	0.2	99	34	255.6	8	80.8	315.8	228.8	133
1000-1249	141	0.2	118	23	163.1	8	67.8	219.9	147.3	141
1250-1499	171	0.2	149	22	128.7	11	73.8	193.0	121.0	171
1500-1999	547	0.7	501	46	84.1	20	39.9	120.7	67.8	547
2000-2499	1,675	2.3	1,641	34	20.3	15	9.1	29.3	15.7	1,675
2500-2999	7,928	10.9	7,889	39	4.9	13	1.6	6.6	4.4	7,928
3000-3499	24,104	33.0	24,067	37	1.5	15	0.6	2.2	1.5	24,104
3500-3999	25,824	35.4	25,798	26	1.0	11	0.4	1.4	1.2	25,824
4000-4499	10,326	14.1	10,314	12	1.2	3	0.3	1.5	1.2	10,326
4500 and Over	2,042	2.8	2,037	5	2.4	1	0.5	2.9	2.9	2,042
Not Stated	7	0.0	6	1	142.9	1	166.7	285.7	285.7	7
Total	73,046	100.0	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
500-749	32	1.3	21	11	343.8	11	523.8	687.5	687.5	20
750-999	50	2.0	50	0	0.0	8	160.0	160.0	160.0	22
1000-1249	59	2.3	58	1	16.9	1	17.2	33.9	33.9	24
1250-1499	83	3.2	81	2	24.1	2	24.7	48.2	48.2	38
1500-1999	294	11.5	291	3	10.2	1	3.4	13.6	13.6	143
2000-2499	706	27.6	706	0	0.0	1	1.4	1.4	0.0	358
2500-2999	889	34.8	889	0	0.0	2	2.2	2.2	1.1	443
3000-3499	387	15.2	387	0	0.0	0	0.0	0.0	0.0	199
3500-3999	52	2.0	52	0	0.0	0	0.0	0.0	0.0	24
4000-4499	1	0.0	1	0	0.0	0	0.0	0.0	0.0	1
4500 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	1	0.0	0	1	1000.0	0	0.0	1000.0	1000.0	0
Total	2,554	100.0	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

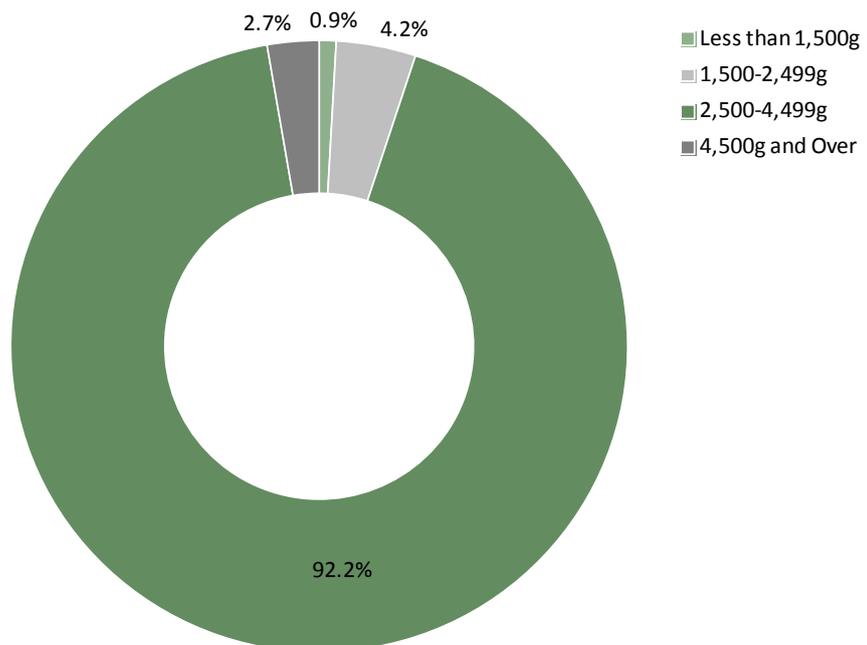
Birthweight tables by primiparous and multiparous women are provided in Appendix G, Tables G8 and G9.

FIGURE 3.11
Birthweight: Cumulative Percentages of Total Live Births



Note: See Table 3.10 for data. 'Not Stated' values are not included in the calculation of percentages.

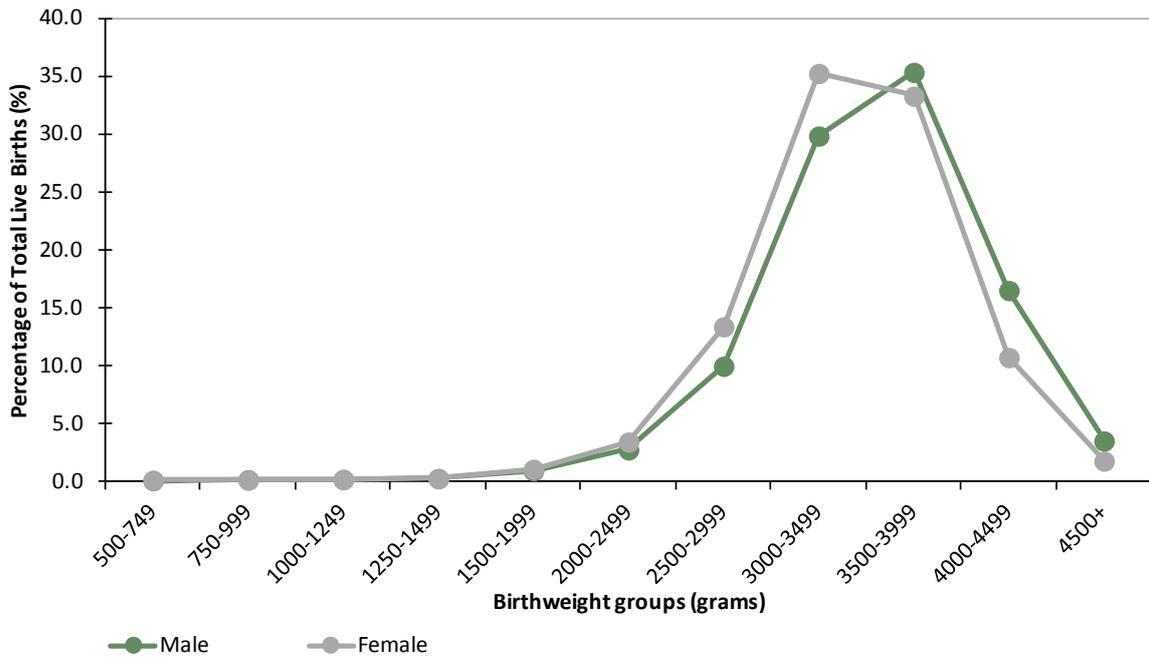
FIGURE 3.12
Percentage of Births by Birthweight Groups, Total Live Births



Note: See Appendix G, Table G10 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 3.13

Percentage Distribution for Males and Females across Birthweight Groups, Total Live Births



Note: See Appendix G, Table G11 for data. 'Not Stated' values are not included in the calculation of percentages.

GESTATIONAL AGE

Based on maternities the average gestational age for total births and live births was 39.4 weeks, stillbirths reported an average gestational age of 33.1 weeks. The average gestational age for singleton live births was 39.4 weeks compared with 35.8 for live twin births and 31.3 for higher-order multiple live births.

Table 3.11 presents data on mother's gestational age.

- 90.8 per cent of all babies were born at term (37–41 weeks).
- Preterm birth (born before 37 weeks) occurred in 64.1 per cent of stillbirths and 5.7 per cent of live births.
- Preterm births were associated with higher risk of perinatal death and comprised 6.0 per cent of total births (see also Figure 3.14).

TABLE 3.11

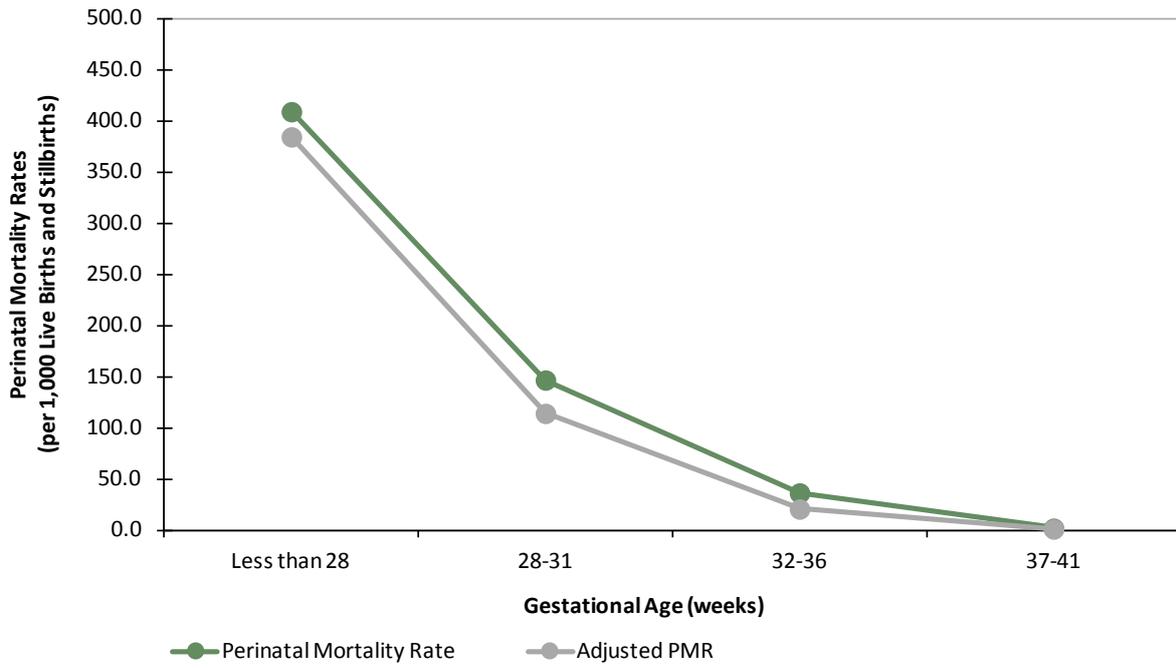
Gestational Age (weeks) at Delivery by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Less than 28	325	0.4	246	79	243.1	54	219.5	409.2	384.6	288
28-31	544	0.7	490	54	99.3	26	53.1	147.1	114.5	466
32-36	3,666	4.8	3,572	94	25.6	41	11.5	36.8	21.1	3,153
37-41	68,668	90.8	68,545	123	1.8	36	0.5	2.3	1.6	68,014
42 and Over	2,388	3.2	2,384	4	1.7	4	1.7	3.4	1.3	2,388
Not Stated	9	0.0	8	1	111.1	0	0.0	111.1	111.1	9
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Less than 28	245	0.3	175	70	285.7	38	217.1	440.8	409.5	245
28-31	395	0.5	344	51	129.1	19	55.2	177.2	133.3	395
32-36	2,649	3.6	2,559	90	34.0	40	15.6	49.1	27.8	2,649
37-41	67,360	92.2	67,239	121	1.8	34	0.5	2.3	1.6	67,360
42 and Over	2,388	3.3	2,384	4	1.7	4	1.7	3.4	1.3	2,388
Not Stated	9	0.0	8	1	111.1	0	0.0	111.1	111.1	9
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Less than 28	80	3.1	71	9	112.5	16	225.4	312.5	312.5	43
28-31	149	5.8	146	3	20.1	7	47.9	67.1	67.1	71
32-36	1,017	39.8	1,013	4	3.9	1	1.0	4.9	3.9	504
37-41	1,308	51.2	1,306	2	1.5	2	1.5	3.1	2.3	654
42 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Gestational age tables by primiparous and multiparous women are provided in Appendix G, Tables G12 and G13.

FIGURE 3.14

Perinatal Mortality Rates by Gestational Age (weeks) at Delivery, Total Births



Note: See Table 3.11 for data.

MONTH OF BIRTH

Table 3.12 presents data on the month of birth.

- Total births were fairly evenly spread throughout the year, with the lowest number of births occurring in February (7.3 per cent) and the highest occurring in September (8.7 per cent).
- The highest number of singleton births occurred in September (8.7 per cent) and the highest number of multiple births in November (10.3 per cent) (see Figure 3.15).

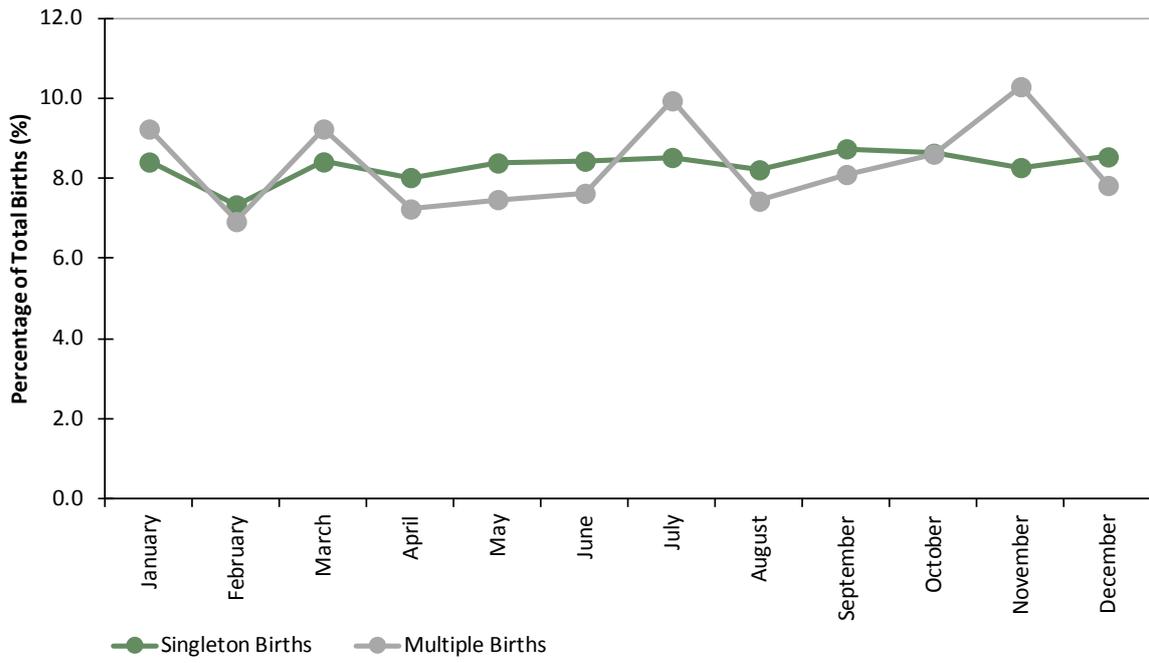
TABLE 3.12

Month of Birth by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
January	6,384	8.4	6,354	30	4.7	16	2.5	7.2	5.5	6,266
February	5,543	7.3	5,517	26	4.7	12	2.2	6.9	4.9	5,453
March	6,386	8.4	6,356	30	4.7	21	3.3	8.0	5.2	6,268
April	6,050	8.0	6,017	33	5.5	9	1.5	6.9	5.1	5,957
May	6,322	8.4	6,295	27	4.3	11	1.7	6.0	5.4	6,226
June	6,359	8.4	6,329	30	4.7	16	2.5	7.2	5.4	6,261
July	6,485	8.6	6,458	27	4.2	13	2.0	6.2	4.5	6,357
August	6,196	8.2	6,165	31	5.0	13	2.1	7.1	4.7	6,101
September	6,596	8.7	6,566	30	4.5	11	1.7	6.2	4.0	6,492
October	6,527	8.6	6,503	24	3.7	13	2.0	5.7	3.8	6,416
November	6,310	8.3	6,270	40	6.3	11	1.8	8.1	6.0	6,179
December	6,442	8.5	6,415	27	4.2	15	2.3	6.5	4.2	6,342
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
January	6,148	8.4	6,118	30	4.9	12	2.0	6.8	5.1	6,148
February	5,366	7.3	5,340	26	4.8	10	1.9	6.7	4.9	5,366
March	6,150	8.4	6,120	30	4.9	14	2.3	7.2	4.2	6,150
April	5,865	8.0	5,832	33	5.6	9	1.5	7.2	5.3	5,865
May	6,131	8.4	6,113	18	2.9	9	1.5	4.4	3.8	6,131
June	6,164	8.4	6,135	29	4.7	15	2.4	7.1	5.2	6,164
July	6,231	8.5	6,206	25	4.0	12	1.9	5.9	4.2	6,231
August	6,006	8.2	5,977	29	4.8	11	1.8	6.7	4.2	6,006
September	6,389	8.7	6,361	28	4.4	9	1.4	5.8	3.5	6,389
October	6,307	8.6	6,284	23	3.6	10	1.6	5.2	3.3	6,307
November	6,047	8.3	6,007	40	6.6	11	1.8	8.4	6.3	6,047
December	6,242	8.5	6,216	26	4.2	13	2.1	6.2	4.0	6,242
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
January	236	9.2	236	0	0.0	4	16.9	16.9	16.9	118
February	177	6.9	177	0	0.0	2	11.3	11.3	5.7	87
March	236	9.2	236	0	0.0	7	29.7	29.7	29.7	118
April	185	7.2	185	0	0.0	0	0.0	0.0	0.0	92
May	191	7.5	182	9	47.1	2	11.0	57.6	57.6	95
June	195	7.6	194	1	5.1	1	5.2	10.3	10.3	97
July	254	9.9	252	2	7.9	1	4.0	11.8	11.8	126
August	190	7.4	188	2	10.5	2	10.6	21.1	21.1	95
September	207	8.1	205	2	9.7	2	9.8	19.3	19.3	103
October	220	8.6	219	1	4.5	3	13.7	18.2	18.2	109
November	263	10.3	263	0	0.0	0	0.0	0.0	0.0	132
December	200	7.8	199	1	5.0	2	10.1	15.0	10.1	100
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

FIGURE 3.15
 Percentage of Births by Month of Birth, Total Births



Note: See Table 3.12 for data.

SECTION FOUR

PERINATAL CARE

INTRODUCTION

This section presents a detailed review of aspects of perinatal care for the mother and baby. Tables and figures are presented in some detail for a number of variables, including

- type of antenatal care
- timing of first antenatal visit
- mother's antenatal and postnatal length of stay
- method of delivery
- mother's immunity to rubella
- infant's length of stay
- type of feeding.

TYPE OF ANTENATAL CARE

Table 4.1 presents type of antenatal care.

- The preferred choice was combined hospital and G.P. accounting for over 80 per cent of total maternities.²⁰
- Hospital/Obstetrician care was higher for maternities delivering multiple births (32.1 per cent) than those delivering singleton births (18.4 per cent).

TABLE 4.1

Type of Antenatal Care by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Hospital/Obstetrician	14,274	18.9	14,193	81	5.7	45	3.2	8.8	6.3	13,867
General Practitioner only	174	0.2	171	3	17.2	0	0.0	17.2	17.2	173
Hospital & G.P. combined	61,019	80.7	60,761	258	4.2	113	1.9	6.1	4.3	60,148
None	130	0.2	117	13	100.0	3	25.6	123.1	116.3	127
Not Stated	3	0.0	3	0	0.0	0	0.0	0.0	0.0	3
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Hospital/Obstetrician	13,459	18.4	13,383	76	5.6	34	2.5	8.2	5.7	13,459
General Practitioner only	172	0.2	169	3	17.4	0	0.0	17.4	17.4	172
Hospital & G.P. combined	59,288	81.2	59,043	245	4.1	98	1.7	5.8	3.9	59,288
None	124	0.2	111	13	104.8	3	27.0	129.0	122.0	124
Not Stated	3	0.0	3	0	0.0	0	0.0	0.0	0.0	3
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Hospital/Obstetrician	815	31.9	810	5	6.1	11	13.6	19.6	17.2	408
General Practitioner only	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Hospital & G.P. combined	1,731	67.8	1,718	13	7.5	15	8.7	16.2	16.2	860
None	6	0.2	6	0	0.0	0	0.0	0.0	0.0	3
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Deliveries under hospital schemes (including domino, early transfer home, planned community midwives, and midwifery-led units) and domiciliary births were included in hospital and G.P. combined care.

²⁰ Throughout this section, 'Not Stated' values are not included in the calculation of percentages for discussion.

DURATION OF PREGNANCY AT FIRST ANTENATAL VISIT

Table 4.2 presents the time of first antenatal visit.

- For total births, over 63 per cent recorded their first antenatal visit within the first 12 weeks of pregnancy.

TABLE 4.2

Time of First Visit (weeks) to Doctor or Hospital during Pregnancy by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
0-12	47,080	62.3	46,888	192	4.1	84	1.8	5.9	3.9	46,243
13-19	19,350	25.6	19,252	98	5.1	35	1.8	6.9	5.7	19,057
20 and over	7,629	10.1	7,579	50	6.6	34	4.5	11.0	7.4	7,514
Not Stated	1,541	2.0	1,526	15	9.7	8	5.2	14.9	12.4	1,504
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
0-12	45,417	62.2	45,234	183	4.0	74	1.6	5.7	3.6	45,417
13-19	18,762	25.7	18,672	90	4.8	28	1.5	6.3	5.2	18,762
20 and over	7,402	10.1	7,352	50	6.8	29	3.9	10.7	7.1	7,402
Not Stated	1,465	2.0	1,451	14	9.6	4	2.8	12.3	9.6	1,465
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
0-12	1,663	65.1	1,654	9	5.4	10	6.0	11.4	11.4	826
13-19	588	23.0	580	8	13.6	7	12.1	25.5	23.9	295
20 and over	227	8.9	227	0	0.0	5	22.0	22.0	17.7	112
Not Stated	76	3.0	75	1	13.2	4	53.3	65.8	65.8	39
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

Although 80.7 per cent of total births were recorded as receiving combined antenatal care, the date of the first visit to the doctor was recorded as 'not known' for 39.2 per cent of these births. As a result of the absence of these data, the timing of first contact with health professionals within this category will reflect the date of the first hospital visit, even though this is likely to have been later than the first doctor visit. Consequently, caution should be exercised in interpreting the data presented here on the timing of the first visit to health services.

ADVANCE HOSPITAL BOOKINGS

- Over 99 per cent of total births were booked at time of admission to hospital (see Table 4.3).

TABLE 4.3

Advance Hospital Bookings by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Booked	74,841	99.2	74,506	335	4.5	152	2.0	6.5	4.6	73,585
Not Booked	571	0.8	552	19	33.3	9	16.3	49.0	47.4	545
Not Stated	11	0.0	11	0	0.0	0	0.0	0.0	0.0	11
Total	75,423	100	75,069	354	4.7	161	2.1	6.8	4.9	74,141
Singleton Births										
Booked	72,339	99.3	72,022	317	4.4	130	1.8	6.2	4.2	72,339
Not Booked	519	0.7	500	19	36.6	5	10.0	46.2	44.4	519
Not Stated	11	0.0	11	0	0.0	0	0.0	0.0	0.0	11
Total	72,869	100	72,533	336	4.6	135	1.9	6.5	4.5	72,869
Multiple Births										
Booked	2,502	98.0	2,484	18	7.2	22	8.9	16.0	15.2	1,246
Not Booked	52	2.0	52	0	0.0	4	76.9	76.9	76.9	26
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Domiciliary births, of which there were 177, are excluded from this table. See Section Six for detailed analysis.

MOTHER'S ANTENATAL LENGTH OF STAY

The average antenatal length of stay was less than one day (0.8 days) for singleton births and 2.5 days for multiple births.

Table 4.4 presents data on mother's antenatal length of stay.

- Almost 90 per cent of singleton births and 74.8 per cent of multiple births were delivered within a day of mother's admission to hospital.
- Less than 2 per cent of total births were delivered more than 5 days after mother's admission to hospital.

TABLE 4.4

Mother's Antenatal Length of Stay by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
0-1 Days	67,204	89.1	66,921	283	4.2	116	1.7	5.9	4.3	66,250
2 Days	4,557	6.0	4,530	27	5.9	12	2.6	8.6	5.3	4,476
3-5 Days	2,147	2.8	2,124	23	10.7	15	7.1	17.7	13.1	2,050
6-8 Days	579	0.8	564	15	25.9	0	0.0	25.9	15.7	528
9-11 Days	265	0.4	265	0	0.0	2	7.5	7.5	7.5	244
12-14 Days	136	0.2	135	1	7.4	2	14.8	22.1	14.8	120
More than 2 Weeks	449	0.6	445	4	8.9	14	31.5	40.1	31.5	389
Not Stated	86	0.1	85	1	11.6	0	0.0	11.6	11.6	84
Total	75,423	100	75,069	354	4.7	161	2.1	6.8	4.9	74,141
Singleton Births										
0-1 Days	65,296	89.6	65,027	269	4.1	98	1.5	5.6	3.9	65,296
2 Days	4,394	6.0	4,368	26	5.9	11	2.5	8.4	5.0	4,394
3-5 Days	1,955	2.7	1,934	21	10.7	13	6.7	17.4	12.3	1,955
6-8 Days	476	0.7	461	15	31.5	0	0.0	31.5	19.1	476
9-11 Days	225	0.3	225	0	0.0	2	8.9	8.9	8.9	225
12-14 Days	107	0.1	106	1	9.3	0	0.0	9.3	0.0	107
More than 2 Weeks	334	0.5	331	3	9.0	11	33.2	41.9	33.2	334
Not Stated	82	0.1	81	1	12.2	0	0.0	12.2	12.2	82
Total	72,869	100	72,533	336	4.6	135	1.9	6.5	4.5	72,869
Multiple Births										
0-1 Days	1,908	74.7	1,894	14	7.3	18	9.5	16.8	16.3	954
2 Days	163	6.4	162	1	6.1	1	6.2	12.3	12.3	82
3-5 Days	192	7.5	190	2	10.4	2	10.5	20.8	20.8	95
6-8 Days	103	4.0	103	0	0.0	0	0.0	0.0	0.0	52
9-11 Days	40	1.6	40	0	0.0	0	0.0	0.0	0.0	19
12-14 Days	29	1.1	29	0	0.0	2	69.0	69.0	69.0	13
More than 2 Weeks	115	4.5	114	1	8.7	3	26.3	34.8	26.3	55
Not Stated	4	0.2	4	0	0.0	0	0.0	0.0	0.0	2
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Domiciliary births, of which there were 177, are excluded from this table. See Section Six for detailed analysis.

MOTHER'S POSTNATAL LENGTH OF STAY

Maternal postnatal length of stay can be influenced by factors such as method of delivery, post-delivery complications, neonatal mortality, and hospital discharge policies. Average maternal postnatal lengths of stay for singleton and multiple births were 2.5 and 4.2 days respectively.

Table 4.5 presents data on mother's postnatal length of stay.

- Over 55 per cent of maternities delivering singleton births remained in hospital for up to 2 days following delivery, compared to 12.7 per cent of maternities delivering multiple births.
- The largest proportions of total maternities were discharged 3 to 5 days post delivery, 42.6 per cent for singleton births and 73.1 per cent for multiple births.
- For singleton births, 98.0 per cent of mothers were discharged home within 5 days of delivery compared to 85.8 per cent of multiple births.

TABLE 4.5

Mother's Postnatal Length of Stay by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
0-1 Days	17,438	23.1	17,226	212	12.2	52	3.0	15.1	11.1	17,403
2 Days	23,250	30.8	23,178	72	3.1	32	1.4	4.5	3.0	23,122
3-5 Days	32,898	43.6	32,839	59	1.8	67	2.0	3.8	2.6	31,964
6-8 Days	1,553	2.1	1,544	9	5.8	8	5.2	10.9	10.3	1,392
9-11 Days	205	0.3	204	1	4.9	1	4.9	9.8	9.8	187
12-14 Days	36	0.0	35	1	27.8	0	0.0	27.8	27.8	33
More than 2 Weeks	25	0.0	25	0	0.0	0	0.0	0.0	0.0	22
Not Stated	18	0.0	18	0	0.0	1	55.6	55.6	0.0	18
Total	75,423	100	75,069	354	4.7	161	2.1	6.8	4.9	74,141
Singleton Births										
0-1 Days	17,367	23.8	17,161	206	11.9	48	2.8	14.6	10.5	17,367
2 Days	22,996	31.6	22,927	69	3.0	22	1.0	4.0	2.5	22,996
3-5 Days	31,034	42.6	30,980	54	1.7	57	1.8	3.6	2.4	31,034
6-8 Days	1,235	1.7	1,228	7	5.7	6	4.9	10.5	9.7	1,235
9-11 Days	169	0.2	169	0	0.0	1	5.9	5.9	5.9	169
12-14 Days	30	0.0	30	0	0.0	0	0.0	0.0	0.0	30
More than 2 Weeks	20	0.0	20	0	0.0	0	0.0	0.0	0.0	20
Not Stated	18	0.0	18	0	0.0	1	55.6	55.6	0.0	18
Total	72,869	100	72,533	336	4.6	135	1.9	6.5	4.5	72,869
Multiple Births										
0-1 Days	71	2.8	65	6	84.5	4	61.5	140.8	140.8	36
2 Days	254	9.9	251	3	11.8	10	39.8	51.2	51.2	126
3-5 Days	1,864	73.0	1,859	5	2.7	10	5.4	8.0	7.0	930
6-8 Days	318	12.5	316	2	6.3	2	6.3	12.6	12.6	157
9-11 Days	36	1.4	35	1	27.8	0	0.0	27.8	27.8	18
12-14 Days	6	0.2	5	1	166.7	0	0.0	166.7	166.7	3
More than 2 Weeks	5	0.2	5	0	0.0	0	0.0	0.0	0.0	2
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Domiciliary births, of which there were 177, are excluded from this table. See Section Six for detailed analysis.

Figures 4.1 and 4.2 present data on mother’s postnatal length of stay for singleton and multiple births.

- The postnatal length of stay for mothers differed by method of delivery and plurality.
- Mother's postnatal length of stay was 2 days or less for over 77 per cent of singleton spontaneous deliveries compared to 37.2 per cent of multiple spontaneous deliveries.
- For Caesarean section deliveries, mother's postnatal length of stay was 3 to 5 days for over 90 per cent of singleton deliveries compared to 81.0 per cent for multiple deliveries.

FIGURE 4.1
Mother's Postnatal Length of Stay by Method of Delivery, Singleton Births

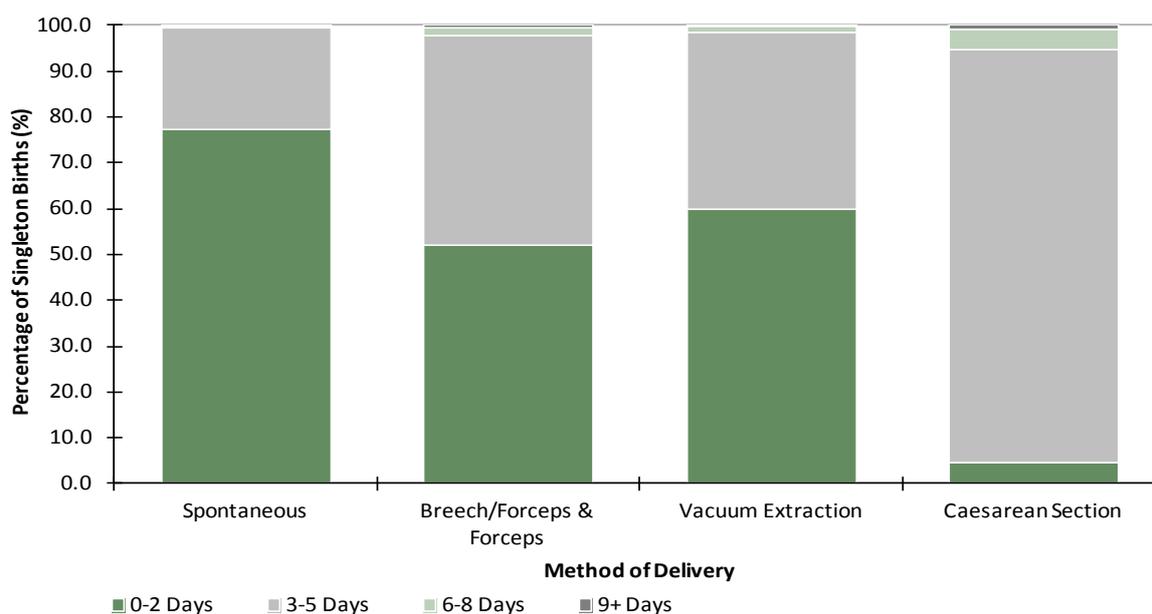
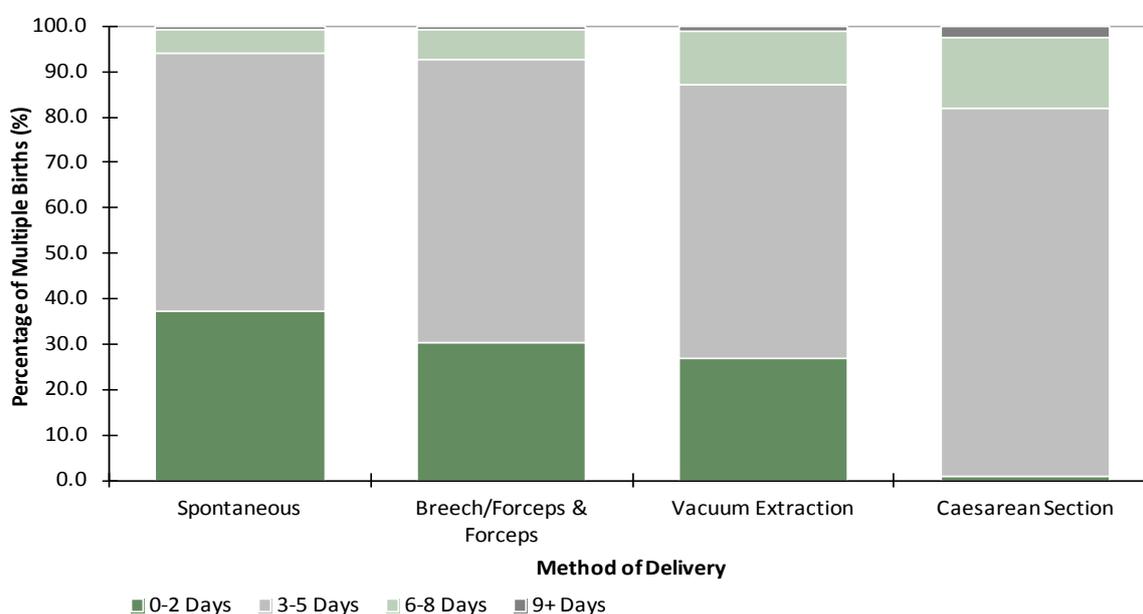


FIGURE 4.2
Mother's Postnatal Length of Stay by Method of Delivery, Multiple Births



Note: See Appendix G, Table G14 for data. 'Not Stated' values are not included in the calculation of percentages.

RUBELLA: IMMUNE STATUS OF MOTHER

The rubella immune status of the mother is presented in Table 4.6. Of total maternities, over 92 per cent were rubella immune.

TABLE 4.6

Rubella: Immune Status of Mother, Numbers and Percentages

Rubella Immunity	Number of Maternities	Per Cent
Total Births		
Immune	68,629	92.3
Not Immune	3,633	4.9
Unknown	2,056	2.8
Total	74,318	100
Singleton Births		
Immune	67,437	92.3
Not Immune	3,578	4.9
Unknown	2,031	2.8
Total	73,046	100
Multiple Births		
Immune	1,192	93.7
Not Immune	55	4.3
Unknown	25	2.0
Total	1,272	100

METHOD OF DELIVERY²¹

METHOD OF DELIVERY BY MATERNITIES AND PARITY

Table 4.7a presents data on method of delivery for total maternities by parity.

- 57.2 per cent delivered spontaneously (42.7 per cent of primiparous and 67.5 per cent of multiparous women).
- When method of delivery is analysed by plurality, almost two thirds of mothers (63.4 per cent) having a multiple birth delivered by Caesarean section, compared with one quarter (25.7 per cent) of maternities delivering singleton births.
- As well as recording the highest proportion of Caesarean sections (27.6 per cent) primiparous women also recorded the highest proportion of births by instrumental delivery (either breech/forceps, forceps or vacuum extraction) at 29.7 per cent compared to multiparous women (7.0 per cent) (see Figure 4.3).

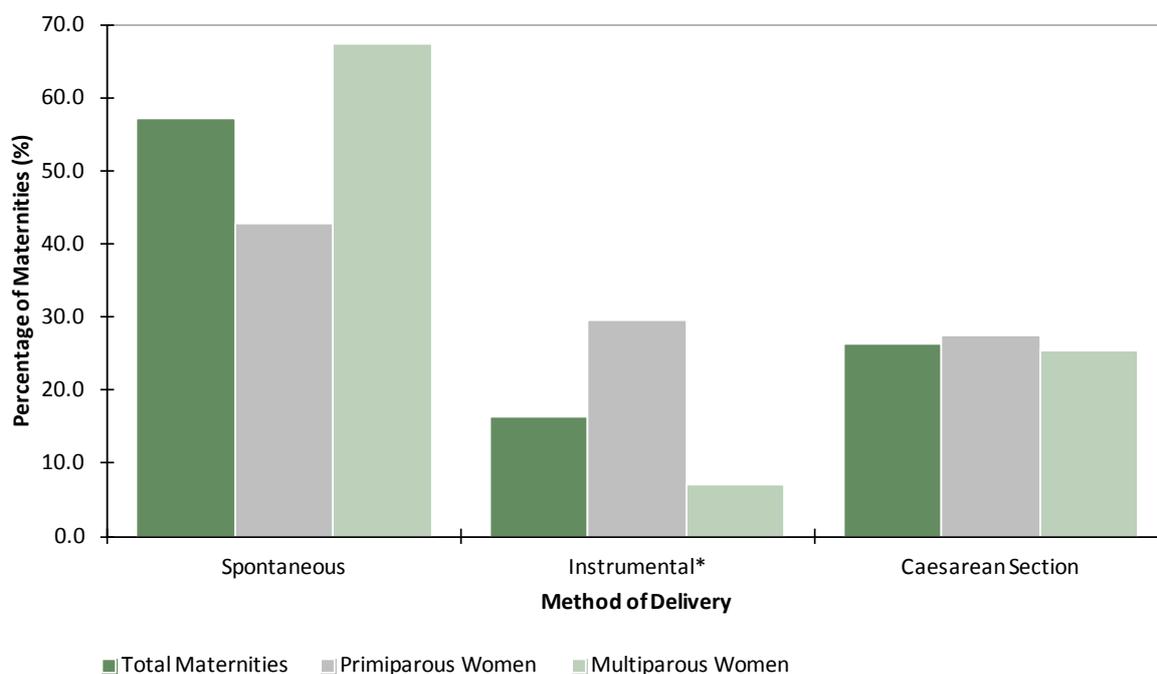
²¹ Throughout this section, method of delivery recorded as 'other specified & combined' are not included in figures presenting data on method of delivery

TABLE 4.7a
Method of Delivery for Total Maternities by Parity

	Total Maternities		Maternities - Primiparous Women		Maternities - Multiparous Women	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Total Births						
Spontaneous	42,528	57.2	13,168	42.7	29,360	67.5
Breech/Forceps	375	0.5	208	0.7	167	0.4
Forceps	2,966	4.0	2,464	8.0	502	1.2
Vacuum extraction	8,837	11.9	6,469	21.0	2,368	5.4
Caesarean section	19,577	26.3	8,516	27.6	11,061	25.4
Other specified & combined	31	0.0	8	0.0	23	0.1
Total	74,314	100	30,833	100	43,481	100
Singleton Births						
Spontaneous	42,198	57.8	13,079	43.2	29,119	68.0
Breech/Forceps	364	0.5	205	0.7	159	0.4
Forceps	2,934	4.0	2,435	8.1	499	1.2
Vacuum extraction	8,746	12.0	6,414	21.2	2,332	5.4
Caesarean section	18,770	25.7	8,100	26.8	10,670	24.9
Other specified & combined	30	0.0	8	0.0	22	0.1
Total	73,042	100	30,241	100	42,801	100
Multiple Births						
Spontaneous	330	25.9	89	15.0	241	35.4
Breech/Forceps	11	0.9	3	0.5	8	1.2
Forceps	32	2.5	29	4.9	3	0.4
Vacuum extraction	91	7.2	55	9.3	36	5.3
Caesarean section	807	63.4	416	70.3	391	57.5
Other specified & combined	1	0.1	0	0.0	1	0.1
Total	1,272	100	592	100	680	100

Note: There were 4 Maternities with parity unknown; these were excluded from this table.

FIGURE 4.3
Percentage Distribution of Maternities by Method of Delivery



Notes: See Table 4.7a for data. There were 4 Maternities with parity unknown; these were excluded from this figure.

*Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

METHOD OF DELIVERY BY BIRTHS AND PARITY

Table 4.7b presents births by method of delivery and parity.

- Births to multiparous women represented 58.4 per cent of total births with births to primiparous women accounting for the remaining 41.6 per cent.
- The perinatal mortality rate for births to primiparous women was 7.3 per 1,000 live births and stillbirths compared to 6.5 per 1,000 live births and stillbirths for births to multiparous women.
- The stillbirth rate was slightly lower for multiparous mothers at 4.6 per 1,000 births compared to 4.8 per 1,000 live births and stillbirths to primiparous women.

TABLE 4.7b

Method of Delivery for Total Births by Parity by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, and Mortality Rates

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*
Total Births									
Spontaneous	42,765	56.6	42,502	263	6.1	75	1.8	7.9	5.8
Breech/Forceps	461	0.6	425	36	78.1	10	23.5	99.8	67.4
Forceps	2,988	4.0	2,984	4	1.3	1	0.3	1.7	1.3
Vacuum extraction	8,933	11.8	8,927	6	0.7	3	0.3	1.0	0.7
Caesarean section	20,418	27.0	20,373	45	2.2	72	3.5	5.7	3.9
Other specified & combined	31	0.0	31	0	0.0	0	0.0	0.0	0.0
Total	75,596	100	75,242	354	4.7	161	2.1	6.8	4.9
Births to Primiparous Women									
Spontaneous	13,238	42.1	13,118	120	9.1	37	2.8	11.9	9.1
Breech/Forceps	240	0.8	225	15	62.5	7	31.1	91.7	64.4
Forceps	2,478	7.9	2,476	2	0.8	1	0.4	1.2	1.2
Vacuum extraction	6,522	20.7	6,518	4	0.6	0	0.0	0.6	0.6
Caesarean section	8,948	28.5	8,937	11	1.2	33	3.7	4.9	3.4
Other specified & combined	8	0.0	8	0	0.0	0	0.0	0.0	0.0
Total	31,434	100	31,282	152	4.8	78	2.5	7.3	5.5
Births to Multiparous Women									
Spontaneous	29,527	66.9	29,384	143	4.8	38	1.3	6.1	4.3
Breech/Forceps	221	0.5	200	21	95.0	3	15.0	108.6	70.8
Forceps	510	1.2	508	2	3.9	0	0.0	3.9	2.0
Vacuum extraction	2,411	5.5	2,409	2	0.8	3	1.2	2.1	0.8
Caesarean section	11,470	26.0	11,436	34	3.0	39	3.4	6.4	4.4
Other specified & combined	23	0.1	23	0	0.0	0	0.0	0.0	0.0
Total	44,162	100	43,960	202	4.6	83	1.9	6.5	4.4

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

There were 4 Maternities with parity unknown; these were excluded from this table.

See Appendix G, Table G15 for a breakdown of Method of Delivery by Parity for Total, Singleton and Multiple Births.

METHOD OF DELIVERY BY BIRTHS AND PLURALITY

Table 4.8a presents data on method of delivery for total births.

- There were 20,374 live births delivered by Caesarean section, representing 27.1 per cent of total live births, 25.8 per cent of singleton births and 64.7 per cent of multiple births.
- Just over 56 per cent of total live births delivered spontaneously (57.7 per cent of singleton births and 22.0 per cent of multiple births) (see Figure 4.4).
- Over 16 per cent of total live births were born by instrumental delivery (either breech/forceps, forceps or vacuum extraction) with higher percentages for live singleton births (16.5 per cent) compared with live multiple births (13.3 per cent).

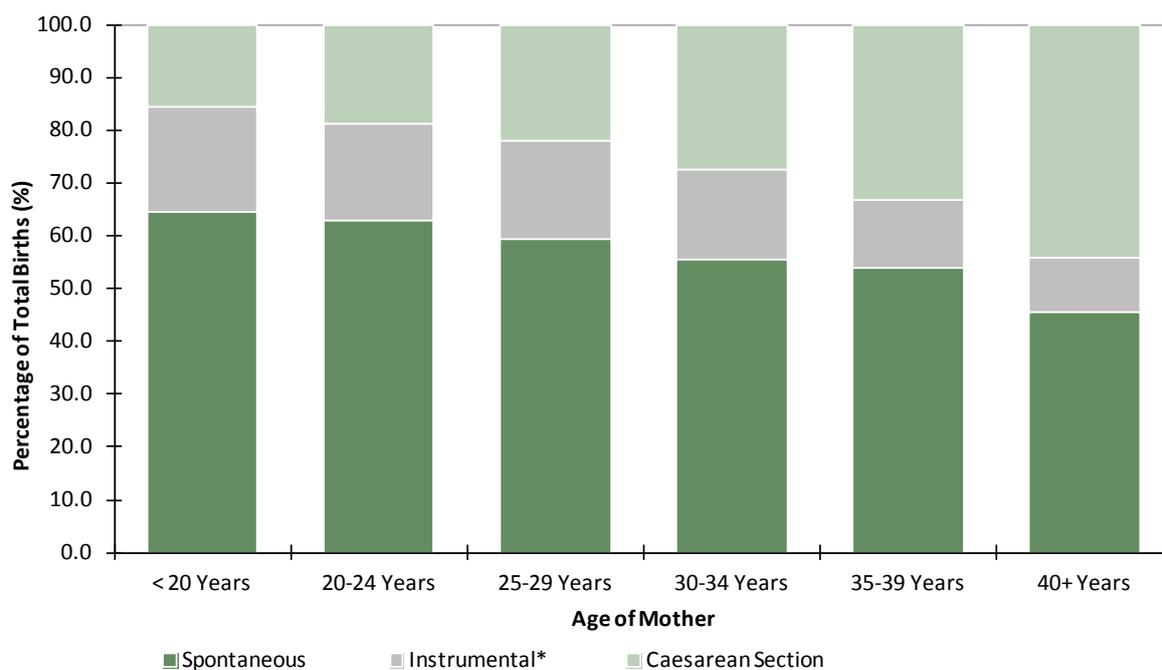
TABLE 4.8a

Method of Delivery, Total Births by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Spontaneous	42,768	56.6	42,504	264	6.2	75	1.8	7.9	5.8	42,531
Breech / Forceps	461	0.6	425	36	78.1	10	23.5	99.8	67.4	375
Forceps	2,988	4.0	2,984	4	1.3	1	0.3	1.7	1.3	2,966
Vacuum extraction	8,933	11.8	8,927	6	0.7	3	0.3	1.0	0.7	8,837
Caesarean section	20,419	27.0	20,374	45	2.2	72	3.5	5.7	3.9	19,578
Other specified & combined	31	0.0	31	0	0.0	0	0.0	0.0	0.0	31
Total	75,600	100	75,245	355	4.7	161	2.1	6.8	4.9	74,318
Singleton Births										
Spontaneous	42,201	57.8	41,946	255	6.0	59	1.4	7.4	5.3	42,201
Breech / Forceps	364	0.5	329	35	96.2	9	27.4	120.9	80.5	364
Forceps	2,934	4.0	2,930	4	1.4	1	0.3	1.7	1.4	2,934
Vacuum extraction	8,746	12.0	8,740	6	0.7	2	0.2	0.9	0.6	8,746
Caesarean section	18,771	25.7	18,734	37	2.0	64	3.4	5.4	3.5	18,771
Other specified & combined	30	0.0	30	0	0.0	0	0.0	0.0	0.0	30
Total	73,046	100	72,709	337	4.6	135	1.9	6.5	4.5	73,046
Multiple Births										
Spontaneous	567	22.2	558	9	15.9	16	28.7	44.1	42.4	330
Breech / Forceps	97	3.8	96	1	10.3	1	10.4	20.6	20.6	11
Forceps	54	2.1	54	0	0.0	0	0.0	0.0	0.0	32
Vacuum extraction	187	7.3	187	0	0.0	1	5.3	5.3	5.3	91
Caesarean section	1,648	64.5	1,640	8	4.9	8	4.9	9.7	9.1	807
Other specified & combined	1	0.0	1	0	0.0	0	0.0	0.0	0.0	1
Total	2,554	100	2,536	18	7.0	26	10.3	17.2	16.5	1,272

Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

FIGURE 4.5
Percentage of Total Births by Method of Delivery and Age of Mother



Notes: See Table 4.8b for data.

* Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

DISTRIBUTION OF BIRTHS BY SIZE OF MATERNITY UNIT

Analysis of births by size of maternity unit is based on births registered by either maternity hospitals or hospitals with dedicated maternity units. Table 4.9 presents data on the size of maternity units.

- Just over 44 per cent of total births took place in 15 maternity units accommodating between 1,000 and 4,999 births each annually.
- Four maternity units each accommodated 8,000 or more births accounting for over 48 per cent of total births (see Figure 4.6).

TABLE 4.9

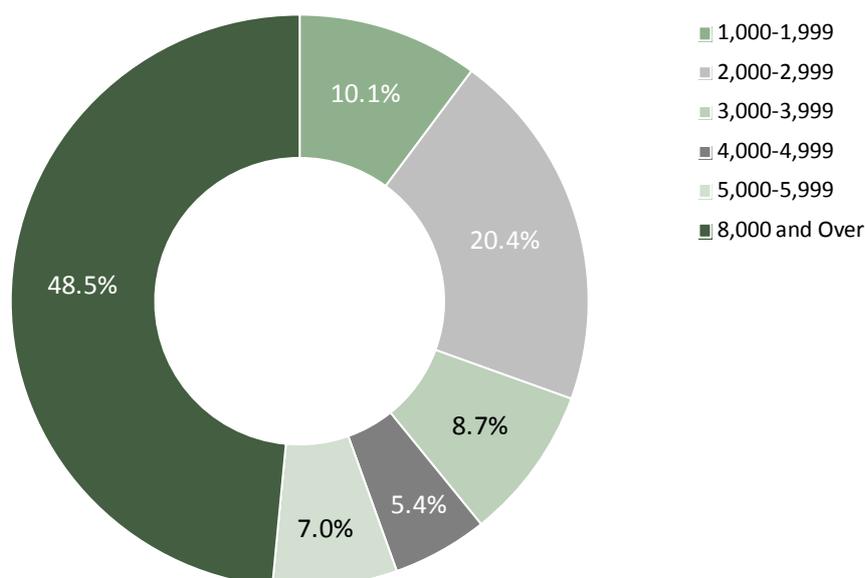
Size of Maternity Unit (Number of Live Births and Stillbirths Annually) by Number of Units, Total Births, Live Births, Stillbirths, Early Neonatal Deaths and Mortality Rates

	Number of Units	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*
1000-1999	5	7,652	10.1	7,615	37	4.8	11	1.4	6.3	4.6
2000-2999	7	15,373	20.4	15,292	81	5.3	22	1.4	6.7	5.0
3000-3999	2	6,534	8.7	6,508	26	4.0	13	2.0	6.0	5.2
4000-4999	1	4,036	5.4	4,025	11	2.7	6	1.5	4.2	3.5
5000-5999	1	5,257	7.0	5,228	29	5.5	13	2.5	8.0	5.3
8000 and Over	4	36,570	48.5	36,400	170	4.6	96	2.6	7.3	4.9
Total	20	75,422	100	75,068	354	4.7	161	2.1	6.8	4.9

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

There were 20 maternity units in Ireland in 2010, each of which delivered over 1,000 births per annum. No unit delivered between 6,000 and 7,999 births.

FIGURE 4.6
Percentage Distribution of Births by Size of Maternity Unit, Total Births



Note: See Table 4.9 for data. The size of the unit refers to the number of live births and stillbirths occurring in 2010.

INTER-HOSPITAL TRANSFER OF INFANTS

Table 4.10 presents data on inter-hospital transfer of infants.

- Over 99 per cent remained in the hospital in which they were born with just less than 1 per cent of live births being transferred to another hospital for medical reasons.
- Less than one per cent of singleton births were transferred compared to the higher rate of 4.0 per cent of multiple births being transferred for medical reasons.

TABLE 4.10
Inter-Hospital Transfer of Infants

	Live Births	Per Cent Live Births	Early Neonatal Deaths	Early Neonatal Mortality Rate*
Total Births				
Transferred	512	0.7	11	21.5
Not Transferred	74,546	99.3	150	2.0
Not Stated	11	0.0	0	0.0
Total	75,069	100	161	2.1
Singleton Births				
Transferred	411	0.6	10	24.3
Not Transferred	72,111	99.4	125	1.7
Not Stated	11	0.0	0	0.0
Total	72,533	100	135	1.9
Multiple Births				
Transferred	101	4.0	1	9.9
Not Transferred	2,435	96.0	25	10.3
Not Stated	0	0.0	0	0.0
Total	2,536	100	26	10.3

Notes: * Rate per 1,000 births. For early neonatal deaths, rates are calculated on total live births. Domiciliary births, of which there were 176 live births, are excluded from this table. See Section Six for detailed analysis.

INFANT'S LENGTH OF STAY

Table 4.11 presents data relating to infant's length of stay.

- Over 54 per cent of singleton live births were discharged from hospital within 2 days, compared to just 9.6 per cent of multiple births.
- Over 95 per cent of singleton live births were discharged from hospital within 5 days of birth, compared to 65.4 per cent of multiple live births (see Figure 4.7).
- 5.2 per cent of total live births had a length of stay of 6 or more days.

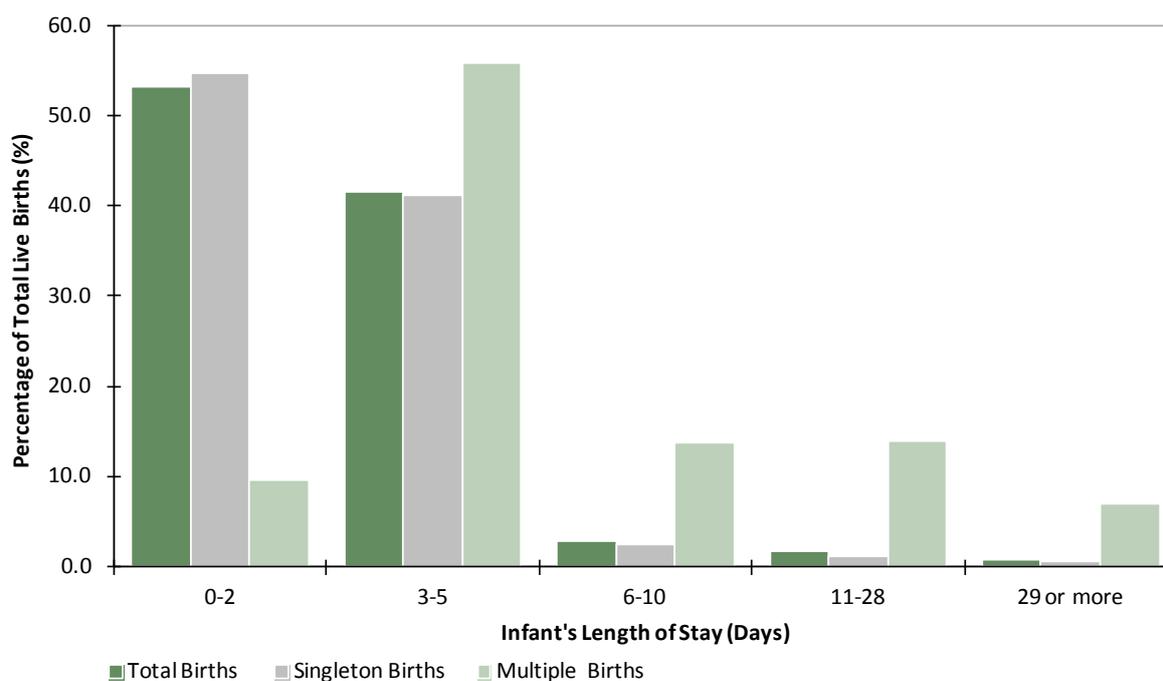
TABLE 4.11

Infant's Length of Stay (days) in Hospital, Live Births

	Live Births	Per Cent Live Births
Total Births		
0-2	39,813	53.1
3-5	31,165	41.6
6-10	2,107	2.8
11-28	1,208	1.6
29 or more	600	0.8
Not Stated	15	0.0
Total	74,908	100
Singleton Births		
0-2	39,573	54.7
3-5	29,765	41.1
6-10	1,760	2.4
11-28	858	1.2
29 or more	427	0.6
Not Stated	15	0.0
Total	72,398	100
Multiple Births		
0-2	240	9.6
3-5	1,400	55.8
6-10	347	13.8
11-28	350	13.9
29 or more	173	6.9
Not Stated	0	0.0
Total	2,510	100

Note: This table does not include domiciliary births and early neonatal deaths.

FIGURE 4.7
Percentage Distribution of Total Live Births by Infant's Length of Stay



Note: See Table 4.11 for data. 'Not Stated' values are not included in the calculation of percentages.

INFANT'S TYPE OF FEEDING

Type of feeding is recorded at the time of discharge from hospital. The presentation of type of feeding in this report is based on live births only and excludes early neonatal deaths.

Table 4.12 presents type of feeding by age of mother.

- Breast²² and artificial feeding were recorded in equal proportions, accounting for 46 per cent of total births in each category.
- Artificial feeding is more common for multiple births (50.5 per cent multiple births compared to 45.9 per cent for singleton births) while breastfeeding is more common for singleton births (46.4 per cent singleton births compared to 29.8 per cent for multiple births).
- Breastfeeding was more common than artificial feeding amongst mothers aged between 25–44 years, with the highest proportion in the 30–34 year age group for whom 49.3 percent reported breastfeeding at discharge (see Figure 4.8).
- Infants born to older mothers are more likely to be breastfed as almost half (48.5 per cent) the babies born to mothers aged 40 years and older were exclusively breastfed compared with just under one-fifth (19.6 per cent) of infants born to mothers under 20.

²² Throughout this section, discussion of breastfeeding refers to exclusive breastfeeding only.

TABLE 4.12

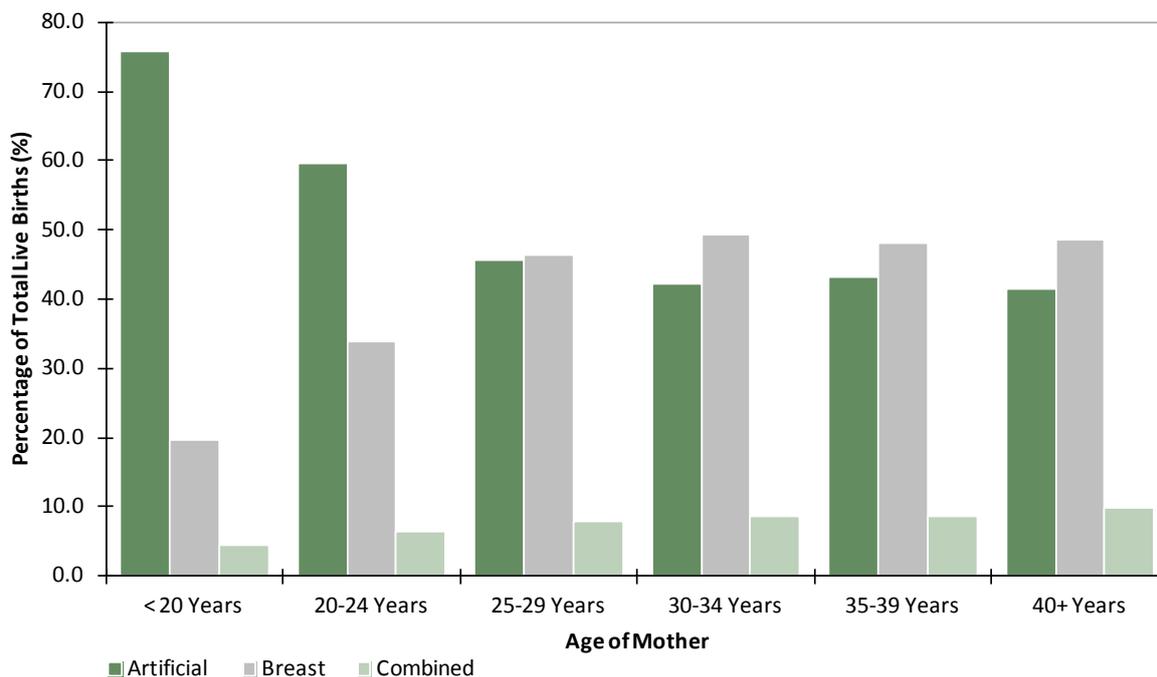
Age of Mother by Infant's Type of Feeding, Numbers and Percentages, Total Live Births

Frequency Row Per Cent Col. Per Cent	Type of Feeding														
	Total Births					Singleton Births					Multiple Births				
	Artificial	Breast	Combined	Not Stated	Total	Artificial	Breast	Combined	Not Stated	Total	Artificial	Breast	Combined	Not Stated	Total
Under 15 Years	7 100.0	0 0.0	0 0.0	0 0.0	7 100	7 100.0	0 0.0	0 0.0	0 0.0	7 100	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0
15-19 Years	1,541 75.8 4.5	401 19.7 1.2	92 4.5 1.5	0 0.0 0.0	2,034 100 2.7	1,511 75.6 4.5	399 20.0 1.2	88 4.4 1.6	0 0.0 0.0	1,998 100 2.8	30 83.3 2.4	2 5.6 0.3	4 11.1 0.8	0 0.0 0.0	36 100 1.4
20-24 Years	4,833 59.7 14.0	2,746 33.9 8.0	518 6.4 8.5	0 0.0 0.0	8,097 100 10.8	4,740 59.8 14.2	2,696 34.0 8.0	489 6.2 8.8	0 0.0 0.0	7,925 100 10.9	93 54.1 7.3	50 29.1 6.7	29 16.9 5.9	0 0.0 0.0	172 100 6.9
25-29 Years	8,122 45.7 23.5	8,255 46.4 24.0	1405 7.9 23.1	0 0.0 0.0	17,782 100 23.7	7,915 45.6 23.8	8,116 46.7 24.1	1332 7.7 23.8	0 0.0 0.0	17,363 100 23.9	207 49.4 16.3	139 33.2 18.6	73 17.4 14.8	0 0.0 0.0	419 100 16.7
30-34 Years	10,992 42.2 31.8	12,860 49.3 37.3	2,210 8.5 36.3	0 0.0 0.0	26,062 100 34.7	10,597 42.0 31.8	12,610 50.0 37.4	2,034 8.1 36.4	0 0.0 0.0	25,241 100 34.8	395 48.1 31.2	250 30.5 33.4	176 21.4 35.6	0 0.0 0.0	821 100 32.7
35-39 Years	7,552 43.3 21.9	8,410 48.2 24.4	1493 8.6 24.6	2 0.0 100.0	17,457 100 23.2	7,150 42.9 21.5	8,167 49.1 24.2	1330 8.0 23.8	2 0.0 100.0	16,649 100 22.9	402 49.8 31.7	243 30.1 32.5	163 20.2 33.0	0 0.0 0.0	808 100 32.2
40-44 Years	1,436 41.4 4.2	1,692 48.8 4.9	339 9.8 5.6	0 0.0 0.0	3,467 100 4.6	1,317 40.5 4.0	1,634 50.3 4.8	298 9.2 5.3	0 0.0 0.0	3,249 100 4.5	119 54.6 9.4	58 26.6 7.8	41 18.8 8.3	0 0.0 0.0	218 100 8.7
45 Years and Over	72 44.2 0.2	70 42.9 0.2	21 12.9 0.3	0 0.0 0.0	163 100 0.2	50 39.4 0.2	64 50.4 0.2	13 10.2 0.2	0 0.0 0.0	127 100 0.2	22 61.1 1.7	6 16.7 0.8	8 22.2 1.6	0 0.0 0.0	36 100 1.4
Not Stated	4 26.7 0.0	9 60.0 0.0	2 13.3 0.0	0 0.0 0.0	15 100 0.0	4 26.7 0.0	9 60.0 0.0	2 13.3 0.0	0 0.0 0.0	15 100 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0
Total	34,559 46.0 100	34,443 45.9 100	6,080 8.1 100	2 0.0 100	75,084 100 100	33,291 45.9 100	33,695 46.4 100	5,586 7.7 100	2 0.0 100	72,574 100 100	1,268 50.5 100	748 29.8 100	494 19.7 100	0 0.0 0.0	2,510 100 100

Note: This table excludes Early Neonatal Deaths.

FIGURE 4.8

Percentage Distribution of Infant's Type of Feeding by Age of Mother, Total Live Births

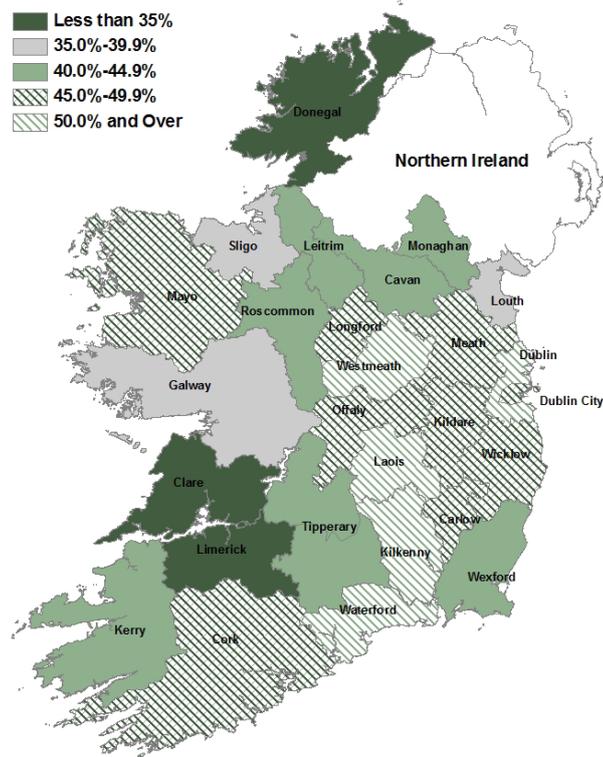


Note: See Table 4.12 for data. 'Not Stated' values are not included in the calculation of percentages.

Figure 4.9 presents the prevalence of exclusive breastfeeding at time of discharge by geographic location.

- Infants born to mothers resident in Kilkenny recorded the highest rate of breastfeeding at 55.6 per cent, closely followed by Waterford and Dublin County (53.8 per cent and 53.2 per cent respectively).
- Other counties reporting exclusive breastfeeding rates of over 50 per cent include Laois and Westmeath.
- With the exception of Wexford, Eastern and South-Eastern counties recorded exclusive breastfeeding rates in line with or above the national breastfeeding rate of 45.9 per cent.
- Counties also reporting exclusive breastfeeding rates equal to or higher than the national breastfeeding rate include Cork (48.0 per cent) and Mayo (45.9 per cent).

FIGURE 4.9
 Percentage Distribution of Breastfed Infants by Mother's County of Residence, Total Live Births



Notes: See Appendix G, Table G16 for data. 'Not Stated' values are not included in the calculation of percentages.
 Example: Of all live births to mothers resident in Dublin City 49.1 per cent were breastfed.

Table 4.13 presents data on type of feeding by mother's occupation.

- Mothers in a higher professional occupation recorded breastfeeding rates of 62.4 per cent compared to the lowest rate for unemployed mothers of whom only 30.8 per cent breastfed.
- Artificial feeding was most common amongst the unemployed group with a rate of 62.3 per cent, whilst the lowest rate was recorded amongst higher professionals at 27.9 per cent (see Figure 4.10).
- Mothers recording occupation as home duties recorded low breastfeeding rates of 38.2 per cent.

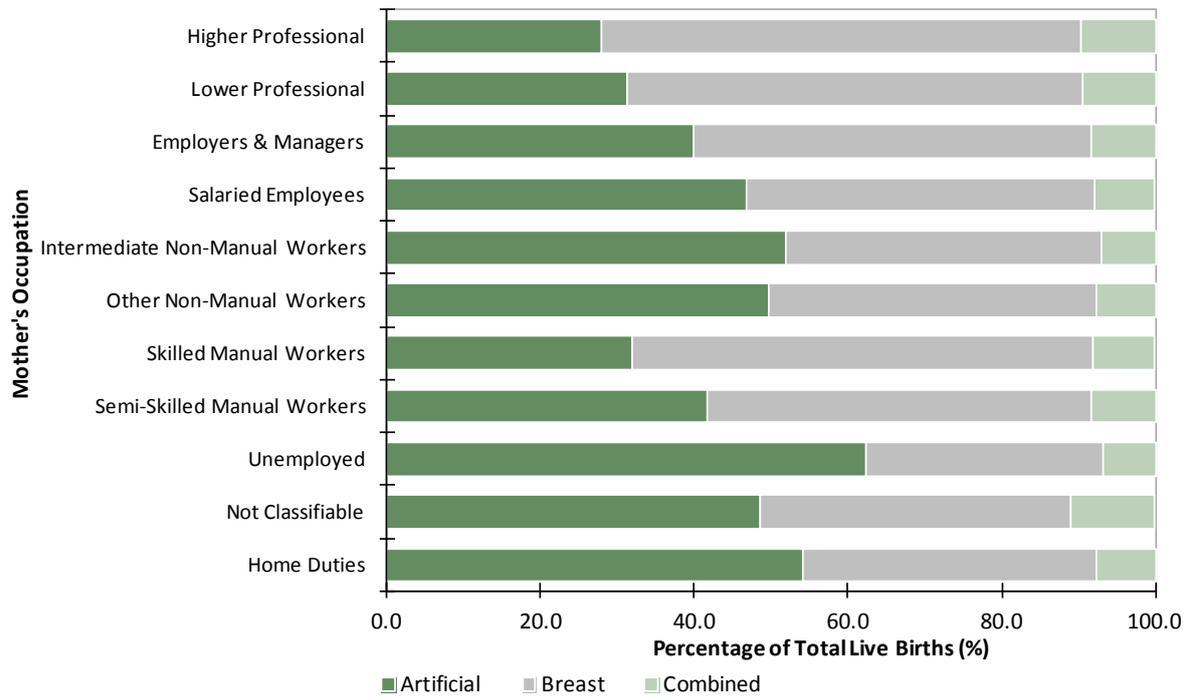
TABLE 4.13
Mother's Occupation by Infant's Type of Feeding, Total Live Births

Frequency Row Per Cent Col. Per Cent	Type of Feeding				Total
	Artificial	Breast	Combined	Not Stated	
Farmers & Farm Managers	18	39	4	0	61
	29.5	63.9	6.6	0.0	100
	0.1	0.1	0.1	0.0	0.1
Other Agricultural Occupations & Fishermen	21	40	4	0	65
	32.3	61.5	6.2	0.0	100
	0.1	0.1	0.1	0.0	0.1
Higher Professional	1,324	2,959	456	0	4,739
	27.9	62.4	9.6	0.0	100
	3.8	8.6	7.5	0.0	6.3
Lower Professional	3,565	6,786	1,088	1	11,440
	31.2	59.3	9.5	0.0	100
	10.3	19.7	17.9	50.0	15.2
Employers & Managers	2,232	2,882	467	0	5,581
	40.0	51.6	8.4	0.0	100
	6.5	8.4	7.7	0.0	7.4
Salaried Employees	535	521	90	0	1,146
	46.7	45.5	7.9	0.0	100
	1.5	1.5	1.5	0.0	1.5
Intermediate Non-Manual Workers	8,297	6,581	1,103	1	15,982
	51.9	41.2	6.9	0.0	100
	24.0	19.1	18.1	50.0	21.3
Other Non-Manual Workers	4,894	4,209	750	0	9,853
	49.7	42.7	7.6	0.0	100
	14.2	12.2	12.3	0.0	13.1
Skilled Manual Workers	388	727	97	0	1,212
	32.0	60.0	8.0	0.0	100
	1.1	2.1	1.6	0.0	1.6
Semi-Skilled Manual Workers	1,051	1,264	212	0	2,527
	41.6	50.0	8.4	0.0	100
	3.0	3.7	3.5	0.0	3.4
Unskilled Manual Workers	3	3	0	0	6
	50.0	50.0	0.0	0.0	100
	0.0	0.0	0.0	0.0	0.0
Unemployed	2,049	1,013	226	0	3,288
	62.3	30.8	6.9	0.0	100
	5.9	2.9	3.7	0.0	4.4
Not Classifiable	1,604	1,335	366	0	3,305
	48.5	40.4	11.1	0.0	100
	4.6	3.9	6.0	0.0	4.4
Home Duties	8,398	5,938	1,194	0	15,530
	54.1	38.2	7.7	0.0	100
	24.3	17.2	19.6	0.0	20.7
Not Stated	180	146	23	0	349
	51.6	41.8	6.6	0.0	100
	0.5	0.4	0.4	0.0	0.5
Total	34,559	34,443	6,080	2	75,084
	46.0	45.9	8.1	0.0	100
	100	100	100	100	100

Note: See Appendix C for a description of the classification system for occupation.

FIGURE 4.10

Percentage Distribution of Infant's Type of Feeding by Mother's Occupation, Total Live Births



Notes: See Table 4.13 for data. 'Not Stated' values are not included in the calculation of percentages. Categories where percentages would be based on <100 births are not included.

SECTION FIVE

PERINATAL OUTCOMES

INTRODUCTION

This section presents a detailed review of aspects of perinatal outcomes for the infant. Cause of death is examined according to the guidelines set out by the WHO in the International Classification of Diseases (ICD-10).^{23,24} A detailed description of cause of death classification and coding rules applied is available in Appendix D.

Of the 75,600 births recorded by the NPRS in 2010, 355 were stillbirths and 161 were early neonatal deaths, giving a total of 516 perinatal deaths and a perinatal mortality rate of 6.8 per 1,000 live births and stillbirths.

The number of perinatal deaths are broken down by type of death (ante-partum and intra-partum stillbirths and early neonatal deaths), with tables presenting data in relation to

- birthweight distribution by parity and cause of death
- gestational age at delivery and cause of death
- cause of death categorised by ICD-10 codes
- age at death for early neonatal deaths
- post-mortem examinations.

MORTALITY BY BIRTHWEIGHT CATEGORY AND PARITY

Table 5.1 presents mortality rates by birthweight groups and parity.

- The overall perinatal mortality rate for all births was 6.8 per 1,000 live births and stillbirths (6.5 for singleton live births and stillbirths and 17.2 for multiple live births and stillbirths).²⁵
- Approximately 68 per cent of total perinatal deaths weighed less than 2,500 grams (76.1 per cent for primiparous women and 61.3 per cent for multiparous women) (see Figure 5.1).²⁶
- The perinatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 86.2 per 1,000 live births and stillbirths (82.3 per 1,000 for primiparous women and 90.5 per 1,000 for multiparous women).
- For births weighing 2,500 grams or more the perinatal mortality rate was 2.3 per 1,000 live births and stillbirths (1.9 for primiparous women and 2.6 for multiparous women).
- The highest perinatal mortality rate for all births was recorded for births weighing between 500–749 grams at 603.4 per 1,000 live births (see Figure 5.2).

²³ World Health Organisation, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10th Revision*, Vols. 1-3. Geneva: World Health Organisation

²⁴ The ninth revision of the International Classification of Diseases (ICD 9) was used by NPRS prior to 2005.

²⁵ For details of birthweight by plurality for total births, ante-partum and intra-partum stillbirths, early neonatal deaths, and associated rates see Appendix G, Table G17.

²⁶ Throughout this section, 'Not Stated' values are not included in the calculation of percentages for discussion.

TABLE 5.1

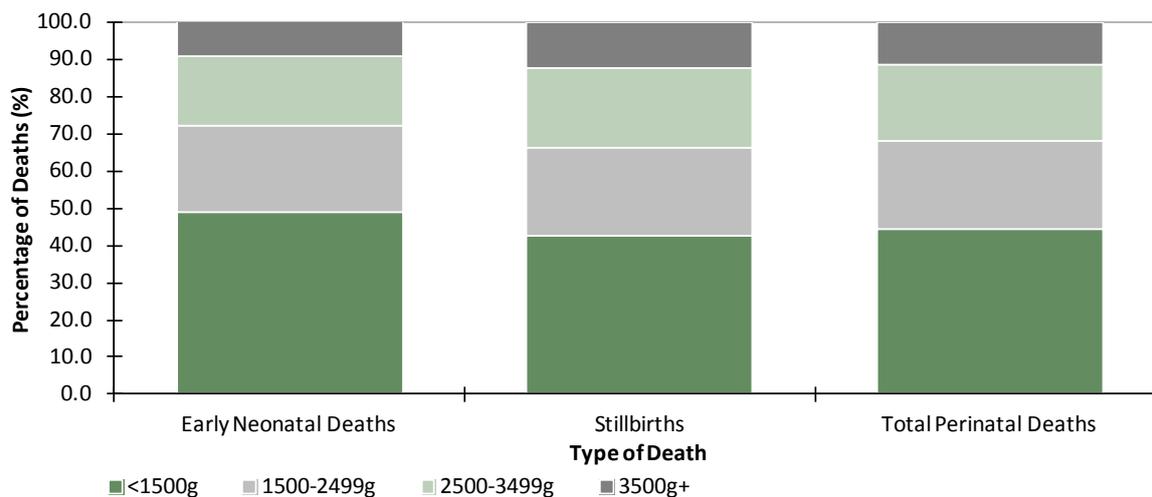
Total Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Birthweight and Parity

	Total Births	Total Births %	Ante-partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*
Total Births										
500-749	179	0.2	58	4	6	379.9	40	360.4	603.4	577.4
750-999	183	0.2	30	1	3	185.8	16	107.4	273.2	208.3
1000-1249	200	0.3	21	3	0	120.0	9	51.1	165.0	111.7
1250-1499	254	0.3	19	1	4	94.5	13	56.5	145.7	95.8
1500-1999	841	1.1	42	5	2	58.3	21	26.5	83.2	48.1
2000-2499	2,381	3.1	31	1	2	14.3	16	6.8	21.0	11.0
2500-2999	8,817	11.7	33	5	1	4.4	15	1.7	6.1	4.1
3000-3499	24,491	32.4	30	6	1	1.5	15	0.6	2.1	1.5
3500-3999	25,875	34.2	25	1	0	1.0	11	0.4	1.4	1.2
4000-4499	10,326	13.7	11	0	1	1.2	3	0.3	1.5	1.2
4500 and Over	2,042	2.7	5	0	0	2.4	1	0.5	2.9	2.9
Not Stated	7	0.0	1	1	0	285.7	1	200.0	428.6	428.6
Total	75,596	100	306	28	20	4.7	161	2.1	6.8	4.9
Births to Primiparous Women										
500-749	104	0.3	31	4	5	384.6	25	390.6	625.0	617.6
750-999	95	0.3	8	1	2	115.8	11	131.0	231.6	188.9
1000-1249	121	0.4	11	0	0	90.9	5	45.5	132.2	87.0
1250-1499	129	0.4	10	1	3	108.5	2	17.4	124.0	88.7
1500-1999	462	1.5	21	2	0	49.8	10	22.8	71.4	42.4
2000-2499	1,216	3.9	12	0	2	11.5	9	7.5	18.9	10.8
2500-2999	4,165	13.2	15	2	0	4.1	7	1.7	5.8	3.4
3000-3499	11,023	35.1	7	3	0	0.9	5	0.5	1.4	1.0
3500-3999	10,061	32.0	9	0	0	0.9	3	0.3	1.2	1.1
4000-4499	3,472	11.0	3	0	0	0.9	1	0.3	1.2	0.9
4500 and Over	583	1.9	0	0	0	0.0	0	0.0	0.0	0.0
Not Stated	3	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Total	31,434	100	127	13	12	4.8	78	2.5	7.3	5.5
Births to Multiparous Women										
500-749	75	0.2	27	0	1	373.3	15	319.1	573.3	515.2
750-999	88	0.2	22	0	1	261.4	5	76.9	318.2	230.8
1000-1249	79	0.2	10	3	0	164.6	4	60.6	215.2	150.7
1250-1499	125	0.3	9	0	1	80.0	11	95.7	168.0	103.4
1500-1999	379	0.9	21	3	2	68.6	11	31.2	97.6	55.2
2000-2499	1,165	2.6	19	1	0	17.2	7	6.1	23.2	11.3
2500-2999	4,652	10.5	18	3	1	4.7	8	1.7	6.4	4.7
3000-3499	13,468	30.5	23	3	1	2.0	10	0.7	2.7	1.9
3500-3999	15,814	35.8	16	1	0	1.1	8	0.5	1.6	1.3
4000-4499	6,854	15.5	8	0	1	1.3	2	0.3	1.6	1.3
4500 and Over	1,459	3.3	5	0	0	3.4	1	0.7	4.1	4.1
Not Stated	4	0.0	1	1	0	500.0	1	500.0	750.0	750.0
Total	44,162	100	179	15	8	4.6	83	1.9	6.5	4.4

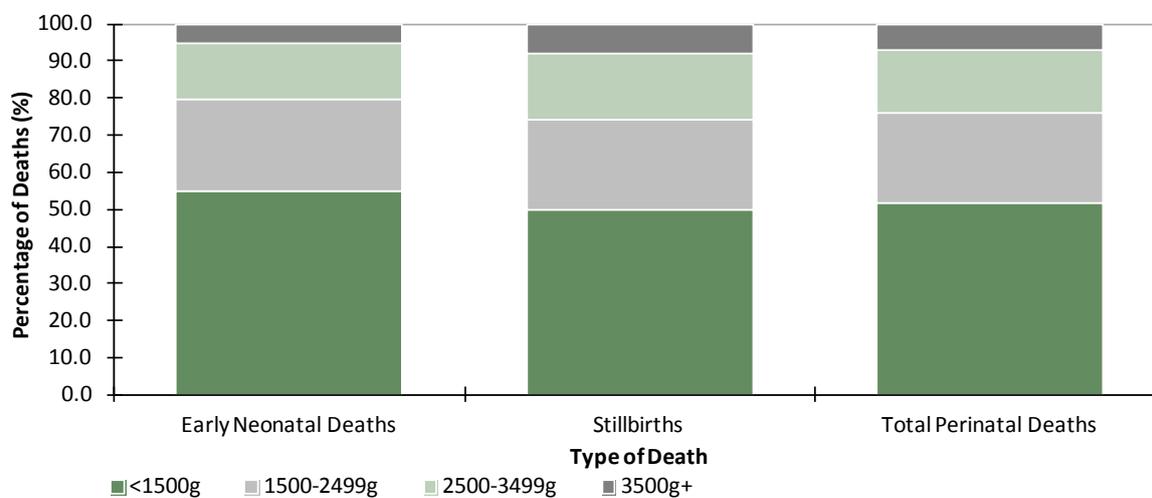
Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.
There were 4 maternities for which parity was unknown; these were excluded from the table.

FIGURE 5.1
Deaths by Birthweight Groups and Parity

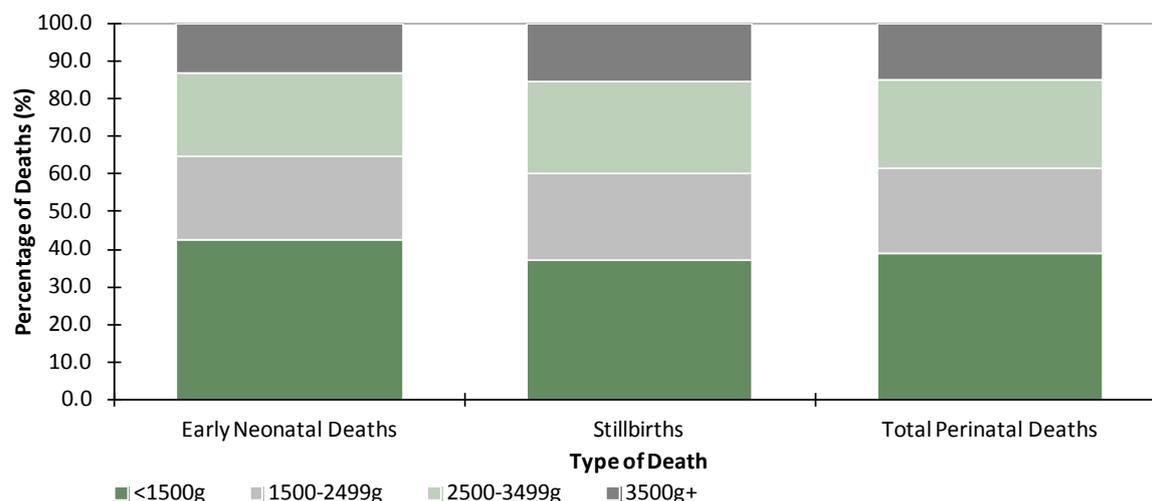
Total Births



Births to Primiparous Women

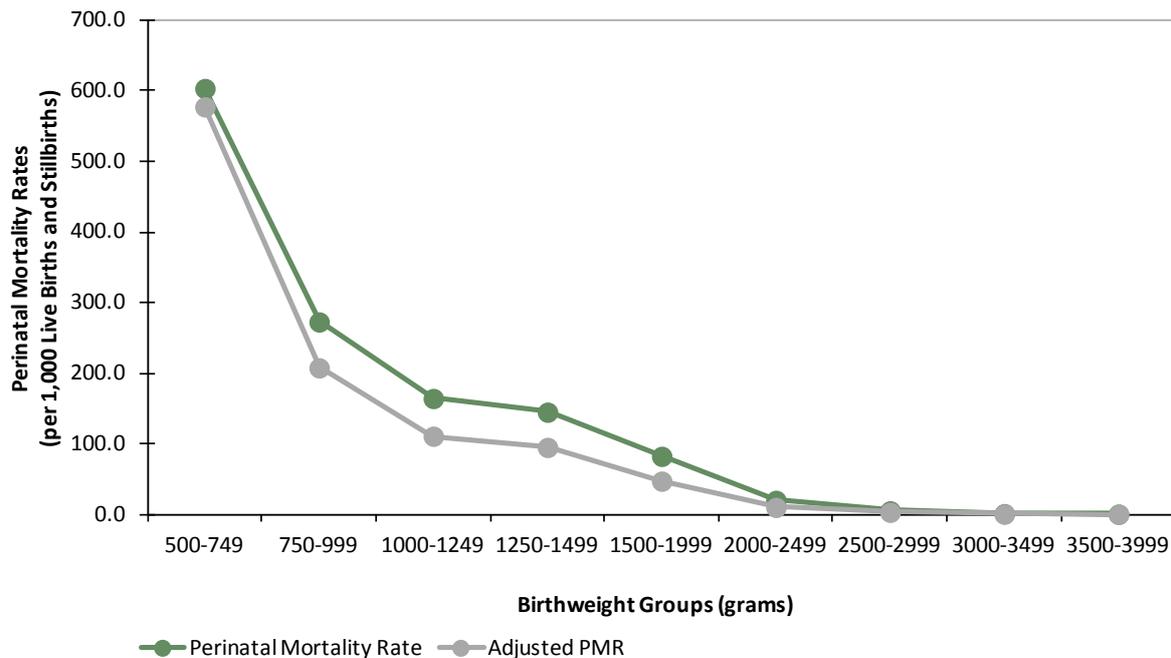


Births to Multiparous Women



Note: See Table 5.1 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 5.2
Perinatal Mortality Rates by Birthweight Groups, Total Births



Note: See Table 5.1 for data. Rates based on 20 or fewer observations are not included in this Figure.

CAUSE OF DEATH BY BIRTHWEIGHT

Cause of death data are recorded using the WHO ICD-10 classification.²⁷ Under this system, the main cause of death is defined as the pathological condition of the infant or foetus, which in the opinion of the certifier, made the greatest contribution towards the death.²⁸

Table 5.2 presents cause of death by birthweight group for total, singleton and multiple births.

- Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04) accounted for the largest proportion of total perinatal deaths (19.4 per cent).
- Over two thirds of total perinatal deaths weighed <2,500 grams, and of these 30.7 per cent were due to congenital malformations (Q00-Q99), followed by maternal factors (P00-P04) accounting for 18.9 per cent and immaturity (P05-P08) accounting for 17.2 per cent (see Figure 5.3).
- Almost one third of total perinatal deaths weighed \geq 2,500 grams, and of these 25.0 per cent recorded cause of death due to congenital malformations (Q00-Q99), 24.4 per cent were recorded as unexplained (P95, P96.9), and 20.7 per cent were due to maternal factors (P00-P04) (see Figure 5.4).

²⁷ World Health Organisation, *op. cit.*

²⁸ See Appendix D for more detail.

TABLE 5.2

Perinatal Mortality: Numbers and Rates by Birthweight and Cause of Death, Total Births

Number Rate per 1,000 Live Births and Stillbirths	ICD-10 Code	Birthweight (grams)											Not Stated	Total
		500 -749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and Over		
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	21	6	8	7	15	9	14	13	6	0	1	0	100
		116.7	32.8	40.0	27.6	17.8	3.8	1.6	0.5	0.2	0.0	0.5	0.0	1.3
Disorders related to length of gestation and foetal growth	P05-P08	43	4	2	3	5	3	0	0	1	0	0	1	62
		238.9	21.9	10.0	11.8	5.9	1.3	0.0	0.0	0.0	0.0	0.0	125.0	0.8
Birth Trauma	P10-P15	1	0	0	0	0	0	0	0	0	0	0	0	1
		5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	6	13	2	5	6	2	8	9	12	2	0	0	65
		33.3	71.0	10.0	19.7	7.1	0.8	0.9	0.4	0.5	0.2	0.0	0.0	0.9
Infections specific to the perinatal period	P35-P39	4	1	3	2	4	0	0	0	0	2	0	0	16
		22.2	5.5	15.0	7.9	4.8	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	3	4	0	1	0	1	1	0	0	0	0	0	10
		16.7	21.9	0.0	3.9	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	0	0	0	0	0	0	1	0	0	1	1	0	3
		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.5	0.0	0.0
Digestive system disorders of foetus and newborn	P75-P78	0	1	0	0	1	0	0	0	0	0	0	0	2
		0.0	5.5	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	3	2	1	2	3	3	2	3	1	1	1	1	23
		16.7	10.9	5.0	7.9	3.6	1.3	0.2	0.1	0.0	0.1	0.5	125.0	0.3
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	0	0	0	0	0	1	1	0	1	0	1	0	4
		0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.5	0.0	0.1
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	17	4	5	3	5	7	9	12	11	6	2	1	82
		94.4	21.9	25.0	11.8	5.9	2.9	1.0	0.5	0.4	0.6	1.0	125.0	1.1
Congenital malformations of the nervous system	Q00-Q07	0	1	1	2	6	5	7	4	2	0	0	0	28
		0.0	5.5	5.0	7.9	7.1	2.1	0.8	0.2	0.1	0.0	0.0	0.0	0.4
Congenital malformations of eye, ear, face and neck	Q10-Q18	0	0	0	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Congenital malformations of the circulatory system	Q20-Q28	0	4	1	0	2	1	4	2	0	3	0	0	17
		0.0	21.9	5.0	0.0	2.4	0.4	0.5	0.1	0.0	0.3	0.0	0.0	0.2
Congenital malformations of the respiratory system	Q30-Q34	1	0	0	0	2	2	0	1	1	0	0	0	7
		5.6	0.0	0.0	0.0	2.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other congenital malformations of the digestive system	Q38-Q45	0	1	0	0	0	0	0	0	0	0	0	0	1
		0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Congenital malformations of the urinary system	Q60-Q64	0	0	1	0	6	2	3	1	0	0	0	0	13
		0.0	0.0	5.0	0.0	7.1	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.2
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	2	0	0	0	3	4	3	2	1	0	0	0	15
		11.1	0.0	0.0	0.0	3.6	1.7	0.3	0.1	0.0	0.0	0.0	0.0	0.2
Other congenital malformations	Q80-Q89	0	3	1	2	4	1	0	0	0	0	0	0	11
		0.0	16.4	5.0	7.9	4.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	8	6	8	10	8	8	1	5	1	0	0	0	55
		44.4	32.8	40.0	39.4	9.5	3.4	0.1	0.2	0.0	0.0	0.0	0.0	0.7
Total		109	50	33	37	70	50	54	52	37	15	6	3	516
		605.6	273.2	165.0	145.7	83.2	21.0	6.1	2.1	1.4	1.5	2.9	375.0	6.8

TABLE 5.2

Perinatal Mortality: Numbers and Rates by Birthweight and Cause of Death, Singleton Births

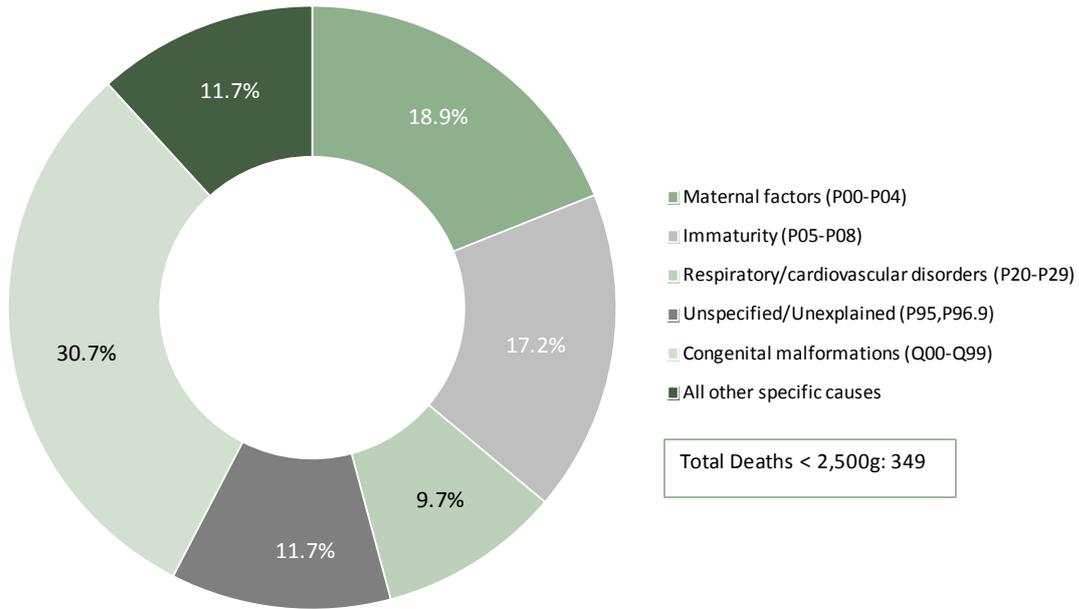
Number Rate per 1,000 Live Births and Stillbirths	ICD-10 Code	Birthweight (grams)											Not Stated	Total
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and Over		
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	15	6	7	7	15	9	14	13	6	0	1	0	93
		101.4	45.1	49.6	40.9	27.4	5.4	1.8	0.5	0.2	0.0	0.5	0.0	1.3
Disorders related to length of gestation and foetal growth	P05-P08	32	4	2	3	4	3	0	0	1	0	0	1	50
		216.2	30.1	14.2	17.5	7.3	1.8	0.0	0.0	0.0	0.0	0.0	142.9	0.7
Birth Trauma	P10-P15	1	0	0	0	0	0	0	0	0	0	0	0	1
		6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	5	9	1	2	5	2	8	9	12	2	0	0	55
		33.8	67.7	7.1	11.7	9.1	1.2	1.0	0.4	0.5	0.2	0.0	0.0	0.8
Infections specific to the perinatal period	P35-P39	4	1	3	1	2	0	0	0	0	2	0	0	13
		27.0	7.5	21.3	5.8	3.7	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	2	1	0	1	0	1	1	0	0	0	0	0	6
		13.5	7.5	0.0	5.8	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	0	0	0	0	0	0	1	0	0	1	1	0	3
		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.5	0.0	0.0
Digestive system disorders of foetus and newborn	P75-P78	0	0	0	0	1	0	0	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	3	2	1	2	3	3	2	3	1	1	1	0	22
		20.3	15.0	7.1	11.7	5.5	1.8	0.3	0.1	0.0	0.1	0.5	0.0	0.3
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	0	0	0	0	0	1	0	0	1	0	1	0	3
		0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	14	4	5	3	5	7	9	12	11	6	2	1	79
		94.6	30.1	35.5	17.5	9.1	4.2	1.1	0.5	0.4	0.6	1.0	142.9	1.1
Congenital malformations of the nervous system	Q00-Q07	0	1	1	2	6	5	6	4	2	0	0	0	27
		0.0	7.5	7.1	11.7	11.0	3.0	0.8	0.2	0.1	0.0	0.0	0.0	0.4
Congenital malformations of eye, ear, face and neck	Q10-Q18	0	0	0	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Congenital malformations of the circulatory system	Q20-Q28	0	4	1	0	2	1	4	2	0	3	0	0	17
		0.0	30.1	7.1	0.0	3.7	0.6	0.5	0.1	0.0	0.3	0.0	0.0	0.2
Congenital malformations of the respiratory system	Q30-Q34	1	0	0	0	2	2	0	1	1	0	0	0	7
		6.8	0.0	0.0	0.0	3.7	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Other congenital malformations of the digestive system	Q38-Q45	0	1	0	0	0	0	0	0	0	0	0	0	1
		0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Congenital malformations of the urinary system	Q60-Q64	0	0	1	0	6	2	3	1	0	0	0	0	13
		0.0	0.0	7.1	0.0	11.0	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.2
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	2	0	0	0	3	3	3	2	1	0	0	0	14
		13.5	0.0	0.0	0.0	5.5	1.8	0.4	0.1	0.0	0.0	0.0	0.0	0.2
Other congenital malformations	Q80-Q89	0	3	1	2	4	1	0	0	0	0	0	0	11
		0.0	22.6	7.1	11.7	7.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	8	6	8	10	8	8	1	5	1	0	0	0	55
		54.1	45.1	56.7	58.5	14.6	4.8	0.1	0.2	0.0	0.0	0.0	0.0	0.8
Total		87	42	31	33	66	49	52	52	37	15	6	2	472
		587.8	315.8	219.9	193.0	120.7	29.3	6.6	2.2	1.4	1.5	2.9	285.7	6.5

TABLE 5.2

Perinatal Mortality: Numbers and Rates by Birthweight and Cause of Death, Multiple Births

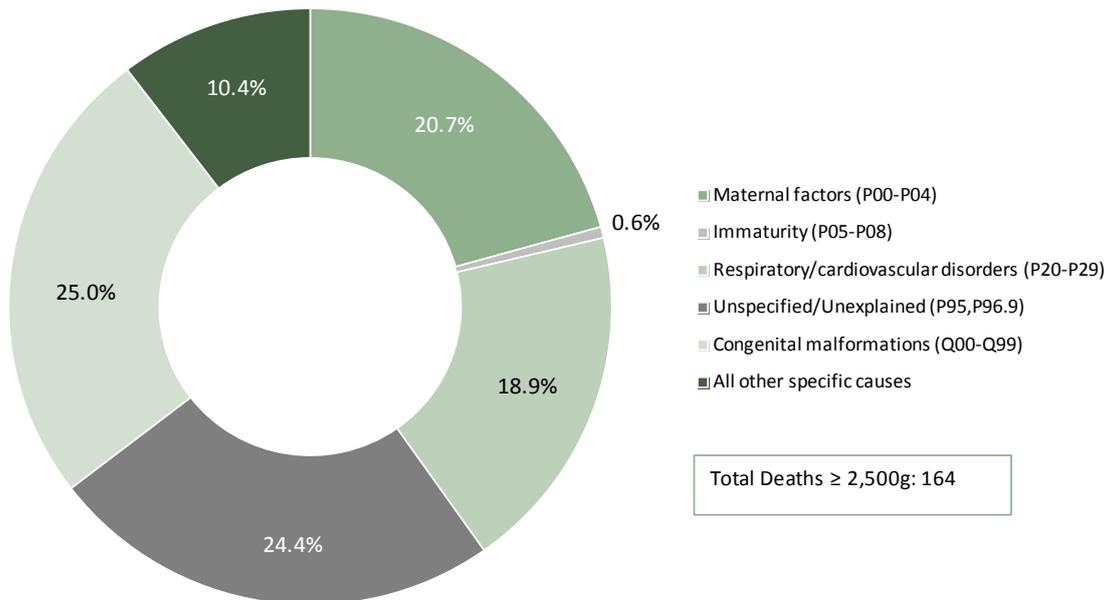
Number Rate per 1,000 Live Births and Stillbirths	ICD-10 Code	Birthweight (grams)											Not Stated	Total	
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and Over			
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	6	0	1	0	0	0	0	0	0	0	0	0	0	7
		187.5	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
Disorders related to length of gestation and foetal growth	P05-P08	11	0	0	0	1	0	0	0	0	0	0	0	0	12
		343.8	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	1	4	1	3	1	0	0	0	0	0	0	0	10	
		31.3	80.0	16.9	36.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	
Infections specific to the perinatal period	P35-P39	0	0	0	1	2	0	0	0	0	0	0	0	3	
		0.0	0.0	0.0	12.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	1	3	0	0	0	0	0	0	0	0	0	0	4	
		31.3	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	
Digestive system disorders of foetus and newborn	P75-P78	0	1	0	0	0	0	0	0	0	0	0	0	1	
		0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	0	0	0	0	0	0	0	0	0	0	0	1	1	
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0	0.4	
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P90.0-P94.9, P96.0-P96.8	0	0	0	0	0	0	1	0	0	0	0	0	1	
		0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.4	
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	3	0	0	0	0	0	0	0	0	0	0	0	3	
		93.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	
Congenital malformations of the nervous system	Q00-Q07	0	0	0	0	0	0	1	0	0	0	0	0	1	
		0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.4	
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	0	0	0	0	0	1	0	0	0	0	0	0	1	
		0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
Total		22	8	2	4	4	1	2	0	0	0	0	1	44	
		687.5	160.0	33.9	48.2	13.6	1.4	2.2	0.0	0.0	0.0	0.0	1000.0	17.2	

FIGURE 5.3
Total Deaths with Birthweight < 2,500 grams by Cause of Death



Note: See Table 5.2 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 5.4
Total Deaths with Birthweight ≥ 2,500 grams by Cause of Death



Note: See note to Figure 5.3.

MORTALITY BY GESTATIONAL AGE

Table 5.3 presents data on mortality by gestational age.

- Prematurity²⁹ has a significant impact on stillbirth and early neonatal mortality rates with just over two-thirds of total perinatal deaths born preterm.
- 65.4 per cent of singleton perinatal deaths and 90.9 per cent of multiple perinatal deaths were preterm (see Figure 5.5).
- The perinatal mortality rate for babies born before 37 completed weeks of gestation was 76.7 per 1,000 live births and stillbirths (93.6 per 1,000 singleton births and 32.1 per 1,000 multiple births).
- For babies born at 37 or more completed weeks of gestation, perinatal mortality rate was 2.4 per 1,000 live births and stillbirths (2.3 for singleton births and 3.1 per 1,000 multiple births).

TABLE 5.3

Total Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Gestational Age (weeks)

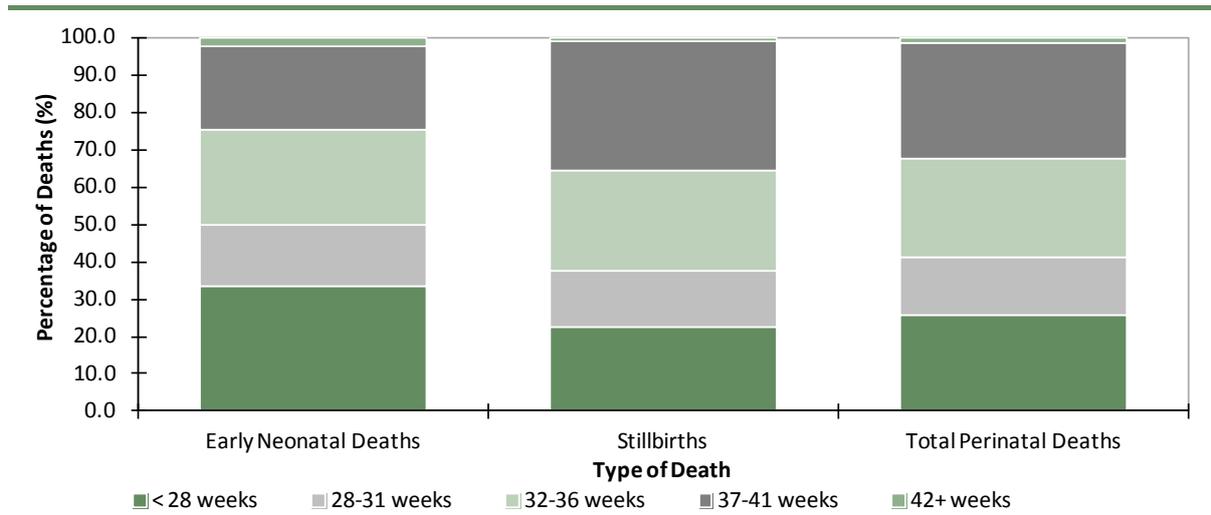
	Total Births	Total Births %	Ante-Partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*
Total Births										
Less than 28	325	0.4	68	4	7	243.1	54	281.3	409.2	384.6
28-31	544	0.7	46	4	4	99.3	26	56.0	147.1	114.5
32-36	3,666	4.8	85	7	2	25.6	41	11.6	36.8	21.1
37-41	68,668	90.8	104	13	6	1.8	36	0.5	2.3	1.6
42 and Over	2,388	3.2	4	0	0	1.7	4	1.7	3.4	1.3
Not Stated	9	0.0	0	0	1	111.1	0	0.0	111.1	111.1
Total	75,600	100	307	28	20	4.7	161	2.1	6.8	4.9
Singleton Births										
Less than 28	245	0.3	61	4	5	285.7	38	277.4	440.8	409.5
28-31	395	0.5	44	4	3	129.1	19	58.5	177.2	133.3
32-36	2,649	3.6	81	7	2	34.0	40	15.9	49.1	27.8
37-41	67,360	92.2	103	12	6	1.8	34	0.5	2.3	1.6
42 and Over	2,388	3.3	4	0	0	1.7	4	1.7	3.4	1.3
Not Stated	9	0.0	0	0	1	111.1	0	0.0	111.1	111.1
Total	73,046	100	293	27	17	4.6	135	1.9	6.5	4.5
Multiple Births										
Less than 28	80	3.1	7	0	2	112.5	16	290.9	312.5	312.5
28-31	149	5.8	2	0	1	20.1	7	50.4	67.1	67.1
32-36	1,017	39.8	4	0	0	3.9	1	1.0	4.9	3.9
37-41	1,308	51.2	1	1	0	1.5	2	1.5	3.1	2.3
42 and Over	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Not Stated	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Total	2,554	100	14	1	3	7.0	26	10.4	17.2	16.5

Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

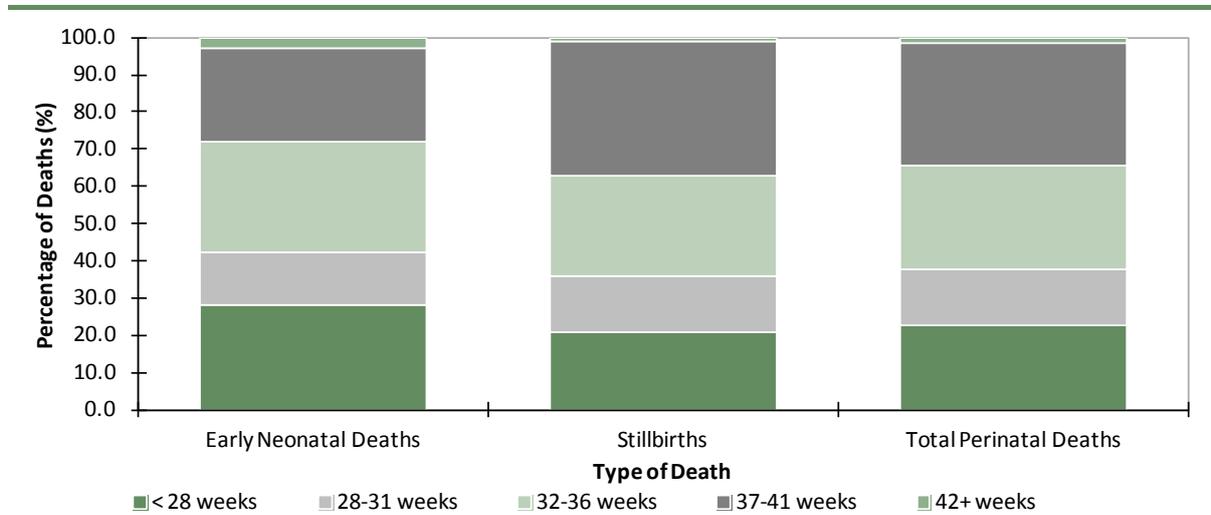
²⁹ Defined as less than 37 completed weeks of gestation.

FIGURE 5.5
Deaths by Gestational Age (weeks) Groups, Total, Singleton and Multiple Births

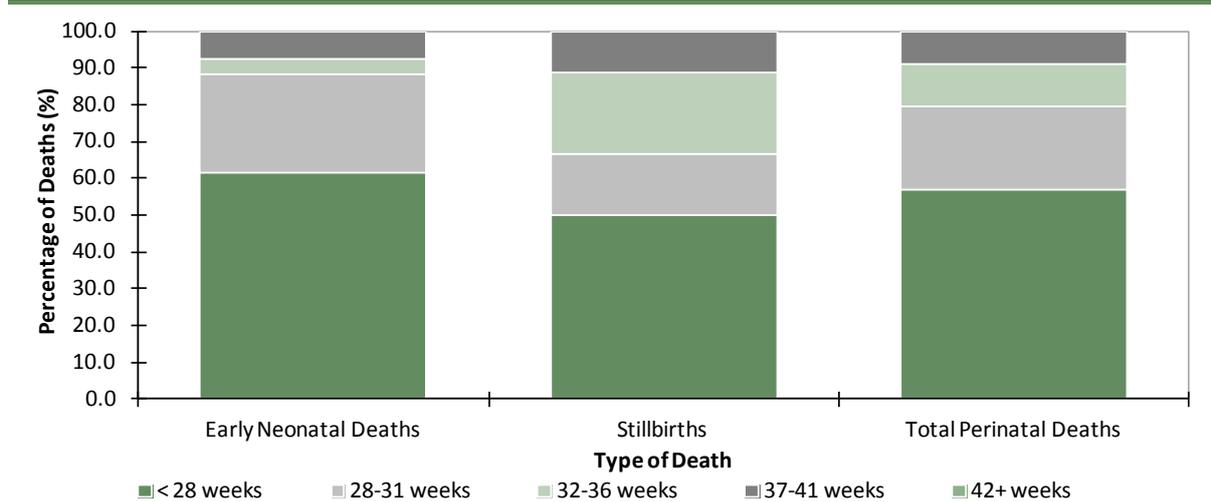
Total Births



Singleton Births



Multiple Births

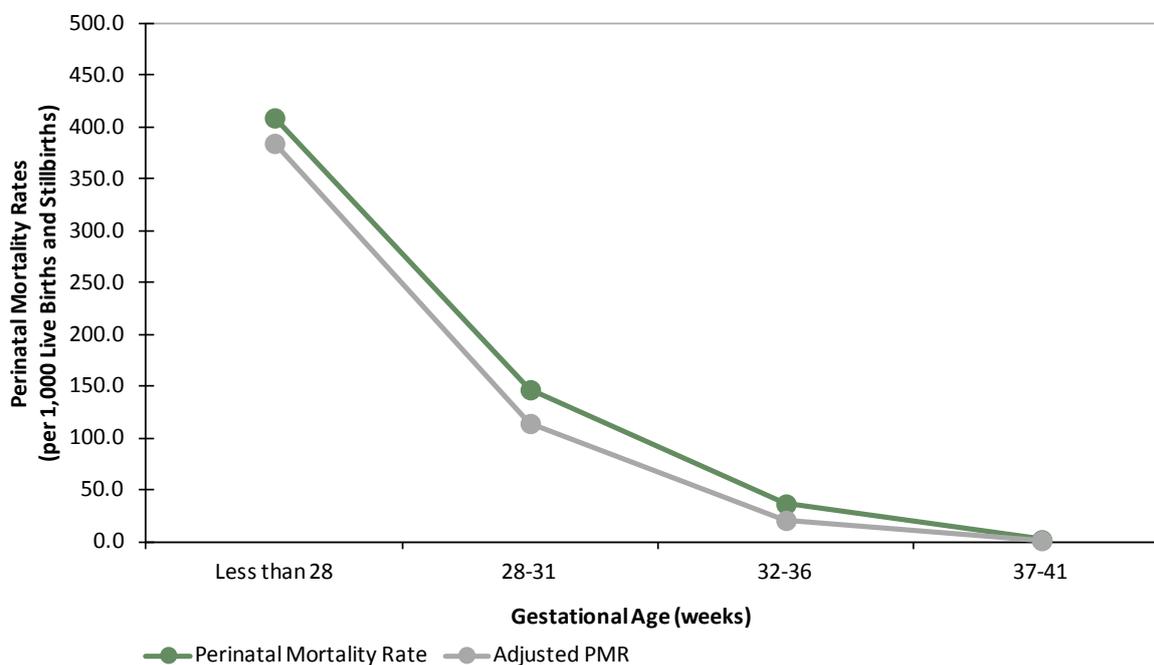


Note: See Table 5.3 for data. 'Not Stated' values are not included in the calculation of percentages.

Figure 5.6 shows the perinatal mortality rates by gestational age at delivery for total births, illustrating the higher rates associated with lower gestational age.

FIGURE 5.6

Perinatal Mortality Rates by Gestational Age (weeks) at Delivery, Total Births



Note: See Table 5.3 for data. Rates based on 20 or fewer observations are not included in this Figure.

CAUSE OF DEATH

Cause of death data for stillbirths, early neonatal deaths and total perinatal deaths are presented in Table 5.4. In 2010, 15.9 per cent of total perinatal deaths were classified as 'unspecified/unexplained'. The fact that over half of all perinatal deaths in Ireland do not undergo post mortem may be a contributing factor to the numbers assigned to this category (see Table 5.6). This finding is not unique to Ireland, however, as many countries report high percentages of unexplained deaths in the perinatal period.

TABLE 5.4

Stillbirths, Early Neonatal Deaths and Mortality Rates by Cause of Death by ICD-10 Chapter and Subcategories

	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00 - P04	97	1.3	3	0.0	100	1.3	91	1.2	2	0.0	93	1.3	6	2.3	1	0.4	7	2.7
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	P000-P009	6	0.1	0	0.0	6	0.1	6	0.1	0	0.0	6	0.1	0	0.0	0	0.0	0	0.0
Foetus and newborn affected by maternal complications of pregnancy	P010-P019	4	0.1	0	0.0	4	0.1	3	0.0	0	0.0	3	0.0	1	0.4	0	0.0	1	0.4
Foetus and newborn affected by complications of placenta, cord and membranes	P020-P029	84	1.1	3	0.0	87	1.2	79	1.1	2	0.0	81	1.1	5	2.0	1	0.4	6	2.3
Foetus and newborn affected by other complications of labour and delivery	P030-P039	3	0.0	0	0.0	3	0.0	3	0.0	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Disorders related to length of gestation and foetal growth	P05-P08	33	0.4	29	0.4	62	0.8	29	0.4	21	0.3	50	0.7	4	1.6	8	3.2	12	4.7
Slow foetal growth and foetal malnutrition	P050 - P059	10	0.1	0	0.0	10	0.1	10	0.1	0	0.0	10	0.1	0	0.0	0	0.0	0	0.0
Disorders related to short gestation and low birth weight, not elsewhere classified	P070 - P073	23	0.3	29	0.4	52	0.7	19	0.3	21	0.3	40	0.5	4	1.6	8	3.2	12	4.7
Birth Trauma	P10 - P15	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Intracranial laceration and haemorrhage due to birth injury	P100 - P109	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Respiratory and cardiovascular disorders specific to the perinatal period	P20 - P29	40	0.5	25	0.3	65	0.9	37	0.5	18	0.2	55	0.8	3	1.2	7	2.8	10	3.9
Intrauterine hypoxia	P200 - P209	30	0.4	2	0.0	32	0.4	28	0.4	1	0.0	29	0.4	2	0.8	1	0.4	3	1.2
Birth asphyxia	P210 - P219	0	0.0	4	0.1	4	0.1	0	0.0	2	0.0	2	0.0	0	0.0	2	0.8	2	0.8
Respiratory distress of newborn	P220 - P229	0	0.0	3	0.0	3	0.0	0	0.0	2	0.0	2	0.0	0	0.0	1	0.4	1	0.4
Congenital pneumonia	P230 - P239	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Neonatal aspiration syndromes	P240 - P249	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Interstitial emphysema and related conditions originating in the perinatal period	P250 - P258	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Pulmonary haemorrhage originating in the perinatal period	P260 - P269	1	0.0	5	0.1	6	0.1	1	0.0	2	0.0	3	0.0	0	0.0	3	1.2	3	1.2
Other respiratory conditions originating in the perinatal period	P280 - P289	0	0.0	7	0.1	7	0.1	0	0.0	7	0.1	7	0.1	0	0.0	0	0.0	0	0.0
Cardiovascular disorders originating in the perinatal period	P290 - P299	7	0.1	2	0.0	9	0.1	6	0.1	2	0.0	8	0.1	1	0.4	0	0.0	1	0.4
Infections specific to the perinatal period	P35 - P39	9	0.1	7	0.1	16	0.2	8	0.1	5	0.1	13	0.2	1	0.4	2	0.8	3	1.2
Congenital viral diseases	P350 - P359	1	0.0	1	0.0	2	0.0	0	0.0	1	0.0	1	0.0	1	0.4	0	0.0	1	0.4
Bacterial sepsis of newborn	P360 - P369	0	0.0	4	0.1	4	0.1	0	0.0	2	0.0	2	0.0	0	0.0	2	0.8	2	0.8
Other infections specific to the perinatal period	P390 - P399	8	0.1	2	0.0	10	0.1	8	0.1	2	0.0	10	0.1	0	0.0	0	0.0	0	0.0

Table 5.4: Stillbirths, Early Neonatal Deaths and Mortality Rates by Cause of Death by ICD-10 Chapter and SubCategories (cont.)

	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Haemorrhagic and haematological disorders of foetus and newborn	P50 - P61	5	0.1	5	0.1	10	0.1	5	0.1	1	0.0	6	0.1	0	0.0	4	1.6	4	1.6
Intracranial nontraumatic haemorrhage of foetus and newborn	P520 - P529	2	0.0	5	0.1	7	0.1	2	0.0	1	0.0	3	0.0	0	0.0	4	1.6	4	1.6
Other neonatal haemorrhage	P540 - P549	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Haemolytic disease of foetus and newborn	P550 - P559	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other perinatal haematological disorders	P610 - P619	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70 - P74	3	0.0	0	0.0	3	0.0	3	0.0	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Transitory disorders of carbohydrate metabolism specific to foetus and newborn	P700 - P709	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Other transitory neonatal electrolyte and metabolic disturbances	P740 - P749	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Digestive system disorders of foetus and newborn	P75 - P78	0	0.0	2	0.0	2	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.4	1	0.4
Necrotizing enterocolitis of foetus and newborn	P77	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.4
Other perinatal digestive system disorders	P780 - P789	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80 - P83	14	0.2	9	0.1	23	0.3	13	0.2	9	0.1	22	0.3	1	0.4	0	0.0	1	0.4
Other conditions of integument specific to foetus and newborn	P830 - P839	14	0.2	9	0.1	23	0.3	13	0.2	9	0.1	22	0.3	1	0.4	0	0.0	1	0.4
Other disorders originating in the perinatal period	P90 - P96	73	1.0	13	0.2	86	1.1	70	1.0	12	0.2	82	1.1	3	1.2	1	0.4	4	1.6
Other disturbances of cerebral status of newborn	P910 - P919	0	0.0	4	0.1	4	0.1	0	0.0	3	0.0	3	0.0	0	0.0	1	0.4	1	0.4
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P969	73	1.0	9	0.1	82	1.1	70	1.0	9	0.1	79	1.1	3	1.2	0	0.0	3	1.2
Congenital malformations of the nervous system	Q00 - Q07	15	0.2	13	0.2	28	0.4	15	0.2	12	0.2	27	0.4	0	0.0	1	0.4	1	0.4
Anencephaly and similar malformations	Q000 - Q002	9	0.1	10	0.1	19	0.3	9	0.1	9	0.1	18	0.2	0	0.0	1	0.4	1	0.4
Microcephaly	Q02	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital hydrocephalus	Q030 - Q039	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of the brain	Q040 - Q049	3	0.0	3	0.0	6	0.1	3	0.0	3	0.0	6	0.1	0	0.0	0	0.0	0	0.0
Spina bifida	Q050 - Q059	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of eye, ear, face and neck	Q10 - Q18	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of face and neck	Q180 - Q189	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of the circulatory system	Q20 - Q28	6	0.1	11	0.1	17	0.2	6	0.1	11	0.2	17	0.2	0	0.0	0	0.0	0	0.0
Congenital malformations of cardiac chambers and connections	Q200 - Q209	3	0.0	2	0.0	5	0.1	3	0.0	2	0.0	5	0.1	0	0.0	0	0.0	0	0.0
Congenital malformations of cardiac septa	Q210 - Q219	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of aortic and mitral valves	Q230 - Q239	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of heart	Q240 - Q249	1	0.0	4	0.1	5	0.1	1	0.0	4	0.1	5	0.1	0	0.0	0	0.0	0	0.0
Congenital malformations of great arteries	Q250 - Q259	1	0.0	2	0.0	3	0.0	1	0.0	2	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of circulatory system	Q280 - Q289	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0

Table 5.4: Stillbirths, Early Neonatal Deaths and Mortality Rates by Cause of Death by ICD-10 Chapter and SubCategories (cont.)

	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Congenital malformations of the respiratory system	Q30 - Q34	0	0.0	7	0.1	7	0.1	0	0.0	7	0.1	7	0.1	0	0.0	0	0.0	0	0.0
Congenital malformations of trachea and bronchus	Q320 - Q324	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of lung	Q330 - Q339	0	0.0	6	0.1	6	0.1	0	0.0	6	0.1	6	0.1	0	0.0	0	0.0	0	0.0
Other congenital malformations of the digestive system	Q38 - Q45	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of intestine	Q430 - Q439	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of the urinary system	Q60 - Q64	4	0.1	9	0.1	13	0.2	4	0.1	9	0.1	13	0.2	0	0.0	0	0.0	0	0.0
Renal agenesis and other reduction defects of kidney	Q600 - Q606	3	0.0	8	0.1	11	0.1	3	0.0	8	0.1	11	0.2	0	0.0	0	0.0	0	0.0
Cystic kidney disease	Q610 - Q619	1	0.0	1	0.0	2	0.0	1	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations and deformations of the musculoskeletal system	Q65 - Q79	6	0.1	9	0.1	15	0.2	6	0.1	8	0.1	14	0.2	0	0.0	1	0.4	1	0.4
Other congenital malformations of skull and face bones	Q750 - Q759	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of spine and bony thorax	Q760 - Q769	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Osteochondrodysplasia with defects of growth of tubular bones and spine	Q770 - Q779	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Other osteochondrodysplasias	Q780 - Q789	2	0.0	1	0.0	3	0.0	2	0.0	1	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of musculoskeletal system, not elsewhere classified	Q790 - Q799	1	0.0	6	0.1	7	0.1	1	0.0	5	0.1	6	0.1	0	0.0	1	0.4	1	0.4
Other congenital malformations	Q80 - Q89	6	0.1	5	0.1	11	0.1	6	0.1	5	0.1	11	0.2	0	0.0	0	0.0	0	0.0
Other specified congenital malformation syndromes affecting multiple systems	Q870 - Q878	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations, not elsewhere classified	Q890 - Q899	6	0.1	3	0.0	9	0.1	6	0.1	3	0.0	9	0.1	0	0.0	0	0.0	0	0.0
Chromosomal abnormalities, not elsewhere classified	Q90 - Q99	42	0.6	13	0.2	55	0.7	42	0.6	13	0.2	55	0.8	0	0.0	0	0.0	0	0.0
Downs syndrome	Q900 - Q909	8	0.1	0	0.0	8	0.1	8	0.1	0	0.0	8	0.1	0	0.0	0	0.0	0	0.0
Edwards syndrome and Patau syndrome	Q910 - Q917	24	0.3	11	0.1	35	0.5	24	0.3	11	0.2	35	0.5	0	0.0	0	0.0	0	0.0
Other trisomies and partial trisomies of the autosomes, not elsewhere classified	Q920 - Q929	5	0.1	0	0.0	5	0.1	5	0.1	0	0.0	5	0.1	0	0.0	0	0.0	0	0.0
Monosomies and deletions from the autosomes, not elsewhere classified	Q930 - Q939	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Turners syndrome	Q960 - Q969	4	0.1	1	0.0	5	0.1	4	0.1	1	0.0	5	0.1	0	0.0	0	0.0	0	0.0
Other chromosome abnormalities, not elsewhere classified	Q990 - Q999	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Total		355	4.7	161	2.1	516	6.8	337	4.6	135	1.9	472	6.5	18	7.0	26	10.3	44	17.2

Notes: N equals number of deaths.

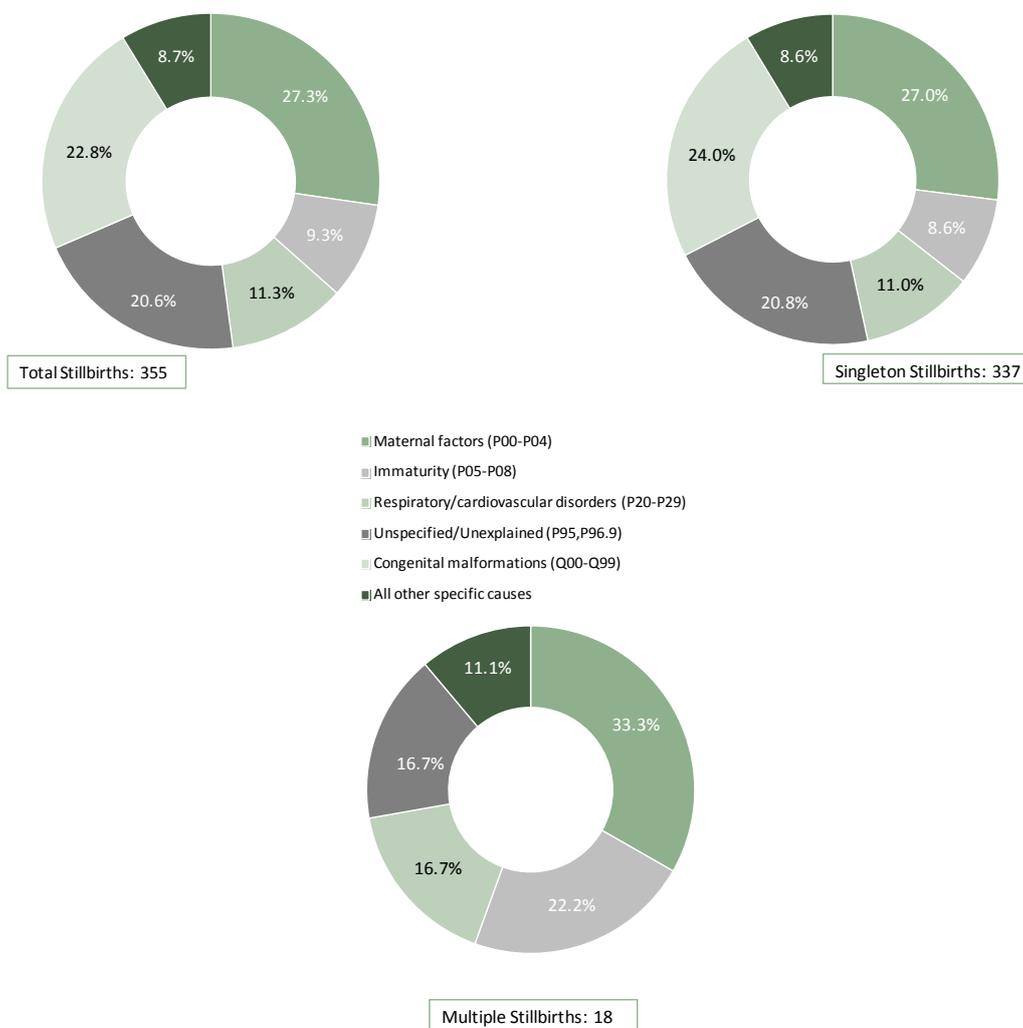
Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

STILLBIRTHS

Figure 5.7 presents the main cause of death for stillbirths.

- Maternal factors (P00-P04) were the leading cause of death for stillbirths.
- While maternal factors accounted for 33.3 per cent of multiple stillbirths, the second leading cause of death was immaturity (P05-P08) accounting for 22.2 per cent of multiple stillbirths.
- Congenital malformations (Q00-Q99) contributed to 22.8 per cent of total stillbirths; this cause accounted for 24.0 per cent of singleton stillbirths and did not account for any multiple stillbirths.
- The cause of death was unexplained (P95, P96.9) for 20.6 per cent of total stillbirths.

FIGURE 5.7
Stillbirths by Cause of Death, Total, Singleton and Multiple Births



Note: See Table 5.4 for data.

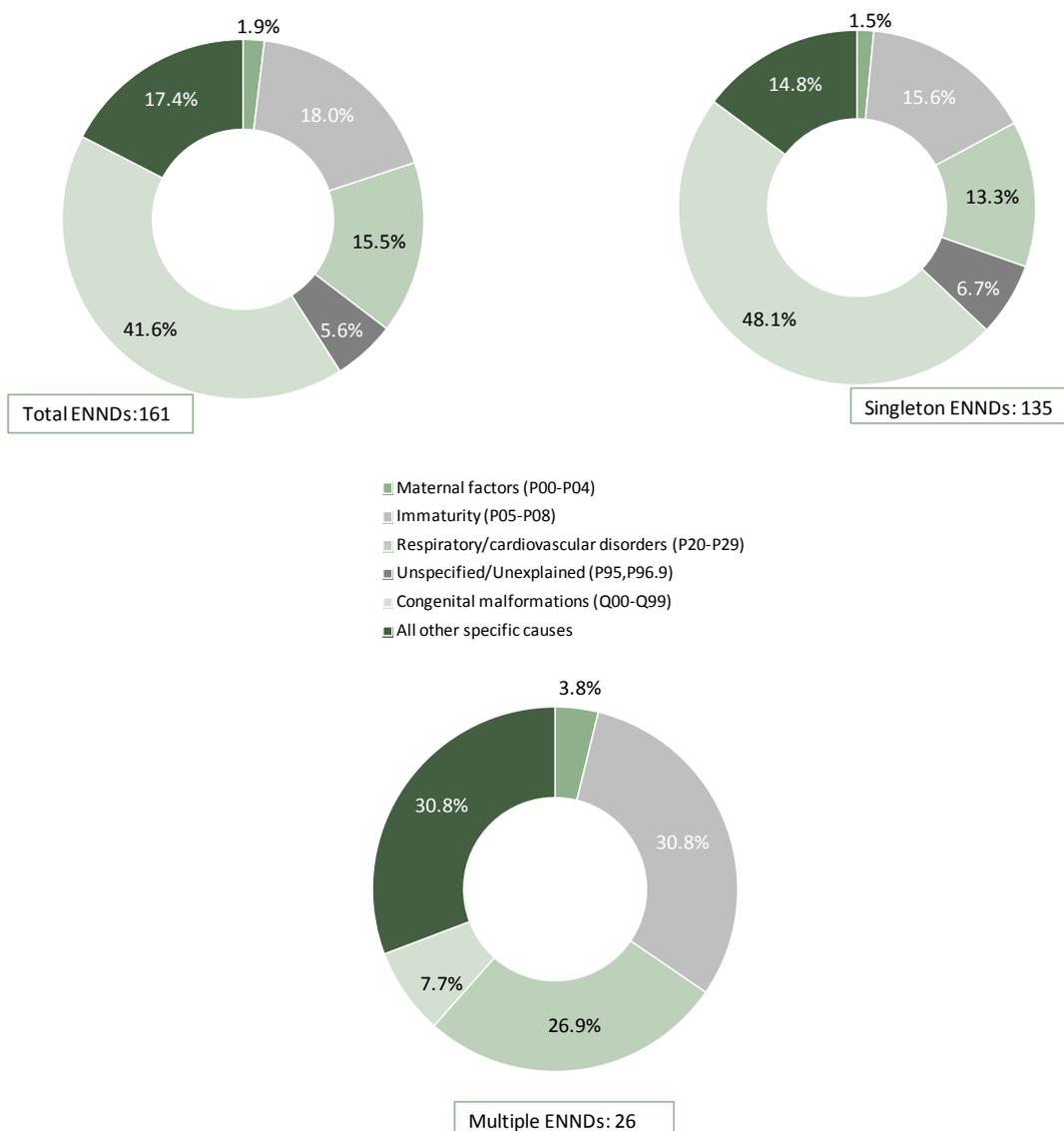
EARLY NEONATAL DEATHS (ENNDs)

Figure 5.8 presents the main cause of death for early neonatal deaths.

- Over 41 per cent of total early neonatal deaths and 48.1 per cent of singleton early neonatal deaths were due to congenital malformations (Q00-Q99).
- Immaturity (P05-P08) was the second leading cause of death, contributing to 18.0 per cent of total early neonatal deaths and 15.6 per cent of singleton early neonatal deaths.
- Immaturity (P05-P08) and all other specific disorders both accounted for 30.8 per cent of multiple early neonatal deaths.

FIGURE 5.8

Early Neonatal Deaths by Cause of Death, Total, Singleton and Multiple Births



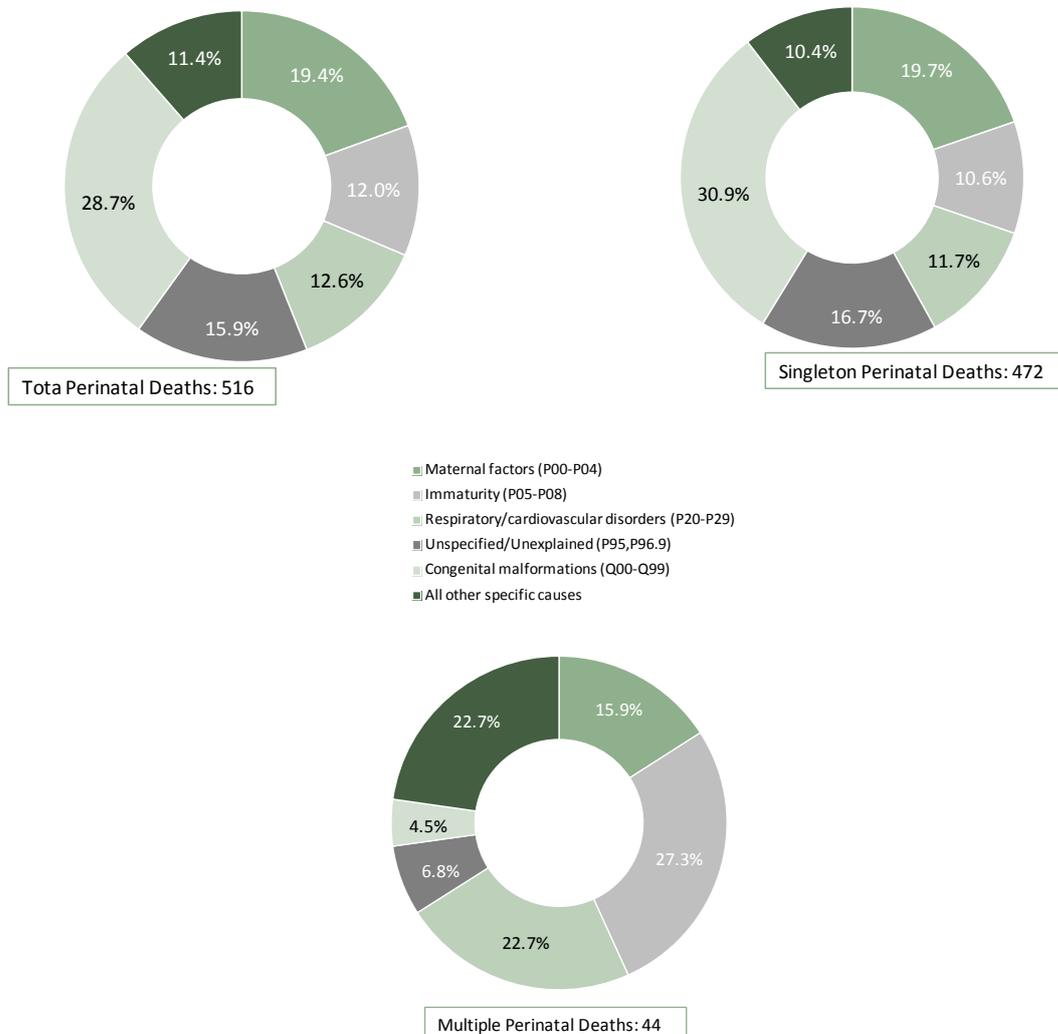
Note: See Table 5.4 for data.

TOTAL PERINATAL DEATHS

Figure 5.9 presents data on all perinatal deaths.

- The leading cause of death for total perinatal deaths was congenital malformations (Q00-Q99) at 28.7 per cent followed by maternal factors (P00-P04) at 19.4 per cent.
- For singleton births, congenital malformations (Q00-Q99) were the most frequently reported cause of death, accounting for 30.9 per cent of total singleton perinatal deaths.
- For multiple births, the largest contributor was immaturity (P05-P08) at 27.3 per cent, followed by respiratory/cardiovascular disorders (P20-P29) and all other specific causes both accounting for 22.7 per cent of total multiple perinatal deaths.

FIGURE 5.9
Perinatal Deaths by Cause of Death, Total, Singleton and Multiple Births



Note: See Table 5.4 for data.

AGE AT DEATH

Table 5.5 presents age at death for early neonatal deaths.

- Almost 1 in 4 (22.4 per cent) of early neonatal deaths occurred within the first hour of life.
- Just over two-thirds of total early neonatal deaths died within the first day of life.

TABLE 5.5

Age at Death, Early Neonatal Deaths

	Total Births		Singleton Births		Multiple Births	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Completed Hours						
<1	36	22.4	31	23.0	5	19.2
1	22	13.7	21	15.6	1	3.8
2	18	11.2	14	10.4	4	15.4
3	4	2.5	3	2.2	1	3.8
4	6	3.7	5	3.7	1	3.8
5	3	1.9	3	2.2	0	0.0
6	3	1.9	3	2.2	0	0.0
7-10	4	2.5	3	2.2	1	3.8
11-15	7	4.3	7	5.2	0	0.0
16-23	7	4.3	6	4.4	1	3.8
Total under 1 day	110	68.3	96	71.1	14	53.8
Completed Days						
1	22	13.7	17	12.6	5	19.2
2	9	5.6	8	5.9	1	3.8
3	7	4.3	7	5.2	0	0.0
4	4	2.5	0	0.0	4	15.4
5	5	3.1	4	3.0	1	3.8
6	3	1.9	2	1.5	1	3.8
Total under 1 Week	50	31.1	38	28.1	12	46.2
Unknown	1	0.6	1	0.7	0	0.0
Total	161	100	135	100	26	100

POST-MORTEM EXAMINATIONS

Post-mortem examinations were less likely in the case of early neonatal deaths compared to stillbirths and this trend is consistent over recent years.³⁰ Table 5.6 presents data on post-mortem examinations.

- The percentage of early neonatal deaths undergoing post-mortem examinations was 34.4 per cent compared to 46.2 per cent for stillbirths.
- A post-mortem examination was undertaken for 42.6 per cent of total perinatal deaths in 2010.

TABLE 5.6

Stillbirths and Early Neonatal Deaths undergoing Post-Mortem Examinations

Frequency Row Per Cent Col. Per Cent	Type of Death		
	Early Neonatal Deaths	Stillbirths	Total
Total Births			
Post-Mortem	53	162	215
	24.7	75.3	100
	32.9	45.6	41.7
No Post-Mortem	101	189	290
	34.8	65.2	100
	62.7	53.2	56.2
Not Stated	7	4	11
	63.6	36.4	100
	4.3	1.1	2.1
Total	161	355	516
	31.2	68.8	100
	100	100	100
Singleton Births			
Post-Mortem	50	157	207
	24.2	75.8	100
	37.0	46.6	43.9
No Post-Mortem	79	176	255
	31.0	69.0	100
	58.5	52.2	54.0
Not Stated	6	4	10
	60.0	40.0	100
	4.4	1.2	2.1
Total	135	337	472
	28.6	71.4	100
	100	100	100
Multiple Births			
Post-Mortem	3	5	8
	37.5	62.5	100
	11.5	27.8	18.2
No Post-Mortem	22	13	35
	62.9	37.1	100
	84.6	72.2	79.5
Not Stated	1	0	1
	100.0	0.0	100
	3.8	0.0	2.3
Total	26	18	44
	59.1	40.9	100
	100	100	100

³⁰ Previous reports in this series can be downloaded from www.esri.ie/health_information/latest_hipe_nprs_reports/

SECTION SIX

DOMICILIARY BIRTHS

INTRODUCTION

In the NPRS, domiciliary births are defined as planned home births attended by an independent midwife and are not associated with a hospital. Births delivered under hospital-administered home birth schemes are recorded as hospital births. Domiciliary births have been included, unless otherwise stated, in the analysis presented in previous sections.³¹

DOMICILIARY BIRTHS, 2001–2010

Table 6.1 presents selected statistics for domiciliary births for the period 2001 to 2010.

- There were 177 domiciliary births in 2010 representing just 0.2 per cent of all births.
- The number of domiciliary births has declined by 27.8 per cent between 2001 and 2010 with the lowest number of domiciliary births over the 10-year period reported for 2009 (148) and the highest number reported in 2002 (288) (see Figure 6.1).
- The average age of mothers having domiciliary births over this period was 34.0 years; this has remained stable, ranging from 33.2 years in 2001 to 35.0 years in 2009 and is recorded as 33.8 years in 2010.
- For all domiciliary births in 2010, 24.4 per cent were to single mothers compared with 31.6 per cent in 2001.
- Women choosing a domiciliary delivery in 2010 had an average maternal parity of 1.4 previous births.
- The percentage of women recording any breastfeeding at the time of hospital discharge was 95.4 per cent in 2001; this has increased to 97.2 per cent in 2010.
- Exclusively breastfeeding was reported for 96.6 per cent of domiciliary births in 2010.
- The average birthweight for domiciliary births in 2010 was 3,833.9 grams.
- There was one domiciliary stillbirth and no domiciliary early neonatal deaths reported in 2010.

More detailed analysis of domiciliary births for 2010 is presented in Tables 6.2 to 6.7, including the maternal characteristics of maternal age, parity and marital status, as well as details of the perinatal characteristics and care including gestational age, birthweight and type of feeding.

³¹ Throughout this section, 'Not Stated' values are not included in the calculation of percentages for discussion.

TABLE 6.1

Trends in Domiciliary Births—Selected Statistics, 2001–2010

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	% Change 2001-2010
General Characteristics												
Total Births		245	288	236	202	183	170	186	158	148	177	-27.8
Age of mother (years) ¹	Avg	33.2	34.1	34.0	34.3	33.4	34.3	34.1	34.3	35.0	33.8	1.8
Single mothers ^{1,2}	%	31.6	22.7	28.0	29.2	23.5	20.0	16.1	25.3	22.3	24.4	-22.8
Maternal parity ^{1,3}	Avg	1.4	1.7	1.6	1.6	1.7	1.7	1.6	1.5	1.7	1.4	0.0
Gestational age at delivery in weeks ¹	Avg	40.0	40.1	40.1	40.0	40.0	40.1	40.0	40.1	40.0	40.0	0.0
Interval since last birth (years) ⁴	Avg	3.8	3.7	3.7	3.5	3.3	3.4	3.4	3.6	3.7	3.4	-10.5
Immunity to Rubella ¹	%	93.4	91.6	94.1	97.0	95.1	96.5	100.0	96.2	98.0	97.2	4.1
Any Breastfeeding ^{5,6}	%	95.4	95.1	95.8	98.0	94.0	98.2	96.2	95.6	97.3	97.2	1.9
Exclusive Breastfeeding ⁵	%	95.0	94.0	94.1	97.5	94.0	97.1	95.7	95.6	97.3	96.6	1.7
Combined Antenatal Care - Midwife and G.P./Hospital ⁷	%	55.6	57.7	66.1	64.4	71.6	76.5	60.8	77.8	99.3	98.9	77.9
Birthweight (grams) ⁸	Avg	3686.8	3730.1	3754.3	3738.4	3760.1	3742.2	3699.2	3667.1	3764.9	3833.9	4.0
Low Birthweight (<2,500 grams) ⁸	%	0.0	0.3	0.0	1.0	0.5	0.6	1.1	0.6	0.0	0.0	0.0

Notes: 'Not Stated' values are not included in the calculation of percentages.

There was one set of domiciliary twin births in 2001.

There were no domiciliary multiple births in the years 2002 -2010.

¹ Based on maternities.

² Data recording marital status as 'never married' are classified as 'single' in this report.

³ Data for 2002 have been revised from that previously published.

⁴ Based on multiparous maternities.

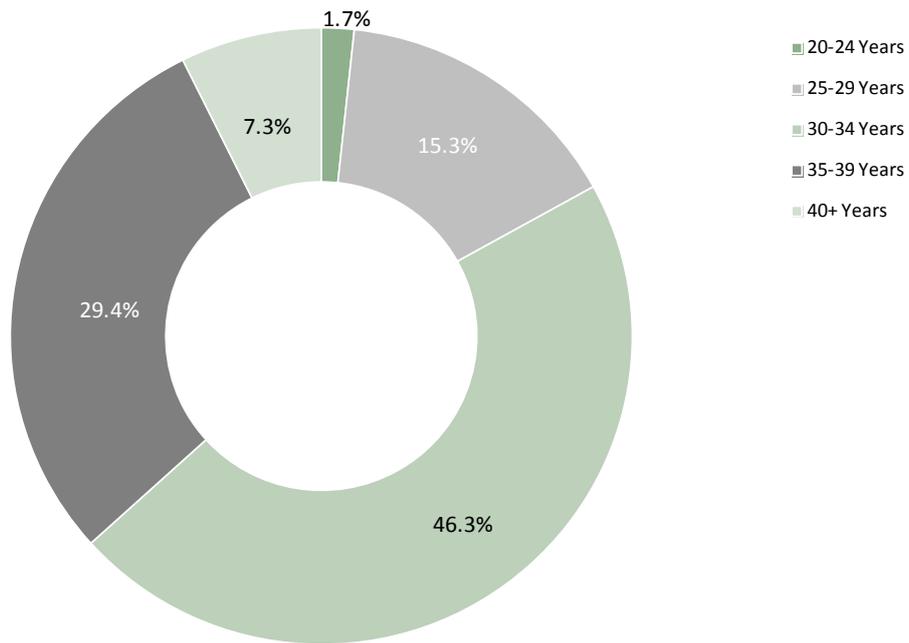
⁵ Based on maternities with live births. Excludes early neonatal deaths.

⁶ Any breastfeeding includes type of feeding recorded as either breast or combined at discharge from hospital.

⁷ Based on maternities. This figure applies to the percentage of home births where antenatal care is stated as 'combined', rather than 'midwife only'.

⁸ Based on live births. There was one stillbirth and no early neonatal deaths reported for domiciliary births in 2010.

FIGURE 6.2
Age of Mother



Note: See Table 6.2 for data.

MARITAL STATUS

Table 6.3 presents domiciliary births by mother's marital status and shows that 71.6 per cent of domiciliary births were to mothers who were married. Of these 46.8 per cent were to mother's aged 30-34 years.

TABLE 6.3
Mother's Marital Status by Age of Mother

Frequency Row Per Cent Col. Per Cent	Age of Mother					Total
	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40+ Years	
Married	0	13	59	43	11	126
	0.0	10.3	46.8	34.1	8.7	100
	0.0	48.1	72.0	82.7	84.6	71.2
Single	3	12	20	6	2	43
	7.0	27.9	46.5	14.0	4.7	100
	100.0	44.4	24.4	11.5	15.4	24.3
Other*	0	2	3	3	0	8
	0.0	25.0	37.5	37.5	0.0	100
	0.0	7.4	3.7	5.8	0.0	4.5
Total	3	27	82	52	13	177
	1.7	15.3	46.3	29.4	7.3	100
	100	100	100	100	100	100

Note: * Includes widowed, separated, divorced and 'not stated'.

GESTATIONAL AGE

Gestational age by mother's age in Table 6.4 shows that the majority of domiciliary births (92.6 per cent) were born between 37 and 41 weeks gestation.

TABLE 6.4

Age of Mother by Gestational Age (weeks) at Delivery

Frequency Row Per Cent Col. Per Cent	Gestational Age (weeks)				Total
	32-36	37-41	42 and Over	Not Stated	
20-24 Years	0 0.0 0.0	3 100.0 1.8	0 0.0 0.0	0 0.0 0.0	3 100 1.7
25-29 Years	0 0.0 0.0	25 92.6 15.3	1 3.7 8.3	1 3.7 100.0	27 100 15.3
30-34 Years	1 1.2 100.0	75 91.5 46.0	6 7.3 50.0	0 0.0 0.0	82 100 46.3
35-39 Years	0 0.0 0.0	47 90.4 28.8	5 9.6 41.7	0 0.0 0.0	52 100 29.4
40 Years and Over	0 0.0 0.0	13 100.0 8.0	0 0.0 0.0	0 0.0 0.0	13 100 7.3
Total	1 0.6 100	163 92.1 100	12 6.8 100	1 0.6 100	177 100 100

BIRTHWEIGHT

Table 6.5 presents birthweight by gestational age.

- 31.3 per cent of domiciliary births weighed between 3,500–3,999 grams (see Figure 6.3) and, of these, over 90 per cent occurred in the period 37–41 weeks gestation.
- The average birthweight for domiciliary live births was 3,833.9 grams.

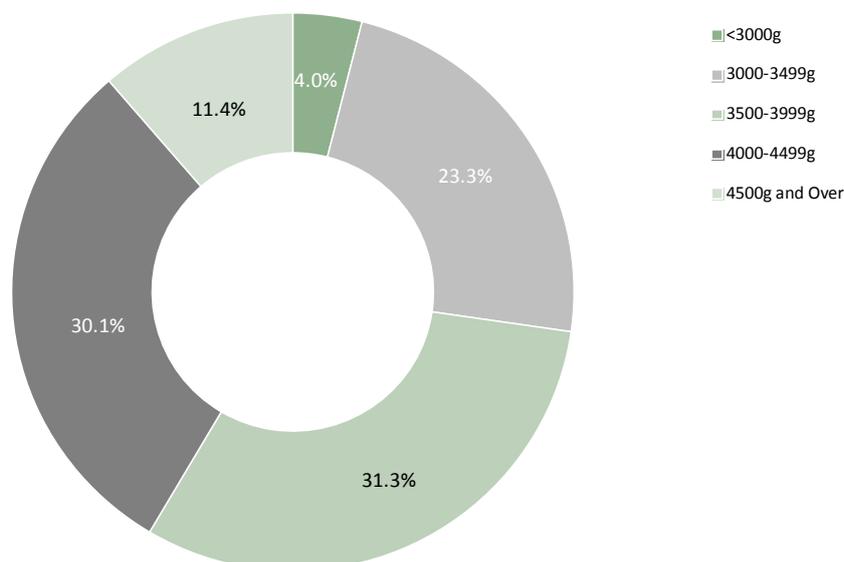
TABLE 6.5

Birthweight by Gestational Age (weeks) at Delivery

Frequency Row Per Cent Col. Per Cent	Gestational Age (weeks)				Total
	32-36	37-41	42 and Over	Not Stated	
2500-2999	0	7	0	0	7
	0.0	100	0.0	0.0	100
	0.0	4.3	0.0	0.0	4.0
3000-3499	1	40	0	0	41
	2.4	97.6	0.0	0.0	100
	100.0	24.5	0.0	0.0	23.2
3500-3999	0	50	5	0	55
	0.0	90.9	9.1	0.0	100
	0.0	30.7	41.7	0.0	31.1
4000-4499	0	48	5	0	53
	0.0	90.6	9.4	0.0	100
	0.0	29.4	41.7	0.0	29.9
4500 and Over	0	18	2	0	20
	0.0	90.0	10.0	0.0	100
	0.0	11.0	16.7	0.0	11.3
Not Stated	0	0	0	1	1
	0.0	0.0	0.0	100.0	100
	0.0	0.0	0.0	100.0	0.6
Total	1	163	12	1	177
	0.6	92.1	6.8	100.0	100
	100	100	100	100	100

FIGURE 6.3

Birthweight Groups



Note: See Table 6.5 for data.

OCCUPATION

Table 6.6 shows that the highest proportion of domiciliary births were to mothers whose occupation was classified as 'lower professional' (31.1 per cent), followed by 'home duties' (22.6 per cent) (see also Figure 6.4).

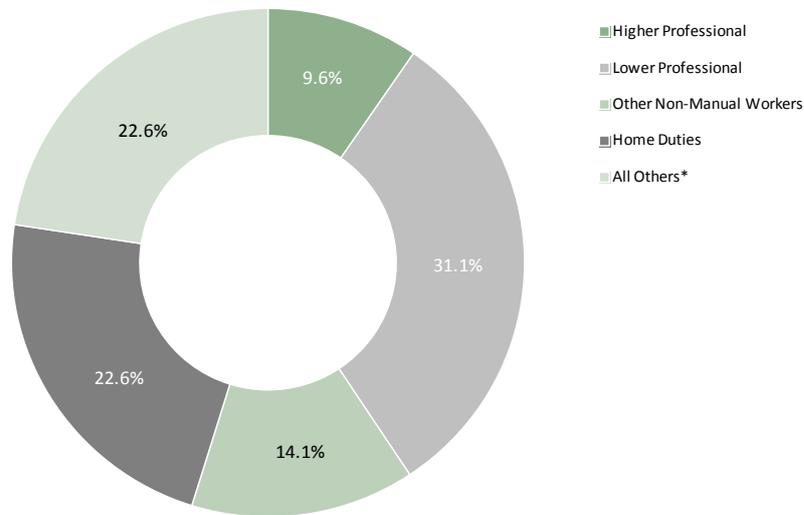
TABLE 6.6

Mother's Occupation by Birthweight

Frequency Row Per Cent Col. Per Cent	Birthweight (grams)						Total	
	2500- 2999	3000- 3499	3500- 3999	4000- 4499	4500 and Over	Not Stated		
Other Agricultural Occupations & Fishermen	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100.0 5.0	0 0.0 0.0	1 100 0.6
Higher Professional	0 0.0 0.0	1 5.9 2.4	7 41.2 12.7	6 35.3 11.3	3 17.6 15.0	0 0.0 0.0	0 0.0 0.0	17 100 9.6
Lower Professional	1 1.8 14.3	10 18.2 24.4	22 40.0 40.0	15 27.3 28.3	7 12.7 35.0	0 0.0 0.0	0 0.0 0.0	55 100 31.1
Employers & Managers	2 25.0 28.6	1 12.5 2.4	1 12.5 1.8	4 50.0 7.5	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	8 100 4.5
Salaried Employees	0 0.0 0.0	0 0.0 0.0	1 100 1.8	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100 0.6
Intermediate Non-Manual Workers	1 6.3 14.3	6 37.5 14.6	3 18.8 5.5	3 18.8 5.7	3 18.8 15.0	0 0.0 0.0	0 0.0 0.0	16 100 9.0
Other Non-Manual Workers	0 0.0 0.0	9 36.0 22.0	6 24.0 10.9	7 28.0 13.2	2 8.0 10.0	1 4 100.0	1 100 14.1	25 100 14.1
Skilled Manual Workers	0 0.0 0.0	2 33.3 4.9	1 16.7 1.8	3 50.0 5.7	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	6 100 3.4
Unemployed	0 0.0 0.0	1 100.0 2.4	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100 0.6
Not Classifiable	1 14.3 14.3	1 14.3 2.4	3 42.9 5.5	1 14.3 1.9	1 14.3 5.0	0 0.0 0.0	0 0.0 0.0	7 100 4.0
Home Duties	2 5.0 28.6	10 25.0 24.4	11 27.5 20.0	14 35.0 26.4	3 7.5 15.0	0 0.0 0.0	0 0.0 0.0	40 100 22.6
Total	7 4.0 100	41 23.2 100	55 31.1 100	53 29.9 100	20 11.3 100	1 0.6 100	177 100 100	

Note: See Appendix C for a description of the classification system for occupation.

FIGURE 6.4
Distribution of Domiciliary Births by Mother's Occupation



Notes: See Table 6.6 for Data.
* Includes Other Agricultural Occupations & Fishermen, Employers & Managers, Salaried Employees, Intermediate Non-Manual Workers, Skilled Manual Workers, Unemployed and Not Classifiable.

INFANT'S TYPE OF FEEDING

Figure 6.5 compares infant's type of feeding by place of birth; twice as many domiciliary births were breastfed compared with hospital births (96.6 per cent and 45.8 per cent respectively).

FIGURE 6.5
Infant's Type of Feeding by Place of Birth, Total Live Births



Notes: See Appendix G, Table G18 for data.
Excludes type of feeding 'Not Stated' and early neonatal deaths.

MOTHER'S COUNTY OF RESIDENCE

Table 6.7 presents the distribution of domiciliary births by mother's county of residence.

- Together, Cork, Dublin County, Kerry, and Dublin City accounted for 60.5 per cent of the total domiciliary births that occurred in 2010.
- At 55, Cork had the highest number of domiciliary births reported followed by Dublin County at 25.

TABLE 6.7

Domiciliary Births by Mother's County of Residence

Mother's County of Residence	Number	Per Cent
Cork	55	31.1
Dublin County	25	14.1
Kerry	15	8.5
Dublin City	12	6.8
Galway	12	6.8
Kildare	10	5.6
Clare	8	4.5
Meath	8	4.5
Wicklow	7	4.0
Other Counties*	25	14.1
Total	177	100

Note: *The following counties reported between 1 and 5 domiciliary births in 2010: Louth, Mayo, Sligo, Laois, Limerick, Tipperary, Roscommon, Westmeath, Leitrim and Waterford.

APPENDICES

APPENDIX A

DEFINITIONS

This section collates the definitions of the terms used in the analyses for this report. All perinatal statistics and definitions are based on WHO ICD-10 Classifications.

Age at Death: The age of early neonatal deaths is given in completed hours if the infant survived less than one day and in completed days otherwise.

Age-Specific Fertility Rate (ASFR): refers to the number of live births to women in a particular age group divided by the female population in that age group, multiplied by 1,000 (see also definition for Total Period Fertility Rate (TPFR)).

Antenatal Length of Stay: This is computed as the difference, in days, between a mother's date of admission and her date of delivery. Domiciliary births are not included in tables relating to this variable.

Antepartum and Intrapartum Stillbirths: These refer to stillbirths occurring prior to and during labour respectively.

Birth Rate: The Birth Rate or Crude Birth Rate is the ratio of total live births to total population over a specified period of time. The birth rate is often expressed as the number of live births per 1,000 members of the population in a particular time period (for example one year).

Birthweight: Birthweight is given in grams and hospitals are asked to record the weight within the first hour after birth. In accordance with WHO guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.

Born Before Arrival (BBA): Where BBA is recorded as place of birth this indicates that an infant was delivered before arrival at hospital.

Cause of Death: This categorisation indicates the principal underlying pathological cause, which in the opinion of the certifier made the greatest contribution to the death of the infant or foetus. In assigning cause of death in the NPRS, the guidelines recommended by the WHO have been followed. A summary of these guidelines is provided in Appendix D. Since 2005 the *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1-3. Geneva: World Health Organisation is used to code Irish births.

Congenital Anomalies: These are physiological or structural abnormalities that develop at or before birth and are present at the time of birth. Congenital anomalies are those diseases/conditions categorised in ICD-10, Chapter XVII, *Congenital Malformations, Deformities and Chromosomal Abnormalities* (Q00.0-Q99.9).

Domiciliary Birth: Domiciliary births are *planned* home births. The vast majority of these are attended by an independent midwife and are not associated with a hospital. In 2010, there were 73 births under hospital administered home birth schemes. For the purposes of this report these births are treated as hospital births due to their small numbers.

Early Neonatal Death (ENND) and Early Neonatal Mortality Rate: An early neonatal death refers to the death of a live born infant during the first week of life. The **early neonatal mortality rate** is calculated as follows:

$$\frac{\text{Number of Early Neonatal Deaths} \times 1,000}{\text{Total Number of Live Births}}$$

Hospital Admission Booked or Unbooked: This indicates whether a mother's admission to hospital for delivery was booked or unbooked prior to delivery. Domiciliary births are not included in the tables relating to this variable.

Immunity to Rubella: An affirmative answer should be recorded only where there is documented evidence of a rubella antibody test. A history of rubella or previous immunisation is not sufficient to indicate immunity to rubella.

Length of Infant's Stay: This is computed as the difference, in days, between the infant's date of birth and the date of the infant's discharge from hospital. A return of 'not stated' for this variable may indicate that the completed form was returned before the infant had been discharged. Where an infant was transferred to another hospital, the date of the transfer is given as the date of the infant's discharge. Domiciliary births and perinatal deaths are not included in the tables relating to this variable.

Live Birth: A live birth is defined as the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. In accordance with WHO guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.

Marital Status: Five categories are used:

1. Married
2. Never Married (classified as 'Single' in discussion in this report)
3. Widowed
4. Separated (including deserted, legally separated, Church decree of nullity and otherwise separated)
5. Divorced.

Maternity: refers to a woman who has delivered a baby irrespective of outcome. In accordance with WHO guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.

Method of Delivery: Six categories are used:³²

1. Spontaneous cephalic delivery
2. Breech delivery, spontaneous, with or without forceps to after-coming head, breech extraction
3. Forceps delivery
4. Vacuum extraction³³
5. Caesarean section
6. Other Specified and Combined (for example, combination of spontaneous delivery followed by a vacuum extraction or caesarean section).

Mother's and Father's Nationality: This indicates place of birth for mother and father. This definition is for the sole purpose of giving the necessary directions for the completion of the Birth Notification Form and is not a legal definition. Details are given in Appendix F.

Mother's and Father's Occupation: Occupations are coded and grouped, with minor modifications, according to the system of socioeconomic groupings as used by the Central Statistics Office in the *1991 Census of Population, Volume 6*. Details are given in Appendix C.

Parity: Maternal parity indicates a mother's total number of previous live births and stillbirths.

Primiparous: Women who have had no previous pregnancy resulting in a live birth or stillbirth.

Multiparous: Women who have had at least one previous pregnancy resulting in a live birth or stillbirth.

Perinatal Death and Perinatal Mortality Rate (PMR): Perinatal deaths include stillbirths and early neonatal deaths. The **perinatal mortality rate (PMR)** is calculated as follows:

$$\frac{\text{Number of Stillbirths and Early Neonatal Deaths} \times 1,000}{\text{Total Number of Live Births and Stillbirths}}$$

In this report a second perinatal mortality rate has been calculated excluding all stillbirths and early neonatal deaths due to congenital anomalies. This **adjusted rate (Adjusted PMR)** to some extent removes those perinatal events where death was unavoidable, but no attempt has been made to exclude only invariably fatal congenital anomalies.

Perinatal Period: For the purposes of NPRS the perinatal period covers pregnancy, delivery and ends seven completed days after birth.

Period of Gestation: Gestational age at delivery is recorded in completed weeks, and is measured or estimated according to the best method available in each case.

³² For the purpose of presenting data in this report 'instrumental delivery' includes breech/forceps, forceps or vacuum extraction.

³³ Also known as Ventouse Deliveries (Source: World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10th Revision*, Vol. 1. Geneva: World Health Organization).

Plurality: This indicates the number of births resulting from a single pregnancy.
Singleton birth: Results when one baby is born from a single pregnancy.
Multiple births: Results when more than one baby is born from a single pregnancy.

Post-mortem: This indicates whether or not a post-mortem examination was performed. In some cases a return of 'not stated' may be due to the notification form being returned prior to post-mortem.

Postnatal Length of Stay: This is computed as the difference, in days, between the date of delivery and the date of the mother's discharge from hospital. A return of 'not stated' for this variable may indicate that the completed form was returned before the mother had been discharged. Domiciliary births are not included in tables relating to this variable.

Size of Maternity Unit: Size in this context refers to the number of live births and stillbirths occurring during the year in a dedicated maternity hospital/unit.

Stillbirth and Stillbirth Rate: Foetal death is defined as death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy. A foetal death is indicated by the fact that, after such separation, the foetus 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. Following WHO guidelines, a stillbirth in this report refers to the death of a foetus weighing at least 500 grams. The **stillbirth rate** is given as follows:

$$\frac{\text{Number of Stillbirths} \times 1,000}{\text{Total Number of Live Births and Stillbirths}}$$

Time since Last Birth: This variable gives the time, grouped into yearly intervals, since the mother's last live birth or stillbirth.

Total Period Fertility Rate (TPFR): is compiled by summing the Age-Specific Fertility Rate (ASFR) for the relevant five-year age groups, dividing by 1,000 and multiplying by 5. See also definition for ASFR.

Twinning Rate: This is given by:

$$\frac{\text{Number of Twin Births} / 2}{\text{Total Number of Maternities}} \times 1,000$$

Twin births, which resulted in stillbirths, are included in the calculation of the twinning rate.

Transfer of Infants: This identifies infants who were transferred to another hospital for medical reasons.

Type of Feeding: This indicates whether artificial feeding, breastfeeding, or a combination of both was being used at the time of discharge. Type of feeding is based on live births only (excluding early neonatal deaths). Any breastfeeding includes type of feeding recorded as either breast or combined at discharge from hospital.

APPENDIX B

COPY OF PART 3 OF THE BIRTH NOTIFICATION FORM USED BY NPRS

The following format was used for births in 2010.

Notification of Birth - To: National Perinatal Reporting System, The Economic & Social Research Institute, Whitaker Square, Sir John Rogerson's Quay, Dublin 2			
TYPE OF BIRTH (Live = 1, Still = 2)	PLACE OF BIRTH (Hospital = 1, BBA = 2, Domiciliary = 3)	NAME AND ADDRESS OF HOSPITAL	
	HOSPITAL NO.	CASE NO.	ADDRESS OF HOSPITAL
INFANT'S DETAILS			
DATE OF BIRTH (DDMMYYYY)	TIME OF BIRTH	MOTHER'S HEALTH	
IF MULTIPLE BIRTH	ORDER OF BIRTH No. of	ANTENATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4, Midwife Only = 5)	DATE OF FIRST VISIT TO DOCTOR DURING PREGNANCY (DDMMYYYY)
SEX (Male = 1, Female = 2, Indeterminate = 3)	BIRTHWEIGHT	DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY (DDMMYYYY)	WAS MOTHER IMMUNE TO RUBELLA (Yes = 1, No = 2, Not Known = 3)
PERIOD OF GESTATION	PERIOD OF GESTATION	METHOD OF DELIVERY (Spontaneous = 1, Breech ± Forceps = 2, Forceps = 3, Vac. Extraction = 4, Caesarean Sec. = 5, Other = 6)	MAIN MATERNAL DISEASE OR CONDITION AFFECTING FOETUS OR INFANT
FATHER'S DETAILS			
COUNTRY	NATIONALITY	OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FOETUS OR INFANT	
OCCUPATION	DATE OF BIRTH (DDMMYYYY)	OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT	
MOTHER'S DETAILS			
COUNTRY	NATIONALITY	HOSPITAL	
OCCUPATION	DATE OF BIRTH (DDMMYYYY)	WAS ADMISSION BOOKED (Yes = 1, No = 2)	
MARITAL STATUS (Married = 1, Never Married = 2, Widowed = 3, Married but Separated = 4, Divorced = 5)	DATE OF PRESENT MARRIAGE (DDMMYYYY)	DATE OF MOTHER'S ADMISSION (DDMMYYYY)	
NO. OF PREVIOUS LIVE BIRTHS	DATE OF LAST BIRTH (live or still) (DDMMYYYY)	DATE OF MOTHER'S DISCHARGE (DDMMYYYY)	
CHILDREN STILL LIVING	STILLBIRTHS	DATE OF INFANT'S DISCHARGE (DDMMYYYY)	
SPONTANEOUS ABORTIONS	PERINATAL DEATH	WAS INFANT TRANSFERRED TO OTHER HOSPITAL FOR MEDICAL REASONS (Yes = 1, No = 2)	
TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2)	WAS AUTOPSY PERFORMED (Yes = 1, No = 2)	IF 'YES', NAME OF HOSPITAL	
AGE AT DEATH	PLACE OF DEATH	GENERAL PRACTITIONER ATTENDED BY MOTHER	
IF STILLBIRTH, DID DEATH OCCUR BEFORE LABOUR (1) DURING LABOUR (2) NOT KNOWN (3)	CAUSE OF DEATH		
MAIN DISEASE OR CONDITION IN FOETUS OR INFANT	OTHER DISEASES OR CONDITIONS IN FOETUS OR INFANT		
Signature	Date		

APPENDIX C

CLASSIFICATION OF OCCUPATION

Occupations have been coded and classified in a set of socio-economic groups according to a system devised by the CSO. The final CSO category of 'Unknown' has been differentiated into five distinct groups for the purposes of the Perinatal Reporting System. These are 'Unemployed', 'Not Classifiable', 'Not Applicable', 'Home Duties', and 'Not Stated'. Occupation is coded as unemployed when occupation is given as unemployed and where no previous occupation is stated. If a previous occupation is stated then occupation is coded to the relevant category. 'Not Classifiable' has been used to categorise indecipherable, unclear, or unlisted occupations where efforts to clarify the information have failed. 'Home Duties' is entered where occupation has been entered as 'full-time mother/father/parent', 'stay at home mother/father/parent', 'housewife', 'home duties', etc. 'Not Stated' applies to those cases where either the mother's or father's occupation has been left blank or has been recorded as 'Unknown'.

Under Father's occupation, the following applies:

'Not Applicable' is entered when the marital status of the mother has been given as never married, widowed, separated or divorced, and where father's occupation has been left blank. 'Not Stated' applies to those cases where the marital status of the mother is recorded as either married or not stated, and where father's occupation has been left blank or has been recorded as 'Unknown'. In either case, if an occupation is given for the father then the appropriate occupational code has been used. For the purposes of presenting data on father's occupation in this report, the categories 'Not Applicable' and 'Not Stated' are combined.

The full list of socioeconomic groups used in this report is as follows:

- Farmers & Farm Managers
- Other Agricultural Occupations & Fishermen
- Higher Professional
- Lower Professional
- Employers & Managers
- Salaried Employees
- Intermediate Non-Manual Workers
- Other Non-Manual Workers
- Skilled Manual Workers
- Semi-Skilled Manual Workers
- Unskilled Manual Workers
- Unemployed
- Not Classifiable
- Not Applicable (Father's Occupation Only)
- Home Duties
- Not Stated.

APPENDIX D

CAUSE OF DEATH CLASSIFICATION

The main cause of death has been determined according to the guidelines set out by the WHO in the Tenth Revision of the ICD.³⁴ The principal coding criteria are summarised here.

The main cause of death should as far as possible indicate the pathological condition of the infant or foetus which, in the opinion of the certifier, made the greatest contribution towards the death.

The following rules are extracted from *ICD-10, Second Edition, 2005, 4. Rules and guidelines for mortality and morbidity coding*. These rules have been applied to cause of death coding in the NPRS data set as follows:

Section (A) – main disease or condition in foetus or infant

Section (B) – other diseases or conditions in foetus or infant

Section (C) – main maternal disease or condition affecting foetus or infant

Section (D) – other maternal disease or condition affecting foetus or infant.

Rule P1. Mode of death or prematurity entered in section (a):

If heart or cardiac failure, asphyxia or anoxia (any condition in P20.-, P21.-) or prematurity (any condition in P07.-) is entered in section (a) and other conditions of the infant or foetus are entered in either section (a) or section (b), code the first-mentioned of these other conditions as if it had been entered alone in section (a) and code the condition actually entered in section (a) as if it had been entered in section (b).

Rule P2. Two or more conditions entered in sections (a) or (c):

If two or more conditions are entered in section (a) or section (c), code the first-mentioned of these as if it had been entered alone in section (a) or (c) and code the others as if they had been entered in sections (b) or (d).

³⁴ World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10th Revision*, Vols. 1- 3. Geneva: World Health Organization

Rule P3. No entry in sections (a) or (c)

If there is no entry in section (a) but there are conditions of the infant or foetus entered in section (b), code the first-mentioned of these as if it had been entered in section (a). If there are no entries in either section (a) or section (b), either code P95 (Foetal death of unspecified cause) for stillbirths or code P96.9 (Condition originating in the perinatal period, unspecified) for early neonatal deaths should be used for section (a).

Similarly, if there is no entry in section (c) but there are maternal conditions entered in section (d), code the first-mentioned of these as if it had been entered in section (c). If there are no entries in either section (c) or section (d) use some artificial code, e.g. xxx.x for section (c) to indicate that no maternal condition was reported.

Rule P4. Conditions entered in wrong section

If a maternal condition (i.e. conditions in P00-P04) is entered in section (a) or section (b), or if a condition of the infant or foetus is entered in section (c) or section (d), code the conditions as if they had been entered in the respective correct section.

For the purpose of the cause of death tables included in this report, one further criterion has been applied. Where no infant's condition is given then, where a specific maternal condition is given (any condition in P00-P04), the main cause of death is classified under the maternal condition.

Table D1 summarises these rules.

TABLE D1

Cause of Death Coding Rules

ICD-10 Rule	Cause of Death as recorded on the Birth Notification Form				Action
	Section A	Section B	Section C	Section D	
	Main disease or condition in foetus or infant	Other disease or condition in foetus or infant	Main maternal disease or condition affecting foetus or infant	Other maternal disease or condition affecting foetus or infant	
Rule 1	Heart or cardiac failure, asphyxia, anoxia, prematurity (P20.-, P21.- or P07.-)	Other condition	No entry	No entry	Code the stated 'other condition' in section A and move condition entered in section A to section B.
Rule 2	Two or more conditions listed	No entry	Two or more conditions listed	No entry	Code the first mentioned condition in sections A and C respectively and code the second mentioned conditions in sections B and D respectively.
Rule 3	No entry	Condition entered	No entry	Condition entered	Code the first mentioned condition in section B to section A and the first mentioned condition in section D to section C.
	No entry	No entry	No entry	No entry	Code 'Foetal death of unspecified cause' (P95) for stillbirths or 'Conditions originating in the perinatal period, unspecified' (P96.9) for early neonatal deaths in section A.
Rule 4	Maternal condition entered (P00-P04)	Maternal condition entered (P00-P04)	Infant condition entered	Infant condition entered	Code maternal conditions in sections C and D respectively. Code infant conditions in sections A and B respectively.
Additional Rule	No entry	No entry	Maternal condition (P00-P04)	No entry	Code maternal condition to section A.

Table D2 illustrates the main chapter blocks relating to cause of death categories in this report.

TABLE D2

ICD 10, Cause of Death Codes

ICD-10 CODE	CAUSE OF DEATH
P00–P04	Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery
P05–P08	Disorders related to length of gestation and foetal growth
P10–P15	Birth trauma
P20–P29	Respiratory and cardiovascular disorders specific to the perinatal period
P35–P39	Infections specific to the perinatal period
P50–P61	Haemorrhagic and haematological disorders of foetus and newborn
P70–P74	Transitory endocrine and metabolic disorders specific to foetus and newborn
P75–P78	Digestive system disorders of foetus and newborn
P80–P83	Conditions involving the integument and temperature regulation of foetus and newborn
P90–P96	Other disorders originating in the perinatal period
Q00–Q07	Congenital malformations of the nervous system
Q10–Q18	Congenital malformations of eye, ear, face and neck
Q20–Q28	Congenital malformations of the circulatory system
Q30–Q34	Congenital malformations of the respiratory system
Q35–Q37	Cleft lip and cleft palate
Q38–Q45	Other congenital malformations of the digestive system
Q50–Q56	Congenital malformations of genital organs
Q60–Q64	Congenital malformations of the urinary system
Q65–Q79	Congenital malformations and deformations of the musculoskeletal system
Q80–Q89	Other congenital malformations
Q90–Q99	Chromosomal abnormalities, not elsewhere classified

All other codes (A00–O99, R00–Z99) have been classified in the category ‘all other causes’.

APPENDIX E

CLASSIFICATION OF COUNTY OF RESIDENCE

The following codes are applied to mother's and father's county of residence. Where a Dublin postal code, such as Dublin 13, is entered then a code of 10 is applied for Dublin City. Where there is no postal code and Dublin is recorded then a code of 11 is applied for Dublin County. Where a mother's or father's county of residence is unknown the code 99 is applied. The code 90 is applied where the address given is outside the Republic of Ireland.

10	Dublin City	50	Donegal
11	Dublin County	51	Sligo
12	Kildare	52	Leitrim
13	Wicklow	60	Carlow
20	Laois	61	Kilkenny
21	Offaly	62	Tipperary South Riding
22	Longford	63	Waterford
23	Westmeath	64	Wexford
30	Clare	70	Cork
31	Limerick	71	Kerry
32	Tipperary North Riding	80	Galway
40	Meath	81	Mayo
41	Cavan	82	Roscommon
42	Monaghan	90	Other – all places outside Republic of Ireland
43	Louth	99	Not Stated.

Note: For the purposes of this report Tipperary North Riding and Tipperary South Riding have been combined for County Tipperary.

APPENDIX F

CLASSIFICATION OF NATIONALITY

Nationality for mother and father is defined by the place of their birth. This definition is for the sole purpose of giving the necessary directions for the completion of the Birth Notification Form and is not a legal definition.

Nationalities have been coded and classified into groupings according to a system devised by the CSO, see below:

Ireland includes the following:

Ireland
Irish American
Irish English
Irish European
Irish Other.

UK includes the following:

England
Great Britain
Northern Ireland
Scotland
Wales.

EU 15 (excluding Ireland and the UK) includes the following:

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Portugal
France	Spain
Germany	Sweden.
Greece	

EU 15 to EU 27 includes the following:

Bulgaria	Lithuania
Cyprus	Malta
Czech Republic	Poland
Estonia	Slovakia
Hungary	Slovenia
Latvia	Romania.

Rest of Europe includes the following:

Andorra	Jersey
Armenia	Liechtenstein
Azerbaijan	Macedonia, The Former Yugoslav Republic of,
Belarus	Moldova, Republic of
Bosnia and Herzegovina	Monaco
Croatia	Norway
Faroe Islands	Russian Federation
Georgia	San Marino
Gibraltar	Switzerland

Guernsey	Turkey
Iceland	Ukraine
Isle of Man	Vatican City
	Yugoslavia, Federal Republic of.

Africa includes the following:

Algeria	Malawi
Angola	Mali
Benin	Mauritania
Botswana	Mauritius
Burkina Faso	Mayotte
Burundi	Morocco
Cameroon	Mozambique
Cape Verde	Namibia
Central African Republic	Niger
Chad	Nigeria
Comoros	Reunion
Congo	Rwanda
Congo, The Democratic Republic of the	Saint Helena
Cote d'Ivoire	Sao Tome and Principe
Djibouti	Senegal
Egypt	Seychelles
Equatorial Guinea	Sierra Leone
Eritrea	Somalia
Ethiopia	South Africa
Gabon	Sudan
Gambia	Swaziland
Ghana	Tanzania, United Republic of
Guinea	Togo
Guinea-Bissau	Tunisia
Kenya	Uganda
Lesotho	Western Sahara
Liberia	Zambia
Libyan Arab Jamahiriya	Zimbabwe.
Madagascar	

Asia includes the following:

Afghanistan	Macao
Bahrain	Malaysia
Bangladesh	Maldives
Bhutan	Mongolia
British Indian Ocean Territory	Myanmar
Brunei Darussalam	Nepal
Cambodia	Oman
China	Pakistan
East Timor	Palestinian Territory, Occupied
Hong Kong	Philippines
India	Qatar

Indonesia	Saudi Arabia
Iran, Islamic Republic of	Singapore
Iraq	Sri Lanka
Israel	Syrian Arab Republic
Japan	Taiwan, Province of China
Jordan	Tajikistan
Kazakhstan	Thailand
Korea, Democratic People's Republic of	Turkmenistan
Korea, Republic of	United Arab Emirates
Kuwait	Uzbekistan
Kyrgyzstan	Vietnam
Lao People's Democratic Republic	Yemen.
Lebanon	

America includes the following:

Anguilla	Guyana
Antigua and Barbuda	Haiti
Argentina	Honduras
Aruba	Jamaica
Bahamas	Martinique
Barbados	Mexico
Belize	Montserrat
Bermuda	Netherlands Antilles
Bolivia	Nicaragua
Brazil	Panama
Canada	Paraguay
Cayman Islands	Peru
Chile	Puerto Rico
Colombia	Saint Kitts and Nevis
Costa Rica	Saint Lucia
Cuba	Saint Pierre and Miquelon
Dominica	Saint Vincent and the Grenadines
Dominican Republic	Suriname
Ecuador	Trinidad and Tobago
El Salvador	Turks and Caicos Islands
Falkland Islands (Malvinas)	United States
French Guiana	Uruguay
Greenland	Venezuela
Grenada	Virgin Islands, British
Guadeloupe	Virgin Island, US.
Guatemala	

Australia includes the following:

Australia.

New Zealand and Other Oceania includes the following:

American Samoa	Niue
Antarctica	Norfolk Island
Bouvet Island	Northern Mariana Islands
Christmas Island	Palau
Cocos (Keeling) Islands	Papua New Guinea
Cook Islands	Pitcairn
Fiji	Samoa
French Polynesia	Solomon Islands
French Southern Territories	South Georgia and the South Sandwich Islands
Guam	Svalbard and Jan Mayen
Heard Island and McDonald Islands	Tokelau
Kiribati	Tonga
Marshall Islands	Tuvalu
Micronesia, Federated States of	United States Minor Outlying Islands
Nauru	Vanuatu
New Caledonia	Wallis and Futuna.
New Zealand	

Multi-Nationality includes the following:

Mixed/Multi-Nationality (stated as so).

No Nationality:

Stated as so.

Not Stated:

Where nationality is not provided.

Not Applicable:

This applies to father's nationality only. Where mother's marital status is stated as 'never married', 'widowed', 'separated' or 'divorced' the General Register Office does not require father's details to register the birth, and as such this information is generally not provided. If a nationality is given for the father then the appropriate nationality code has been used. For the purposes of presenting data on father's nationality in this report, the categories 'Not Applicable' and 'Not Stated' are combined.

All Other Nationalities:

Where nationality is not recorded to any category listed above.

APPENDIX G

SOURCE DATA FOR FIGURES

- G1 Percentage Distribution of Total Births by Mother's Marital Status, 2006–2010
- G2 Mother's County of Residence by Mother's Marital Status, Total Births
- G3 Percentage Distribution of Total Births by Mother's Nationality, 2006–2010
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- G18 Type of Feeding by Place of Birth, Total Live Births

TABLE G1

Percentage Distribution of Total Births by Mother's Marital Status, 2006–2010

Marital Status	2006	2007	2008	2009	2010
Married	66.8	66.4	66.1	66.1	65.6
Single	31.4	31.7	32.3	32.2	32.9
Widowed	0.2	0.1	0.1	0.1	0.1
Separated	1.1	1.1	0.9	0.9	0.8
Divorced	0.6	0.6	0.6	0.6	0.6

Note: 'Not Stated' values are not included in the calculation of percentages.

TABLE G2

Mother's County of Residence by Mother's Marital Status, Total Births

Frequency Row Per Cent Col. Per Cent	Mother's Marital Status						Total
	Married	Single	Widowed	Separated	Divorced	Not Stated	
Carlow	635	359	1	5	5	1	1,006
	63.1	35.7	0.1	0.5	0.5	0.1	100
	1.3	1.4	1.2	0.8	1.1	1.6	1.3
Cavan	872	325	1	11	14	1	1,224
	71.2	26.6	0.1	0.9	1.1	0.1	100
	1.8	1.3	1.2	1.9	3.2	1.6	1.6
Clare	1,148	499	0	4	2	2	1,655
	69.4	30.2	0.0	0.2	0.1	0.1	100
	2.3	2.0	0.0	0.7	0.5	3.1	2.2
Cork	5,885	2,572	13	62	54	2	8,588
	68.5	29.9	0.2	0.7	0.6	0.0	100
	11.9	10.4	15.3	10.5	12.2	3.1	11.4
Donegal	1,503	657	5	30	21	1	2,217
	67.8	29.6	0.2	1.4	0.9	0.0	100
	3.0	2.6	5.9	5.1	4.7	1.6	2.9
Dublin City	9,148	6,185	18	138	98	12	15,599
	58.6	39.6	0.1	0.9	0.6	0.1	100
	18.4	24.9	21.2	23.4	22.1	18.8	20.6
Dublin County	4,231	1,618	3	54	32	8	5,946
	71.2	27.2	0.1	0.9	0.5	0.1	100
	8.5	6.5	3.5	9.2	7.2	12.5	7.9
Galway	2,889	1,073	5	23	26	0	4,016
	71.9	26.7	0.1	0.6	0.6	0.0	100
	5.8	4.3	5.9	3.9	5.9	0.0	5.3
Kerry	1,335	573	3	16	10	0	1,937
	68.9	29.6	0.2	0.8	0.5	0.0	100
	2.7	2.3	3.5	2.7	2.3	0.0	2.6
Kildare	2,744	1,228	1	24	15	3	4,015
	68.3	30.6	0.0	0.6	0.4	0.1	100
	5.5	4.9	1.2	4.1	3.4	4.7	5.3
Kilkenny	992	446	2	7	5	0	1,452
	68.3	30.7	0.1	0.5	0.3	0.0	100
	2.0	1.8	2.4	1.2	1.1	0.0	1.9
Laois	897	532	1	7	6	2	1,445
	62.1	36.8	0.1	0.5	0.4	0.1	100
	1.8	2.1	1.2	1.2	1.4	3.1	1.9
Leitrim	347	132	0	3	3	0	485
	71.5	27.2	0.0	0.6	0.6	0.0	100
	0.7	0.5	0.0	0.5	0.7	0.0	0.6
Limerick	2,010	1,171	2	15	6	2	3,206
	62.7	36.5	0.1	0.5	0.2	0.1	100
	4.1	4.7	2.4	2.5	1.4	3.1	4.2
Longford	468	211	2	9	3	0	693
	67.5	30.4	0.3	1.3	0.4	0.0	100
	0.9	0.8	2.4	1.5	0.7	0.0	0.9
Louth	1,163	770	2	23	18	0	1,976
	58.9	39.0	0.1	1.2	0.9	0.0	100
	2.3	3.1	2.4	3.9	4.1	0.0	2.6
Mayo	1,405	495	2	9	24	2	1,937
	72.5	25.6	0.1	0.5	1.2	0.1	100
	2.8	2.0	2.4	1.5	5.4	3.1	2.6

TABLE G2

Mother's County of Residence by Mother's Marital Status, Total Births (cont.)

Frequency Row Per Cent Col. Per Cent	Mother's Marital Status						Total
	Married	Single	Widowed	Separated	Divorced	Not Stated	
Meath	2,547	975	2	34	31	0	3,589
	71.0	27.2	0.1	0.9	0.9	0.0	100
	5.1	3.9	2.4	5.8	7.0	0.0	4.7
Monaghan	620	264	1	5	5	0	895
	69.3	29.5	0.1	0.6	0.6	0.0	100
	1.3	1.1	1.2	0.8	1.1	0.0	1.2
Offaly	777	416	2	12	4	1	1,212
	64.1	34.3	0.2	1.0	0.3	0.1	100
	1.6	1.7	2.4	2.0	0.9	1.6	1.6
Roscommon	586	248	1	8	5	0	848
	69.1	29.2	0.1	0.9	0.6	0.0	100
	1.2	1.0	1.2	1.4	1.1	0.0	1.1
Sligo	616	310	0	5	3	0	934
	66.0	33.2	0.0	0.5	0.3	0.0	100
	1.2	1.2	0.0	0.8	0.7	0.0	1.2
Tipperary	1,521	886	6	16	5	1	2,435
	62.5	36.4	0.2	0.7	0.2	0.0	100
	3.1	3.6	7.1	2.7	1.1	1.6	3.2
Waterford	1,147	718	2	18	7	1	1,893
	60.6	37.9	0.1	1.0	0.4	0.1	100
	2.3	2.9	2.4	3.1	1.6	1.6	2.5
Westmeath	1,009	501	4	14	7	0	1,535
	65.7	32.6	0.3	0.9	0.5	0.0	100
	2.0	2.0	4.7	2.4	1.6	0.0	2.0
Wexford	1,397	838	5	19	25	1	2,285
	61.1	36.7	0.2	0.8	1.1	0.0	100
	2.8	3.4	5.9	3.2	5.6	1.6	3.0
Wicklow	1,686	819	1	19	9	24	2,558
	65.9	32.0	0.0	0.7	0.4	0.9	100
	3.4	3.3	1.2	3.2	2.0	37.5	3.4
Other	10	8	0	0	1	0	19
	52.6	42.1	0.0	0.0	5.3	0.0	100
	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total	49,588	24,829	85	590	444	64	75,600
	65.6	32.8	0.1	0.8	0.6	0.1	100
	100	100	100	100	100	100	100

Note: See Appendix E for details of county of residence classification.

TABLE G3

Percentage Distribution of Total Births by Mother's Nationality, 2006–2010

Mother's Nationality	2006	2007	2008	2009	2010
Ireland	81.6	79.3	77.5	76.2	75.5
UK	3.3	3.0	2.7	2.6	2.7
EU15 to EU27*	3.9	7.2	9.3	10.3	11.3
Africa	4.0	3.6	3.4	3.4	3.0
Asia	3.1	3.6	3.7	4.0	3.9

Notes: Percentages calculated for the five most frequent nationalities in 2010.

'Not Stated' values are not included in the calculation of percentages.

*Bulgaria and Romania joined the EU in 2007.

TABLE G4

Mother's Average Age by Mother's Nationality, Total Births

Mother's Nationality	Average Age in Years
Ireland	31.9
UK	31.7
EU15 (excluding Ireland & UK)	33.1
EU15 to EU27	28.6
Rest of Europe	30.3
Africa	31.2
Asia	30.9
America	32.1
Australia	33.6
Total	31.5

Notes: Average ages calculated for nationalities with greater than 100 births.
See Appendix F for a description of the classification system for nationality.

TABLE G5

Age of Mother by Maternal Parity, Total Maternities

Frequency Row Per Cent	Maternal Parity									Total	
	0	1	2	3	4	5	6	More than 6	Not Stated		
Under 20 Years	1,826 89.6	187 9.2	24 1.2	1 0.0	1 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	2,039 100
20-24 Years	5,176 64.1	2,264 28.0	503 6.2	105 1.3	25 0.3	2 0.0	2 0.0	0 0.0	0 0.0	0 0.0	8,077 100
25-29 Years	9,014 51.0	5,674 32.1	2,063 11.7	672 3.8	179 1.0	50 0.3	20 0.1	7 0.0	2 0.0	2 0.0	17,681 100
30-34 Years	10,056 39.0	9,454 36.6	4,242 16.4	1,310 5.1	444 1.7	169 0.7	65 0.3	56 0.2	1 0.0	1 0.0	25,797 100
35-39 Years	3,967 23.1	5,899 34.4	4,530 26.4	1,854 10.8	561 3.3	183 1.1	84 0.5	87 0.5	0 0.0	0 0.0	17,165 100
40 Years and Over	789 22.3	1,011 28.5	863 24.4	493 13.9	214 6.0	78 2.2	46 1.3	49 1.4	1 0.0	1 0.0	3,544 100
Not Stated	5 33.3	4 26.7	3 20.0	2 13.3	1 6.7	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	15 100
Total	30,833 41.5	24,493 33.0	12,228 16.5	4,437 6.0	1,425 1.9	482 0.6	217 0.3	199 0.3	4 0.0	4 0.0	74,318 100

TABLE G6

Percentage Distribution of Total Births to Primiparous Women by Maternal Age, 2006 and 2010

Maternal Age (years)	2006	2010
Under 20 Years	8.0	5.9
20-24 Years	20.3	16.7
25-29 Years	26.6	29.0
30-34 Years	30.7	32.6
35-39 Years	12.3	13.1
40 Years and Over	2.1	2.7
Total	100	100

Note: 'Not Stated' values are not included in the calculation of percentages.

TABLE G7

Percentage Distribution of Total Births to Multiparous Women by Maternal Age, 2006 and 2010

Maternal Age (years)	2006	2010
Under 20 Years	0.5	0.5
20-24 Years	7.6	6.6
25-29 Years	20.6	19.9
30-34 Years	36.6	36.1
35-39 Years	28.7	30.5
40 Years and Over	5.9	6.4
Total	100	100

Note: 'Not Stated' values are not included in the calculation of percentages.

TABLE G8

Birthweight (grams) for Primiparous Women by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
500-749	104	0.3	64	40	384.6	25	390.6	625.0	617.6	96
750-999	95	0.3	84	11	115.8	11	131.0	231.6	188.9	76
1000-1249	121	0.4	110	11	90.9	5	45.5	132.2	87.0	92
1250-1499	129	0.4	115	14	108.5	2	17.4	124.0	88.7	104
1500-1999	462	1.5	439	23	49.8	10	22.8	71.4	42.4	373
2000-2499	1,216	3.9	1,202	14	11.5	9	7.5	18.9	10.8	1,043
2500-2999	4,165	13.2	4,148	17	4.1	7	1.7	5.8	3.4	3,984
3000-3499	11,023	35.1	11,013	10	0.9	5	0.5	1.4	1.0	10,950
3500-3999	10,061	32.0	10,052	9	0.9	3	0.3	1.2	1.1	10,057
4000-4499	3,472	11.0	3,469	3	0.9	1	0.3	1.2	0.9	3,472
4500 and Over	583	1.9	583	0	0.0	0	0.0	0.0	0.0	583
Not Stated	3	0.0	3	0	0.0	0	0.0	0.0	0.0	3
Total	31,434	100	31,282	152	4.8	78	2.5	7.3	5.5	30,833
Singleton Births										
500-749	83	0.3	50	33	397.6	20	400.0	638.6	629.6	83
750-999	62	0.2	51	11	177.4	4	78.4	241.9	175.4	62
1000-1249	75	0.2	64	11	146.7	4	62.5	200.0	130.4	75
1250-1499	81	0.3	68	13	160.5	2	29.4	185.2	131.6	81
1500-1999	283	0.9	262	21	74.2	9	34.4	106.0	59.5	283
2000-2499	877	2.9	863	14	16.0	8	9.3	25.1	15.0	877
2500-2999	3,793	12.5	3,776	17	4.5	7	1.9	6.3	3.7	3,793
3000-3499	10,880	36.0	10,870	10	0.9	5	0.5	1.4	1.0	10,880
3500-3999	10,049	33.2	10,040	9	0.9	3	0.3	1.2	1.1	10,049
4000-4499	3,472	11.5	3,469	3	0.9	1	0.3	1.2	0.9	3,472
4500 and Over	583	1.9	583	0	0.0	0	0.0	0.0	0.0	583
Not Stated	3	0.0	3	0	0.0	0	0.0	0.0	0.0	3
Total	30,241	100	30,099	142	4.7	63	2.1	6.8	4.9	30,241
Multiple Births										
500-749	21	1.8	14	7	333.3	5	357.1	571.4	571.4	13
750-999	33	2.8	33	0	0.0	7	212.1	212.1	212.1	14
1000-1249	46	3.9	46	0	0.0	1	21.7	21.7	21.7	17
1250-1499	48	4.0	47	1	20.8	0	0.0	20.8	20.8	23
1500-1999	179	15.0	177	2	11.2	1	5.6	16.8	16.8	90
2000-2499	339	28.4	339	0	0.0	1	2.9	2.9	0.0	166
2500-2999	372	31.2	372	0	0.0	0	0.0	0.0	0.0	191
3000-3499	143	12.0	143	0	0.0	0	0.0	0.0	0.0	70
3500-3999	12	1.0	12	0	0.0	0	0.0	0.0	0.0	8
4000-4499	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
4500 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,193	100	1,183	10	8.4	15	12.7	21.0	20.1	592

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. There were 4 maternities with parity unknown; these were excluded from this table.

TABLE G9

Birthweight (grams) for Multiparous Women by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
500-749	75	0.2	47	28	373.3	15	319.1	573.3	515.2	71
750-999	88	0.2	65	23	261.4	5	76.9	318.2	230.8	79
1000-1249	79	0.2	66	13	164.6	4	60.6	215.2	150.7	73
1250-1499	125	0.3	115	10	80.0	11	95.7	168.0	103.4	105
1500-1999	379	0.9	353	26	68.6	11	31.2	97.6	55.2	317
2000-2499	1,165	2.6	1,145	20	17.2	7	6.1	23.2	11.3	990
2500-2999	4,652	10.5	4,630	22	4.7	8	1.7	6.4	4.7	4,387
3000-3499	13,468	30.5	13,441	27	2.0	10	0.7	2.7	1.9	13,353
3500-3999	15,814	35.8	15,797	17	1.1	8	0.5	1.6	1.3	15,790
4000-4499	6,854	15.5	6,845	9	1.3	2	0.3	1.6	1.3	6,854
4500 and Over	1,459	3.3	1,454	5	3.4	1	0.7	4.1	4.1	1,459
Not Stated	4	0.0	2	2	500.0	1	500.0	750.0	750.0	3
Total	44,162	100	43,960	202	4.6	83	1.9	6.5	4.4	43,481
Singleton Births										
500-749	64	0.1	40	24	375.0	9	225.0	515.6	436.4	64
750-999	71	0.2	48	23	323.9	4	83.3	380.3	278.7	71
1000-1249	66	0.2	54	12	181.8	4	74.1	242.4	166.7	66
1250-1499	90	0.2	81	9	100.0	9	111.1	200.0	111.1	90
1500-1999	264	0.6	239	25	94.7	11	46.0	136.4	76.9	264
2000-2499	798	1.9	778	20	25.1	7	9.0	33.8	16.6	798
2500-2999	4,135	9.7	4,113	22	5.3	6	1.5	6.8	5.1	4,135
3000-3499	13,224	30.9	13,197	27	2.0	10	0.8	2.8	2.0	13,224
3500-3999	15,774	36.9	15,757	17	1.1	8	0.5	1.6	1.3	15,774
4000-4499	6,853	16.0	6,844	9	1.3	2	0.3	1.6	1.3	6,853
4500 and Over	1,459	3.4	1,454	5	3.4	1	0.7	4.1	4.1	1,459
Not Stated	3	0.0	2	1	333.3	1	500.0	666.7	666.7	3
Total	42,801	100	42,607	194	4.5	72	1.7	6.2	4.1	42,801
Multiple Births										
500-749	11	0.8	7	4	363.6	6	857.1	909.1	909.1	7
750-999	17	1.2	17	0	0.0	1	58.8	58.8	58.8	8
1000-1249	13	1.0	12	1	76.9	0	0.0	76.9	76.9	7
1250-1499	35	2.6	34	1	28.6	2	58.8	85.7	85.7	15
1500-1999	115	8.4	114	1	8.7	0	0.0	8.7	8.7	53
2000-2499	367	27.0	367	0	0.0	0	0.0	0.0	0.0	192
2500-2999	517	38.0	517	0	0.0	2	3.9	3.9	1.9	252
3000-3499	244	17.9	244	0	0.0	0	0.0	0.0	0.0	129
3500-3999	40	2.9	40	0	0.0	0	0.0	0.0	0.0	16
4000-4499	1	0.1	1	0	0.0	0	0.0	0.0	0.0	1
4500 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	1	0.1	0	1	1,000.0	0	0.0	1,000.0	1,000.0	0
Total	1,361	100	1,353	8	5.9	11	8.1	14.0	13.2	680

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. There were 4 maternities with parity unknown; these were excluded from this table.

TABLE G10
Birthweight (grams), Numbers and Percentages, Total Live Births

Birthweight (grams)	Number	Per Cent
Less than 1,500 grams	666	0.9
1,500 - 2,499 grams	3,139	4.2
2,500 - 4,499 grams	69,397	92.2
4,500 grams and Over	2,037	2.7
Not Stated	6	0.0
Total	75,245	100.0

TABLE G11
Birthweight (grams) by Sex, Total Live Births

	Male		Female		Indeterminate		Total	
	Number	Per Cent						
500-749	53	0.1	58	0.2	0	0.0	111	0.1
750-999	80	0.2	68	0.2	1	25.0	149	0.2
1000-1249	89	0.2	87	0.2	0	0.0	176	0.2
1250-1499	121	0.3	109	0.3	0	0.0	230	0.3
1500-1999	383	1.0	409	1.1	0	0.0	792	1.1
2000-2499	1,075	2.8	1,271	3.5	1	25.0	2,347	3.1
2500-2999	3,852	10.0	4,926	13.4	0	0.0	8,778	11.7
3000-3499	11,498	29.9	12,955	35.3	1	25.0	24,454	32.5
3500-3999	13,613	35.4	12,236	33.3	1	25.0	25,850	34.4
4000-4499	6,366	16.5	3,949	10.7	0	0.0	10,315	13.7
4500 and Over	1,368	3.6	669	1.8	0	0.0	2,037	2.7
Not Stated	2	0.0	4	0.0	0	0.0	6	0.0
Total	38,500	100	36,741	100	4	100	75,245	100

TABLE G12

Gestational Age (weeks) at Delivery for Primiparous Women by Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Less than 28	180	0.6	136	44	244.4	34	250.0	433.3	420.5	154
28-31	285	0.9	266	19	66.7	12	45.1	108.8	83.0	235
32-36	1,751	5.6	1,712	39	22.3	19	11.1	33.1	20.8	1,494
37-41	27,859	88.6	27,812	47	1.7	12	0.4	2.1	1.3	27,591
42 and Over	1,354	4.3	1,352	2	1.5	1	0.7	2.2	0.7	1,354
Not Stated	5	0.0	4	1	200.0	0	0.0	200.0	200.0	5
Total	31,434	100	31,282	152	4.8	78	2.5	7.3	5.5	30,833
Singleton Births										
Less than 28	126	0.4	88	38	301.6	24	272.7	492.1	475.4	126
28-31	190	0.6	172	18	94.7	8	46.5	136.8	98.9	190
32-36	1,243	4.1	1,206	37	29.8	18	14.9	44.2	27.8	1,243
37-41	27,323	90.4	27,277	46	1.7	12	0.4	2.1	1.3	27,323
42 and Over	1,354	4.5	1,352	2	1.5	1	0.7	2.2	0.7	1,354
Not Stated	5	0.0	4	1	200.0	0	0.0	200.0	200.0	5
Total	30,241	100	30,099	142	4.7	63	2.1	6.8	4.9	30,241
Multiple Births										
Less than 28	54	4.5	48	6	111.1	10	208.3	296.3	296.3	28
28-31	95	8.0	94	1	10.5	4	42.6	52.6	52.6	45
32-36	508	42.6	506	2	3.9	1	2.0	5.9	3.9	251
37-41	536	44.9	535	1	1.9	0	0.0	1.9	1.9	268
42 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,193	100	1,183	10	8.4	15	12.7	21.0	20.1	592

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. There were 4 maternities with parity unknown; these were excluded from this table.

TABLE G13

Gestational Age (weeks) at Delivery for Multiparous Women, Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*	Maternities
Total Births										
Less than 28	145	0.3	110	35	241.4	20	181.8	379.3	338.2	134
28-31	259	0.6	224	35	135.1	14	62.5	189.2	149.8	231
32-36	1,914	4.3	1,860	54	28.2	22	11.8	39.7	20.8	1,658
37-41	40,807	92.4	40,731	76	1.9	24	0.6	2.5	1.7	40,421
42 and Over	1,034	2.3	1,032	2	1.9	3	2.9	4.8	1.9	1,034
Not Stated	3	0.0	3	0	0.0	0	0.0	0.0	0.0	3
Total	44,162	100	43,960	202	4.6	83	1.9	6.5	4.4	43,481
Singleton Births										
Less than 28	119	0.3	87	32	268.9	14	160.9	386.6	336.4	119
28-31	205	0.5	172	33	161.0	11	64.0	214.6	165.8	205
32-36	1,405	3.3	1,353	52	37.0	22	16.3	52.7	27.0	1,405
37-41	40,035	93.5	39,960	75	1.9	22	0.6	2.4	1.7	40,035
42 and Over	1,034	2.4	1,032	2	1.9	3	2.9	4.8	1.9	1,034
Not Stated	3	0.0	3	0	0.0	0	0.0	0.0	0.0	3
Total	42,801	100	42,607	194	4.5	72	1.7	6.2	4.1	42,801
Multiple Births										
Less than 28	26	1.9	23	3	115.4	6	260.9	346.2	346.2	15
28-31	54	4.0	52	2	37.0	3	57.7	92.6	92.6	26
32-36	509	37.4	507	2	3.9	0	0.0	3.9	3.9	253
37-41	772	56.7	771	1	1.3	2	2.6	3.9	2.6	386
42 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,361	100	1,353	8	5.9	11	8.1	14.0	13.2	680

Notes: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. There were 4 maternities with parity unknown; these were excluded from this table.

TABLE G14

Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births

Frequency Row Per Cent Col. Per Cent	Postnatal Length of Stay					Total
	0-2 Days	3-5 Days	6-8 Days	9+ Days	Not Stated	
Singleton Births						
Spontaneous	32,530	9,224	215	41	14	42,024
	77.4	21.9	0.5	0.1	0.0	100
	80.6	29.7	17.4	18.7	77.8	57.7
Breech/Forceps	215	146	1	2	0	364
	59.1	40.1	0.3	0.5	0.0	100
	0.5	0.5	0.1	0.9	0.0	0.5
Forceps	1,505	1,360	57	12	0	2,934
	51.3	46.4	1.9	0.4	0.0	100
	3.7	4.4	4.6	5.5	0.0	4.0
Vacuum extraction	5,252	3,369	107	18	0	8,746
	60.1	38.5	1.2	0.2	0.0	100
	13.0	10.9	8.7	8.2	0.0	12.0
Caesarean section	839	16,927	855	146	4	18,771
	4.5	90.2	4.6	0.8	0.0	100
	2.1	54.5	69.2	66.7	22.2	25.8
Other	22	8	0	0	0	30
	73.3	26.7	0.0	0.0	0.0	100
	0.1	0.0	0.0	0.0	0.0	0.0
Total	40,363	31,034	1,235	219	18	72,869
	55.4	42.6	1.7	0.3	0.0	100
	100	100	100	100	100	100
Multiple Births						
Spontaneous	211	322	29	5	0	567
	37.2	56.8	5.1	0.9	0.0	100
	64.9	17.3	9.1	10.6	0.0	22.2
Breech/Forceps	37	55	5	0	0	97
	38.1	56.7	5.2	0.0	0.0	100
	11.4	3.0	1.6	0.0	0.0	3.8
Forceps	9	39	5	1	0	54
	16.7	72.2	9.3	1.9	0.0	100
	2.8	2.1	1.6	2.1	0.0	2.1
Vacuum extraction	50	113	22	2	0	187
	26.7	60.4	11.8	1.1	0.0	100
	15.4	6.1	6.9	4.3	0.0	7.3
Caesarean section	17	1,335	257	39	0	1,648
	1.0	81.0	15.6	2.4	0.0	100
	5.2	71.6	80.8	83.0	0.0	64.5
Other	1	0	0	0	0	1
	100.0	0.0	0.0	0.0	0.0	100
	0.3	0.0	0.0	0.0	0.0	0.0
Total	325	1,864	318	47	0	2,554
	12.7	73.0	12.5	1.8	0.0	100
	100	100	100	100	0.0	100

Note: Domiciliary births, of which there were 177 births, are excluded from this table. See Section Six for detailed analysis.

TABLE G15

Method of Delivery by Parity, Total, Singleton and Multiple Births

	Total Births		Singleton Births		Multiple Births	
	Number	Per cent	Number	Per cent	Number	Per cent
Total Births						
Spontaneous	42,765	56.6	42,198	57.8	567	22.2
Breech/Forceps	461	0.6	364	0.5	97	3.8
Forceps	2,988	4.0	2,934	4.0	54	2.1
Vacuum extraction	8,933	11.8	8,746	12.0	187	7.3
Caesarean section	20,418	27.0	18,770	25.7	1,648	64.5
Other specified & combined	31	0.0	30	0.0	1	0.0
Total	75,596	100	73,042	100	2,554	100
Births to Primiparous Women						
Spontaneous	13,238	42.1	13,079	43.2	159	13.3
Breech/Forceps	240	0.8	205	0.7	35	2.9
Forceps	2,478	7.9	2,435	8.1	43	3.6
Vacuum extraction	6,522	20.7	6,414	21.2	108	9.1
Caesarean section	8,948	28.5	8,100	26.8	848	71.1
Other specified & combined	8	0.0	8	0.0	0	0.0
Total	31,434	100	30,241	100	1,193	100
Births to Multiparous Women						
Spontaneous	29,527	66.9	29,119	68.0	408	30.0
Breech/Forceps	221	0.5	159	0.4	62	4.6
Forceps	510	1.2	499	1.2	11	0.8
Vacuum extraction	2,411	5.5	2,332	5.4	79	5.8
Caesarean section	11,470	26.0	10,670	24.9	800	58.8
Other specified & combined	23	0.1	22	0.1	1	0.1
Total	44,162	100	42,801	100	1,361	100

Note: There were 4 maternities with parity unknown; these were excluded from this table.

TABLE G16

Mother's County of Residence by Infant's Type of Feeding, Total Live Births

Frequency Row Per Cent Col. Per Cent	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
Carlow	493	488	16	0	997
	49.4	48.9	1.6	0.0	100
	1.4	1.4	0.3	0.0	1.3
Cavan	622	544	54	0	1,220
	51.0	44.6	4.4	0.0	100
	1.8	1.6	0.9	0.0	1.6
Clare	964	550	129	1	1,644
	58.6	33.5	7.8	0.1	100
	2.8	1.6	2.1	50.0	2.2
Cork	3,603	4,094	832	0	8,529
	42.2	48.0	9.8	0.0	100
	10.4	11.9	13.7	0.0	11.4
Donegal	1,348	675	178	0	2,201
	61.2	30.7	8.1	0.0	100
	3.9	2.0	2.9	0.0	2.9
Dublin City	6,520	7,613	1,374	0	15,507
	42.0	49.1	8.9	0.0	100
	18.9	22.1	22.6	0.0	20.7
Dublin County	2,147	3,146	620	0	5,913
	36.3	53.2	10.5	0.0	100
	6.2	9.1	10.2	0.0	7.9
Galway	1,688	1,533	761	0	3,982
	42.4	38.5	19.1	0.0	100
	4.9	4.5	12.5	0.0	5.3
Kerry	928	852	140	0	1,920
	48.3	44.4	7.3	0.0	100
	2.7	2.5	2.3	0.0	2.6
Kildare	1,830	1,876	285	0	3,991
	45.9	47.0	7.1	0.0	100
	5.3	5.4	4.7	0.0	5.3
Kilkenny	626	801	13	0	1,440
	43.5	55.6	0.9	0.0	100
	1.8	2.3	0.2	0.0	1.9
Laois	655	721	64	0	1,440
	45.5	50.1	4.4	0.0	100
	1.9	2.1	1.1	0.0	1.9
Leitrim	224	203	56	0	483
	46.4	42.0	11.6	0.0	100
	0.6	0.6	0.9	0.0	0.6
Limerick	2,035	969	176	1	3,181
	64.0	30.5	5.5	0.0	100
	5.9	2.8	2.9	50.0	4.2
Longford	323	328	31	0	682
	47.4	48.1	4.5	0.0	100
	0.9	1.0	0.5	0.0	0.9
Louth	1,010	765	188	0	1,963
	51.5	39.0	9.6	0.0	100
	2.9	2.2	3.1	0.0	2.6
Mayo	917	885	125	0	1,927
	47.6	45.9	6.5	0.0	100
	2.7	2.6	2.1	0.0	2.6

TABLE G16

Mother's County of Residence by Infant's Type of Feeding, Total Live Births (cont.)

Frequency Row Per Cent Col. Per Cent	Type of Feeding				Total
	Artificial	Breast	Combined	Not Stated	
Meath	1,579	1,721	268	0	3,568
	44.3	48.2	7.5	0.0	100
	4.6	5.0	4.4	0.0	4.8
Monaghan	474	368	43	0	885
	53.6	41.6	4.9	0.0	100
	1.4	1.1	0.7	0.0	1.2
Offaly	612	550	41	0	1,203
	50.9	45.7	3.4	0.0	100
	1.8	1.6	0.7	0.0	1.6
Roscommon	391	372	77	0	840
	46.5	44.3	9.2	0.0	100
	1.1	1.1	1.3	0.0	1.1
Sligo	475	330	123	0	928
	51.2	35.6	13.3	0.0	100
	1.4	1.0	2.0	0.0	1.2
Tipperary	1,302	1,062	51	0	2,415
	53.9	44.0	2.1	0.0	100
	3.8	3.1	0.8	0.0	3.2
Waterford	831	1,009	37	0	1,877
	44.3	53.8	2.0	0.0	100
	2.4	2.9	0.6	0.0	2.5
Westmeath	672	805	52	0	1,529
	44.0	52.6	3.4	0.0	100
	1.9	2.3	0.9	0.0	2.0
Wexford	1,180	995	93	0	2,268
	52.0	43.9	4.1	0.0	100
	3.4	2.9	1.5	0.0	3.0
Wicklow	1,106	1,175	251	0	2,532
	43.7	46.4	9.9	0.0	100
	3.2	3.4	4.1	0.0	3.4
Other	4	13	2	0	19
	21.1	68.4	10.5	0.0	100
	0.0	0.0	0.0	0.0	0.0
Total	34,559	34,443	6,080	2	75,084
	46.0	45.9	8.1	0.0	100
	100	100	100	100	100

Note: See Appendix E for details of county of residence classification.

TABLE G17
Birthweight (grams) by Total Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates

	Total Births	Total Births %	Ante-partum Stillbirths	Intra-partum Stillbirths	Not Stated	Stillbirth Rate*	Early Neonatal Deaths	Early Neonatal Mortality Rate*	Perinatal Mortality Rate*	Adjusted PMR*
Total Births										
500-749	180	0.2	59	4	6	383.3	40	360.4	605.6	579.9
750-999	183	0.2	30	1	3	185.8	16	107.4	273.2	208.3
1000-1249	200	0.3	21	3	0	120.0	9	51.1	165.0	111.7
1250-1499	254	0.3	19	1	4	94.5	13	56.5	145.7	95.8
1500-1999	841	1.1	42	5	2	58.3	21	26.5	83.2	48.1
2000-2499	2,381	3.1	31	1	2	14.3	16	6.8	21.0	11.0
2500-2999	8,817	11.7	33	5	1	4.4	15	1.7	6.1	4.1
3000-3499	24,491	32.4	30	6	1	1.5	15	0.6	2.1	1.5
3500-3999	25,876	34.2	25	1	0	1.0	11	0.4	1.4	1.2
4000-4499	10,327	13.7	11	0	1	1.2	3	0.3	1.5	1.2
4500 and Over	2,042	2.7	5	0	0	2.4	1	0.5	2.9	2.9
Not Stated	8	0.0	1	1	0	250.0	1	166.7	375.0	375.0
Total	75,600	100	307	28	20	4.7	161	2.1	6.8	4.9
Singleton Births										
500-749	148	0.2	50	4	4	391.9	29	322.2	587.8	554.7
750-999	133	0.2	30	1	3	255.6	8	80.8	315.8	228.8
1000-1249	141	0.2	20	3	0	163.1	8	67.8	219.9	147.3
1250-1499	171	0.2	18	1	3	128.7	11	73.8	193.0	121.0
1500-1999	547	0.7	39	5	2	84.1	20	39.9	120.7	67.8
2000-2499	1,675	2.3	31	1	2	20.3	15	9.1	29.3	15.7
2500-2999	7,928	10.9	33	5	1	4.9	13	1.6	6.6	4.4
3000-3499	24,104	33.0	30	6	1	1.5	15	0.6	2.2	1.5
3500-3999	25,824	35.4	25	1	0	1.0	11	0.4	1.4	1.2
4000-4499	10,326	14.1	11	0	1	1.2	3	0.3	1.5	1.2
4500 and Over	2,042	2.8	5	0	0	2.4	1	0.5	2.9	2.9
Not Stated	7	0.0	1	0	0	142.9	1	166.7	285.7	285.7
Total	73,046	100	293	27	17	4.6	135	1.9	6.5	4.5
Multiple Births										
500-749	32	1.3	9	0	2	343.8	11	523.8	687.5	687.5
750-999	50	2.0	0	0	0	0.0	8	160.0	160.0	160.0
1000-1249	59	2.3	1	0	0	16.9	1	17.2	33.9	33.9
1250-1499	83	3.2	1	0	1	24.1	2	24.7	48.2	48.2
1500-1999	294	11.5	3	0	0	10.2	1	3.4	13.6	13.6
2000-2499	706	27.6	0	0	0	0.0	1	1.4	1.4	0.0
2500-2999	889	34.8	0	0	0	0.0	2	2.2	2.2	1.1
3000-3499	387	15.2	0	0	0	0.0	0	0.0	0.0	0.0
3500-3999	52	2.0	0	0	0	0.0	0	0.0	0.0	0.0
4000-4499	1	0.0	0	0	0	0.0	0	0.0	0.0	0.0
4500 and Over	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Not Stated	1	0.0	0	1	0	1000.0	0	.	1000.0	1000.0
Total	2,554	100	14	1	3	7.0	26	10.3	17.2	16.5

Note: * Rate per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

TABLE G18
Type of Feeding by Place of Birth, Total Live Births

	Hospital		Domiciliary		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Artificial	34,554	46.1	5	2.8	34,559	46.0
Breast	34,273	45.8	170	96.6	34,443	45.9
Combined	6,079	8.1	1	0.6	6,080	8.1
Total	74,906	100	176	100	75,082	100

Note: This table excludes type of feeding 'Not Stated' and early neonatal deaths.

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