

Perinatal Statistics Report

2014

Healthcare Pricing Office
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SUMMARY DESCRIPTION

This is a report on national data on Perinatal events in 2014. Information on every birth in the Republic of Ireland is submitted to the National Perinatal Reporting System (NPRS). All births are notified and registered on a standard four part birth notification form (BNF01) which is completed where the birth takes place. Part 3 of this form is sent to the HPO for data entry and validation. The information collected includes data on pregnancy outcomes (with particular reference to perinatal mortality and important aspects of perinatal care), as well as descriptive social and biological characteristics of mothers giving birth. The time frame to which the information relates is from 22 weeks gestation to the first week of life.

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Please check online at www.hpo.ie for information on updates.

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 Self Employed Community Midwives (SECMs). 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 contribution to NPRS.

The Healthcare Pricing Office (HPO) 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 Catherine Glennon, Anna Lewandowska, and Izabela Sikora. The IT Department of the HPO supports the development of the NPRS software system for data entry and validation and this is gratefully acknowledged.

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Inevitably, a number of individuals have to carry most of the responsibility for producing a report of this type. In this case Sheelagh Bonham, Karen Kearns, Laura Metcalfe, Aisling Mulligan, and Sinead O'Hara, were to the fore in the preparation of the report. 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 2014 presents national statistics on perinatal events in Ireland. This report is based on data collected from Part 3 of the Birth Notification Form (BNF01) for the National Perinatal Reporting System (NPRS) and provides information on mothers giving birth and babies born in 2014.

SUMMARY STATISTICS, 2014

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 ^b	
	Number	Number	Number	Rate ^a	Number	Rate ^a	Number	Rate ^a	Number	Rate ^a
Singleton	65,070	64,803	267	4.1	117	1.8	384	5.9	270	4.2
Multiple	2,540	2,521	19	7.5	19	7.5	38	15.0	34	13.4
Total	67,610	67,324	286	4.2	136	2.0	422	6.2	304	4.5

Notes: a Rates are calculated 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.

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

BABIES, 2014

- 67,610 births were reported to NPRS in 2014, representing a 2.4 per cent decrease between 2013 and 2014
- 7% of total births were preterm (less than 37 weeks gestation)
- 6% of live births were low birthweight (less than 2,500 grams)
- 2% of live births were high birthweight (4,500 grams or more)
- 57% of babies recorded any breastfeeding in 2014, compared to 54% in 2010 and 48% in 2005
- 46% of babies were exclusively breastfed in 2014 and 2010, compared to 44% in 2005
- 30% of total live births were delivered by caesarean section, with 29% of singleton and 70% of multiple live births delivered by this method. In 2005, 26% of total live births were delivered by caesarean section
- 95% of singleton births and 61% of multiple births were discharged from hospital within 5 days of birth
- The perinatal mortality rate was 6.2 per 1,000 live births and stillbirths (5.9 per 1,000 singleton births and 15.0 per 1,000 multiple births). This rate has fallen by 14% since 2005, when it was 7.2 per 1,000 live births and stillbirths
- The perinatal mortality rate was highest, at 11.3 per 1,000 live births and stillbirths, for babies born to mothers aged 40 to 44 years. The lowest perinatal mortality rate of 5.3 per 1,000 live births and stillbirths was for babies born to mothers aged 30 to 34 years.

MOTHERS, 2014

- 66,338 maternities were reported to NPRS in 2014, representing a 2.4 per cent decrease between 2013 and 2014
- The average age of mothers has increased from 30.5 years in 2005 to 31.8 years in 2014
- 33% of mothers were aged 35 years or older, up from 26% in 2005
- 21% of first births were to women aged 35 years or older, compared to 13% in 2005
- 2% of total mothers giving birth were aged under 20 years, compared to 4% in 2005
- 38% gave birth for the first time, with an average age for first time mothers of 30.0 years
- 2% of mothers had a multiple pregnancy
- 57% of mothers recorded any breastfeeding, compared to 54% in 2010 and 48% in 2005
- 47% of mothers exclusively breastfed, compared to 46% in 2010 and 44% in 2005
- 56% of women having a singleton live birth delivered spontaneously, while deliveries using forceps accounted for 4%, vacuum extractions for 12%, and 29% by caesarean section
- 24% of women having a multiple live birth delivered spontaneously, while deliveries using forceps accounted for 2%, vacuum extractions for 5%, and 69% by caesarean section
- For women having a singleton birth 54% 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 11% had a postnatal length of stay of 2 days or less and 75% had a postnatal length of stay of 3-5 days
- 22% of births in 2014 were to mothers born outside Ireland compared to 25% in 2010 and 17% in 2005.

SECTION ONE

INTRODUCTION

INTRODUCTION

The National Perinatal Reporting System (NPRS) is the principal source of national data on perinatal events. Since the 1st January 2014, the Healthcare Pricing Office (HPO) has overseen the administration and management of this system. The HPO is responsible for overseeing all functions associated with the operation of the NPRS database, including the development and support of the data collection, processing, management, reporting, and responding to requests for information on all births nationally.¹ This reporting system 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) which is used to notify local registrars of all live births and stillbirths occurring in Ireland (see Appendix B).

PURPOSE OF THIS REPORT

The principal aim of this report is to present national statistics on perinatal events for the year 2014.² 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 over the past decade and trends in international comparisons, where available. As European comparisons on perinatal mortality rates were not available for 2014 for the majority of EU countries at time of publication of this report, we are not in a position to present comparisons on perinatal mortality rates for Ireland for 2014 data.

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

¹ The NPRS was established in the 1980's and was managed in the Department of Health. From 1999 to 2013 the Economic and Social Research Institute (ESRI) oversaw the administration and management of the NPRS on behalf of the Department of Health (DoH) and the Health Service Executive (HSE).

² Previous reports in this series can be downloaded from www.hpo.ie.

of first antenatal visit, length of mother's antenatal and postnatal stay, whether hospital admission was 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 percentages of stillbirths and early neonatal deaths undergoing post-mortem examinations.

APPENDICES include definitions, source data tables for figures, and other relevant information for use when reading the report. Appendix H deals with domiciliary births, including trends from 2005 to 2014. Appendix I includes data on method of delivery for primiparous and multiparous women for 2005 to 2014.

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.^{3,4}
- Reporting of small numbers: The HPO does not report cells where the number of births (or maternities) reported to NPRS is 5 or fewer. The tables contained in this report have been suppressed in this manner by replacing such cells with ~. Where further suppression is necessary to ensure that cells with 5 or fewer births (or maternities) are not disclosed, the cell with the next lowest number of births (or maternities) has been replaced with *. Where cells containing 5 or fewer births (or maternities) have been suppressed, the associated percentage figures have been suppressed using ^.
- 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.

³ See www.who.int/classifications/icd/ICD-10_2nd_ed_volume2.pdf ; pg 96, 5.7.2. Reporting Criteria

⁴ The National Perinatal Epidemiology Centre (NPEC) also publish a report on perinatal mortality in Ireland. Data published in this report are collected as a national audit on perinatal mortality based on data collected from 20 maternity units using a standardised perinatal death notification form. See <https://www.ucc.ie/en/npec/> for further details.

- In contrast to reports prior to 2012, 'Not Stated' values are included in the calculation of percentages used in discussion or in compilation of figures. As a result, caution should be exercised when comparing data used in discussion in this report with data used in discussion in Perinatal Statistics Reports prior to 2012. 'Not Stated' values are also 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 as the current birth notification form does not differentiate between different hospital schemes.
- Father's details are only required for registration purposes where mother's civil status is recorded as 'married'. As a result, there is a proportion of records for which information is incomplete, these are assigned to the category 'not applicable'. This category is combined with 'not stated' for the purposes of presenting data on father's socio-economic group⁵ and father's nationality in this report.

BIRTH NOTIFICATION AND REGISTRATION

Births are notified and registered on a standard four-part Birth Notification Form (BNF01) 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 HPO (see Appendix B). Figure 1.1 provides a diagrammatic representation of the information system around the registration of births and data collection by the NPRS. All the tables and rates in this report are based on data contained in the third part of the standard form submitted to NPRS at the HPO.

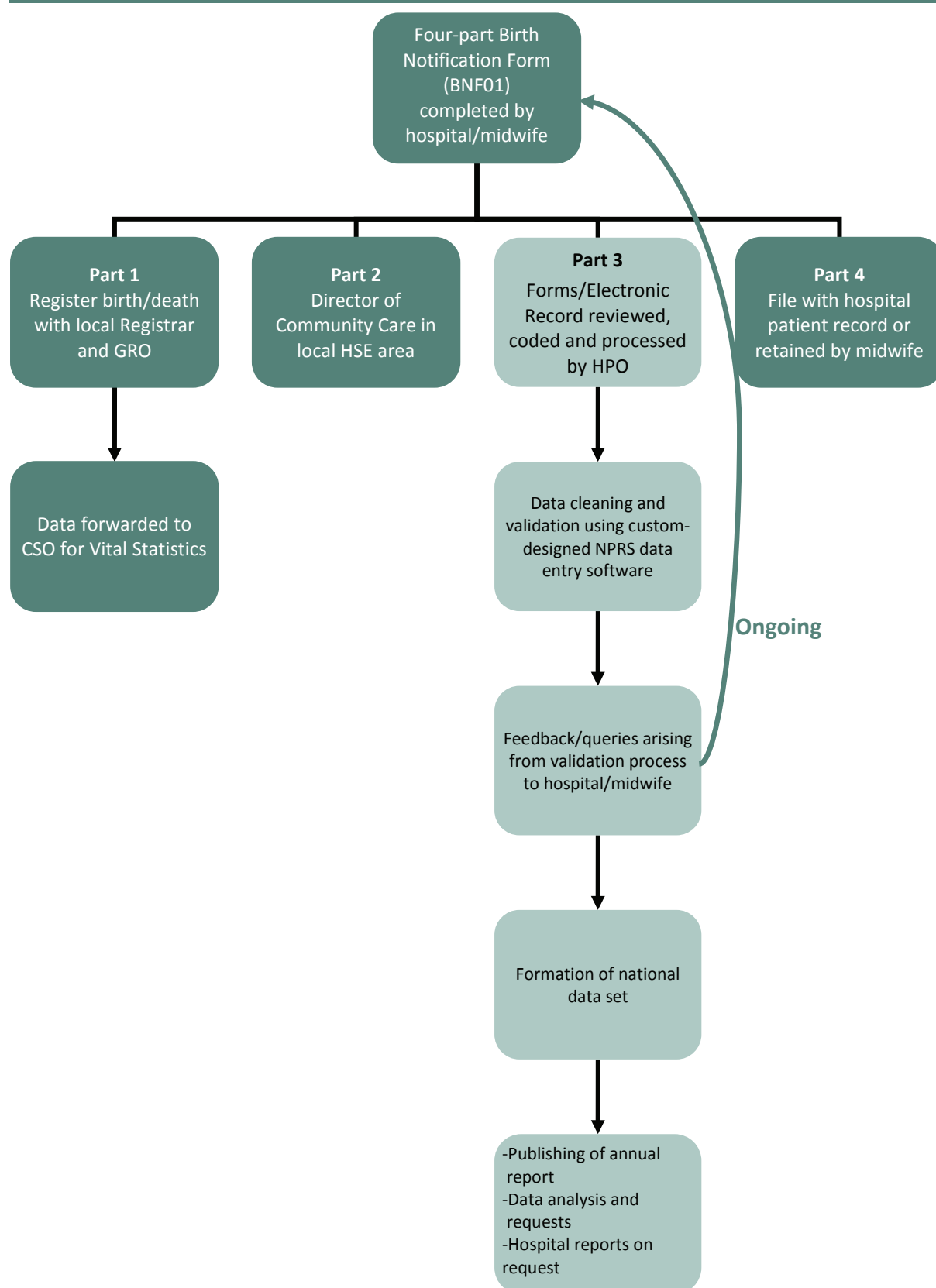
The link between the Birth Notification Form and the birth registration process for the General Register Office (GRO) ensures complete coverage of all births for the NPRS. The number of total births included in the NPRS are based on the data collected by the NPRS via part 3 of the Birth Notification Form (BNF01). It should be noted that notification of birth differs to registration of birth. While the *Civil Registrations Act 2004* outlines the duty of persons attending each birth to notify the local registrar of a stillbirth or live birth, it is not a legal requirement of the parents/guardians to register stillbirths. Therefore, the GRO, and subsequently the CSO, publish data on registered births and perinatal deaths only. This may result in differences in the number of births and perinatal deaths reported here compared to official CSO publications.⁶

⁵ In NPRS reports prior to 2012 data on mother's and father's socio-economic Group were reported as occupation, however, in this report these data are reported as socio-economic Group. The classification for grouping occupations into socio-economic groups used in this and previous reports has not changed. For further details see Appendix C Classification of socio-economic group.

⁶ During 2014, a Birth Notification System Advisory Group was established, this group consists of all involved with BNF01, including the GRO, CSO, Department of Public Health, HSE, Department of Health and NPRS. The terms of reference for this group include development of the BNF01, communication, collaboration and support between data collectors on variables and collection of data via the birth notification process. The group meets on a bi-annual basis.

FIGURE 1.1

National Perinatal Reporting System, Data Collection



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

NATIONAL MINIMUM DATA SET

The NPRS data set provides a national minimum data set, which is intended to serve as a basis for the analysis of key indicators over time. 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 (since 2004)
- Date of mother's birth, mother's county and country of residence, mother's occupation, mother's nationality (since 2004)
- Civil 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 NPRS team at the HPO carries out extensive validation directly with each maternity unit and self employed community midwives (SECMs) to confirm the total number of births, including perinatal deaths, occurring in each maternity unit/SECM each year.

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, self employed community midwives (SECMs) 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 IT Department at the HPO 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 processed using 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 sought from the hospital or midwife and corrections can be made at the point of data entry. This data validation process is continually reviewed and new checks are incorporated 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 on each SECM.

Recommendations from the Chief Medical Officer's Report into perinatal deaths in Midland Regional Hospital Portlaoise⁷ include the consolidation of national data reported on perinatal events. The National Perinatal Epidemiology Centre (NPEC) conducts clinical audit on perinatal deaths, collecting data on perinatal deaths only. The NPRS is a national data collection system and collects data on total births (including live births, stillbirths and early neonatal deaths).

In collaboration with the NPEC in University College Cork, the HPO undertook extensive reconciliation of the data reported for 2014 to both reporting systems. As a result of this data reconciliation exercise the data reported on perinatal deaths for 2014 (NPRS), based on the World Health Organization (WHO) guidelines, is reconciled to the data reported by NPEC (see also Conventions Used in this Report on page 3 and <https://www.ucc.ie/en/npec/publications/> for further details)

⁷ Holohan, T. (2014) HSE Midland Regional Hospital, Portlaoise Perinatal Deaths (2006-date). Dublin: Department of Health. Available at: <http://www.lenus.ie/hse/bitstream/10147/313524/1/portlaoiseperinataldeaths.pdf>

TABLE 1.1

Total births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths, NPRS and NPEC, 2014

	NPRS		NPEC	
	Number	Rate ^a	Number	Rate
Total births	67,610	-		
Stillbirths	286	4.2	286	4.2
Early neonatal deaths	136	2.0	136	2.0
Perinatal deaths	422	6.2	422	6.2
Adjusted perinatal deaths ^b	304	4.5	276	4.1

Notes: a Rates are calculated 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.

b 'Adjusted perinatal deaths' excludes deaths due to congenital anomalies. The NPRS is a notification system recording the numbers of perinatal deaths. Where a death occurs, the NPRS dataset collects 'cause of death' in a single field. The NPEC is a clinical audit of perinatal deaths and collects a wide range of data on each perinatal death, allowing for a much greater level of evidence as to 'cause of death'.

For this reason, the NPRS dataset identified 118 deaths due to congenital anomalies while the NPEC more extensive clinical audit classified a greater number of deaths due to congenital anomalies.

SECTION TWO

TIME TRENDS AND INTERNATIONAL COMPARISONS

INTRODUCTION

This section presents selected statistics, together with data on the following 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.⁸ International comparisons then allow the most recent statistics for Ireland to be compared with those for other European countries.⁹ The indicators for Ireland were calculated using data from the NPRS for the period 2005 to 2014.¹⁰

TRENDS IN SELECTED STATISTICS

Table 2.1 presents trends in selected statistics and shows the following:

- While there was an increase in total births from 2005 to 2009, the trend in total births over the past five years has been downward.
- Mothers giving birth in Ireland in 2014 with an average age of 31.8 years were on average 1.3 years older than those who gave birth in 2005 (average age 30.5 years) and just slightly older than those giving birth in 2013 (average age 31.6 years).
- Average parity (number of previous live births and stillbirths) has remained stable over the decade 2005 to 2014 and is recorded at 1.0 in 2014.
- Over the decade 2005 to 2014, the proportion of mothers giving birth for the first time fell for those aged less than 30 years and increased for those aged 30 years or more. Births to primiparous women aged less than 20 years accounted for 8.9 per cent of births in 2005 compared with 4.3 per cent in 2014. Births to primiparous women aged 40 years and older accounted for 1.9 per cent of births in 2005 compared to 3.8 per cent in 2014.
- The proportion of mothers giving birth for a second time or more fell for all mothers aged less than 35 years. Births to multiparous women aged less than 20 years accounted for 0.6 per cent of births in 2005 compared with 0.3 per cent in 2014.
- The number of previous stillbirths per 1,000 maternities has declined by 15.6 per cent over the decade from an average of 12.8 in 2005 to 10.8 in 2014.
- Immunity to rubella for mothers increased from 90.2 per cent in 2005 to 93.4 per cent in 2014.
- The percentage of women recording any breastfeeding was 47.7 per cent in 2005, increasing to 57.0 per cent in 2014; an increase of 19.5 per cent in the proportion of women recording any breastfeeding over the decade.

⁸ For reports from 2012 onwards, 'Not Stated' values are included in the calculation of percentages used in discussion or in compilation of figures. As a result, caution should be exercised when comparing data used in discussion in this report with data used in discussion in Perinatal Statistics Reports prior to 2012.

⁹ As the EU expanded over this period caution should be exercised when interpreting these data. See Appendix F for a description of the classification system for nationality.

¹⁰ Previous reports in this series can be downloaded from www.hpo.ie.

- The percentage of women exclusively breastfeeding has increased from 44.1 per cent in 2005 to 46.6 per cent in 2014; an increase of 5.7 per cent in the proportion of women recording exclusive breastfeeding over the decade.
- For Irish women, there was an increase of 4.1 per cent in the proportion of women recording exclusive breastfeeding over the decade. Mothers from the UK, EU, Asia and Africa all record a decrease in the proportion of women recording exclusive breastfeeding at discharge over the decade.
- Mothers' average length of stay in hospital was recorded at 3.8 days in 2005 and has decreased to 3.4 days in 2014 representing a decrease of 10.5 per cent over the decade.

Data on parents' nationality show the following:¹¹

- Births to mothers born in Ireland has declined from 82.9 per cent of births in 2005 to 77.8 per cent of births in 2014, a decrease of 6.2 per cent over the time period.
- A decline of 47.7 per cent was recorded in births to mothers from Africa from 4.4 per cent in 2005 to 2.3 per cent in 2014.
- An increase of 10.3 per cent was recorded in births to mothers from Asia from 2.9 per cent in 2005 to 3.2 per cent in 2014.

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

- For total live births the percentage of spontaneous deliveries fell from 59.0 per cent in 2005 to 54.2 per cent in 2014. The upward trend in delivery by Caesarean section continues with a rate of 25.9 per cent reported in 2005 compared with 30.4 per cent for 2014.
- For total maternities, the percentage of spontaneous deliveries fell from 59.6 per cent in 2005 to 55.0 per cent in 2014. The rate in delivery by Caesarean section has increased from 25.3 per cent in 2005 to 29.5 per cent in 2014.

Regarding infant's characteristics, trends have been largely consistent over the decade 2005 to 2014.

- The average birthweight for total live births was 3,448.8 grams in 2014 which is broadly consistent with the preceding decade.
- While the average birthweight for singleton births of 3,488.5 grams has remained consistent over the decade, slightly more variation is observed for multiple births. The average birthweight for multiple births in 2014 was recorded at 2,428.3 grams.
- The percentage of total live births recording low birthweight (<2,500 grams) was 5.0 per cent in 2005 compared with 5.6 per cent in 2014.
- The percentage of total live births classified as high birthweight (4,500 grams or more) has decreased from 2.9 per cent in 2005 to 2.3 per cent in 2014.
- For total births, the infant's average length of stay in hospital declined from 3.7 days in 2005 to 3.3 days in 2014.

¹¹ As the EU expanded over this period caution should be exercised when interpreting these data. See Appendix F for a description of the classification system for nationality.

TABLE 2.1

Trends in Selected Statistics, 2005–2014

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
Total Births	N	61,786	65,810	71,963	75,587	76,023	75,600	74,377	71,986	69,267	67,610	2005–2014	2013–2014
Birth Rate ¹	Per 1,000 population	14.9	15.5	16.4	16.8	16.7	16.5	16.2	15.6	15.0	14.6	-2.0	-2.7
Maternal Characteristics													
Age of mother (years) ^{2,3}		Avg	30.5	30.6	30.6	30.8	31.0	31.2	31.4	31.6	31.8	4.3	0.6
Age of single mother (years) ^{2,3}		Avg	26.1	26.3	26.6	26.8	27.0	27.8	28.3	28.5	28.9	10.7	1.4
Mother's Marital Status	Married	%	67.6	66.8	66.4	66.0	65.6	65.2	64.0	63.8	62.6	-7.4	-1.9
	Single	%	30.5	31.4	31.7	32.2	32.8	33.2	34.3	34.7	35.8	17.4	3.2
	All other	%	1.8	1.9	1.9	1.7	1.6	1.6	1.7	1.5	1.5	-16.7	0.0
Maternal parity ²		Avg	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
Births to Primiparous Women by Maternal Age ²	Under 20 Years	%	8.9	8.0	7.7	6.9	6.5	5.9	5.1	4.7	4.3	-51.7	-8.5
	20–24 Years	%	19.5	20.4	19.8	19.5	18.4	16.8	15.3	14.8	14.1	-27.7	-4.7
	25–29 Years	%	25.7	26.7	27.4	28.5	29.5	29.2	27.5	26.1	23.5	-8.6	-4.1
	30–34 Years	%	32.3	30.5	30.9	30.8	31.1	32.6	34.7	35.6	36.9	14.2	1.7
	35–39 Years	%	11.6	12.1	12.2	12.1	12.4	12.9	14.1	14.8	17.4	50.0	7.4
40 Years and Older		%	1.9	2.1	2.1	2.1	2.2	2.6	3.0	3.2	3.8	100.0	8.6
Births to Multiparous Women by Maternal Age ²	Under 20 Years	%	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	-50.0	0.0
	20–24 Years	%	8.1	7.6	7.4	7.2	7.1	6.7	6.1	6.0	5.6	-30.9	-6.7
	25–29 Years	%	19.9	20.6	20.4	20.4	20.3	19.9	19.4	18.5	17.3	-13.1	-2.3
	30–34 Years	%	37.2	36.7	36.5	36.1	35.4	36.2	37.0	36.8	36.5	-1.9	-1.4
	35–39 Years	%	28.3	28.7	29.2	29.8	30.4	30.4	30.2	31.1	32.7	15.5	2.8
40 Years and Older		%	5.8	5.9	5.9	5.9	6.3	6.5	7.0	7.2	7.6	31.0	5.6
Number of previous stillbirths per 1,000 maternities ²		Avg	12.8	10.6	10.8	10.9	11.7	11.5	9.7	10.9	10.8	-15.6	-0.9
Gestational age at delivery (weeks) ²		Avg	39.4	39.4	39.4	39.4	39.4	39.3	39.3	39.3	39.2	-0.5	-0.3
Interval since last birth (years) ^{3,4}		Avg	3.3	3.3	3.4	3.4	3.3	3.3	3.3	3.4	3.4	3.0	0.0
Immunity to rubella ²		%	90.2	92.2	92.4	90.0	90.5	92.3	94.3	94.2	93.4	3.4	-0.8
Any breastfeeding ^{1,2,5,6}		%	47.7	48.9	50.6	51.1	52.8	54.1	55.3	55.4	57.0	19.5	2.0
Exclusive breastfeeding ^{1,2,5}		%	44.1	44.4	45.2	44.6	45.5	46.2	47.0	46.9	46.6	5.7	0.0
Exclusive breastfeeding by Mother's Nationality ^{1,2,5}	Irish	%	39.5	39.3	39.4	38.0	38.9	39.1	40.1	40.0	41.1	4.1	1.5
	UK	%	53.8	52.3	54.5	51.7	52.4	54.4	51.2	51.0	50.9	-5.4	-6.1
	EU ⁷	%	82.2	81.9	77.7	76.6	75.6	76.2	76.9	77.5	74.4	-9.5	-1.2
	Africa	%	60.6	55.6	53.6	52.6	48.4	51.2	51.3	51.6	45.3	-25.2	-4.4
	Asia	%	68.7	65.5	62.1	59.3	59.7	57.9	60.2	58.5	53.3	-22.4	-2.2
Mother's length of stay (days) ^{1,2,8}		Avg	3.8	3.7	3.6	3.5	3.5	3.4	3.3	3.4	3.4	-10.5	0.0

TABLE 2.1
Trends in Selected Statistics, 2005–2014 (contd.)

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
												2005–2014	2013–2014
Parents Nationality													
Mother's Nationality	Irish	%	82.9	81.4	79.1	77.3	76.1	75.4	76.1	77.1	77.8	-6.2	0.9
	UK	%	3.3	3.3	2.9	2.7	2.6	2.7	2.3	2.3	2.2	-33.3	-4.3
	EU ⁷	%	3.2	5.2	8.5	10.6	11.7	12.9	13.0	12.7	12.4	287.5	-2.4
	Africa	%	4.4	4.0	3.6	3.4	3.4	3.0	2.6	2.4	2.3	-47.7	-4.2
Father's Nationality ⁹	Asia	%	2.9	3.0	3.6	3.7	4.0	3.8	4.0	3.4	3.2	10.3	-5.9
	Irish	%	61.6	62.1	60.5	58.4	58.0	59.1	59.4	57.1	56.0	-9.1	-1.9
	UK	%	2.9	2.8	2.6	2.5	2.3	2.4	2.2	2.0	1.9	-34.5	-5.0
	EU ⁷	%	1.8	2.9	5.3	6.8	7.8	8.6	8.8	8.1	7.9	338.9	-2.5
Father's Nationality ⁹	Africa	%	3.5	3.2	3.0	2.7	2.7	2.4	2.1	1.6	1.5	-57.1	-6.3
	Asia	%	2.0	2.3	2.8	2.9	3.3	3.1	3.3	2.4	2.2	10.0	-8.3
Perinatal Care													
Hospital & G.P. combined antenatal care ^{2,10}		%	77.4	78.9	77.4	79.3	80.7	80.9	77.3	79.5	80.9	4.5	1.8
Booked hospital admissions ^{2,8}		%	98.4	98.9	99.0	98.9	99.0	99.3	99.3	99.2	96.9	-1.5	-2.3
Method of delivery ¹¹ Total live births ¹²	Spontaneous	%	59.0	58.8	57.3	56.6	56.4	56.5	55.8	55.1	54.2	-8.1	-1.6
	Caesarean section	%	25.9	25.4	26.2	26.7	26.9	27.1	28.1	29.7	30.4	17.4	2.4
	Forceps ¹³	%	2.8	3.0	3.7	3.7	4.1	4.0	4.1	3.8	3.8	35.7	0.0
Method of delivery ¹¹ Total maternities	Spontaneous	%	59.6	59.4	58.0	57.4	57.0	57.2	56.6	55.9	55.0	-7.9	-1.6
	Caesarean section	%	25.3	24.8	25.5	25.9	26.2	26.3	27.3	28.1	29.5	16.6	2.1
	Forceps ¹³	%	2.8	3.0	3.7	3.7	4.1	4.0	4.1	3.9	3.8	35.7	-2.6
Infant Characteristics													
Birthweight (grams) ¹	Total births	Avg	3,472.0	3,473.0	3,465.4	3,464.0	3,466.1	3,468.4	3,467.0	3,452.4	3,448.8	-0.7	-0.1
	Singleton births	Avg	3,503.2	3,503.9	3,499.3	3,501.9	3,498.9	3,504.0	3,505.0	3,492.0	3,488.5	-0.4	-0.1
	Multiple births	Avg	2,469.2	2,464.8	2,421.4	2,424.5	2,465.2	2,447.2	2,464.6	2,411.7	2,428.3	-1.7	0.7
Low birthweight (<2500 grams) ¹	Total births	%	5.0	5.0	5.3	5.3	5.0	5.1	5.2	5.5	5.6	12.0	1.8
	Singleton births	%	3.8	3.7	3.8	3.8	3.7	3.6	3.6	3.8	3.9	2.6	2.6
	Multiple births	%	45.6	46.4	50.4	48.4	45.4	47.6	46.0	49.0	49.4	8.3	0.8
High birthweight (≥4500 grams) ¹	Total births	%	2.9	2.9	2.8	2.7	2.7	2.7	2.6	2.5	2.3	-20.7	0.0
	Singleton births	Avg	3.7	3.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	-10.8	3.1
	Multiple births	Avg	3.5	3.5	3.3	3.1	3.1	3.0	3.0	3.0	3.0	-14.3	0.0
Infant's length of stay (days) ^{15,8}	Total births	Avg	10.1	9.9	10.0	9.9	9.0	9.5	8.6	9.4	9.3	-7.9	-4.1
	Singleton births	Avg	10.1	9.9	10.0	9.9	9.0	9.5	8.6	9.4	9.3	-7.9	-4.1
	Multiple births	Avg	10.1	9.9	10.0	9.9	9.0	9.5	8.6	9.4	9.3	-7.9	-4.1
Post-mortems for early neonatal deaths		%	23.0	26.3	30.3	28.9	33.5	32.9	24.8	35.2	31.6	37.4	-10.2

Notes: Percentages are subject to rounding.¹ Based on live births.² For reports from 2014 onwards the calculation of average number of years has been revised, therefore caution should be exercised when comparing this with data reported in previous publications.⁴ Based on multiparous maternities.⁵ Excludes early neonatal deaths.⁶ Any breastfeeding includes type of feeding recorded as either breast or combined.⁷ Based on EU25 for 2005–2006, EU27 for 2007–2013 and EU28 for 2014. As the EU expanded over this period caution should be exercised when interpreting these data. See also Appendix F.⁸ Excludes domiciliary births.⁹ Father's details are only required for registration purposes where mother's marital status is recorded as 'married'. As a result, there is a proportion of records for which information is incomplete, these are assigned to the category 'not applicable'. The data presented here, reports father's nationality where recorded, regardless of mother's marital status.¹⁰ 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.¹¹ See also Appendix I 'Method of Delivery for Primiparous and Multiparous Women'.¹² These figures were based on total live births, as each infant in a multiple pregnancy can have a different method of delivery.¹³ Excludes breech deliveries.

SINGLETON AND MULTIPLE BIRTHS

Table 2.2 shows the numbers of singleton and multiple births each year for the period 2005 to 2014.

- Of the 67,610 births presented in this report for 2014, 65,070 were singleton births, 2,461 were twin births, 71 were triplet births and 8 were quadruplet births.¹²
- The twinning rate was 18.5 per 1,000 maternities in 2014; this represents an increase of 22.5 per cent over the decade and a 0.5 per cent decrease between 2013 and 2014.

TABLE 2.2

Singleton and Multiple Births, 2005–2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
											2005-2014	2013-2014
Singleton births	59,902	63,839	69,692	72,916	73,603	73,046	71,651	69,452	66,650	65,070	8.6	-2.4
Twin births	1,833	1,916	2,185	2,575	2,373	2,480	2,638	2,435	2,526	2,461	34.2	-2.6
Triplet births	47	51	83	92	39	74	84	99	87	71	51.1	-18.4
Quadruplet births	4	4	3	4	4	0	4	0	4	8	100.0	100.0
Twinning rate (per 1,000 maternities)	15.1	14.8	15.4	17.4	15.9	16.7	18.1	17.2	18.6	18.5	22.5	-0.5

Notes: Percentage columns are subject to rounding.
See Appendix A for details on calculation of twinning rate.
This table includes live births and stillbirths.

The numbers and rates of stillbirths, early neonatal deaths and perinatal deaths for singleton and multiple births between 2005 and 2014 are presented in Table 2.3.¹³

- While higher mortality rates were observed for multiple births when compared to singleton births, the rate of decrease in mortality rates over the decade was greater for multiple births compared to singleton births.
- The stillbirth mortality rate has decreased over the decade from 5.0 in 2005 to 4.0 in 2013, and has increased slightly in 2014 to a rate of 4.2 per 1,000 live births and stillbirths.
- The early neonatal mortality rate has decreased over the decade from 2.3 per 1,000 live births in 2005 to 2.0 per 1,000 in 2014.

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 2014, there were 65,136 singleton births, 2,487 twin births, 74 triplets and 8 quadruplets reported to the NPRS; of these, 95 births weighed less than 500 grams (including 66 singleton births and 29 multiple births) and so were excluded from the analysis.

¹³ The number of Perinatal deaths (stillbirths and early neonatal deaths) presented here are based on the data collected by the NPRS via part 3 of the Birth Notification Form (BNF01). It should be noted that notification of birth differs to registration of birth. While the *Civil Registrations Act 2004* outlines the duty of persons attending each birth to notify the local registrar of a stillbirth or live birth, it is not a legal requirement of the parents/guardians to register stillbirths. The NPRS carry out extensive validation directly with each maternity unit and self employed community midwives (SECMs) to confirm the total number of births, including Perinatal deaths, occurring in each maternity unit/SECM each year. Therefore, the GRO, and subsequently the CSO, publish data on registered births and Perinatal deaths only. This may result in differences in the number of Perinatal deaths reported here compared to official CSO publications. Caution should be exercised when analysing data on Perinatal deaths reported or collected from other data systems as these may not be comparable with data reported here.

The National Perinatal Epidemiology Centre (NPEC) also publish a report on perinatal mortality in Ireland. Data published in this report are collected as a national audit on perinatal mortality based on data collected from 20 maternity units using a standardised perinatal death notification form. See <https://www.ucc.ie/en/npec/> for further details.

- The total perinatal mortality rate for singleton births was recorded at 5.9 in 2014 (compared to 6.5 per 1,000 live births and stillbirths in 2005).
- The total perinatal mortality rate for multiple births was recorded at 15.0 in 2014, down from 29.2 per 1,000 live births and stillbirths in 2005.

TABLE 2.3

Live Births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths, Numbers and Rates, Singleton and Multiple Births, 2005–2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
	Number of Births and Perinatal Deaths										2005-2014	2013-2014
Total Births	61,786	65,810	71,963	75,587	76,023	75,600	74,377	71,986	69,267	67,610	9.4	-2.4
Singleton	59,902	63,839	69,692	72,916	73,603	73,046	71,651	69,452	66,650	65,070	8.6	-2.4
Multiple	1,884	1,971	2,271	2,671	2,420	2,554	2,726	2,534	2,617	2,540	34.8	-2.9
Live Births	61,480	65,502	71,570	75,229	75,651	75,245	74,080	71,705	68,990	67,324	9.5	-2.4
Singleton	59,621	63,555	69,318	72,582	73,247	72,709	71,375	69,188	66,386	64,803	8.7	-2.4
Multiple	1,859	1,947	2,252	2,647	2,404	2,536	2,705	2,517	2,604	2,521	35.6	-3.2
Stillbirths	306	308	393	358	372	355	297	281	277	286	-6.5	3.2
Singleton	281	284	374	334	356	337	276	264	264	267	-5.0	1.1
Multiple	25	24	19	24	16	18	21	17	13	19	-24.0	46.2
Early Neonatal Deaths	139	152	132	159	155	161	153	143	159	136	-2.2	-14.5
Singleton	109	129	118	138	142	135	126	122	133	117	7.3	-12.0
Multiple	30	23	14	21	13	26	27	21	26	19	-36.7	-26.9
Perinatal Deaths	445	460	525	517	527	516	450	424	436	422	-5.2	-3.2
Singleton	390	413	492	472	498	472	402	386	397	384	-1.5	-3.3
Multiple	55	47	33	45	29	44	48	38	39	38	-30.9	-2.6
	Rates ^a											
Stillbirths	5.0	4.7	5.5	4.7	4.9	4.7	4.0	3.9	4.0	4.2	-16.0	5.0
Singleton	4.7	4.4	5.4	4.6	4.8	4.6	3.9	3.8	4.0	4.1	-12.8	2.5
Multiple	13.3	12.2	8.4	9.0	6.6	7.0	7.7	6.7	5.0	7.5	-43.6	50.0
Early Neonatal Deaths	2.3	2.3	1.8	2.1	2.0	2.1	2.1	2.0	2.3	2.0	-13.0	-13.0
Singleton	1.8	2.0	1.7	1.9	1.9	1.9	1.8	1.8	2.0	1.8	0.0	-10.0
Multiple	16.1	11.8	6.2	7.9	5.4	10.3	10.0	8.3	10.0	7.5	-53.4	-25.0
Perinatal Deaths	7.2	7.0	7.3	6.8	6.9	6.8	6.1	5.9	6.3	6.2	-13.9	-1.6
Singleton	6.5	6.5	7.1	6.5	6.8	6.5	5.6	5.6	6.0	5.9	-9.2	-1.7
Multiple	29.2	23.8	14.5	16.8	12.0	17.2	17.6	15.0	14.9	15.0	-48.6	0.7

Notes: Percentage columns are subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

PERINATAL MORTALITY

Despite improvements in reducing perinatal mortality in recent decades, the perinatal period continues to be a time of relatively high risk.¹⁴ Stillbirths account for 67.8 per cent of perinatal deaths in 2014.^{15,16}

Table 2.4 presents the numbers and rates for total births and perinatal deaths for Ireland from 2005 to 2014.

- In 2014 approximately 1 in every 236 births was stillborn and 1 in every 495 live births died in the first week of life.
- The perinatal mortality rate has fallen from 7.2 per 1,000 live births and stillbirths in 2005 to 6.2 per 1,000 in 2014. This represents a 13.9 per cent decrease over the decade, and a 1.6 per cent decrease since 2013 (see Figure 2.1).

TABLE 2.4

Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2005–2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
	Number of Births and Perinatal Deaths										2005– 2014	2013– 2014
Total Births	61,786	65,810	71,963	75,587	76,023	75,600	74,377	71,986	69,267	67,610	9.4	-2.4
Live Births	61,480	65,502	71,570	75,229	75,651	75,245	74,080	71,705	68,990	67,324	9.5	-2.4
Stillbirths	306	308	393	358	372	355	297	281	277	286	-6.5	3.2
Early Neonatal Deaths	139	152	132	159	155	161	153	143	159	136	-2.2	-14.5
Perinatal Deaths	445	460	525	517	527	516	450	424	436	422	-5.2	-3.2
Adjusted Perinatal Deaths	330	345	383	384	381	368	308	309	297	304	-7.9	2.4
	Rates ^a											
Stillbirth	5.0	4.7	5.5	4.7	4.9	4.7	4.0	3.9	4.0	4.2	-16.0	5.0
Early Neonatal Deaths	2.3	2.3	1.8	2.1	2.0	2.1	2.1	2.0	2.3	2.0	-13.0	-13.0
Perinatal Mortality	7.2	7.0	7.3	6.8	6.9	6.8	6.1	5.9	6.3	6.2	-13.9	-1.6
Adjusted Perinatal Mortality	5.4	5.3	5.3	5.1	5.0	4.9	4.1	4.3	4.3	4.5	-16.7	4.7

Notes: Percentage columns are subject to rounding.

- a Rates are calculated 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.
For numbers and rates by singleton and multiple births see Section Two 'Singleton and Multiple Births'.

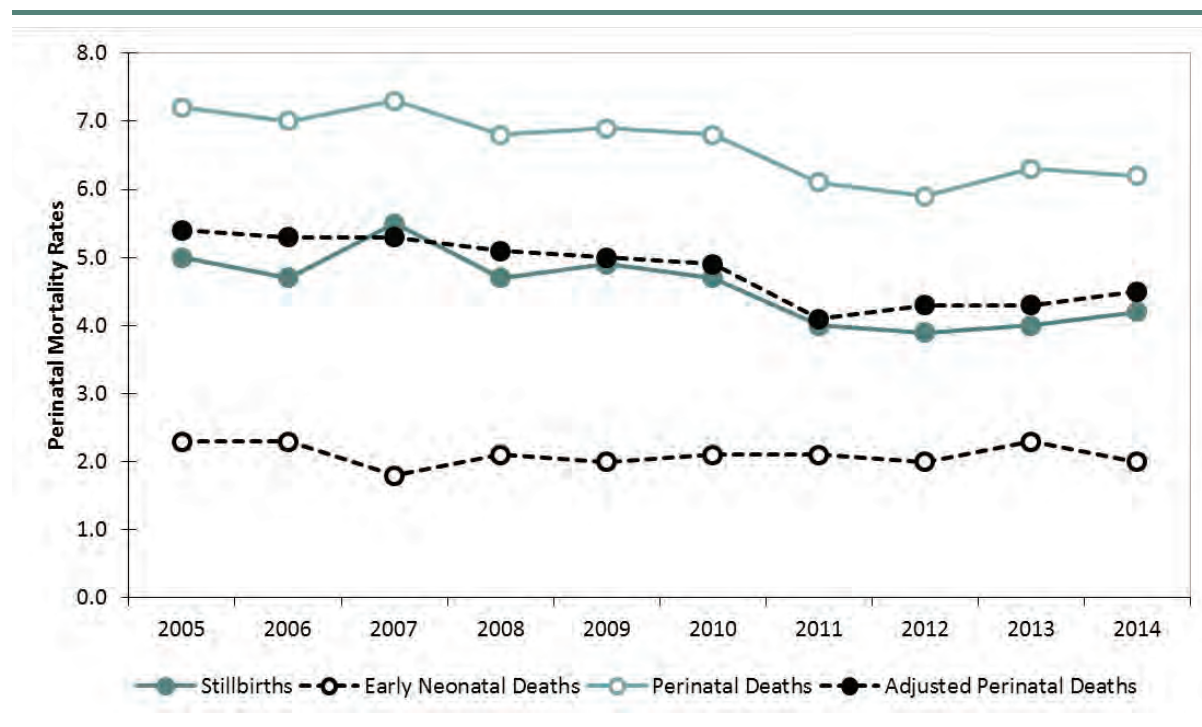
¹⁴ EURO-PERISTAT Project with SCPE and EUROCAT. *European Perinatal Health Report. The health and care of pregnant women and babies in Europe in 2010*. May 2013. Available at www.europeristat.com

¹⁵ Details on rate calculations are in Appendix A.

¹⁶ 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, 2005–2014



Note: See Table 2.4 for data.

As European comparisons on perinatal mortality rates were not available for 2014 for the majority of EU countries at time of publication of this report, we are not in a position to present comparisons on perinatal mortality rates for Ireland for 2014 data.

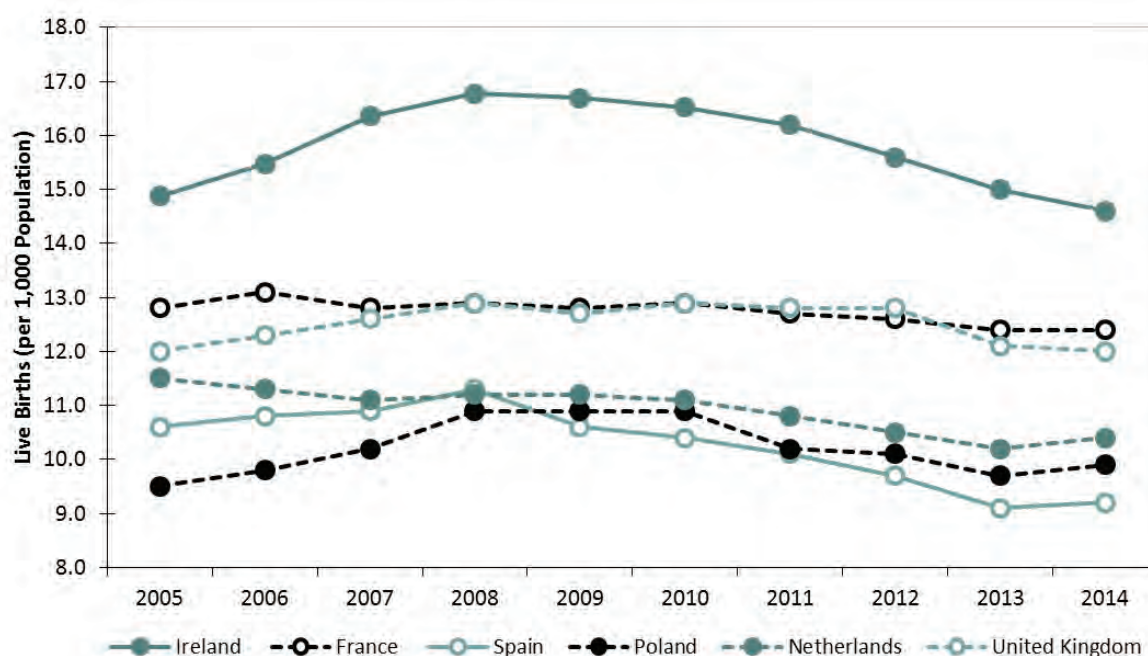
BIRTH RATES¹⁷

The birth rate is based on the total number of live births per 1,000 population.¹⁸ Figure 2.2 presents trends in birth rates for selected EU countries over the decade 2005 to 2014. Figure 2.3 presents birth rates in the 28 EU countries for 2014.¹⁹

- Of the countries reviewed, Ireland has consistently had the highest birth rate over the period, and is recorded at 14.6 per 1,000 population in 2014 (see Figure 2.2).²⁰
- The birth rate for Ireland has declined from a high of 16.8 per 1,000 population in 2008 to 14.6 per 1,000 population in 2014.
- After Ireland, the countries with the next highest birth rates in 2014 are France and the United Kingdom (12.4 and 12.0 respectively) followed by Sweden and Belgium (11.9 and 11.1 respectively). In 2014, Portugal (7.9) had the lowest birth rate, followed by Italy and Greece, each having a birth rate of 8.3 and 8.5 respectively (see Figure 2.3).

FIGURE 2.2

Trends in Birth Rates for Selected EU Countries, 2005–2014



Sources: 'Population and social conditions', Eurostat, Data Navigation Tree, date consulted April 2016.

<http://ec.europa.eu/eurostat/data/database>

Data for Ireland are based on NPRS data on live births from 2005 onwards. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted April 2016.

www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0

¹⁷ 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.

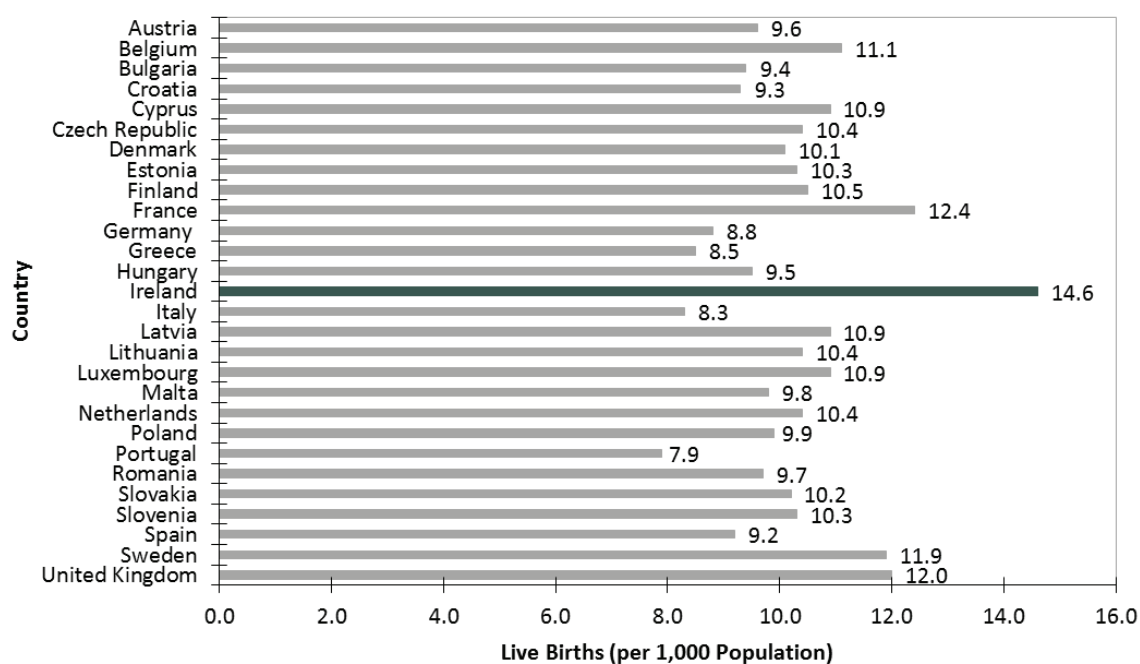
¹⁸ The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted April 2016. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0

¹⁹ Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on year of birth, Croatia has been included as a member state of the EU in this Report on Perinatal Statistics 2014.

²⁰ The CSO also estimates the Irish birth rate at 14.6 per 1,000 population for 2014. See Vital Statistics, Fourth Quarter and Yearly Summary 2014, May 2015. CSO 2014 data are provisional and are based on the number of births registered within the year as opposed to births occurring in the year.

FIGURE 2.3

Birth Rates per 1,000 Population for EU Countries, 2014



Sources: 'Population and social conditions', Eurostat, Data Navigation Tree, date consulted April 2016.

<http://ec.europa.eu/eurostat/data/database>

Data for Ireland are based on NPRS data on live births. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted April 2016.

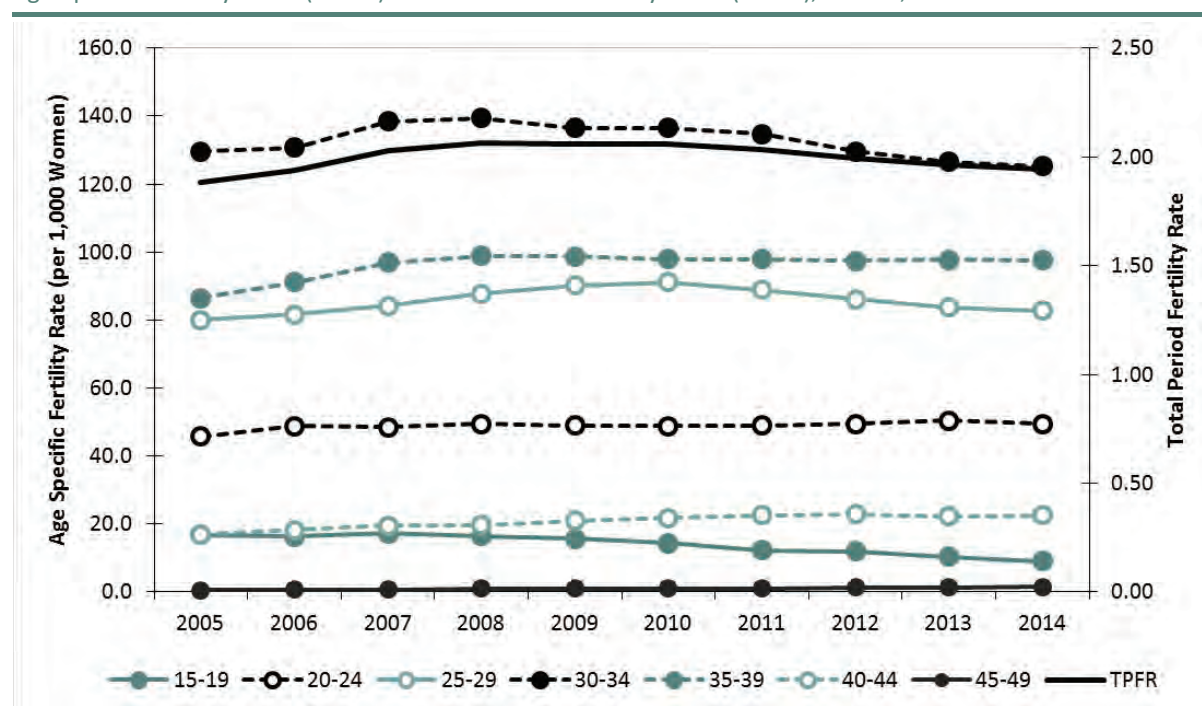
www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0

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.²¹ The ASFR refers to the number of live births to women in a particular age group per 1,000 women. Figure 2.4 displays the trend in the ASFR and TPFR in Ireland from 2005 to 2014.

- The Irish TPFR has increased from an average of 1.88 in 2005 to a high of 2.06 in 2008 and is estimated at 1.94 in 2014.²²
- The ASFRs for the 40 to 44 and 45 to 49 year age groups increased slightly from 2013 to 2014. All other age groups recorded decreasing ASFR rates for 2014.
- Over the decade 2005 to 2014, the ASFR for the 15 to 19 and 30 to 34 year age groups have declined. All other age groups recorded higher ASFR rates over the decade.
- The ASFRs show women in the 25 to 29 recorded annual increases in fertility between 2006 and 2010 and reported decreasing rates in more 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 higher than that reported for the 15 to 19 year age group in 2014, and this divergence has been increasing since 2005.

FIGURE 2.4
Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2005–2014



Sources: Total period fertility rates (TPFRs) and age-specific fertility rates (ASFRs) are calculated using NPRS data from 2005 onwards. Female population estimates from 2005 onwards were obtained from the CSO Statistical Databases, date consulted April 2016. <http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0>

²¹ See Appendix A, definitions for calculation of TPFR and ASFR.

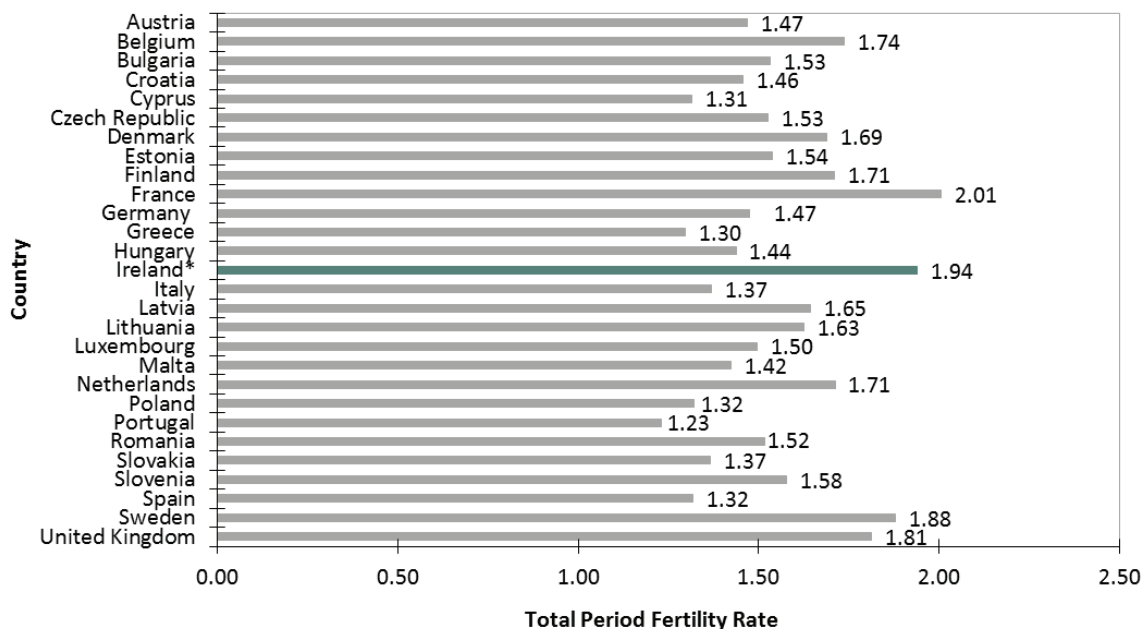
²² The CSO estimates the TPFR at 1.95 for 2014. See Vital Statistics, Fourth Quarter and Yearly Summary 2014, May 2015. CSO 2014 data are provisional and are based on the number of births registered within the year as opposed to births occurring in the year.

The TPFR for Ireland is based on population data for 2014, and at 1.94 is below the level required for the long-term replacement of the population in the absence of any net inward migration (2.10).²³ Figure 2.6 presents data on TPFRs for 2014 using data from Eurostat and the NPRS.

- France had the highest TPFR (2.01) in the 28 EU countries, followed next in line by Ireland at 1.94.
- Sweden and the UK were just behind Ireland with a TPFR of 1.88 and 1.81 respectively, while Portugal (1.23) and Greece (1.30) recorded the lowest TPFR in 2014.

FIGURE 2.5

Total Period Fertility Rates for EU Countries, 2014



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted April 2016.

<http://epp.eurostat.ec.europa.eu>

*Data for Ireland are based on NPRS data on live births. Female population estimates for 2014 were obtained from the CSO Statistical Databases, date consulted April 2016.

www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0

SECTION THREE

GENERAL CHARACTERISTICS

INTRODUCTION

This section presents more detailed analyses of data reported to the NPRS for 2014.

Data for a selection of variables are presented including:

- mother's age, civil status, county of residence, socio-economic group, nationality, parity, number of previous stillbirths, and interval since last birth
- father's socio-economic group and nationality
- infant's birthweight, gestational age, and month of birth.

For selected variables, the tables outline data for total births, live births, stillbirths, early neonatal deaths and perinatal mortality rates, as well as presenting the number of maternities.

MATERNAL AGE

Table 3.1 presents data on maternal age.

- In 2014, over 36 per cent of total births were to mothers aged 30 to 34 years, representing over one third of all mothers having either a singleton or multiple birth.
- Over 6 per cent of total births were to mothers aged 40 years and over.

TABLE 3.1

Age of Mother: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Under 20 Years	1,247	1.8	1,238	7.2	1.6	8.8	8.8	1,232
20-24 Years	5,946	8.8	5,924	3.7	2.9	6.6	3.7	5,892
25-29 Years	13,203	19.5	13,140	4.8	1.8	6.6	5.2	13,057
30-34 Years	24,750	36.6	24,663	3.5	1.8	5.3	4.0	24,313
35-39 Years	18,235	27.0	18,162	4.0	2.0	6.0	4.0	17,792
40-44 Years	3,984	5.9	3,952	8.0	3.0	11.3	5.8	3,842
45 Years and Over	*	^	*	-	-	-	-	*
Not Stated	~	^	~	-	-	-	-	~
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Under 20 Years	1,218	1.9	1,212	4.9	1.7	6.6	6.6	1,218
20-24 Years	5,837	9.0	5,816	3.6	2.6	6.2	3.8	5,837
25-29 Years	12,908	19.8	12,848	4.6	1.6	6.2	4.8	12,908
30-34 Years	23,881	36.7	23,799	3.4	1.6	5.0	3.7	23,881
35-39 Years	17,352	26.7	17,284	3.9	1.6	5.7	4.0	17,352
40-44 Years	3,701	5.7	3,671	8.1	3.3	11.3	5.4	3,701
45 Years and Over	*	^	*	-	-	-	-	*
Not Stated	~	^	~	-	-	-	-	~
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Under 20 Years	29	1.1	26	103.4	-	103.4	103.4	14
20-24 Years	109	4.3	108	9.2	18.5	27.5	18.5	55
25-29 Years	295	11.6	292	10.2	13.7	23.7	23.7	149
30-34 Years	869	34.2	864	5.8	8.1	13.8	11.5	432
35-39 Years	883	34.8	878	5.7	5.7	11.3	10.2	440
40-44 Years	283	11.1	281	7.1	3.6	10.6	10.6	141
45 Years and Over	72	2.8	72	-	-	-	-	37
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

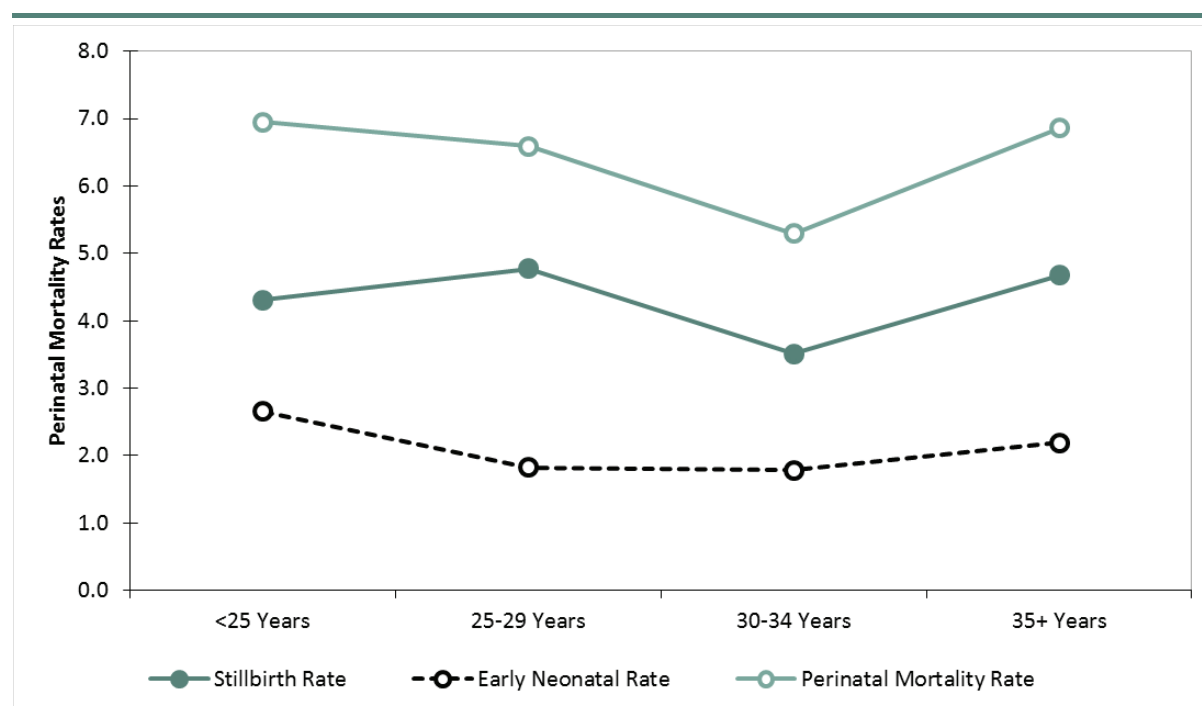
- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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 3.1 presents perinatal mortality rates.

- At 5.3 per 1,000 live births and stillbirths, the perinatal mortality rate was lowest for mothers aged in the 30 to 34 year age group, whilst higher perinatal mortality rates were recorded for all other age groups presented in Figure 3.1.
- The highest stillbirth rate was recorded for the 25 to 29 year age group (at 4.8 per 1,000 live births and stillbirths), while the lowest stillbirth rate was recorded for the 30 to 34 year age group (3.5 per 1,000 live births and stillbirths).
- At 2.7 per 1,000 live births the highest early neonatal rate was recorded for mothers aged less than 25 years, while the lowest early neonatal rates were recorded for mothers in the 25 to 29 and 30 to 34 year age groups (1.8 per 1,000 live births).

FIGURE 3.1

Age-Specific Stillbirth, Early Neonatal and Perinatal Mortality Rates



Note: See Table 3.1 for data.

MOTHER'S CIVIL STATUS

Table 3.2 presents data on mother's civil status and shows that married women accounted for over 62 per cent of total births.

TABLE 3.2

Mother's Civil Status: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Married	42,348	62.6	42,190	3.7	2.0	5.7	4.1	41,446
Single	24,232	35.8	24,111	5.0	2.0	7.0	5.1	23,887
Widowed	79	0.1	79	-	-	-	-	78
Separated	486	0.7	483	6.2	6.2	12.3	8.3	472
Divorced	443	0.7	440	6.8	2.3	9.0	6.8	433
Civil Partner	10	0.0	10	-	-	-	-	10
Not Stated	12	0.0	11	83.3	-	83.3	83.3	12
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Married	40,548	62.3	40,396	3.7	1.8	5.6	3.9	40,548
Single	23,542	36.2	23,433	4.6	1.7	6.3	4.5	23,542
Widowed	*	^	*	-	-	-	-	*
Separated	459	0.7	456	6.5	6.6	13.1	8.8	459
Divorced	*	^	*	4.7	-	4.7	2.4	*
Civil Partner	10	0.0	10	-	-	-	-	10
Not Stated	12	0.0	11	83.3	-	83.3	83.3	12
Total	65,070	100	64,803	4.1	1.8	5.7	4.2	65,070
Multiple Births								
Married	1,800	70.9	1,794	3.3	5.6	8.9	7.8	898
Single	690	27.2	678	17.4	11.8	29.0	26.2	345
Widowed	~	^	~	-	-	-	-	~
Separated	27	1.1	27	-	-	-	-	13
Divorced	*	^	*	52.6	55.6	105.3	105.3	*
Civil Partner	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated 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.

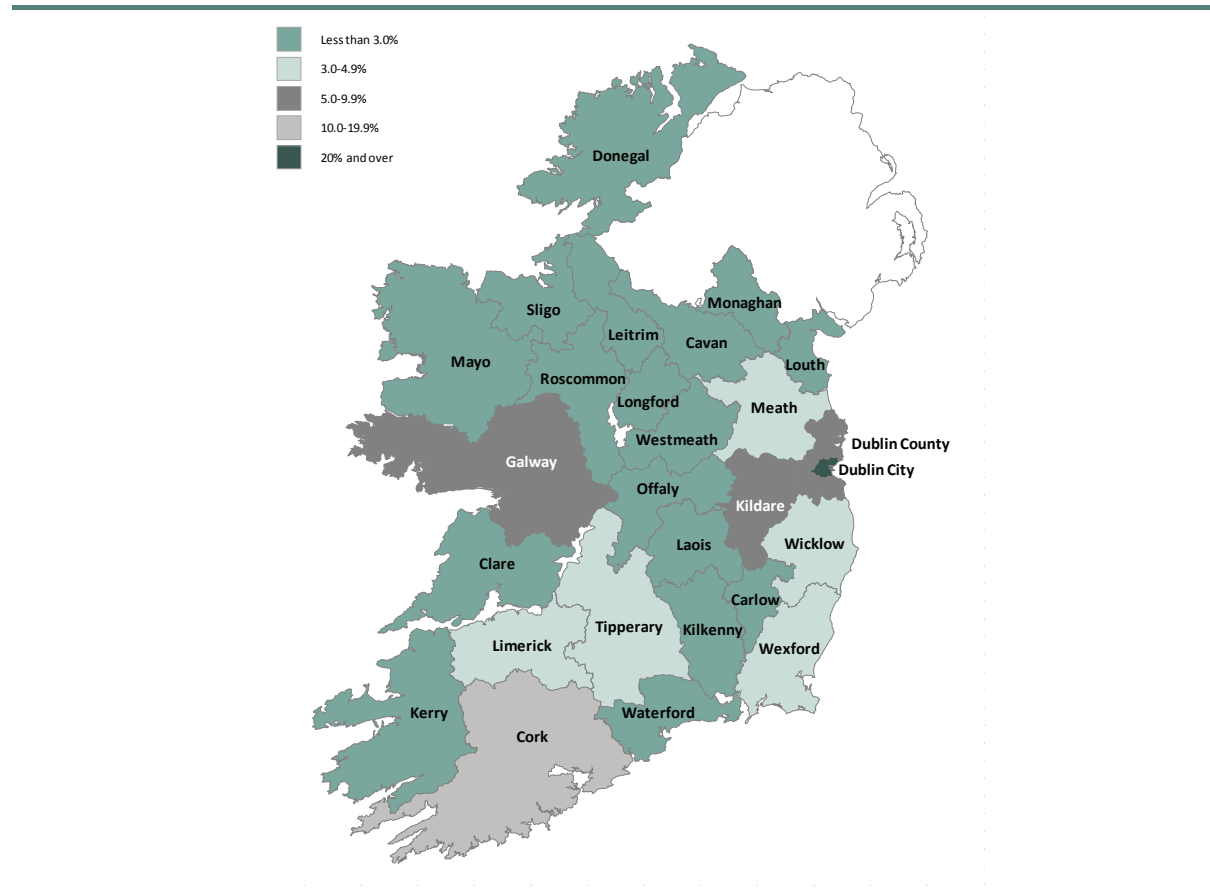
MOTHER'S COUNTY OF RESIDENCE

Figure 3.2 presents the distribution of births by mother's county of residence.

- Over 22 per cent of births were to mothers resident in Dublin City, and 11.3 per cent were to mothers resident in County Cork.
- There were less than 1 per cent of births to mothers resident in Longford or Leitrim.

FIGURE 3.2

Percentage of Births by Mother's County of Residence, Total Births



Notes: See Appendix G, Table G1 for data.
 Example: 2.7 per cent of all births were to mothers resident in Louth.
 See Appendix E for details of county of residence classification.

SOCIO-ECONOMIC GROUP

MOTHER'S SOCIO-ECONOMIC GROUP

Table 3.3 presents data on mother's socio-economic group.

- The highest proportions of total births were to mothers whose socio-economic group was classified as either 'home duties' (20.5 per cent) or 'intermediate non-manual workers' (19.4 per cent).
- Mothers classified as 'lower professional' accounted for 17.5 per cent of total births, while mothers in the 'other non-manual workers' group accounted for a further 13.8 per cent of total births.
- Where rates are calculated on more than 20 perinatal deaths, the highest perinatal mortality rate of 8.2 per 1,000 live births and stillbirths was reported for mothers in the socio-economic group 'home duties' followed by 'unemployed' (8.0 per 1,000 live births and stillbirths) - see Figure 3.3.
- The lowest perinatal mortality rates were recorded for mothers in the 'lower professional' socio-economic group (4.6 per 1,000 live births and stillbirths), and a perinatal mortality rate of 4.8 per 1,000 live births and stillbirths was recorded for mothers in the 'employers & managers' and 'other non-manual workers' socio-economic group.

TABLE 3.3

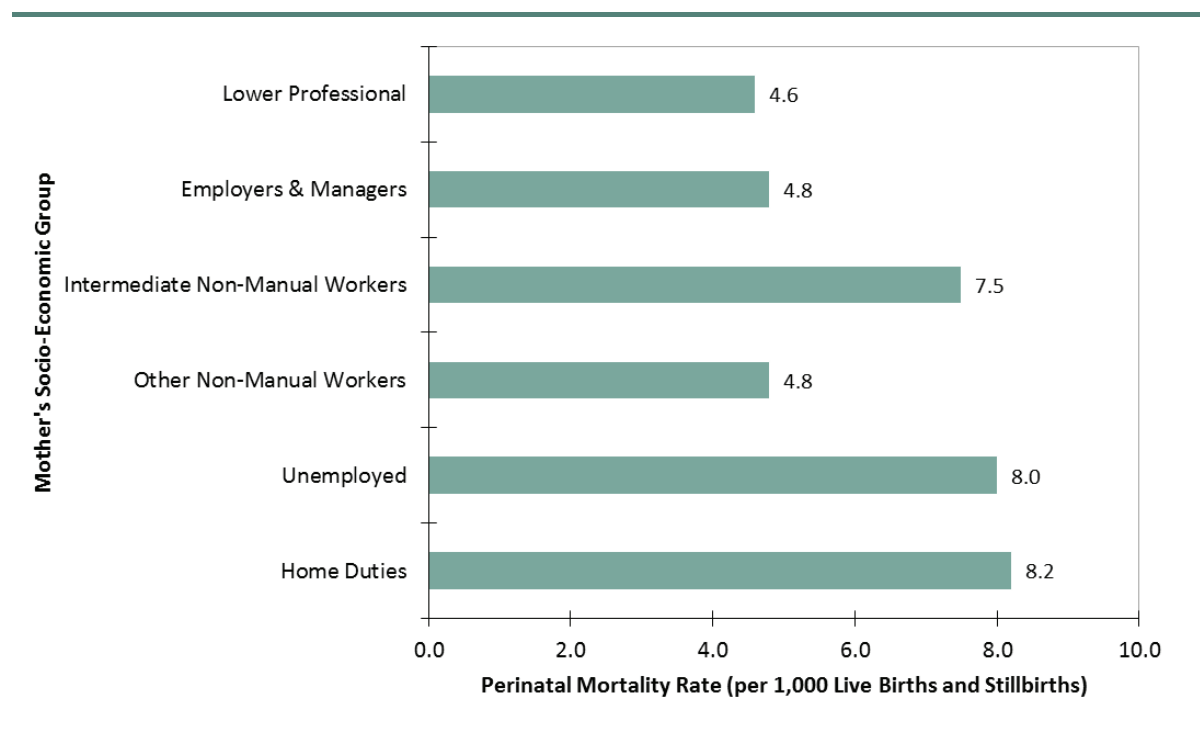
Mother's Socio-economic Group: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Farmers & Farm Managers	63	0.1	63	-	15.9	15.9	15.9	62
Other Agricultural Occupations & Fishermen	75	0.1	74	13.3	-	13.3	13.3	73
Higher Professional	4,644	6.9	4,630	3.0	1.3	4.3	3.2	4,524
Lower Professional	11,808	17.5	11,775	2.8	1.8	4.6	3.0	11,568
Employers & Managers	4,972	7.4	4,955	3.4	1.4	4.8	3.8	4,854
Salaried Employees	870	1.3	864	6.9	2.3	9.2	6.9	852
Intermediate Non-Manual Workers	13,146	19.4	13,079	5.1	2.4	7.5	5.3	12,885
Other Non-Manual Workers	9,351	13.8	9,326	2.7	2.1	4.8	3.5	9,210
Skilled Manual Workers	918	1.4	915	3.3	1.1	4.4	4.4	901
Semi-Skilled Manual Workers	2,163	3.2	2,153	4.6	-	4.6	3.7	2,122
Unskilled Manual Workers	35	0.1	35	-	-	-	-	35
Unemployed	3,118	4.6	3,100	5.8	2.3	8.0	7.1	3,088
Not Classifiable	2,237	3.3	2,229	3.6	1.3	4.9	3.6	2,201
Home Duties	13,845	20.5	13,764	5.9	2.3	8.2	5.4	13,606
Not Stated	365	0.5	362	8.2	11.0	19.2	19.2	357
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Farmers & Farm Managers	*	^	*	-	16.4	16.4	16.4	*
Other Agricultural Occupations & Fishermen	*	^	*	14.1	-	14.1	14.1	*
Higher Professional	4,407	6.8	4,394	2.9	1.1	4.1	3.0	4,407
Lower Professional	11,324	17.4	11,291	2.9	1.7	4.6	2.9	11,324
Employers & Managers	4,735	7.3	4,720	3.2	1.5	4.6	3.8	4,735
Salaried Employees	835	1.3	829	7.2	2.4	9.6	7.2	835
Intermediate Non-Manual Workers	12,621	19.4	12,560	4.8	2.1	6.9	4.6	12,621
Other Non-Manual Workers	9,070	13.9	9,049	2.3	1.8	4.1	2.9	9,070
Skilled Manual Workers	884	1.4	881	3.4	1.1	4.5	4.5	884
Semi-Skilled Manual Workers	2,081	3.2	2,071	4.8	-	4.8	3.8	2,081
Unskilled Manual Workers	35	0.1	35	-	-	-	-	35
Unemployed	3,059	4.7	3,042	5.6	2.3	7.8	6.9	3,059
Not Classifiable	2,165	3.3	2,157	3.7	1.4	5.1	3.7	2,165
Home Duties	13,373	20.6	13,297	5.7	2.0	7.6	4.9	13,373
Not Stated	349	0.5	346	8.6	11.6	20.1	20.1	349
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Farmers & Farm Managers	~	^	~	-	-	-	-	~
Other Agricultural Occupations & Fishermen	~	^	~	-	-	-	-	~
Higher Professional	237	9.3	236	4.2	4.2	8.4	8.4	117
Lower Professional	484	19.1	484	-	4.1	4.1	4.1	244
Employers & Managers	237	9.3	235	8.4	-	8.4	4.2	119
Salaried Employees	35	1.4	35	-	-	-	-	17
Intermediate Non-Manual Workers	525	20.7	519	11.4	11.6	22.9	22.9	264
Other Non-Manual Workers	281	11.1	277	14.2	14.4	28.5	25.0	140
Skilled Manual Workers	34	1.3	34	-	-	-	-	17
Semi-Skilled Manual Workers	82	3.2	82	-	-	-	-	41
Unskilled Manual Workers	0	0.0	0	-	-	-	-	0
Unemployed	59	2.3	58	16.9	-	16.9	16.9	29
Not Classifiable	72	2.8	72	-	-	-	-	36
Home Duties	472	18.6	467	10.6	12.8	23.3	19.1	233
Not Stated	16	0.6	16	-	-	-	-	8
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- ~ Denotes five or fewer births (or maternities) reported to NPRS.
 - * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 - ^ Percentage not provided to prevent disclosure of small numbers.
 - a Rates are calculated 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 socio-economic group.

FIGURE 3.3
Perinatal Mortality Rates by Mother's Socio-economic Group



Notes: See Table 3.3 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.

FATHER'S SOCIO-ECONOMIC GROUP

Father's details are only required for registration purposes where mother's civil status is recorded as 'married'. As a result, there is a proportion of records for which information is incomplete; these are assigned to the category 'not applicable'. This category is combined with 'not stated' for the purposes of presenting data on father's socio-economic group in this report. The data presented in the following table reports father's socio-economic group where occupation was recorded, regardless of mother's civil status. Data quality measures are ongoing with hospital staff in an effort to improve completeness of returns for the details of all fathers.

Table 3.4 presents data on father's socio-economic group.

- Just over 18 per cent of total births were to fathers whose socio-economic group was classified as 'skilled manual workers'.
- Fathers classified as 'other non-manual workers' accounted for 9.1 per cent of total births.

TABLE 3.4

Father's Socio-economic Group: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Farmers & Farm Managers	1,832	2.7	1,822	5.5	1.6	7.1	4.9	1,787
Other Agricultural Occupations & Fishermen	631	0.9	628	4.8	3.2	7.9	4.8	618
Higher Professional	4,271	6.3	4,259	2.8	0.7	3.5	2.6	4,176
Lower Professional	4,425	6.5	4,412	2.9	1.1	4.1	3.6	4,330
Employers & Managers	4,853	7.2	4,837	3.3	2.1	5.4	3.9	4,737
Salaried Employees	941	1.4	937	4.3	-	4.3	-	925
Intermediate Non-Manual Workers	5,979	8.8	5,965	2.3	1.7	4.0	3.0	5,870
Other Non-Manual Workers	6,182	9.1	6,163	3.1	2.6	5.7	4.1	6,071
Skilled Manual Workers	12,372	18.3	12,320	4.2	1.8	6.0	4.2	12,123
Semi-Skilled Manual Workers	3,151	4.7	3,133	5.7	1.0	6.7	5.1	3,093
Unskilled Manual Workers	429	0.6	427	4.7	7.0	11.7	7.0	423
Unemployed	3,128	4.6	3,105	7.4	2.9	10.2	8.0	3,085
Not Classifiable	2,081	3.1	2,073	3.8	3.4	7.2	4.3	2,034
Home Duties	161	0.2	161	-	-	-	-	159
Not Stated/Not Applicable	17,174	25.4	17,082	5.4	2.5	7.9	5.7	16,907
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Farmers & Farm Managers	1,743	2.7	1,735	4.6	1.7	6.3	4.0	1,743
Other Agricultural Occupations & Fishermen	605	0.9	602	5.0	3.3	8.3	5.0	605
Higher Professional	4,079	6.3	4,067	2.9	0.7	3.7	2.7	4,079
Lower Professional	4,238	6.5	4,225	3.1	1.2	4.2	3.8	4,238
Employers & Managers	4,620	7.1	4,604	3.5	1.5	5.0	3.5	4,620
Salaried Employees	909	1.4	905	4.4	-	4.4	-	909
Intermediate Non-Manual Workers	5,758	8.8	5,744	2.4	1.4	3.8	2.8	5,758
Other Non-Manual Workers	5,963	9.2	5,945	3.0	2.5	5.5	3.9	5,963
Skilled Manual Workers	11,876	18.3	11,827	4.1	1.8	5.9	4.1	11,876
Semi-Skilled Manual Workers	3,036	4.7	3,018	5.9	1.0	6.9	5.3	3,036
Unskilled Manual Workers	*	^	*	4.8	7.2	12.0	7.2	*
Unemployed	3,043	4.7	3,022	6.9	2.3	9.2	7.2	3,043
Not Classifiable	1,985	3.0	1,977	4.0	2.0	6.0	3.5	1,985
Home Duties	*	^	*	-	-	-	-	*
Not Stated/Not Applicable	16,641	25.6	16,560	4.9	2.2	7.0	4.9	16,641
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Farmers & Farm Managers	89	3.5	87	22.5	-	22.5	22.5	44
Other Agricultural Occupations & Fishermen	26	1.0	26	-	-	-	-	13
Higher Professional	192	7.6	192	-	-	-	-	97
Lower Professional	187	7.4	187	-	-	-	-	92
Employers & Managers	233	9.2	233	-	12.9	12.9	12.9	117
Salaried Employees	32	1.3	32	-	-	-	-	16
Intermediate Non-Manual Workers	221	8.7	221	-	9.0	9.0	9.0	112
Other Non-Manual Workers	219	8.6	218	4.6	4.6	9.1	9.1	108
Skilled Manual Workers	496	19.5	493	6.0	2.0	8.1	6.1	247
Semi-Skilled Manual Workers	115	4.5	115	-	-	-	-	57
Unskilled Manual Workers	*	^	*	-	-	-	-	*
Unemployed	85	3.3	83	23.5	24.1	47.1	35.7	42
Not Classifiable	96	3.8	96	-	31.3	31.3	21.1	49
Home Duties	~	^	~	-	-	-	-	~
Not Stated/Not Applicable	533	21.0	522	20.6	13.4	33.8	32.0	266
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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 socio-economic group.

NATIONALITY

MOTHER'S NATIONALITY

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

- Over 77 per cent of total births were recorded for babies born to mothers from Ireland.
- The next highest proportion of total births were to mothers from the European Union (excluding Ireland and United Kingdom) at 12.4 per cent.²⁴
- Births to mothers from Asia accounted for 3.2 per cent of total births, followed by 2.3 per cent to mothers from Africa and 2.2 per cent to mothers from the UK.
- The remainder of births were born to mothers from the Rest of Europe, America, Australia, New Zealand and Other Oceania.

²⁴ See Appendix F for a description of the classification system for nationality.

TABLE 3.5

Mother's Nationality: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Ireland	52,571	77.8	52,355	4.1	1.8	5.9	4.1	51,539
UK	1,462	2.2	1,455	4.8	3.4	8.2	6.2	1,431
EU15 (excluding Ireland & UK)	920	1.4	916	4.3	5.5	9.8	8.7	904
EU15 to EU28	7,468	11.0	7,447	2.8	2.0	4.8	3.8	7,358
Rest of Europe	518	0.8	516	3.9	3.9	7.7	7.7	509
Africa	1,568	2.3	1,553	9.6	3.9	13.4	9.6	1,534
Asia	2,171	3.2	2,160	5.1	1.9	6.9	5.5	2,147
America	589	0.9	587	3.4	-	3.4	3.4	575
Australia	74	0.1	73	13.5	-	13.5	13.5	73
New Zealand and Other Oceania	34	0.1	34	-	-	-	-	34
Not Stated	235	0.3	228	29.8	17.5	46.8	38.6	234
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Ireland	50,508	77.6	50,307	4.0	1.6	5.6	3.8	50,508
UK	1,401	2.2	1,394	5.0	2.9	7.9	5.7	1,401
EU15 (excluding Ireland & UK)	888	1.4	884	4.5	5.7	10.1	9.0	888
EU15 to EU28	7,250	11.1	7,231	2.6	1.8	4.4	3.5	7,250
Rest of Europe	499	0.8	498	2.0	-	2.0	2.0	499
Africa	1,502	2.3	1,487	10.0	3.4	13.3	10.0	1,502
Asia	2,123	3.3	2,112	5.2	1.4	6.6	5.2	2,123
America	561	0.9	559	3.6	-	3.6	3.6	561
Australia	*	^	*	13.9	-	13.9	13.9	*
New Zealand and Other Oceania	34	0.1	34	-	-	-	-	34
Not Stated	*	^	*	25.9	17.7	43.1	34.8	*
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Ireland	2,063	81.2	2,048	7.3	5.9	13.1	12.1	1,031
UK	61	2.4	61	-	16.4	16.4	16.4	30
EU15 (excluding Ireland & UK)	32	1.3	32	-	-	-	-	16
EU15 to EU28	218	8.6	216	9.2	9.3	18.3	13.8	108
Rest of Europe	19	0.7	18	52.6	111.1	157.9	157.9	10
Africa	66	2.6	66	-	15.2	15.2	-	32
Asia	48	1.9	48	-	20.8	20.8	20.8	24
America	28	1.1	28	-	-	-	-	14
Australia	~	^	~	-	-	-	-	~
New Zealand and Other Oceania	0	0.0	0	-	-	-	-	0
Not Stated	~	^	~	333.3	-	333.3	333.3	~
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated 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.

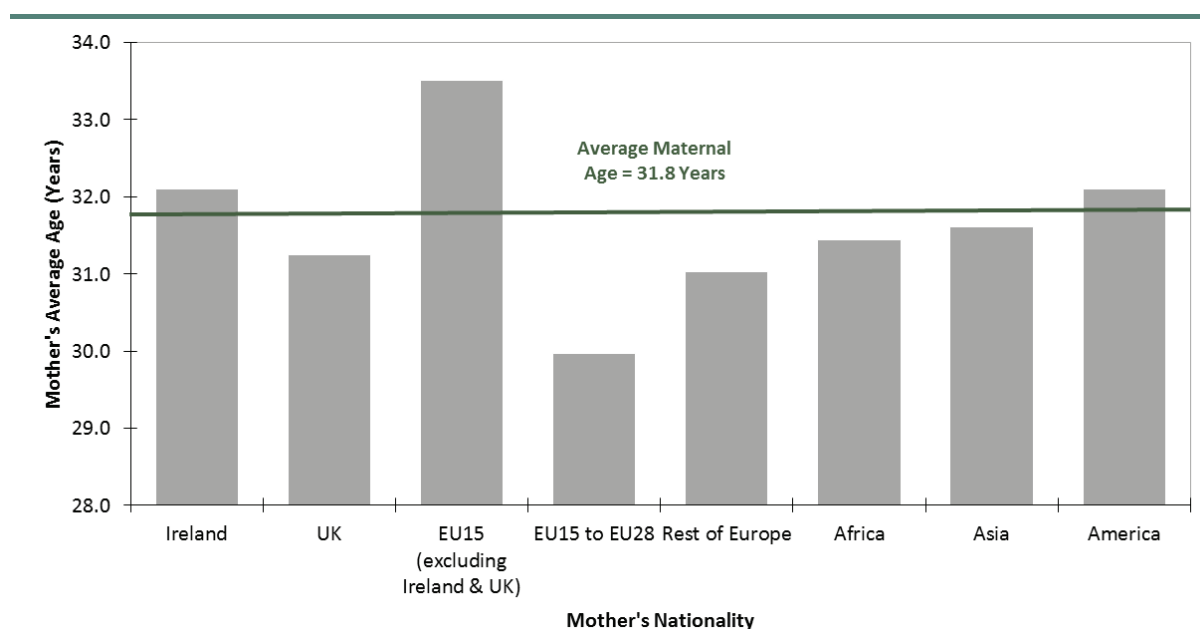
See Appendix F for a description of the classification system for nationality.

Figure 3.4 presents the average age of mother by mother's nationality for 2014.

- The average age of all mothers giving birth was 31.8 years and the average age of mothers from Ireland giving birth was slightly higher at 32.1 years.
- Mothers giving birth from the EU15 to EU28 were on average younger at 30.0 years, while mothers from the EU15 (excluding Ireland and United Kingdom) recorded the highest average maternal age at 33.5 years.

FIGURE 3.4

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



Notes: See Appendix G, Table G2 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. Father's details are only required for registration purposes where mother's civil status is recorded as 'married'. As a result, there is a proportion of records for which information is incomplete; these are assigned to the category 'not applicable'. This category is combined with 'not stated' for the purposes of presenting data on father's nationality in this report. The data presented in the following table reports father's nationality where recorded, regardless of mother's civil status.

Table 3.6 presents information on father's nationality.

- Births to Irish fathers accounted for 56.0 per cent of total births.
- Births to fathers from the EU15 to EU28 and Asia accounted for 6.9 per cent and 2.2 per cent of total births respectively.

TABLE 3.6

Father's Nationality: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Ireland	37,895	56.0	37,747	3.9	1.7	5.6	3.7	37,132
UK	1,263	1.9	1,261	1.6	1.6	3.2	3.2	1,222
EU15 (excluding Ireland & UK)	632	0.9	630	3.2	4.8	7.9	6.3	617
EU15 to EU28	4,687	6.9	4,675	2.6	2.1	4.7	4.1	4,613
Rest of Europe	308	0.5	307	3.2	3.3	6.5	6.5	304
Africa	1,009	1.5	1,001	7.9	3.0	10.9	9.9	993
Asia	1,461	2.2	1,452	6.2	2.1	8.2	7.5	1,447
America	329	0.5	326	9.1	-	9.1	6.1	320
Australia	68	0.1	68	-	-	-	-	65
New Zealand and Other Oceania	59	0.1	59	-	-	-	-	55
Not Stated/ Not Applicable	19,899	29.4	19,798	5.1	2.5	7.5	5.6	19,570
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Ireland	36,370	55.9	36,229	3.9	1.7	5.5	3.6	36,370
UK	1,180	1.8	1,178	1.7	0.8	2.5	2.5	1,180
EU15 (excluding Ireland & UK)	602	0.9	600	3.3	5.0	8.3	6.7	602
EU15 to EU28	4,540	7.0	4,529	2.4	1.8	4.2	3.7	4,540
Rest of Europe	300	0.5	299	3.3	3.3	6.7	6.7	*
Africa	977	1.5	969	8.2	3.1	11.3	10.2	977
Asia	1,433	2.2	1,424	6.3	1.4	7.7	6.5	1,433
America	311	0.5	308	9.6	-	9.6	6.5	311
Australia	62	0.1	62	-	-	-	-	*
New Zealand and Other Oceania	51	0.1	51	-	-	-	-	*
Not Stated/ Not Applicable	19,244	29.6	19,154	4.7	2.0	6.7	4.8	19,244
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Ireland	1,525	60.0	1,518	4.6	3.3	7.9	7.2	762
UK	83	3.3	83	-	12.0	12.0	12.0	42
EU15 (excluding Ireland & UK)	30	1.2	30	-	-	-	-	15
EU15 to EU28	147	5.8	146	6.8	13.7	20.4	13.7	73
Rest of Europe	8	0.3	8	-	-	-	-	~
Africa	32	1.3	32	-	-	-	-	16
Asia	28	1.1	28	-	35.7	35.7	35.7	14
America	18	0.7	18	-	-	-	-	9
Australia	6	0.2	6	-	-	-	-	~
New Zealand and Other Oceania	8	0.3	8	-	-	-	-	~
Not Stated/ Not Applicable	655	25.8	644	16.8	15.5	32.1	29.1	326
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- a Rates are calculated 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.

MATERNAL PARITY

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

- Primiparous mothers accounted for 38.4 per cent of all maternities, with 61.6 per cent of maternities having one or more previous live births or stillbirths.

TABLE 3.7

Maternal Parity: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0	26,071	38.6	25,967	4.0	2.1	6.1	4.6	25,497
1	23,326	34.5	23,242	3.6	1.7	5.3	3.7	22,920
2	11,976	17.7	11,923	4.3	2.4	6.8	4.7	11,777
3	4,101	6.1	4,078	5.6	2.0	7.6	5.1	4,036
4	1,279	1.9	1,267	9.4	1.6	10.9	7.8	1,257
5	472	0.7	466	12.7	4.3	16.9	12.8	468
6	207	0.3	205	9.7	4.9	14.5	14.5	206
More than 6	*	^	*	11.3	-	11.3	5.7	*
Not Stated	~	^	~	-	-	-	-	~
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
0	24,927	38.3	24,832	3.8	1.9	5.7	4.3	24,927
1	22,512	34.6	22,432	3.6	1.5	5.0	3.4	22,512
2	11,582	17.8	11,531	4.4	2.1	6.5	4.3	11,582
3	3,970	6.1	3,948	5.5	1.8	7.3	4.8	3,970
4	1,234	1.9	1,225	7.3	1.6	8.9	5.7	1,234
5	464	0.7	458	12.9	4.4	17.2	13.0	*
6	*	^	*	9.8	4.9	14.6	14.6	*
More than 6	*	^	*	11.4	-	11.4	5.7	*
Not Stated	~	^	~	-	-	-	-	~
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
0	1,144	45.0	1,135	7.9	6.2	14.0	11.4	570
1	814	32.0	810	4.9	7.4	12.3	12.3	408
2	394	15.5	392	5.1	12.8	17.8	15.3	195
3	131	5.2	130	7.6	7.7	15.3	15.3	66
4	45	1.8	42	66.7	-	66.7	66.7	23
5	8	0.3	8	-	-	-	-	~
6	~	^	~	-	-	-	-	~
More than 6	~	^	~	-	-	-	-	~
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

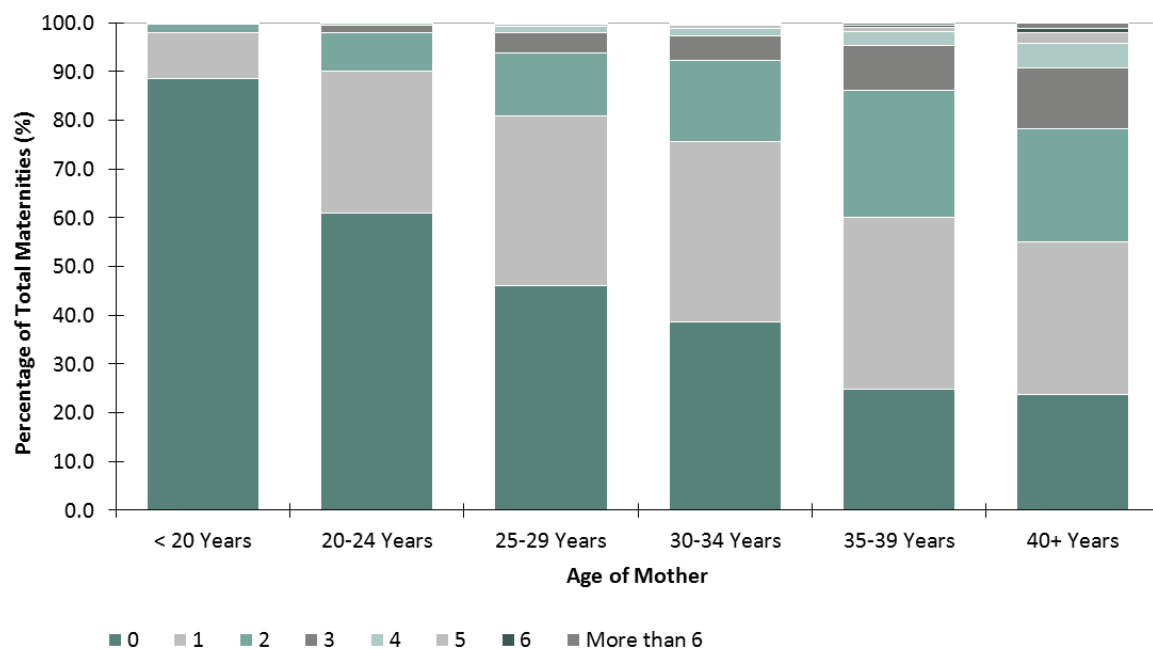
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- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

Figure 3.5 shows data on maternal parity by age of mother.

- Of mothers aged less than 20 years, 88.6 per cent gave birth for the first time (see Figure 3.5).
- Approximately 1 in 4 women aged 40 years or more gave birth for the first time and 31.5 per cent delivered for the second time.

FIGURE 3.5

Parity by Age of Mother, Total Maternities



Note: See Appendix G, Table G3 for data.

NUMBER OF PREVIOUS STILLBIRTHS

In 2014, 98.4 per cent of multiparous women giving birth recorded no previous stillbirths while 1.6 per cent recorded one or more previous stillbirths (see Table 3.8).

TABLE 3.8

Previous Stillbirths: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0	40,893	98.4	40,718	4.3	1.9	6.2	4.3	40,209
1	585	1.4	581	6.8	3.4	10.3	8.6	571
2	42	0.1	40	47.6	25.0	71.4	71.4	42
3 and over	18	0.0	17	55.6	-	55.6	55.6	18
Total	41,538	100	41,356	4.4	2.0	6.3	4.4	40,840
Singleton Births								
0	39,524	98.5	39,359	4.2	1.7	5.9	3.9	39,524
1	558	1.4	554	7.2	1.8	9.0	7.2	558
2	42	0.1	40	47.6	25.0	71.4	71.4	42
3 and over	18	0.0	17	55.6	-	55.6	55.6	18
Total	40,142	100	39,970	4.3	1.7	6.0	4.0	40,142
Multiple Births								
0	1,369	98.1	1,359	7.3	8.1	15.3	14.6	685
1	27	1.9	27	-	37.0	37.0	37.0	13
2	0	0.0	0	-	-	-	-	0
3 and over	0	0.0	0	-	-	-	-	0
Total	1,396	100	1,386	7.2	8.7	15.8	15.1	698

Notes:

- a Percentage column is subject to rounding.
- a Rates are calculated 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 was 1 maternity with unknown parity; this was excluded from this table.

INTERVAL SINCE LAST BIRTH

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

- Almost 24 per cent of all multiparous mothers had their previous birth within the last two years.
- Over 15 per cent had their previous birth more than six years earlier.

TABLE 3.9

Interval in Years since Last Birth: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
1 year or less	497	1.2	494	6.0	12.1	18.1	14.1	487
>1 year to 2 years	9,398	22.6	9,364	3.6	1.4	5.0	3.1	9,245
>2 years to 3 years	10,920	26.3	10,874	4.2	1.6	5.8	4.0	10,743
>3 years to 4 years	6,900	16.6	6,880	2.9	1.7	4.6	3.0	6,783
>4 years to 5 years	4,341	10.5	4,318	5.3	1.6	6.9	5.5	4,264
>5 years to 6 years	2,716	6.5	2,700	5.9	3.0	8.8	4.8	2,678
More than 6 years	6,556	15.8	6,520	5.5	2.3	7.8	6.0	6,437
Not Stated	210	0.5	206	19.0	14.6	33.3	28.7	203
Total	41,538	100	41,356	4.4	2.0	6.3	4.4	40,840
Singleton Births								
1 year or less	478	1.2	475	6.3	8.4	14.6	10.5	478
>1 year to 2 years	9,091	22.6	9,061	3.3	1.2	4.5	2.5	9,091
>2 years to 3 years	10,566	26.3	10,522	4.2	1.6	5.8	4.0	10,566
>3 years to 4 years	6,665	16.6	6,645	3.0	1.2	4.2	2.6	6,665
>4 years to 5 years	4,187	10.4	4,166	5.0	1.4	6.4	5.0	4,187
>5 years to 6 years	2,640	6.6	2,624	6.1	2.7	8.7	4.9	2,640
More than 6 years	6,319	15.7	6,285	5.4	2.1	7.4	5.5	6,319
Not Stated	196	0.5	192	20.4	15.6	35.7	30.8	196
Total	40,142	100	39,970	4.3	1.7	6.0	4.0	40,142
Multiple Births								
1 year or less	19	1.4	19	-	105.3	105.3	105.3	9
>1 year to 2 years	307	22.0	303	13.0	6.6	19.5	19.5	154
>2 years to 3 years	354	25.4	352	5.6	-	5.6	5.6	177
>3 years to 4 years	235	16.8	235	-	17.0	17.0	17.0	118
>4 years to 5 years	154	11.0	152	13.0	6.6	19.5	19.5	77
>5 years to 6 years	76	5.4	76	-	13.2	13.2	-	38
More than 6 years	237	17.0	235	8.4	8.5	16.9	16.9	118
Not Stated	14	1.0	14	-	-	-	-	7
Total	1,396	100	1,386	7.2	8.7	15.8	15.4	698

Notes:

- a Percentage column is subject to rounding.
- a Rates are calculated 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 was 1 maternity with unknown parity; this was 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.²⁵

- The average birthweight for live births was 3,488.5 grams for singletons, 2,428.3 grams for multiples, and 3,448.8 grams for total live births.
- The average birthweight of live births was 3,509.9 grams for males compared to 3,383.8 grams for females.

Table 3.10 and figures 3.6 – 3.8 present data on birthweight.

- The percentage of total live births classified as low birthweight was 5.6 per cent (3.9 per cent of singletons and 49.4 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 7.5 per cent for multiple births (see Figure 3.6).
- 92.1 per cent of total live births were in the healthy birthweight category weighing between 2,500 and 4,499 grams (see Figure 3.7).
- A smaller proportion of male live births were low birthweight (5.1 per cent) compared with female live births (6.1 per cent).
- The percentage of total live births weighing 4,500 grams and over was 2.3 per cent (3.1 per cent of males compared to 1.4 per cent of females) (see Figure 3.8).

²⁵ EURO-PERISTAT Project with SCPE and EUROCAT. *European Perinatal Health Report. The health and care of pregnant women and babies in Europe in 2010*. May 2013. Available at www.europeristat.com

TABLE 3.10

Birthweight (grams): Total Births, Live Births, Mortality Rates, and Maternities

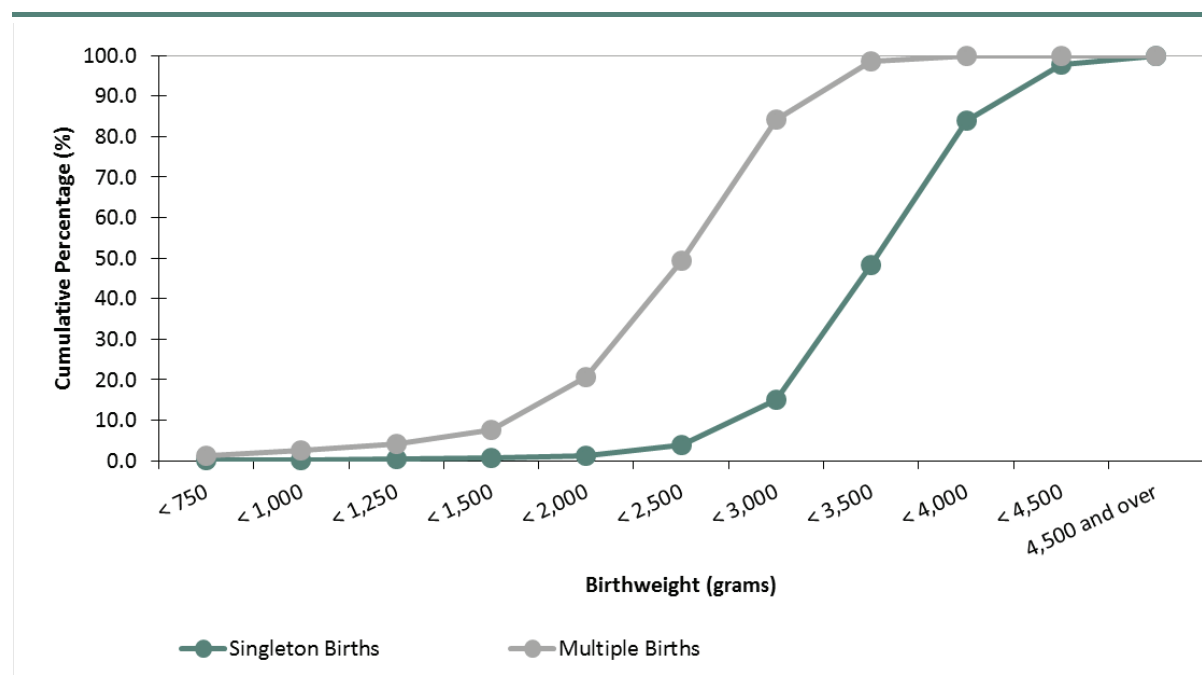
	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
500-749	*	^	*	366.9	375.0	604.3	556.5	*
750-999	149	0.2	116	221.5	120.7	315.4	238.8	128
1000-1249	168	0.2	146	131.0	61.6	184.5	138.4	141
1250-1499	233	0.3	220	55.8	40.9	94.4	58.0	192
1500-1999	834	1.2	802	38.4	23.7	61.2	35.7	649
2000-2499	2,449	3.6	2,408	16.7	6.2	22.9	14.0	2,096
2500-2999	8,112	12.0	8,082	3.7	1.6	5.3	4.1	7,685
3000-3499	21,969	32.5	21,933	1.6	0.6	2.2	1.8	21,791
3500-3999	23,179	34.3	23,160	0.8	0.3	1.1	1.0	23,157
4000-4499	8,832	13.1	8,827	0.6	0.3	0.9	0.7	8,830
4500 and Over	1,545	2.3	1,542	1.9	0.6	2.6	1.9	1,545
Not Stated	~	^	~	1000.0	-	1000.0	1000.0	~
Total	67,610	100	67,324	4.2	1.9	6.2	4.5	66,338
Singleton Births								
500-749	*	^	*	428.6	400.0	657.1	600.0	*
750-999	110	0.2	82	254.5	122.0	345.5	250.0	110
1000-1249	121	0.2	100	173.6	80.0	239.7	178.6	121
1250-1499	150	0.2	138	80.0	65.2	140.0	85.1	150
1500-1999	501	0.8	472	57.9	33.9	89.8	52.0	501
2000-2499	1,721	2.6	1,682	22.7	7.7	30.2	18.2	1,721
2500-2999	7,238	11.1	7,208	4.1	1.8	5.9	4.6	7,238
3000-3499	21,608	33.2	21,572	1.7	0.6	2.3	1.8	21,608
3500-3999	23,143	35.6	23,124	0.8	0.3	1.1	1.0	23,143
4000-4499	*	^	*	0.6	0.3	0.9	0.7	*
4500 and Over	1,545	2.4	1,542	1.9	0.6	2.6	1.9	1,545
Not Stated	~	^	~	-	-	-	-	~
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
500-749	34	1.3	*	176.5	321.4	441.2	441.2	*
750-999	39	1.5	34	128.2	117.6	230.8	210.5	18
1000-1249	47	1.9	46	21.3	21.7	42.6	42.6	20
1250-1499	83	3.3	82	12.0	-	12.0	12.0	42
1500-1999	333	13.1	330	9.0	9.1	18.0	12.1	148
2000-2499	728	28.7	726	2.7	2.8	5.5	4.1	375
2500-2999	874	34.4	874	-	-	-	-	447
3000-3499	361	14.2	361	-	-	-	-	183
3500-3999	36	1.4	36	-	-	-	-	14
4000-4499	~	^	~	-	-	-	-	~
4500 and Over	0	0.0	0	-	-	-	-	0
Not Stated	~	^	0	1000.0	-	1000.0	1000.0	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- Percentage column is subject to rounding.
 - ~ Denotes five or fewer births (or maternities) reported to NPRS.
 - * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 - ^ Percentage not provided to prevent disclosure of small numbers.
 - a Rates are calculated 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 G4 and G5.

FIGURE 3.6

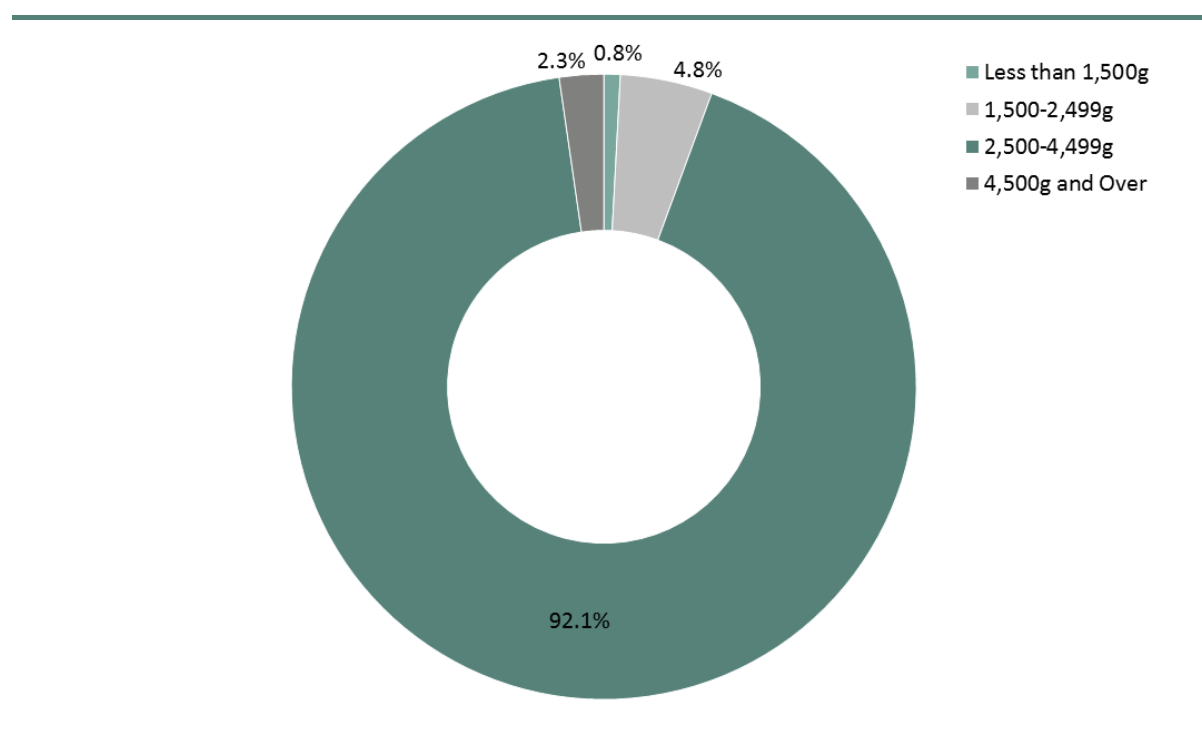
Birthweight: Cumulative Percentages of Total Live Births



Note: See Table 3.10 for data.

FIGURE 3.7

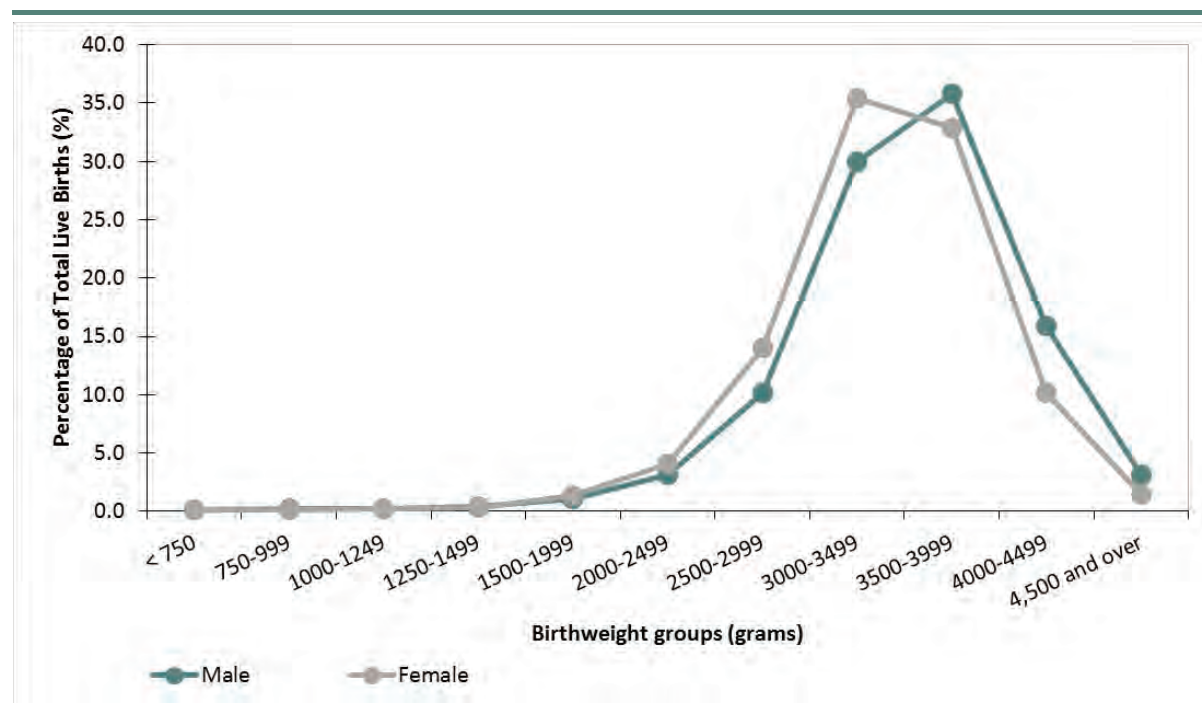
Percentage of Births by Birthweight Groups, Total Live Births



Note: See Table 3.10 for data.

FIGURE 3.8

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



Note: See Appendix G, Table G6 for data.

GESTATIONAL AGE

Based on maternities, the average gestational age for total births was 39.2 weeks. Live births reported an average gestational age of 39.2 weeks and stillbirths reported an average gestational age of 32.8 weeks. The average gestational age for singleton live births was 39.3 weeks compared with 35.7 weeks for live twin births and 31.4 weeks for higher-order multiple live births.

Table 3.11 presents data on gestational age.

- 90.7 per cent of all babies were born at term (37 to 41 weeks).
- Preterm birth (born before 37 weeks) occurred in 6.6 per cent of live births (4.8 per cent for singleton births and 53.4 per cent for multiple births).

TABLE 3.11

Gestational Age (weeks) at Delivery: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Less than 28	266	0.4	196	263.2	250.0	447.4	407.3	235
28-31	492	0.7	445	95.5	33.7	126.0	100.4	412
32-36	3,714	5.5	3,644	18.8	7.4	26.1	14.4	3,140
37-41	61,346	90.7	61,253	1.5	0.7	2.2	1.6	60,759
42 and Over	1,783	2.6	1,777	3.4	1.1	4.5	1.7	1,783
Not Stated	9	0.0	9	-	-	-	-	9
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Less than 28	197	0.3	139	294.4	251.8	472.1	419.0	197
28-31	339	0.5	292	138.6	47.9	179.9	144.6	339
32-36	2,578	4.0	2,515	24.4	10.3	34.5	18.1	2,578
37-41	60,164	92.5	60,071	1.5	0.7	2.2	1.6	60,164
42 and Over	1,783	2.7	1,777	3.4	1.1	4.5	1.7	1,783
Not Stated	9	0.0	9	-	-	-	-	9
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Less than 28	69	2.7	57	173.9	245.6	376.8	376.8	38
28-31	153	6.0	153	-	6.5	6.5	6.5	73
32-36	1,136	44.7	1,129	6.2	0.9	7.0	6.2	562
37-41	1,182	46.5	1,182	-	2.5	2.5	-	595
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes: Percentage column is subject to rounding.

- a Rates are calculated 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 G7 and G8.

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 (7.6 per cent) and the highest occurring in September and October (8.9 per cent).
- September and October recorded the highest number of singleton births (8.9 per cent), while May recorded the highest number of multiple births (9.6 per cent) (see Figure 3.9).

TABLE 3.12

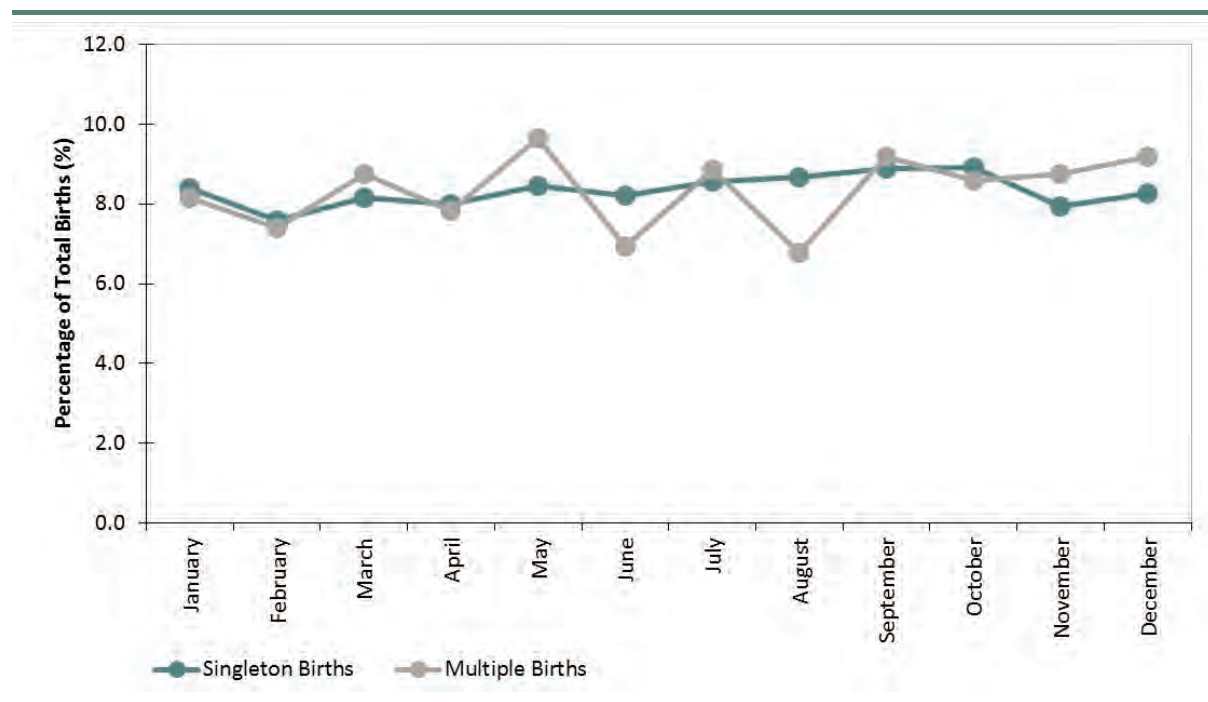
Month of Birth: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
January	5,667	8.4	5,647	3.5	1.9	5.5	3.9	5,563
February	5,129	7.6	5,112	3.3	2.3	5.7	4.3	5,036
March	5,530	8.2	5,508	4.0	1.8	5.8	4.7	5,418
April	5,395	8.0	5,367	5.2	1.5	6.7	4.8	5,296
May	5,741	8.5	5,714	4.7	1.9	6.6	5.4	5,617
June	5,524	8.2	5,506	3.3	2.0	5.2	4.0	5,438
July	5,791	8.6	5,770	3.6	2.3	5.9	4.3	5,677
August	5,823	8.6	5,794	5.0	3.1	8.1	5.7	5,737
September	6,009	8.9	5,983	4.3	2.2	6.5	4.2	5,893
October	6,011	8.9	5,986	4.2	1.3	5.5	3.5	5,902
November	5,380	8.0	5,347	6.1	2.1	8.2	6.1	5,268
December	5,610	8.3	5,590	3.6	1.8	5.3	3.2	5,493
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
January	5,460	8.4	5,443	3.1	2.0	5.1	3.5	5,460
February	4,941	7.6	4,925	3.2	2.2	5.5	4.1	4,941
March	5,308	8.2	5,286	4.1	1.9	6.0	4.9	5,308
April	5,196	8.0	5,170	5.0	1.4	6.4	4.8	5,196
May	5,496	8.4	5,470	4.7	1.5	6.2	4.9	5,496
June	5,348	8.2	5,330	3.4	1.3	4.7	3.4	5,348
July	5,566	8.6	5,548	3.2	2.0	5.2	3.6	5,566
August	5,651	8.7	5,625	4.6	2.7	7.3	5.1	5,651
September	5,776	8.9	5,754	3.8	1.9	5.7	3.3	5,776
October	5,793	8.9	5,768	4.3	1.4	5.7	3.6	5,793
November	5,158	7.9	5,126	6.2	1.8	7.9	5.8	5,158
December	5,377	8.3	5,358	3.5	1.7	5.2	3.0	5,377
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
January	207	8.1	204	14.5	-	14.5	14.5	103
February	188	7.4	187	5.3	5.3	10.6	10.6	95
March	222	8.7	222	-	-	-	-	110
April	199	7.8	197	10.1	5.1	15.1	5.1	100
May	245	9.6	244	4.1	12.3	16.3	16.3	121
June	176	6.9	176	-	22.7	22.7	22.7	90
July	225	8.9	222	13.3	9.0	22.2	22.2	111
August	172	6.8	169	17.4	17.8	34.9	23.5	86
September	233	9.2	229	17.2	8.7	25.8	25.8	117
October	218	8.6	218	-	-	-	-	109
November	222	8.7	221	4.5	9.0	13.5	13.5	110
December	233	9.2	232	4.3	4.3	8.6	8.6	116
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes: Percentage column is subject to rounding.

- a Rates are calculated 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 3.9
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 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.

For selected variables, the tables outline data for total births, live births and perinatal mortality rates, as well as presenting the number of maternities.

TYPE OF ANTENATAL CARE

Table 4.1 presents type of antenatal care.

- The preferred choice of antenatal care was combined hospital and G.P. which accounted for 80.9 per cent of total maternities.
- Hospital/Obstetrician care was more common for maternities delivering multiple births (34.5 per cent) than those delivering singleton births (18.4 per cent).

TABLE 4.1

Type of Antenatal Care: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Hospital/ Obstetrician	12,883	19.1	12,824	4.6	3.6	8.1	6.0	12,439
General Practitioner only	108	0.2	105	27.8	9.5	37.0	18.9	107
Hospital & G.P. combined	54,506	80.6	54,286	4.0	1.6	5.6	4.1	53,683
None	87	0.1	84	34.5	35.7	69.0	47.1	87
Not Stated	26	0.0	25	38.5	-	38.5	-	22
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Hospital/ Obstetrician	12,002	18.4	11,949	4.4	2.9	7.3	5.1	12,002
General Practitioner only	*	^	*	18.9	9.6	28.3	19.0	*
Hospital & G.P. combined	52,856	81.2	52,648	3.9	1.5	5.4	3.8	52,856
None	87	0.1	84	34.5	35.7	69.0	47.1	87
Not Stated	*	^	*	52.6	-	52.6	-	*
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Hospital/ Obstetrician	881	34.7	875	6.8	12.6	19.3	18.2	437
General Practitioner only	~	^	~	500.0	-	500.0	-	~
Hospital & G.P. combined	1,650	65.0	1,638	7.3	4.9	12.1	10.9	827
None	0	0.0	0	-	-	-	-	0
Not Stated	*	^	*	-	-	-	-	~
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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.

DURATION OF PREGNANCY AT FIRST ANTENATAL VISIT

Table 4.2 presents the time of first antenatal visit.

- Two-thirds of total maternities recorded their first antenatal visit within the first 12 weeks of pregnancy.
- Maternities recording a first antenatal visit at 20 weeks and over accounted for over 5 per cent of total maternities.

TABLE 4.2

Time of First Visit (weeks) to Doctor or Hospital during Pregnancy: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0-12	45,008	66.6	44,828	4.0	1.7	5.7	4.1	44,137
13-19	18,577	27.5	18,502	4.0	1.5	5.5	4.2	18,286
20 and over	3,855	5.7	3,832	6.0	7.8	13.7	8.6	3,758
Not Stated	170	0.3	162	47.1	18.5	64.7	47.9	157
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
0-12	43,268	66.5	43,100	3.9	1.5	5.4	3.9	43,268
13-19	17,990	27.6	17,920	3.9	1.3	5.2	3.7	17,990
20 and over	3,666	5.6	3,645	5.7	7.1	12.8	7.7	3,666
Not Stated	146	0.2	138	54.8	14.5	68.5	49.0	146
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
0-12	1,740	68.5	1,728	6.9	5.2	12.1	10.4	869
13-19	587	23.1	582	8.5	8.6	17.0	17.0	296
20 and over	189	7.4	187	10.6	21.4	31.7	26.6	92
Not Stated	24	0.9	24	-	41.7	41.7	41.7	11
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes: Percentage column is subject to rounding.

- a Rates are calculated 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 80.6 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 36.2 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 may 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

- Almost 97 per cent of total births were booked at time of admission to hospital (see Table 4.3).

TABLE 4.3

Advance Hospital Bookings: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Booked	65,364	96.9	65,101	4.0	1.8	5.8	4.2	64,132
Not Booked	2,052	3.0	2,029	11.2	8.4	19.5	15.2	2,012
Not Stated	8	0.0	8	-	-	-	-	8
Total	67,424	100	67,138	4.2	2.0	6.3	4.5	66,152
Singleton Births								
Booked	62,903	96.9	62,658	3.9	1.6	5.5	3.8	62,903
Not Booked	1,973	3.0	1,951	11.2	8.2	19.3	14.8	1,973
Not Stated	8	0.0	8	-	-	-	-	8
Total	64,884	100	64,617	4.1	1.8	5.9	4.2	64,884
Multiple Births								
Booked	2,461	96.9	2,443	7.3	7.4	14.6	13.0	1,229
Not Booked	79	3.1	78	12.7	12.8	25.3	25.3	39
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- Percentage column is subject to rounding.
- a Rates are calculated 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 186, are excluded from this table. See Appendix H 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 2.4 days for multiple births.

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

- Just under 90 per cent of singleton births and 75.4 per cent of multiple births were delivered within a day of mother's admission to hospital.
- For total births, 1.9 per cent were delivered more than 5 days after mother's admission to hospital.

TABLE 4.4

Mother's Antenatal Length of Stay: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0-1 Days	59,928	88.9	59,691	4.0	1.6	5.6	3.9	58,969
2 Days	4,177	6.2	4,160	4.1	3.6	7.7	5.5	4,103
3-5 Days	1,964	2.9	1,945	9.7	5.1	14.8	11.2	1,862
6-8 Days	500	0.7	496	8.0	10.1	18.0	12.1	455
9-11 Days	237	0.4	235	8.4	12.8	21.1	21.1	214
12-14 Days	138	0.2	137	7.2	14.6	21.7	21.7	123
More than 2 Weeks	426	0.6	420	14.1	9.5	23.5	21.2	373
Not Stated	54	0.1	54	-	-	-	-	53
Total	67,424	100	67,138	4.2	2.0	6.3	4.5	66,152
Singleton Births								
0-1 Days	58,012	89.4	57,789	3.8	1.5	5.3	3.7	58,012
2 Days	4,031	6.2	4,015	4.0	3.2	7.2	5.0	4,031
3-5 Days	1,760	2.7	1,741	10.8	3.4	14.2	10.3	1,760
6-8 Days	409	0.6	405	9.8	7.4	17.1	12.3	409
9-11 Days	191	0.3	189	10.5	15.9	26.2	26.2	191
12-14 Days	*	^	*	9.1	18.3	27.3	27.3	*
More than 2 Weeks	319	0.5	317	6.3	9.5	15.7	15.7	319
Not Stated	*	^	*	-	-	-	-	*
Total	64,884	100	64,617	4.1	1.8	5.9	4.2	64,884
Multiple Births								
0-1 Days	1,916	75.4	1,902	7.3	5.3	12.5	11.5	957
2 Days	146	5.7	145	6.8	13.8	20.5	20.5	72
3-5 Days	204	8.0	204	-	19.6	19.6	19.6	102
6-8 Days	91	3.6	91	-	22.0	22.0	11.1	46
9-11 Days	46	1.8	46	-	-	-	-	23
12-14 Days	*	^	*	-	-	-	-	*
More than 2 Weeks	107	4.2	103	37.4	9.7	46.7	37.7	54
Not Stated	~	^	~	-	-	-	-	~
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes: Percentage column is subject to rounding.

- a Rates are calculated 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 186, are excluded from this table. See Appendix H 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 days and 4.3 days respectively.

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

- Just over 54 per cent of maternities delivering singleton births remained in hospital for up to 2 days following delivery, compared to 11.2 per cent of maternities delivering multiple births.
- For total maternities 43.3 per cent of singleton births and 74.4 per cent of multiple births were discharged 3 to 5 days post delivery.
- 2.3 per cent of total maternities had a postnatal length of stay of 6 or more days (2.1 per cent of singleton births and 14.4 per cent of multiple births).

TABLE 4.5

Mother's Postnatal Length of Stay: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0-1 Days	15,389	22.8	15,243	9.5	3.2	12.7	9.2	15,355
2 Days	20,280	30.1	20,211	3.4	1.3	4.7	3.5	20,174
3-5 Days	30,013	44.5	29,952	2.0	1.6	3.6	2.4	29,061
6-8 Days	1,511	2.2	1,502	6.0	5.3	11.3	9.3	1,356
9-11 Days	153	0.2	153	-	26.1	26.1	19.7	136
12-14 Days	45	0.1	45	-	-	-	-	38
More than 2 Weeks	21	0.0	20	47.6	100.0	142.9	142.9	20
Not Stated	12	0.0	12	-	-	-	-	12
Total	67,424	100	67,138	4.2	2.0	6.3	4.5	66,152
Singleton Births								
0-1 Days	15,318	23.6	15,176	9.3	2.9	12.1	8.6	15,318
2 Days	20,069	30.9	20,003	3.3	1.2	4.5	3.3	20,069
3-5 Days	28,118	43.3	28,066	1.8	1.5	3.3	2.2	28,118
6-8 Days	1,200	1.8	1,194	5.0	3.4	8.3	5.8	1,200
9-11 Days	118	0.2	118	-	16.9	16.9	16.9	118
12-14 Days	*	^	*	-	-	-	-	*
More than 2 Weeks	*	^	*	55.6	58.8	111.1	111.1	*
Not Stated	12	0.0	12	-	-	-	-	12
Total	64,884	100	64,617	4.1	1.8	5.9	4.2	64,884
Multiple Births								
0-1 Days	71	2.8	67	56.3	74.6	126.8	126.8	37
2 Days	211	8.3	208	14.2	4.8	19.0	19.0	105
3-5 Days	1,895	74.6	1,886	4.7	3.2	7.9	6.3	943
6-8 Days	311	12.2	308	9.6	13.0	22.5	22.5	156
9-11 Days	35	1.4	35	-	57.1	57.1	29.4	18
12-14 Days	*	^	*	-	-	-	-	*
More than 2 Weeks	~	^	~	-	333.3	333.3	333.3	~
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated 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 186, are excluded from this table. See Appendix H for detailed analysis.

Figures 4.1 and 4.2 present data on mother's postnatal length of stay by method of delivery 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 almost 79 per cent of singleton spontaneous deliveries compared to 38.3 per cent of multiple spontaneous deliveries.
- For Caesarean section deliveries, mother's postnatal length of stay was 3 to 5 days for 89.1 per cent of singleton deliveries compared to 80.8 per cent for multiple deliveries.

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

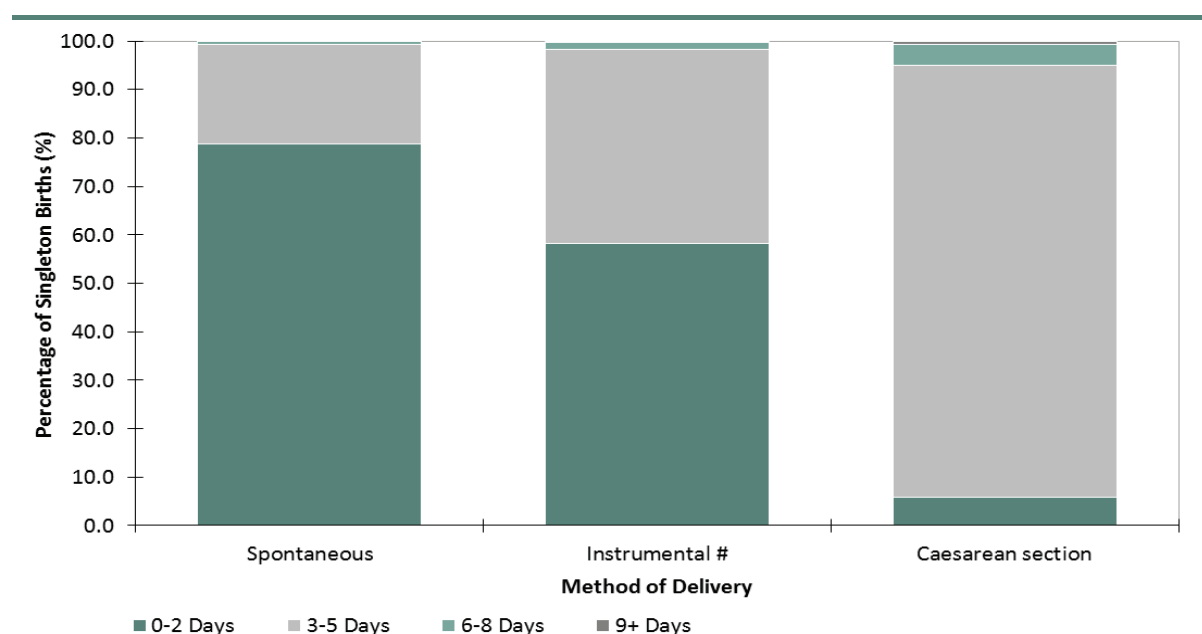
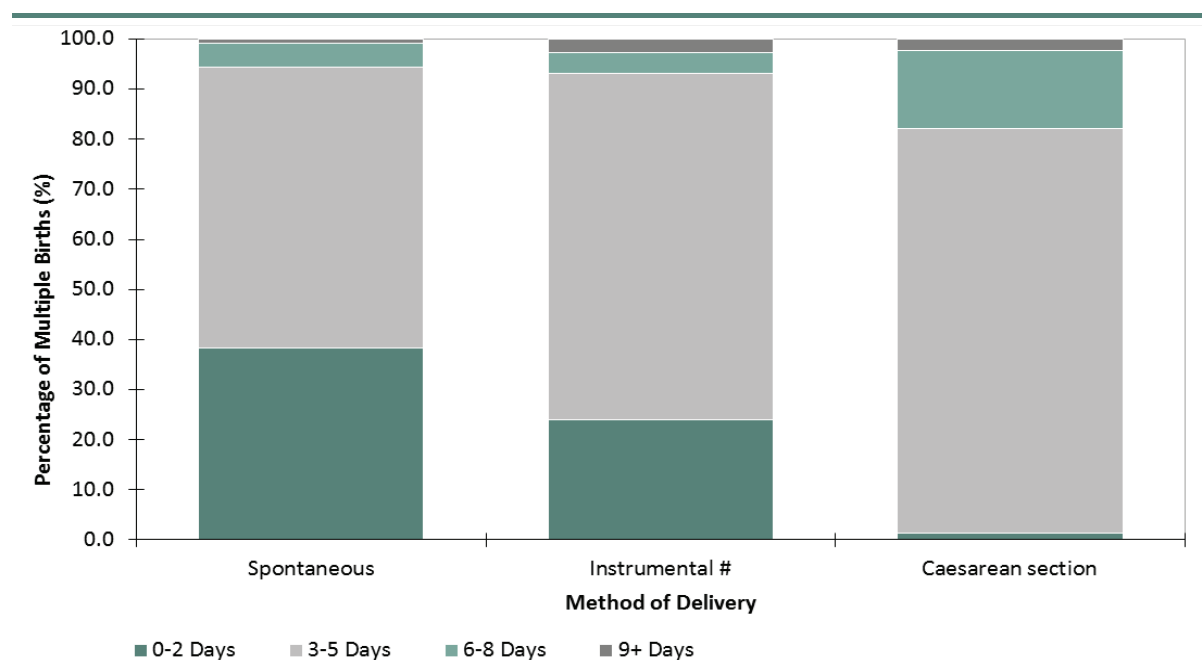


FIGURE 4.2
Mother's Postnatal Length of Stay by Method of Delivery, Multiple Births



Notes: See Appendix G, Table G9 for data.
Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

RUBELLA: IMMUNE STATUS OF MOTHER

The rubella immune status of the mother is presented in Table 4.6, just over 93 per cent of total maternities were rubella immune.²⁶

TABLE 4.6

Rubella: Immune Status of Mother, Numbers and Percentages

Rubella Immunity	Number of Maternities	Per Cent
Total Births		
Immune	61,980	93.4
Not Immune	2,351	3.5
Not known	2,007	3.0
Total	66,338	100
Singleton Births		
Immune	60,785	93.4
Not Immune	2,321	3.6
Not known	1,964	3.0
Total	65,070	100
Multiple Births		
Immune	1,195	94.2
Not Immune	30	2.4
Not known	43	3.4
Total	1,268	100

Note: Percentage column is subject to rounding.

METHOD OF DELIVERY²⁷

METHOD OF DELIVERY BY BIRTHS AND PLURALITY

Table 4.7a presents data on method of delivery for total births.

- There were 20,455 live births delivered by Caesarean section, representing 30.4 per cent of total live births, 28.9 per cent of live singleton births, and 69.7 per cent of live multiple births.
- Over 54 per cent of total live births delivered spontaneously (55.5 per cent of live singleton births and 20.0 per cent of live multiple births) (see Figure 4.3).
- Over 15 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 (15.6 per cent) compared with live multiple births (10.3 per cent).

²⁶ For further discussion and analysis on this issue see O'Dwyer V, Bonham S, Mulligan A, O'Connor C, Farah N, Kennelly MM, Turner MJ. *Antenatal rubella immunity in Ireland*. IMJ 2013;106:232-5

²⁷ Throughout this section, method of delivery recorded as 'other specified & combined' are not presented in the figures displaying data on method of delivery

TABLE 4.7a

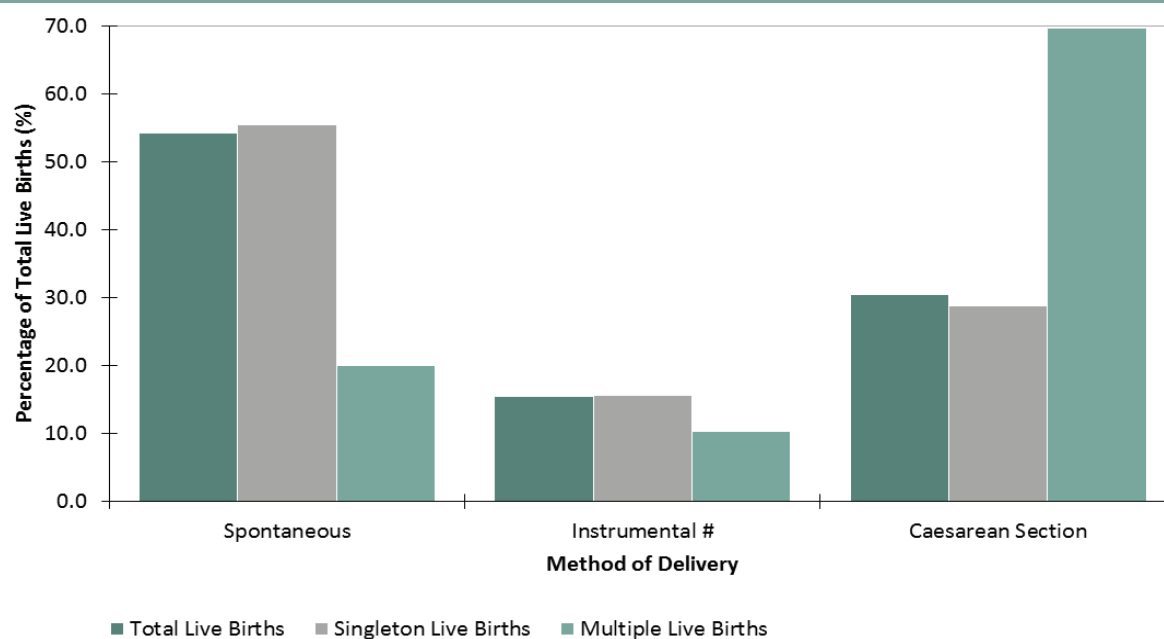
Method of Delivery: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Spontaneous	36,699	54.3	36,477	6.0	1.5	7.5	5.6	36,491
Breech / Forceps	278	0.4	259	68.3	50.2	115.1	71.7	203
Forceps	2,527	3.7	2,526	0.4	0.8	1.2	0.8	2,508
Vacuum extraction	7,592	11.2	7,589	0.4	1.6	2.0	1.3	7,521
Caesarean section	20,496	30.3	20,455	2.0	2.6	4.6	3.3	19,597
Other specified & combined	18	0.0	18	-	-	-	-	18
Total	67,610	100	67,324	4.2	2.0	6.2	4.5	66,338
Singleton Births								
Spontaneous	36,187	55.6	35,973	5.9	1.4	7.3	5.3	36,187
Breech / Forceps	198	0.3	179	96.0	55.9	146.5	86.5	*
Forceps	2,478	3.8	2,477	0.4	0.8	1.2	0.8	*
Vacuum extraction	7,462	11.5	7,459	0.4	1.5	1.9	1.3	7,462
Caesarean section	18,727	28.8	18,697	1.6	2.4	4.0	2.7	18,727
Other specified & combined	18	0.0	18	-	-	-	-	18
Total	65,070	100	64,803	4.1	1.8	5.9	4.2	65,070
Multiple Births								
Spontaneous	512	20.2	504	15.6	11.9	27.3	27.3	304
Breech / Forceps	80	3.1	80	-	37.5	37.5	37.5	~
Forceps	49	1.9	49	-	-	-	-	*
Vacuum extraction	130	5.1	130	-	7.7	7.7	-	59
Caesarean section	1,769	69.6	1,758	6.2	5.1	11.3	9.6	870
Other specified & combined	0	0.0	0	-	-	-	-	0
Total	2,540	100	2,521	7.5	7.5	15.0	13.4	1,268

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^a Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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 4.3
Percentage Distribution of Total Live Births by Method of Delivery



Notes: See Table 4.7a for data.
Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

METHOD OF DELIVERY BY MATERNAL AGE

Table 4.7b presents method of delivery by maternal age.

- The percentage of babies delivered spontaneously declined with maternal age and was reported at 61.8 per cent for mothers aged less than 20 years compared to 42.4 per cent to mothers aged 40 years and over.
- Caesarean section rates ranged from 16.8 per cent for mothers aged less than 20 years to 47.3 per cent for mothers aged 40 years and over (see Figure 4.4).

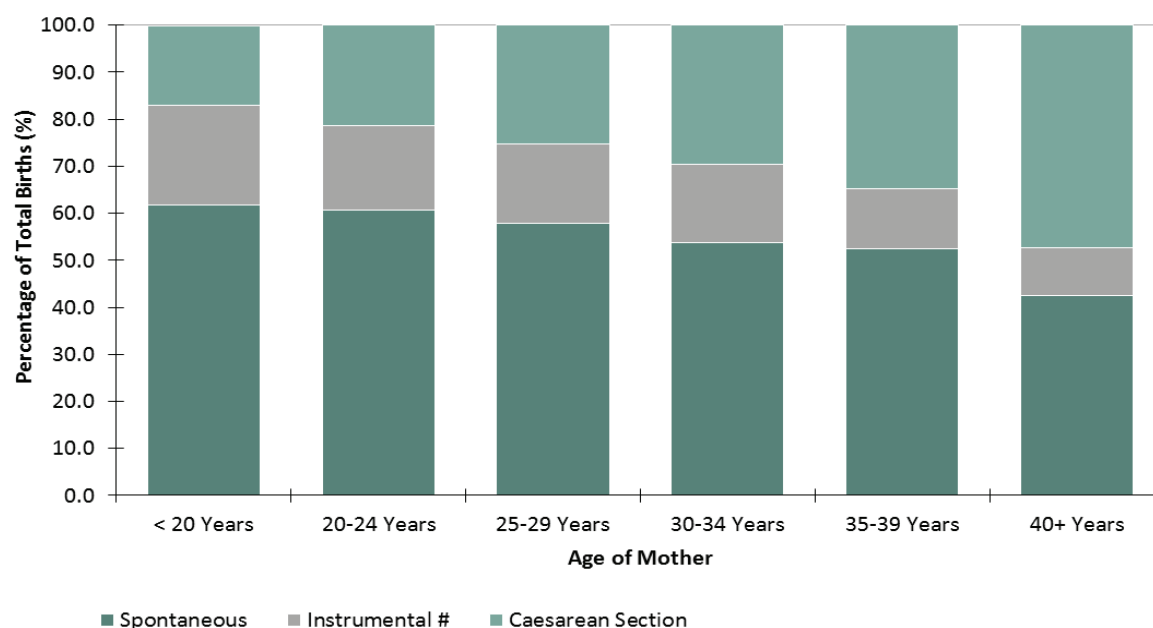
TABLE 4.7b
Method of Delivery by Maternal Age

Frequency Col. Per Cent	Age of Mother						Total
	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 Years and Over	
Spontaneous	771 61.8	3,607 60.7	7,636 57.8	13,321 53.8	9,568 52.5	1,792 42.4	36,695 54.3
Breech/Forceps	* ^	* ^	* ^	* ^	* ^	* ^	278 0.4
Forceps	49 3.9	247 4.2	520 3.9	1,079 4.4	523 2.9	109 2.6	2,527 3.7
Vacuum extraction	209 16.8	794 13.4	1,647 12.5	2,900 11.7	1,730 9.5	311 7.4	7,591 11.2
Caesarean section	210 16.8	1,265 21.3	3,332 25.2	7,351 29.7	6,341 34.8	1,997 47.3	20,496 30.3
Other specified & combined	~ ^	~ ^	~ ^	~ ^	~ ^	~ ^	18 0.0
Total	1,247 100	5,946 100	13,203 100	24,750 100	18,235 100	4,224 100	67,605 100

Notes: Percentage columns are subject to rounding.
There were 5 births to mothers with unknown maternal age; these were excluded from this table.
~ Denotes five or fewer births (or maternities) reported to NPRS.
* Further suppression required to prevent disclosure of five or fewer births (or maternities).
^ Percentage not provided to prevent disclosure of small numbers.

FIGURE 4.4

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



Notes:

See Table 4.7b 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 4.8 presents data on the size of maternity units.

- Almost one quarter (24.9 per cent) of total births took place in 10 maternity units accommodating between 1,000 and 1,999 births each annually.
- Four maternity units each accommodated 8,000 or more births accounting for over half (52.2 per cent) of total births (see Figure 4.5).

TABLE 4.8

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 ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a
1000-1999	10	16,733	24.9	16,669	64	3.8	32	1.9	5.7	4.4
2000-2999	3	7,513	11.2	7,471	42	5.6	9	1.2	6.8	5.2
3000-3999	1	3,384	5.0	3,373	11	3.3	7	2.1	5.3	4.7
4000-4999	1	4,533	6.7	4,518	15	3.3	12	2.7	6.0	3.5
8000 and Over	4	35,169	52.2	35,016	153	4.4	76	2.2	6.5	4.5
Total	19	67,332	100	67,047	285	4.2	136	2.0	6.3	4.5

Notes:

Percentage column is subject to rounding.

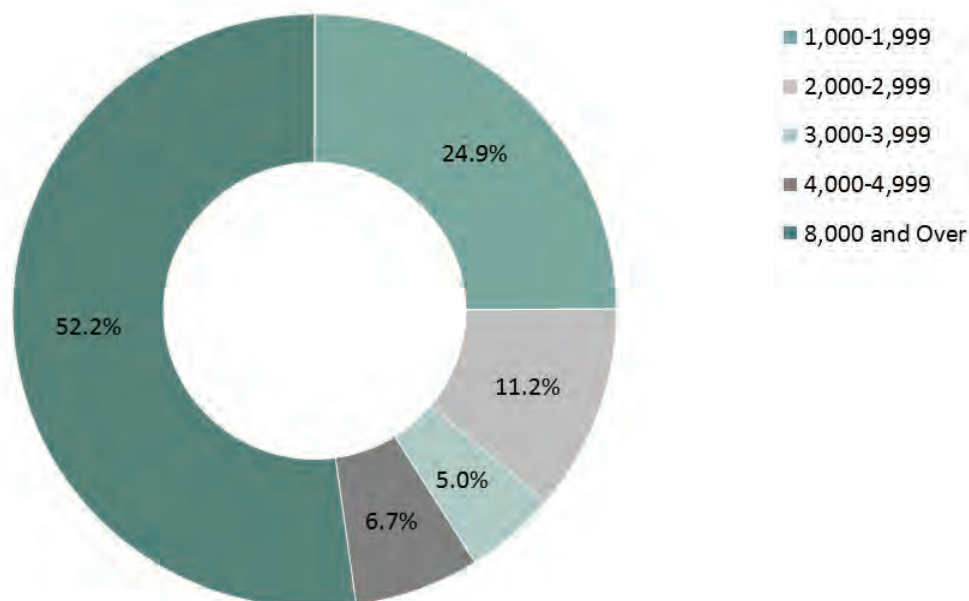
a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

There were 20 maternity units in Ireland at the beginning of 2014. Mount Carmel Hospital ceased maternity services on 31 January 2014 and these data are excluded from this table. This table is based on the remaining 19 maternity units reporting to NPRS. No unit delivered between 5,000 and 7,999 births.

Domiciliary births, of which there were 186, are excluded from this table. See Appendix H for detailed analysis.

FIGURE 4.5

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



Notes: See Table 4.8 for data.

The size of the maternity unit refers to the number of live births and stillbirths occurring in 2014.

INTER-HOSPITAL TRANSFER OF INFANTS

Table 4.9 presents data on inter-hospital transfer of infants.

- Over 99 per cent of infants remained in the hospital in which they were born until they were discharged; less than 1 per cent of live births were transferred to another hospital for medical reasons.
- Less than 1 per cent of singleton births were transferred to another hospital for medical reasons, compared to 2.5 per cent of multiple births.

TABLE 4.9

Inter-Hospital Transfer of Infants

	Live Births	Per Cent Live Births
Total Births		
Transferred	*	^
Not Transferred	66,620	99.2
Not Stated	~	^
Total	67,138	100
Singleton Births		
Transferred	*	^
Not Transferred	64,162	99.3
Not Stated	~	^
Total	64,617	100
Multiple Births		
Transferred	63	2.5
Not Transferred	2,458	97.5
Not Stated	0	0.0
Total	2,521	100

Note: Percentage column is subject to rounding.
This table does not include domiciliary births.

INFANT'S LENGTH OF STAY

The mean length of stay for infants was 3.3 days. When analysed by birth weight, low birthweight babies (weighing less than 2,500 grams) recorded a mean length of stay of 13.8 days, while babies weighing 2,500 grams and over reported a mean length of stay of 2.7 days. Preterm births (born before 37 weeks) reported a mean length of stay of 13.0 days while babies born at term reported a mean length of stay of 2.6 days. Over 95 per cent of infants were discharged home within the perinatal period (before the 7th day of life).

Table 4.10 presents data relating to infant's length of stay in hospital.

- Over 53 per cent of singleton live births were discharged from hospital within 2 days, compared to just 8.8 per cent of multiple live births (see Figure 4.6).
- Over 95 per cent of singleton live births were discharged from hospital within 5 days of birth, compared to 60.9 per cent of multiple live births.
- 6.1 per cent of total live births had a length of stay of 6 or more days.

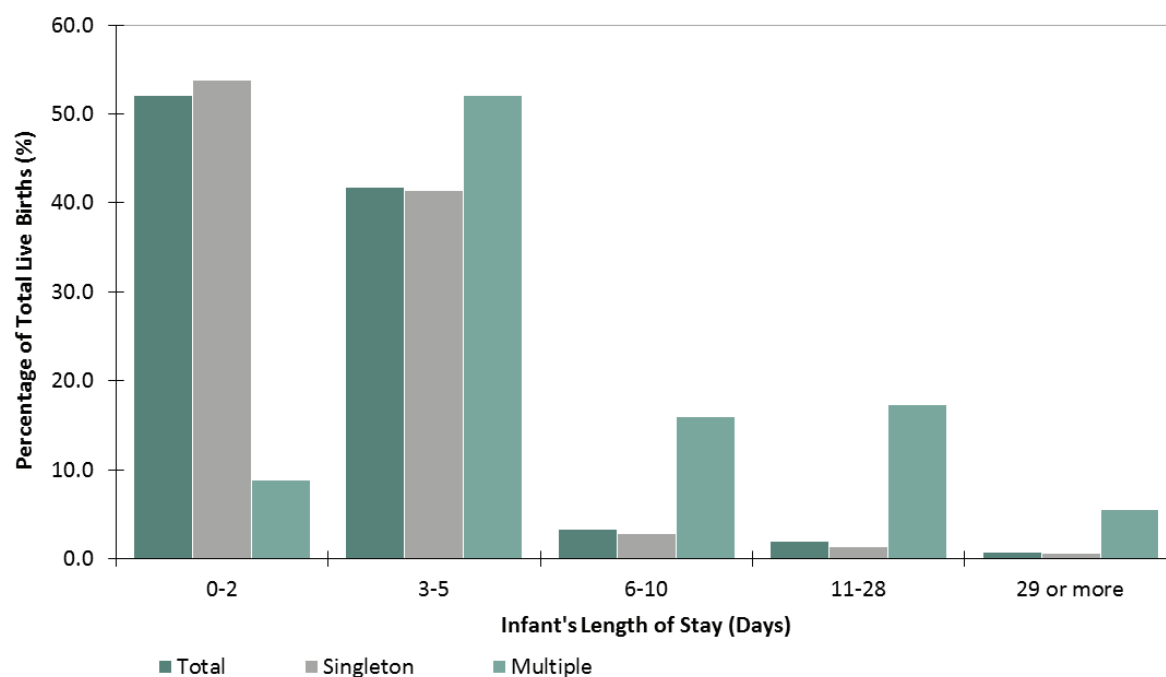
TABLE 4.10

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

	Live Births	Per Cent Live Births
Total Births		
0-2 Days	34,918	52.1
3-5 Days	27,982	41.8
6-10 Days	2,234	3.3
11-28 Days	1,320	2.0
29 Days or more	511	0.8
Not Stated	37	0.1
Total	67,002	100
Singleton Births		
0-2 Days	34,698	53.8
3-5 Days	26,679	41.4
6-10 Days	1,835	2.8
11-28 Days	887	1.4
29 Days or more	374	0.6
Not Stated	27	0.0
Total	64,500	100
Multiple Births		
0-2 Days	220	8.8
3-5 Days	1,303	52.1
6-10 Days	399	15.9
11-28 Days	433	17.3
29 Days or more	137	5.5
Not Stated	10	0.4
Total	2,502	100

Notes: Percentage column is subject to rounding.
This table does not include domiciliary births and early neonatal deaths.

FIGURE 4.6
Percentage Distribution of Total Live Births by Infant's Length of Stay



Note: See Table 4.10 for data.

INFANT'S TYPE OF FEEDING

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

Table 4.11 presents type of feeding by age of mother.²⁸

- At 46.3 per cent, a slightly higher proportion of total births were breastfed compared to 43.1 per cent reporting artificial feeding.
- Artificial feeding was more common for multiple births (47.6 per cent for multiple births compared to 42.9 per cent for singleton births), while breastfeeding was more common for singleton births (46.9 per cent for singleton births compared to 29.9 per cent for multiple births).
- Breastfeeding was more common than artificial feeding among mothers aged 30 years or more. Mothers in the 35–39 year age groups reported the highest breastfeeding rate at 50.8 per cent (see Figure 4.7).
- Less than one-fifth (18.9 per cent) of infants born to mothers aged under 20 years were exclusively breastfed.

²⁸ Throughout this section, discussion of breastfeeding refers to exclusive breastfeeding only.

TABLE 4.11

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

Frequency Row Per Cent Col. Per Cent	Total Births				Type of Feeding				Multiple Births			
	Artificial	Breast	Combined	Total	Artificial	Breast	Combined	Total	Artificial	Breast	Combined	Total
Under 20 Years	942 76.2 3.3	233 18.9 0.7	61 4.9 0.9	1,236 100.0 1.8	923 76.3 3.3	*	^	*	19 73.1 1.6	~	^	26 100 1.0
20-24 Years	3,720 63.0 12.9	1,736 29.4 5.6	451 7.6 6.3	5,907 100.0 8.8	3,642 62.8 13.1	*	^	*	78 73.6 6.6	*	^	106 100 4.2
25-29 Years	6,266 47.8 21.7	5,537 42.2 17.8	1,313 10.0 18.4	13,116 100.0 19.5	6,125 47.7 22.1	5,454 42.5 18.0	1,249 9.7 19.0	12,828 100.0 19.8	141 49.0 11.8	83 28.8 11.1	64 22.2 11.4	288 100 11.5
30-34 Years	9,461 38.4 32.7	12,440 50.5 40.0	2,718 11.0 38.1	24,619 100.0 36.6	9,079 38.2 32.7	12,158 51.2 40.0	2,525 10.6 38.4	23,762 100.0 36.7	382 44.6 32.1	282 32.9 37.7	193 22.5 34.3	857 100 34.3
35-39 Years	6,897 38.1 23.8	9,215 50.8 29.6	2,014 11.1 28.2	18,126 100.0 27.0	6,488 37.6 23.4	8,951 51.9 29.5	1,814 10.5 27.6	17,253 100.0 26.7	409 46.8 34.4	264 30.2 35.2	200 22.9 35.5	873 100 34.9
40-44 Years	1,562 39.7 5.4	1,844 46.8 5.9	533 13.5 7.5	3,939 100.0 5.9	1,431 39.1 5.2	1,768 48.3 5.8	460 12.6 7.0	3,659 100.0 5.7	131 46.8 11.0	76 27.1 10.1	73 26.1 13.0	280 100 11.2
45 Years and Over	79 32.9 0.3	110 45.8 0.4	51 21.3 0.7	240 100.0 0.4	49 29.2 0.2	87 51.8 0.3	32 19.0 0.5	168 100.0 0.3	30 41.7 2.5	23 31.9 3.1	19 26.4 3.4	72 100 2.9
Total	28,927 43.1 100	31,115 46.3 100	7,141 10.6 100	67,183 100 100	27,737 42.9 100	30,366 46.9 100	6,578 10.2 100	64,681 100 100	1,190 47.6 100	749 29.9 100	563 22.5 100	2,502 100 100

Notes:

~ Percentage rows and columns are subject to rounding.

* Denotes five or fewer births (or maternities) reported to NPRS.

^ Further suppression required to prevent disclosure of five or fewer births (or maternities).

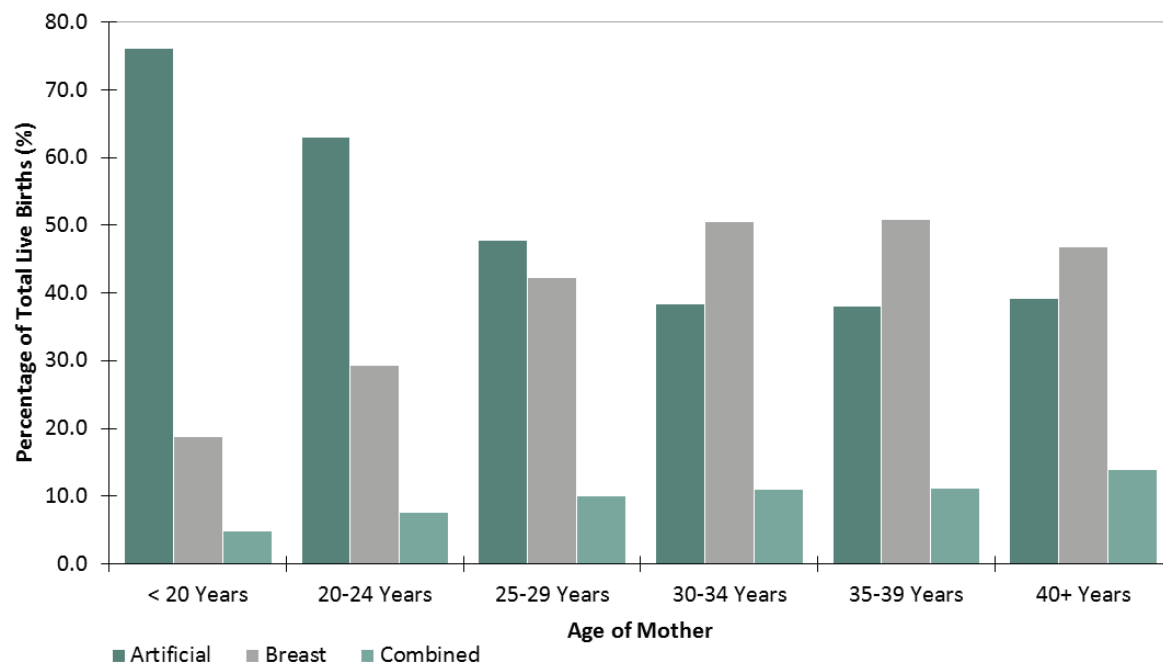
Percentage not provided to prevent disclosure of small numbers.

This table excludes early neonatal deaths.

There were 5 births to mothers with unknown maternal age; these were excluded from this table.

FIGURE 4.7

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



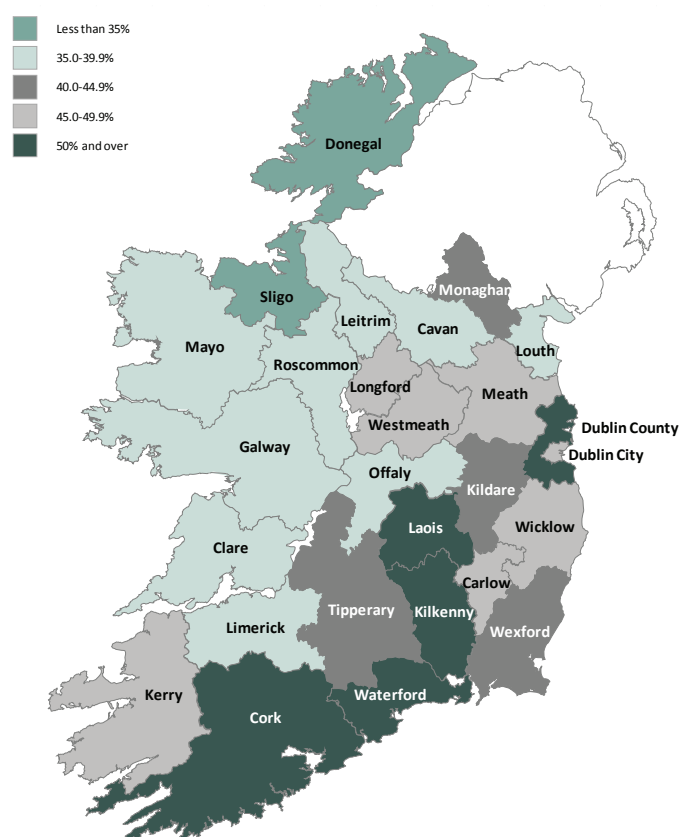
Note: See Table 4.11 for data.

Figure 4.8 presents the rate of exclusive breastfeeding by geographic location.

- Infants born to mothers resident in Kilkenny recorded the highest rate of breastfeeding at 58.7 per cent, with Cork and Waterford reporting rates at 56.4 per cent and 53.3 per cent respectively.
- Other counties reporting exclusive breastfeeding rates higher than the national rate of 46.3 per cent include Dublin County, Laois, Kerry, Dublin City, Carlow and Wicklow.

FIGURE 4.8

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



Notes: See Appendix G, Table G10 for data.

Example: Of all live births to mothers resident in Carlow, 46.8 per cent were breastfed.

Table 4.12 and Figure 4.9 present data on type of feeding by mother's socio-economic group.

- Breastfeeding was most common among mothers in 'higher professional' (62.9 per cent) and 'skilled manual workers' (62.8 per cent) socio-economic groups. Breastfeeding was least common among 'unemployed' mothers (27.3 per cent) (see Figure 4.9).
- Artificial feeding was most common among 'unemployed' mothers with a rate of 63.9 per cent, and mothers whose socio-economic group was recorded as 'home duties' (51.4 per cent).

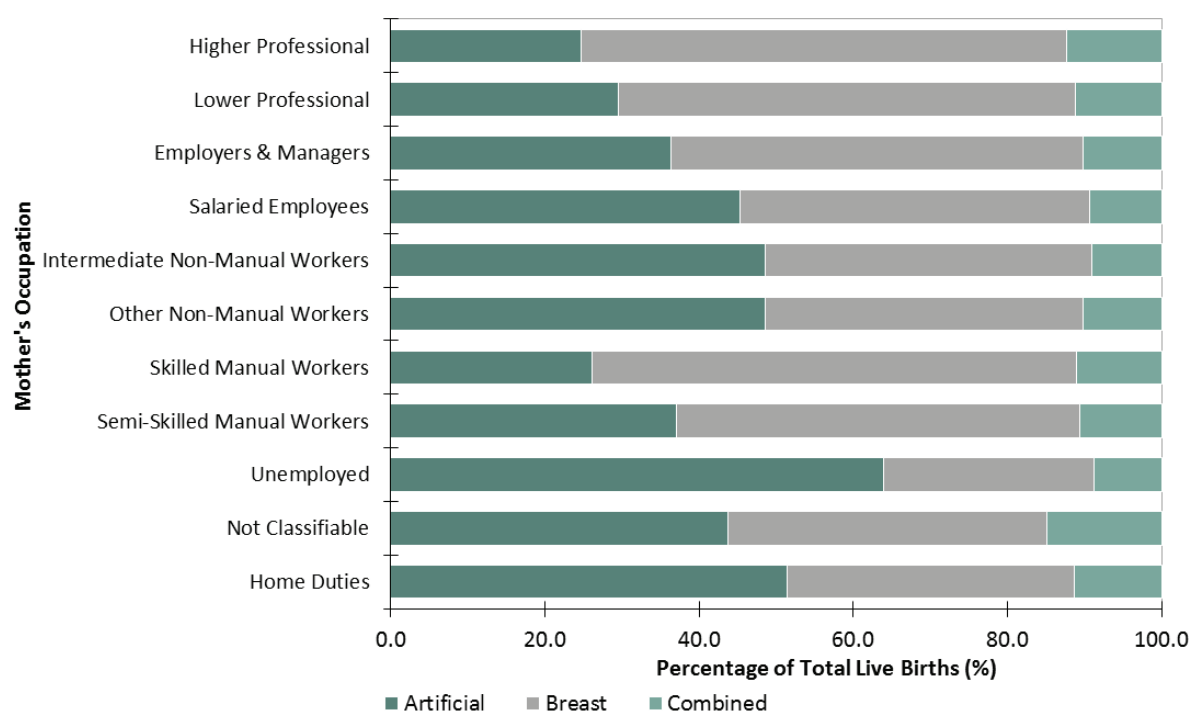
TABLE 4.12
Mother's Socio-economic Group by Infant's Type of Feeding, Total Live Births

Frequency Row Per Cent	Type of Feeding			
	Artificial	Breast	Combined	Total
Farmers & Farm Managers	* ^	27 43.5	~ ^	62 100
Other Agricultural Occupations & Fishermen	27 36.5	40 54.1	7 9.5	74 100
Higher Professional	1,144 24.7	2,908 62.9	572 12.4	4,624 100
Lower Professional	3,467 29.5	6,974 59.3	1,313 11.2	11,754 100
Employers & Managers	1,799 36.4	2,643 53.4	506 10.2	4,948 100
Salaried Employees	390 45.2	391 45.4	81 9.4	862 100
Intermediate Non-Manual Workers	6,337 48.6	5,535 42.4	1,175 9.0	13,047 100
Other Non-Manual Workers	4,515 48.5	3,847 41.3	944 10.1	9,306 100
Skilled Manual Workers	239 26.1	574 62.8	101 11.1	914 100
Semi-Skilled Manual Workers	799 37.1	1,126 52.3	228 10.6	2,153 100
Unskilled Manual Workers	* ^	18 51.4	~ ^	35 100
Unemployed	1,977 63.9	843 27.3	273 8.8	3,093 100
Not Classifiable	974 43.8	919 41.3	333 15.0	2,226 100
Home Duties	7,054 51.4	5,121 37.3	1,557 11.3	13,732 100
Not Stated	162 45.3	153 42.7	43 12.0	358 100
Total	28,928 43.1	31,119 46.3	7,141 10.6	67,188 100

Notes: Percentage rows are subject to rounding.
 ~ Denotes five or fewer births (or maternities) reported to NPRS.
 * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 ^ Percentage not provided to prevent disclosure of small numbers.
 This table excludes early neonatal deaths.

FIGURE 4.9

Percentage Distribution of Infant's Type of Feeding by Mother's Socio-economic Group, Total Live Births



Notes: See Table 4.12 for data.

Categories where percentages would be based on <100 births are not included.

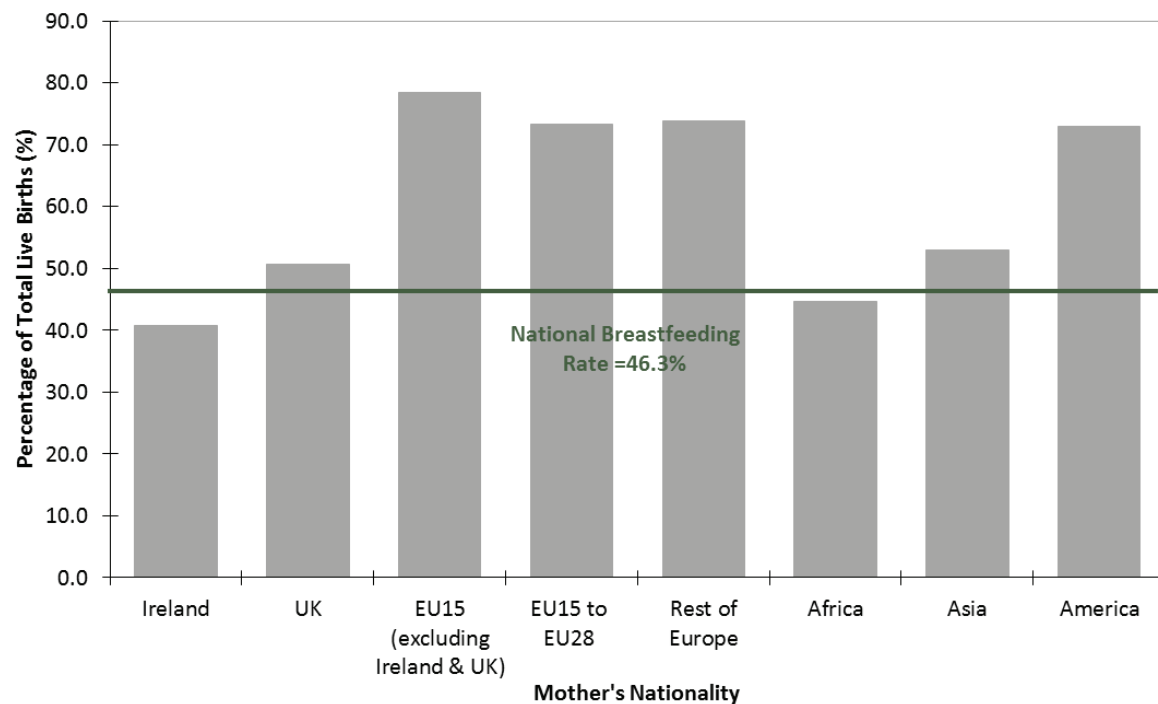
Figure 4.10 presents the rate of exclusive breastfeeding by mother's nationality.²⁹

- At 40.8 per cent, births to mothers from Ireland recorded the lowest proportion of breastfeeding, while births to mothers from the EU15 (excluding Ireland and UK) reported the highest proportion of breastfeeding at 78.4 per cent.
- Births to mothers from America, EU15 to EU28 and the Rest of Europe each record breastfeeding percentages of 70 per cent or higher.
- Breastfeeding rates are reported at 50.6 per cent for mothers from the UK and 53.0 per cent for mothers from Asia, while mothers from Africa reported a breastfeeding rate of 44.7 per cent.

²⁹ For further discussion and analysis on this issue see Brick, A. & Nolan, A. (2014) Maternal country of birth differences in breastfeeding at hospital discharge in Ireland. *The Economic and Social Review*, 45(4), 455-484 and Brick, A. & Nolan, A. (2014) Explaining the increase in breastfeeding at hospital discharge in Ireland, 2004–2010. *Irish Journal of Medical Science*, 183(3), 333-339.

FIGURE 4.10

Percentage Distribution of Exclusively Breastfed Infants by Mother's Nationality, Total Live Births



Notes: See Appendix G, Table G11 for data.

Categories where percentages would be based on <100 live births are not included.

SECTION FIVE

PERINATAL OUTCOMES

INTRODUCTION

This section presents a detailed review of aspects of perinatal outcomes for infants. Cause of death is examined according to the guidelines set out by the WHO in the International Classification of Diseases (ICD-10).³⁰ A detailed description of the cause of death classification and the coding rules applied is available in Appendix D.

Of the 67,610 births recorded by the NPRS in 2014, 286 were stillbirths and 136 were early neonatal deaths, giving a total of 422 perinatal deaths and a perinatal mortality rate of 6.2 per 1,000 live births and stillbirths.

The number of perinatal deaths is broken down by type of death (antepartum and intrapartum 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 AND PARITY

Table 5.1 presents mortality rates by birthweight and parity.³¹

- Almost 70 per cent of total perinatal deaths weighed less than 2,500 grams, 68.4 per cent for primiparous women and 69.6 per cent for multiparous women (see Figure 5.1).
- The perinatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 73.3 per 1,000 live births and stillbirths (56.1 per 1,000 for primiparous women and 89.4 per 1,000 for multiparous women).
- The early neonatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 26.2 per 1,000 live births (19.9 per 1,000 for primiparous women and 32.2 per 1,000 for multiparous women).
- The stillbirth rate for low birthweight babies (weighing less than 2,500 grams) was 48.3 per 1,000 live births and stillbirths (36.9 per 1,000 for primiparous women and 59.1 per 1,000 for multiparous women).
- For births weighing 2,500 grams or more, the perinatal mortality rate was 2.0 per 1,000 live births and stillbirths (2.1 for primiparous women and 2.0 for multiparous women).
- The highest perinatal mortality rate for all births was recorded for births weighing between 500–749 grams at 604.3 per 1,000 live births and stillbirths (see Figure 5.2).

³⁰ World Health Organisation, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1-3. Geneva: World Health Organisation

³¹ For details of birthweight by plurality for total births, antepartum and intrapartum stillbirths, early neonatal deaths and associated rates see Appendix G, Table G12.

TABLE 5.1

Birthweight (grams): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Parity

	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total										
500-749	84	19.9	44	*	~	366.9	33	375.0	604.3	556.5
750-999	47	11.1	32	0	~	221.5	*	120.7	315.4	238.8
1000-1249	31	7.3	21	~	0	131.0	*	61.6	184.5	138.4
1250-1499	22	5.2	12	0	~	55.8	*	40.9	94.4	58.0
1500-1999	51	12.1	27	~	~	38.4	19	23.7	61.2	35.7
2000-2499	56	13.3	38	~	~	16.7	15	6.2	22.9	14.0
2500-2999	43	10.2	28	~	~	3.7	13	1.6	5.3	4.1
3000-3499	49	11.6	31	~	~	1.6	13	0.6	2.2	1.8
3500-3999	26	6.2	17	~	0	0.8	*	0.3	1.1	1.0
4000-4499	8	1.9	~	0	0	0.6	~	0.3	0.9	0.7
4500 and over	~	^	~	0	0	1.9	~	0.6	2.6	1.9
Not stated	~	^	~	0	0	1000.0	0	-	1000.0	1000.0
Total	422	100	259	17	10	4.2	136	2.0	6.2	4.5
Primiparous Women										
500-749	30	18.9	16	~	0	295.1	*	279.1	491.8	465.5
750-999	19	11.9	14	0	~	172.4	~	55.6	218.4	150.0
1000-1249	9	5.7	*	0	0	80.0	~	43.5	120.0	108.1
1250-1499	~	^	~	0	0	26.8	~	18.3	44.6	36.0
1500-1999	23	14.5	12	~	0	32.6	*	21.7	53.6	35.6
2000-2499	22	13.8	13	~	~	12.9	7	6.1	18.9	12.1
2500-2999	22	13.8	13	~	0	3.9	*	2.2	6.1	4.5
3000-3499	13	8.2	6	0	~	0.9	~	0.5	1.4	1.2
3500-3999	11	6.9	7	~	0	1.0	~	0.4	1.3	1.2
4000-4499	~	^	~	0	0	0.7	~	0.7	1.5	1.1
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Not stated	~	^	~	0	0	1000.0	0	-	1000.0	1000.0
Total	159	100	93	*	~	4.0	55	2.1	6.1	4.6
Multiparous Women										
500-749	54	20.5	28	~	~	423.1	21	466.7	692.3	636.4
750-999	28	10.6	18	0	0	290.3	10	227.3	451.6	370.4
1000-1249	22	8.4	*	~	0	172.0	6	77.9	236.6	164.7
1250-1499	*	^	9	0	~	82.6	*	63.1	140.5	79.6
1500-1999	28	10.6	15	~	~	44.4	10	25.8	69.1	35.8
2000-2499	34	12.9	25	0	~	20.2	*	6.3	26.4	15.7
2500-2999	21	8.0	15	0	~	3.5	~	1.1	4.7	3.8
3000-3499	36	13.7	25	~	~	2.2	*	0.6	2.8	2.2
3500-3999	15	5.7	10	~	0	0.7	~	0.3	1.0	0.9
4000-4499	~	^	~	0	0	0.5	~	0.2	0.7	0.5
4500 and over	~	^	~	0	0	2.6	~	0.9	3.5	2.6
Not stated	0	0.0	0	0	0	-	0	-	-	-
Total	263	100	166	*	*	4.4	81	2.0	6.3	4.4

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

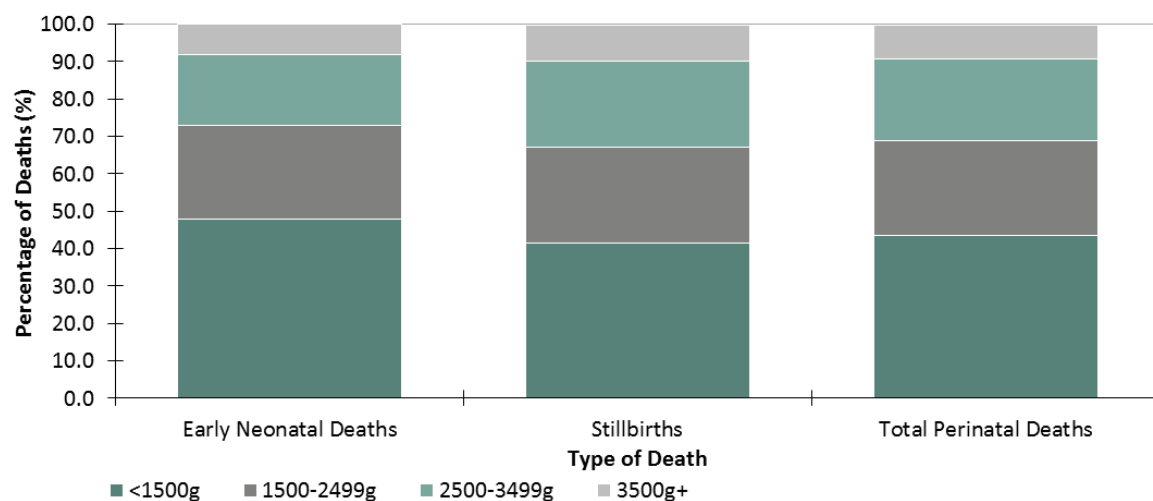
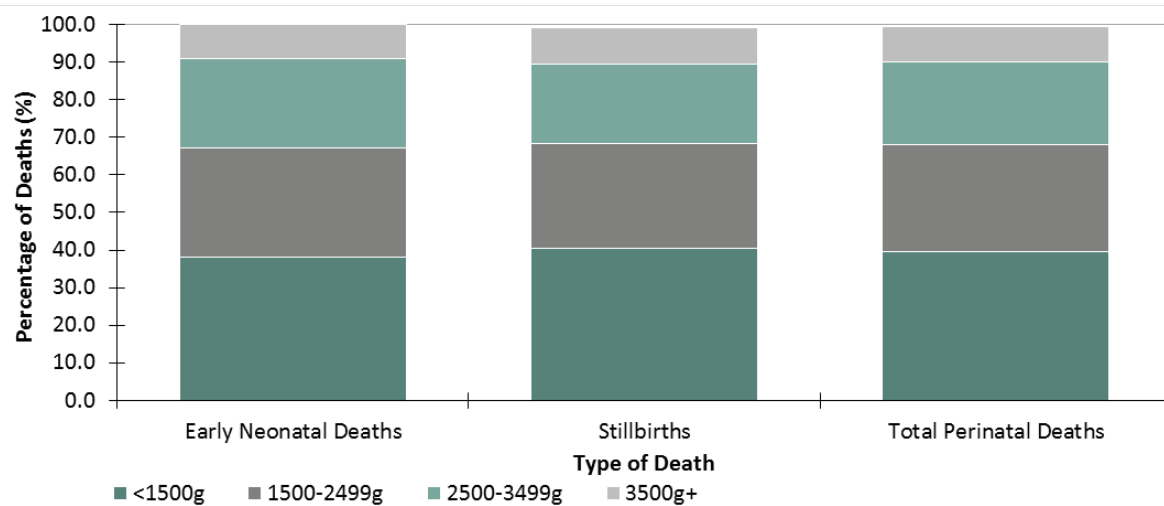
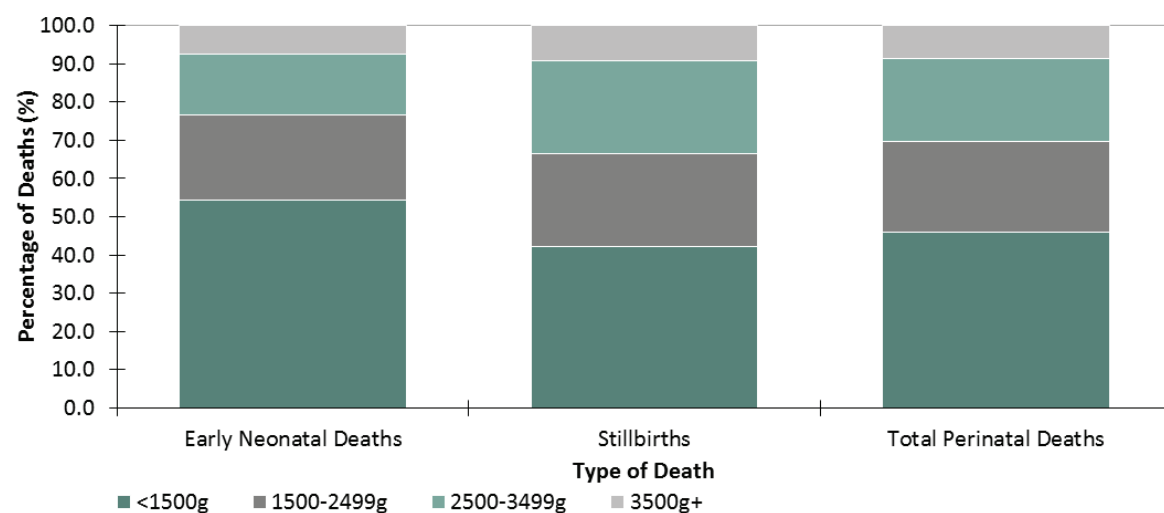
^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated 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 was 1 maternity with unknown parity; this was excluded from this table.

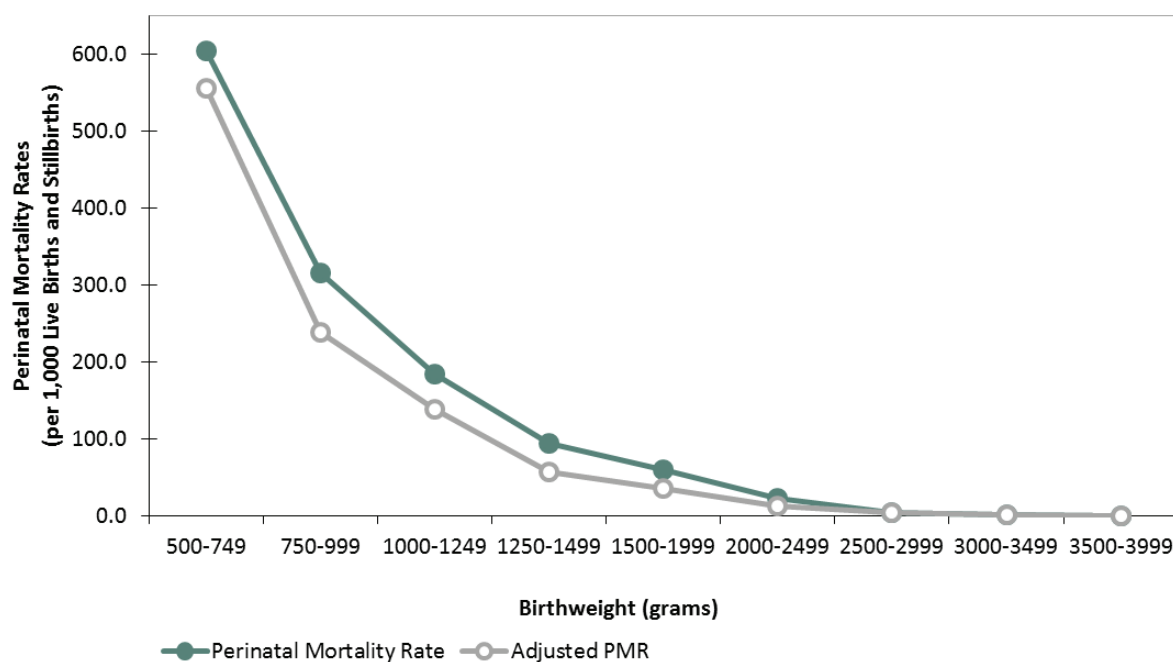
FIGURE 5.1

Perinatal Deaths by Birthweight Groups and Parity

Total Perinatal Deaths**Perinatal Deaths: Primiparous Women****Perinatal Deaths: Multiparous Women**

Note: See Table 5.1 for data.

FIGURE 5.2
Perinatal Mortality Rates by Birthweight



Notes: See Table 5.1 for data. Caution should be exercised when interpreting these data as some rates may include birthweights for which the perinatal mortality rate is based on 20 or fewer observations.

CAUSE OF DEATH BY BIRTHWEIGHT

Cause of death data are recorded using the WHO ICD-10 classification.³² 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.³³

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

- Congenital malformations (Q00-Q99) accounted for the largest proportion of total perinatal deaths (28.0 per cent) followed by foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04), which accounted for 21.4 per cent.
- Almost 70 per cent of perinatal deaths weighed <2,500 grams, and of these 31.6 per cent were due to congenital malformations (Q00-Q99), followed by maternal factors (P00-P04) accounting for 18.2 per cent (see Figure 5.3).
- Of the 30.8 per cent of perinatal deaths weighing $\geq 2,500$ grams, just under 30 per cent recorded cause of death due to maternal factors (P00-P04) and 20.0 per cent were due to congenital malformations (Q00-Q99) (see Figure 5.4).

³² World Health Organisation, *op. cit.*

³³ See Appendix D for more detail.

TABLE 5.2

Total Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

Number (Total) Rate per 1,000 Live Births and Stillbirths		ICD-10 Code	Birthweight (grams)													Total	
			500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and over	Not stated	N	PMR ^a	
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery		P00-P04	93.5	60.4	23.8	8.6	13.2	5.7	1.6	0.6	0.3	0.2	-	1000.0	91	1.3	
Disorders related to length of gestation and foetal growth		P05-P08	223.0	40.3	11.9	12.9	1.2	1.6	0.1	-	-	-	-	-	48	0.7	
Respiratory and cardiovascular disorders specific to the perinatal period		P20-P29	64.7	33.6	53.6	12.9	6.0	2.4	0.7	0.3	0.3	0.2	-	-	58	0.9	
Infections specific to the perinatal period		P35-P39	28.8	26.8	11.9	-	-	0.4	0.5	0.2	0.1	0.1	-	-	22	0.3	
Haemorrhagic and haematological disorders of foetus and newborn		P50-P61	14.4	20.1	-	-	2.4	-	-	0.1	0.1	-	-	-	11	0.2	
Transitory endocrine and metabolic disorders specific to foetus and newborn		P70-P74	-	-	-	-	-	0.4	0.1	0.1	0.1	-	0.6	-	7	0.1	
Digestive system disorders of foetus and newborn		P75-P78	-	-	-	-	-	-	-	0.0	-	-	0.6	-	~	-	
Conditions involving the integument and temperature regulation of foetus and newborn		P80-P83	7.2	-	6.0	4.3	4.8	-	0.1	-	-	-	-	-	8	0.1	
Other disorders originating in the perinatal period		P90.0-P94.9, P96.0-P96.8	7.2	-	-	4.3	-	-	0.1	-	-	-	-	-	~	0.0	
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified		P95, P96.9	50.4	33.6	23.8	8.6	6.0	3.3	0.7	0.4	0.1	0.1	0.6	-	51	0.8	
Congenital malformations of the nervous system		Q00-Q07	7.2	6.7	6.0	8.6	3.6	-	0.5	0.1	0.0	0.1	-	-	16	0.2	
Congenital malformations of the circulatory system		Q20-Q28	7.2	-	11.9	4.3	3.6	0.8	-	0.0	0.0	-	-	-	10	0.1	
Congenital malformations of the respiratory system		Q30-Q34	7.2	-	-	-	-	0.0	0.1	-	-	-	-	-	~	0.0	
Other congenital malformations of the digestive system		Q38-Q45	-	-	-	-	2.4	-	-	-	-	-	-	-	~	0.0	
Congenital malformations of the urinary system		Q60-Q64	7.2	6.7	-	4.3	3.6	0.4	-	0.1	-	-	-	-	9	0.1	
Congenital malformations and deformations of the musculoskeletal system		Q65-Q79	7.2	13.4	-	4.3	-	0.8	-	0.0	-	0.1	-	-	8	0.1	
Other congenital malformations		Q80-Q89	14.4	6.7	11.9	4.3	1.2	0.8	-	0.1	0.0	-	-	-	12	0.2	
Chromosomal abnormalities, not elsewhere classified		Q90-Q99	57.6	67.1	23.8	12.9	12.0	6.1	0.6	0.1	-	-	0.6	-	58	0.9	
All other causes		A00.0-Q99.9, R00.0-Z99.9	7.2	-	-	4.3	1.2	-	-	-	-	-	-	-	~	0.0	
Total	N	84	47	31	22	51	56	43	49	26	*	~	~	~	422	6.2	
	PMR	604.3	315.4	184.5	94.4	61.2	22.9	5.3	2.2	1.1	0.9	2.6	1000.0				

TABLE 5.2

Singleton Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

Number (Total) Rate per 1,000 Live Births and Stillbirths	ICD-10 Code	Birthweight (grams)												Total	
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and over	Not stated	N	PMR ^a
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	85.7	45.5	33.1	6.7	18.0	7.6	1.8	0.6	0.3	0.2	-	-	78	1.2
Disorders related to length of gestation and foetal growth	P05-P08	238.1	36.4	16.5	20.0	2.0	2.3	0.1	-	-	-	-	-	40	0.6
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	57.1	45.5	66.1	20.0	10.0	2.9	0.8	0.3	0.3	0.2	-	-	53	0.8
Infections specific to the perinatal period	P35-P39	38.1	18.2	8.3	-	-	0.6	0.6	0.2	0.1	0.1	-	-	19	0.3
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	19.0	27.3	-	-	4.0	-	-	0.1	0.1	-	-	-	11	0.2
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	-	-	-	-	-	0.6	0.1	0.1	0.1	-	0.6	-	7	0.1
Digestive system disorders of foetus and newborn	P75-P78	-	-	-	-	-	-	-	0.0	-	-	0.6	-	~	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	9.5	-	8.3	6.7	6.0	-	0.1	-	-	-	-	-	7	0.1
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	-	-	-	6.7	-	-	0.1	-	-	-	-	-	~	0.0
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	57.1	45.5	33.1	13.3	8.0	4.1	0.8	0.4	0.1	0.1	0.6	-	48	0.7
Congenital malformations of the nervous system	Q00-Q07	9.5	9.1	8.3	13.3	6.0	-	0.6	0.1	0.0	0.1	-	-	16	0.2
Congenital malformations of the circulatory system	Q20-Q28	9.5	-	16.5	6.7	4.0	0.6	-	0.0	-	-	-	-	8	0.1
Congenital malformations of the respiratory system	Q30-Q34	9.5	-	-	-	-	-	0.1	-	0.0	-	-	-	~	0.0
Other congenital malformations of the digestive system	Q38-Q45	-	-	-	-	4.0	-	-	-	-	-	-	-	~	0.0
Congenital malformations of the urinary system	Q60-Q64	9.5	9.1	-	6.7	6.0	0.6	-	0.1	-	-	-	-	9	0.1
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	9.5	18.2	-	6.7	-	1.2	-	0.0	-	0.1	-	-	8	0.1
Other congenital malformations	Q80-Q89	19.0	9.1	16.5	6.7	2.0	1.2	-	0.1	0.0	-	-	-	12	0.2
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	76.2	81.8	33.1	20.0	18.0	8.7	0.7	0.1	-	-	0.6	-	56	0.9
All other causes	A00.0-Q99.9, R00.0-Z99.9	9.5	-	-	6.7	2.0	-	-	-	-	-	-	-	~	0.0
Total	N	69	38	29	21	45	52	43	49	26	*	~	0	384	5.9
	PMR	657.1	345.5	239.7	140.0	89.8	30.2	5.9	2.3	1.1	0.9	2.6	-	-	-

TABLE 5.2

Multiple Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

Number (Total) 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	N	PMR ^a
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	117.6	102.6	-	12.0	6.0	1.4	-	-	-	-	1000.0	13	5.1
Disorders related to length of gestation and foetal growth	P05-P08	176.5	51.3	-	-	-	-	-	-	-	-	-	8	3.1
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	88.2	-	21.3	-	-	1.4	-	-	-	-	-	~	2.0
Infections specific to the perinatal period	P35-P39	-	51.3	21.3	-	-	-	-	-	-	-	-	~	1.2
Other congenital malformations	Q80-Q89	-	0.0	-	-	3.0	-	-	-	-	-	-	~	0.4
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	29.4	-	-	-	-	-	-	-	-	-	-	~	0.4
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	29.4	-	-	-	3.0	1.4	-	-	-	-	-	~	1.2
Congenital malformations of the circulatory system	Q20-Q28	-	-	-	-	3.0	1.4	-	-	-	-	-	~	0.8
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	-	25.6	-	-	3.0	-	-	-	-	-	-	~	0.8
Total	N PMR	15 441.2	9 230.8	~ 42.6	~ 12.0	6 18.0	~ 5.5	0 -	0 -	0 -	0 -	0 -	~ 38	15.0

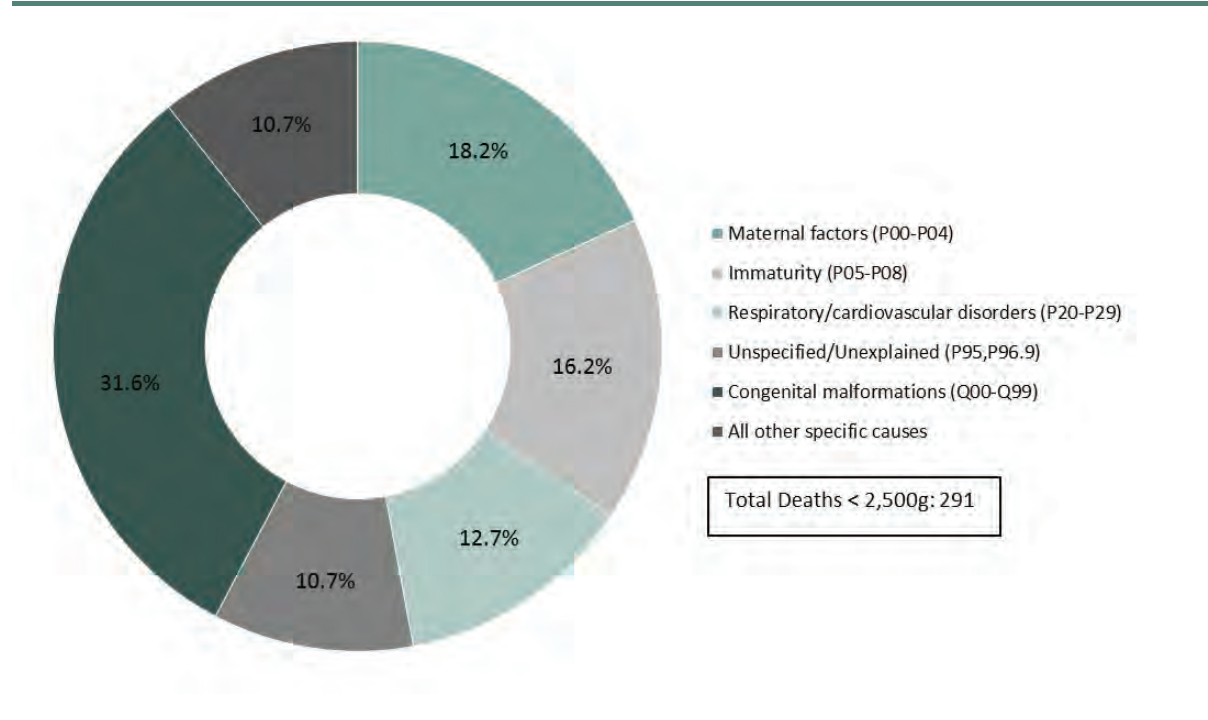
Notes: ~ Denotes five or fewer births reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

a Rates are calculated per 1,000 births. For perinatal deaths, rates are calculated on total live births and stillbirths.

FIGURE 5.3

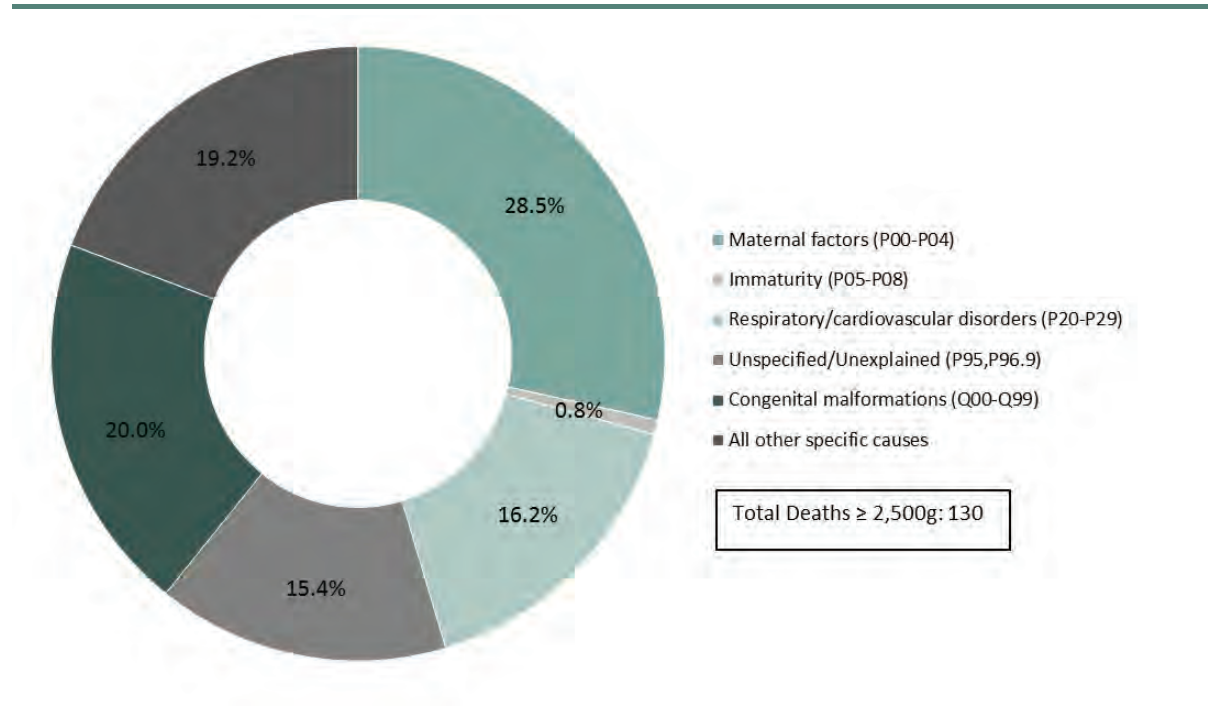
Total Perinatal Deaths with Birthweight < 2,500 grams by Cause of Death



Note: See Table 5.2 for data.

FIGURE 5.4

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



Note: See Table 5.2 for data.

MORTALITY BY GESTATIONAL AGE

Table 5.3 presents data on mortality by gestational age.

- Prematurity has a significant impact on stillbirth and early neonatal mortality rates with over two-thirds of total perinatal deaths born preterm.^{34,35}
- 63.3 per cent of singleton perinatal deaths and 92.1 per cent of multiple perinatal deaths were preterm.
- 36.0 per cent of early neonatal deaths recorded a gestational age of less than 28 completed weeks compared to just under 25 per cent of stillbirths (see Figure 5.5).
- The perinatal mortality rate for babies born before 37 completed weeks of gestation was 62.2 per 1,000 live births and stillbirths (78.0 per 1,000 singleton births and 25.8 per 1,000 multiple births).
- For babies born at 37 or more completed weeks of gestation, perinatal mortality rate was 2.3 per 1,000 live births and stillbirths.

TABLE 5.3

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

	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-Partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total Births										
Less than 28	119	28.2	*	~	~	263.2	49	250.0	447.4	407.3
28-31	62	14.7	45	~	~	95.5	*	33.7	126.0	100.4
32-36	97	23.0	62	~	~	18.8	27	7.4	26.1	14.4
37-41	136	32.2	83	*	~	1.5	43	0.7	2.2	1.6
42 and Over	8	1.9	~	~	0	3.4	~	1.1	4.5	1.7
Total	422	100	259	17	10	4.2	136	2.0	6.2	4.5
Singleton Births										
Less than 28	93	24.2	*	~	~	294.4	35	251.8	472.1	419.0
28-31	*	^	45	~	~	138.6	*	47.9	179.9	144.6
32-36	89	23.2	*	~	~	24.4	26	10.3	34.5	18.1
37-41	*	^	83	6	~	1.5	40	0.7	2.2	1.6
42 and Over	8	2.1	~	~	0	3.4	~	1.1	4.5	1.7
Total	384	100	242	*	*	4.1	117	1.8	5.9	4.2
Multiple Births										
Less than 28	26	68.4	*	0	0	173.9	*	245.6	376.8	376.8
28-31	~	^	0	0	0	-	~	6.5	6.5	6.5
32-36	8	21.1	~	~	~	6.2	~	0.9	7.0	6.2
37-41	~	^	0	0	0	-	~	2.5	2.5	-
42 and Over	0	0.0	0	0	0	-	0	-	-	-
Total	38	100	17	~	~	7.5	19	7.5	15.0	13.4

Notes:

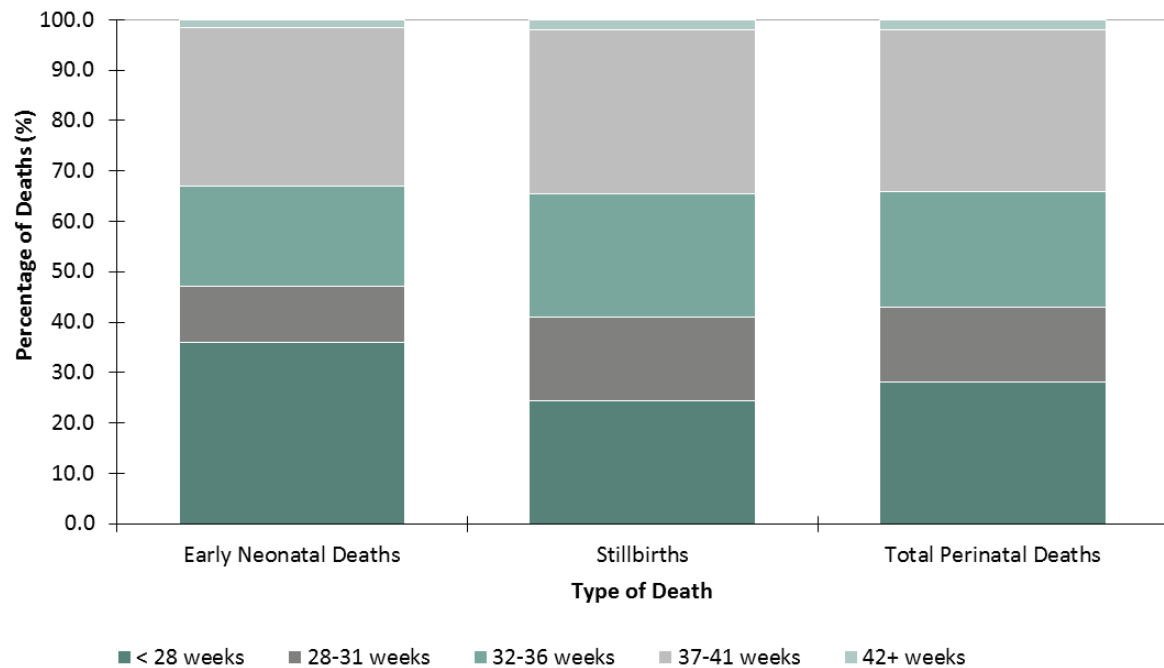
- ~ Percentage column is subject to rounding.
- * Denotes five or fewer births reported to NPRS.
- ^ Further suppression required to prevent disclosure of five or fewer births.
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, 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.

³⁴ Preterm is defined as less than 37 completed weeks of gestation.

³⁵ In 2014, 6.6 per cent of total births were preterm.

FIGURE 5.5

Total Perinatal Deaths by Gestational Age (weeks)

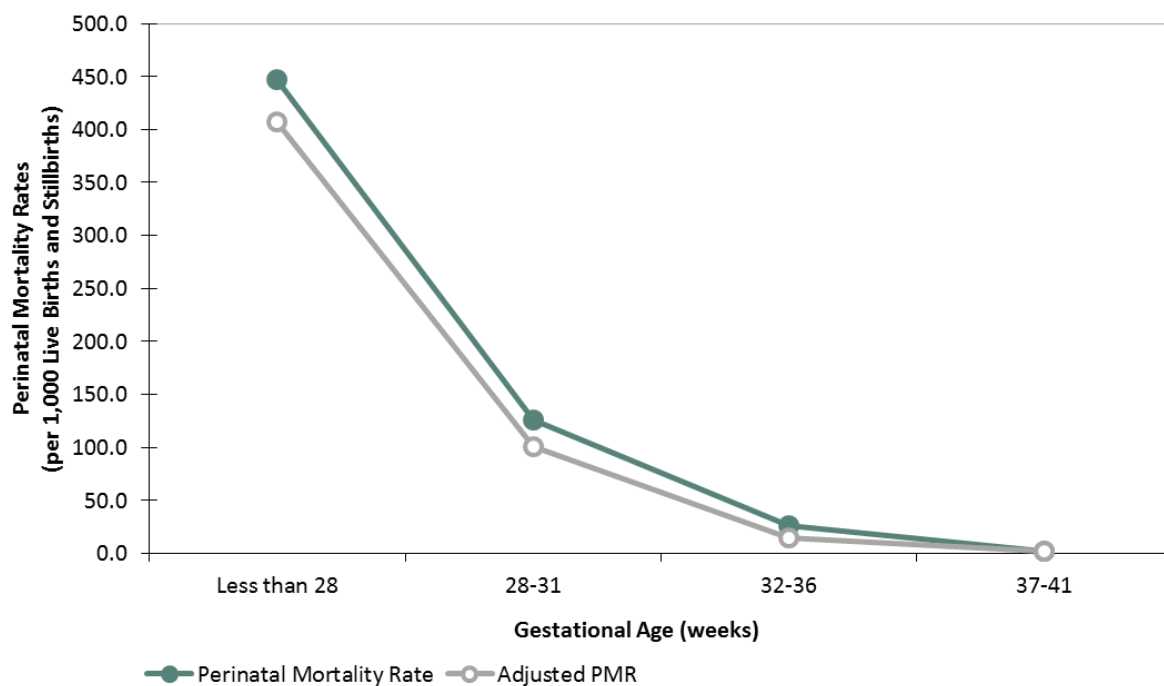


Note: See Table 5.3 for data.

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

FIGURE 5.6

Perinatal Mortality Rates by Gestational Age (weeks) at Delivery



Notes: 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 and mortality rates for stillbirths, early neonatal deaths and total perinatal deaths are presented in Table 5.4. Figures 5.7- 5.9 show the percentage distribution of stillbirths, early neonatal deaths and total perinatal deaths categorised into groups by cause of death. Figure 5.9 shows that 12.1% of total perinatal deaths were classified as 'unspecified/unexplained' (P95 ,P96.9). The fact that almost 55 per cent of all perinatal deaths in Ireland do not undergo post-mortem examinations may be a contributing factor to the numbers assigned to this category (see also 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
Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates^a and Numbers (Total)

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	
	Rate	Rate	N	Rate	Rate	Rate	N	Rate	Rate	Rate	N	Rate
P00-P04	1.2	0.1	91	1.3	1.1	0.1	78	1.2	3.9	1.2	13	5.1
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery												
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	0.1	0.0	6	0.1	0.1	0.0	6	0.1	-	-	0	-
Foetus and newborn affected by maternal complications of pregnancy	-	0.0	~	0.0	-	0.0	~	0.0	-	0.4	~	0.4
Foetus and newborn affected by complications of placenta, cord and membranes	1.1	0.1	81	1.2	1.0	0.0	69	1.1	3.9	0.8	12	4.7
Fetus and newborn affected by other complications of labour and delivery	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Disorders related to length of gestation and foetal growth	0.4	0.4	48	0.7	0.3	0.3	40	0.6	1.2	2.0	8	3.1
Slow foetal growth and foetal malnutrition	0.2	0.0	12	0.2	0.2	-	11	0.2	-	0.4	~	0.4
Disorders related to short gestation and low birth weight, not elsewhere classified	0.2	0.3	36	0.5	0.2	0.3	29	0.4	1.2	1.6	7	2.8
P20-P29	0.5	0.3	58	0.9	0.5	0.3	53	0.8	0.8	1.2	~	2.0
Respiratory and cardiovascular disorders specific to the perinatal period												
Intrauterine hypoxia	0.4	0.0	31	0.5	0.4	0.0	30	0.5	0.4	-	~	0.4
Respiratory distress of newborn	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital pneumonia	-	0.0	~	0.0	-	0.0	~	0.0	-	0.4	~	0.4
Neonatal aspiration syndromes	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Pulmonary haemorrhage originating in the perinatal period	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other respiratory conditions originating in the perinatal period	-	0.2	11	0.2	-	0.2	11	0.2	-	-	0	-
Cardiovascular disorders originating in the perinatal period	0.1	0.1	10	0.1	0.1	0.0	*	0.1	0.4	0.8	~	1.2
P35-P39	0.3	0.1	22	0.3	0.2	0.0	*	0.3	0.8	0.4	~	1.2
Infections specific to the perinatal period												
Congenital viral diseases	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Bacterial sepsis of newborn	0.0	0.1	6	0.1	0.0	0.0	~	0.1	0.4	0.4	~	0.8
Other congenital infectious and parasitic diseases	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other infections specific to the perinatal period	0.2	-	14	0.2	0.2	-	*	0.2	0.4	-	~	0.4
P50-P61	0.1	0.1	11	0.2	0.1	0.1	11	0.2	-	-	0	-
Haemorrhagic and haematological disorders of foetus and newborn												
Foetal blood loss	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Intracranial nontraumatic haemorrhage of foetus and newborn	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Hydrops fetalis due to haemolytic disease	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other perinatal haematological disorders	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-

Table 5.4: Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates^a and Numbers (Total) (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	
	Rate	Rate	N	Rate	Rate	Rate	N	Rate	Rate	Rate	N	Rate
Transitory endocrine and metabolic disorders specific to foetus and newborn	0.1	-	7	0.1	0.1	-	7	0.1	-	-	0	-
Transitory disorders of carbohydrate metabolism specific to foetus and newborn	0.1	-	7	0.1	0.1	-	7	0.1	-	-	0	-
Digestive system disorders of foetus and newborn	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other perinatal digestive system disorders	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Conditions involving the integument and temperature regulation of foetus and newborn	0.1	0.0	8	0.1	0.1	-	*	0.1	-	0.4	~	0.4
Other conditions of integument specific to foetus and newborn	0.1	0.0	8	0.1	0.1	-	*	0.1	-	0.4	~	0.4
Other disorders originating in the perinatal period	0.5	0.3	54	0.8	0.5	0.3	*	0.8	0.4	1.2	~	1.6
Other disturbances of cerebral status of newborn	-	0.0	~	0.0	-	0.0	~	0.0	-	0.4	~	0.4
Foetal death of unspecified cause, Condition origination in the perinatal period, unspecified	0.5	0.3	51	0.8	0.5	0.2	*	0.7	0.4	0.8	~	1.2
Congenital malformations of the nervous system	0.1	0.1	16	0.2	0.1	0.1	16	0.2	-	-	0	-
Anencephaly and similar malformations	0.1	0.1	10	0.1	0.1	0.1	10	0.2	-	-	0	-
Encephalocele	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital hydrocephalus	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of the brain	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Spina bifida	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Congenital malformations of the circulatory system	0.0	0.1	10	0.1	0.0	0.1	*	0.1	-	0.8	~	0.8
Congenital malformations of cardiac chambers and connections	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital malformations of aortic and mitral valves	-	0.0	~	0.0	-	0.0	~	0.0	-	0.4	~	0.4
Other congenital malformations of heart	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Congenital malformations of great arteries	-	0.0	~	0.0	-	-	0	-	-	0.4	~	0.4
Other congenital malformations of peripheral vascular system	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital malformations of the respiratory system	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Congenital malformations of lung	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Other congenital malformations of the digestive system	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Other congenital malformations of upper alimentary tract	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital absence, atresia and stenosis of small intestine	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-

Table 5.4: Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates^a and Numbers (Total) (cont.)

ICD-10 Code	Total Deaths				Singleton Deaths				Multiple Deaths			
	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Rate	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Rate	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Rate
	Rate	Rate	N		Rate	Rate	N		Rate	Rate	N	
Congenital malformations of the urinary system	0.0	0.1	9	0.1	0.0	0.1	9	0.1	-	-	0	-
Renal agenesis and other reduction defects of kidney	0.0	0.1	6	0.1	0.0	0.1	6	0.1	-	-	0	-
Cystic kidney disease	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of urinary system	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital malformations and deformations of the musculoskeletal system	0.0	0.1	8	0.1	0.0	0.1	8	0.1	-	-	0	-
Other congenital musculoskeletal deformities	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of limbs	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Osteochondrodysplasia with defects of growth of tubular bones and spine	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other osteochondrodysplasias	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital malformations of musculoskeletal system, not elsewhere classified	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Other congenital malformations	0.1	0.0	12	0.2	0.1	0.0	12	0.2	-	-	0	-
Other specified congenital malformation syndromes affecting multiple systems	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations, not elsewhere classified	0.1	0.0	11	0.2	0.1	0.0	11	0.2	-	-	0	-
Chromosomal abnormalities, not elsewhere classified	0.6	0.3	58	0.9	0.6	0.2	*	0.9	0.4	0.4	~	0.8
Downs syndrome	0.2	-	12	0.2	0.2	-	12	0.2	-	-	0	-
Edwards syndrome and Patau syndrome	0.3	0.2	36	0.5	0.3	0.2	*	0.5	0.4	0.4	~	0.8
Other trisomies and partial trisomies of the autosomes, not elsewhere classified	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Monosomies and deletions from the autosomes, not elsewhere classified	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Turner's syndrome	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other chromosome abnormalities, not elsewhere classified	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
All other causes	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
R00.0-Q99.9												
Total	4.2	2.0	422	6.2	4.1	1.8	384	5.9	7.5	7.5	38	15.0

Notes: ~ Denotes five or fewer births reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births.

a Rates are calculated 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.

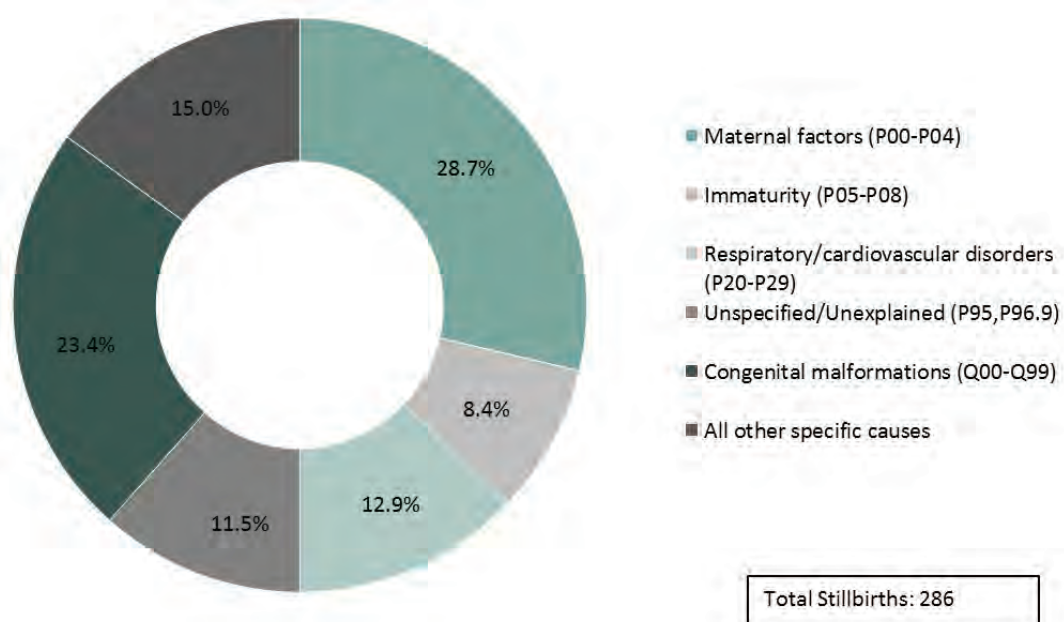
STILLBIRTHS

Figure 5.7 presents the main cause of death for stillbirths.

- Maternal factors (P00-P04) were the leading cause of death for total stillbirths (28.7 per cent).
- Congenital malformations (Q00-Q99) contributed to almost 1 in 4 deaths for total stillbirths (23.4 per cent).
- The cause of death was unspecified/unexplained (P95, P96.9) for 11.5 per cent of total stillbirths.

FIGURE 5.7

Total Stillbirths by Cause of Death



Notes: Percentages are subject to rounding.
See Appendix G, Table G13 for data.

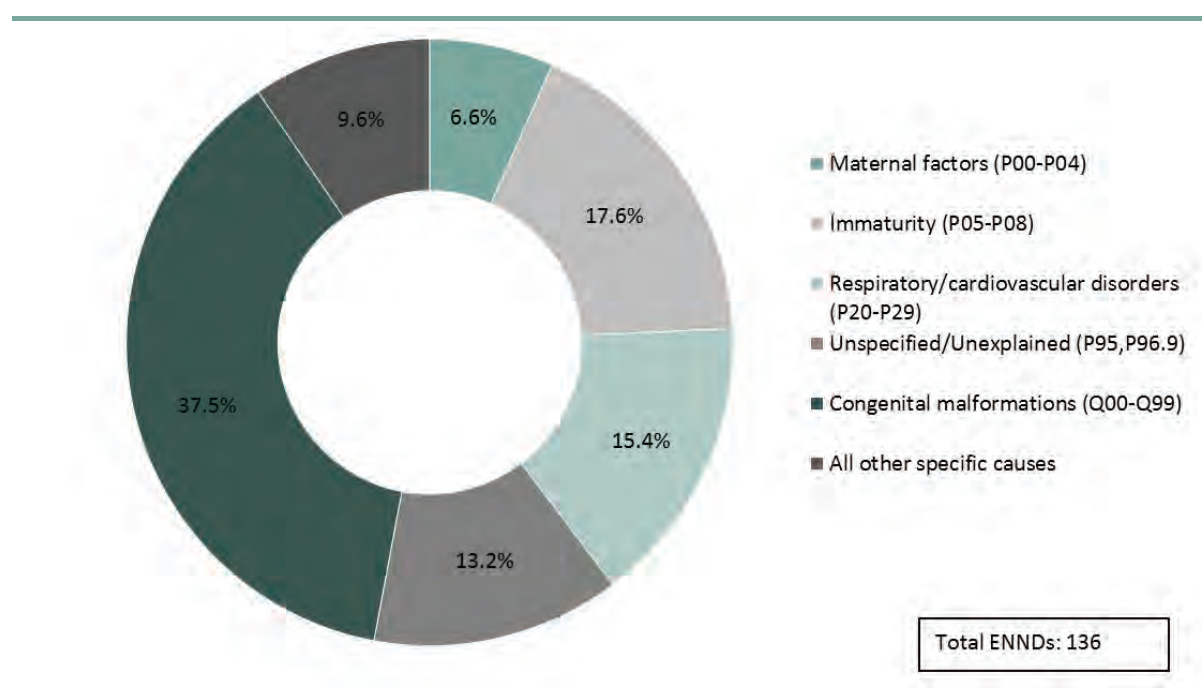
EARLY NEONATAL DEATHS

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

- Congenital malformations (Q00-Q99) was recorded as the leading cause of death for total early neonatal deaths (37.5 per cent).
- Immaturity (P05-P08) was the second leading cause of death, contributing to 17.6 per cent of total early neonatal deaths.
- The cause of death was unspecified/unexplained (P95, P96.9) for 13.2 per cent of total early neonatal deaths.

FIGURE 5.8

Total Early Neonatal Deaths by Cause of Death



Notes: Percentages are subject to rounding.
See Appendix G, Table G13 for data.

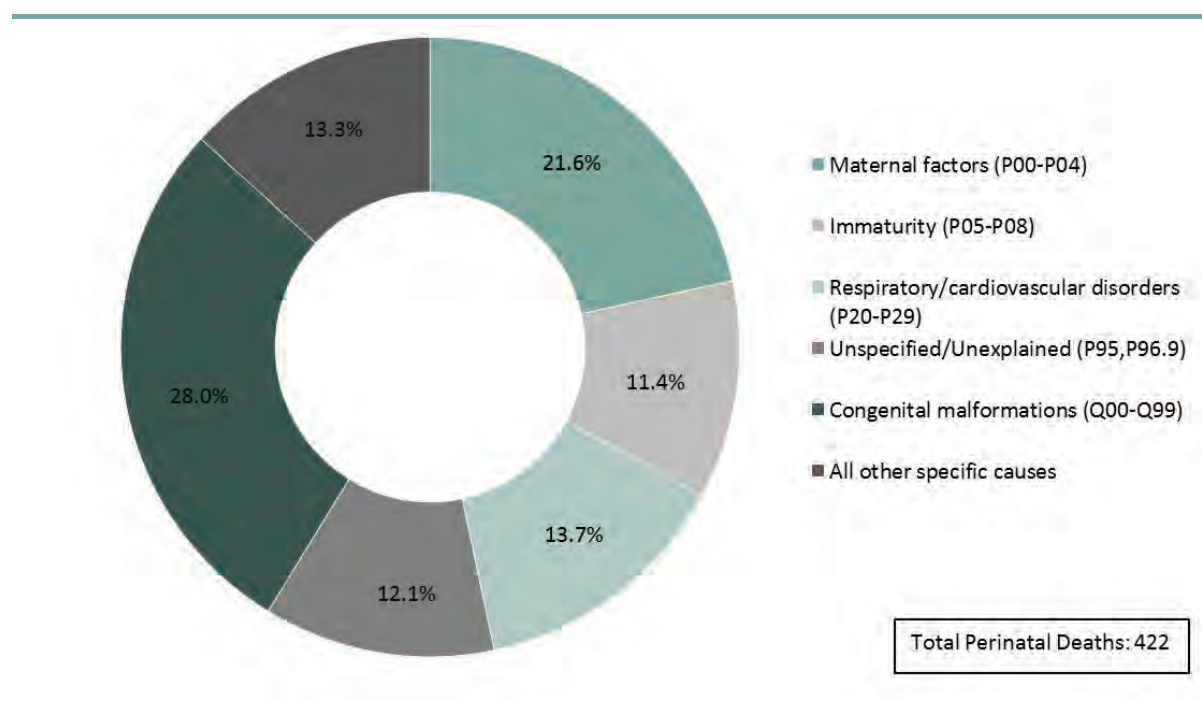
TOTAL PERINATAL DEATHS

Figure 5.9 presents data on all perinatal deaths.

- Congenital malformations (Q00-Q99) accounted for approximately 1 in 4 total perinatal deaths (28.0 per cent).
- Maternal factors (P00-P04) was the second most frequently reported cause of death for total perinatal deaths (21.6 per cent).
- The cause of death was unspecified/unexplained (P95, P96.9) for 12.1 per cent of total perinatal deaths.

FIGURE 5.9

Total Perinatal Deaths by Cause of Death



Notes: Percentages are subject to rounding
See Table 5.4 and Appendix G, Table G13 for data.

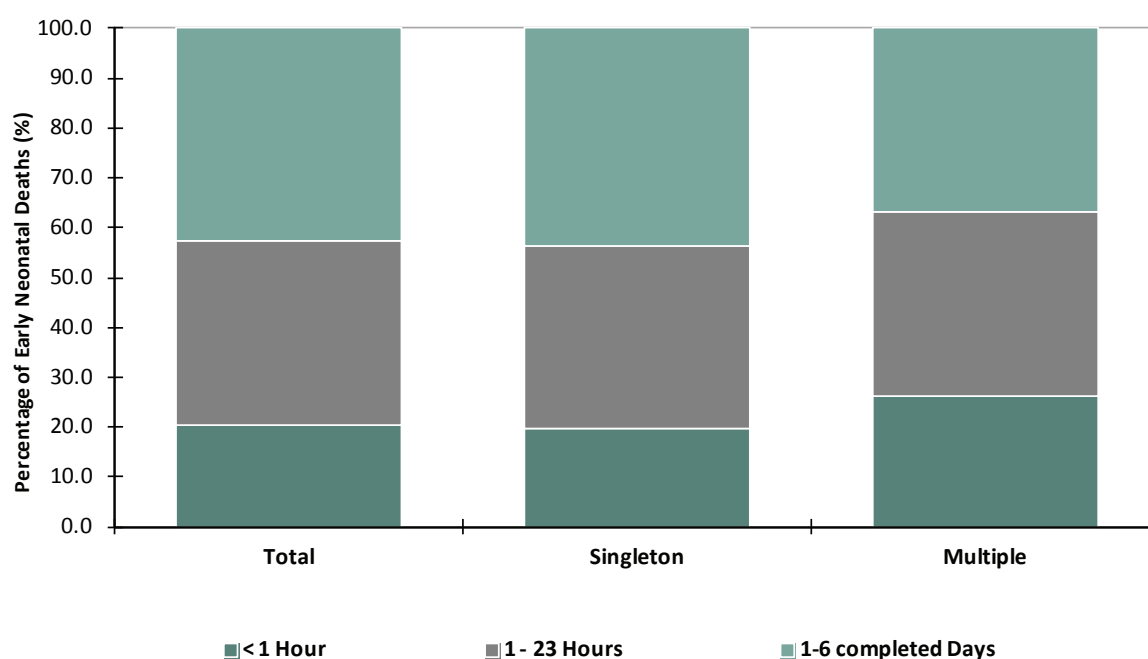
AGE AT DEATH

Figure 5.10 presents age at death by plurality for early neonatal deaths.

- Just over 1 in 5 early neonatal deaths occurred within the first hour of life (19.7 per cent for singleton early neonatal deaths and 26.3 per cent for multiple early neonatal deaths).
- 57.4 per cent of total early neonatal deaths occurred within the first day of life (56.4 per cent for singleton early neonatal deaths and 63.2 per cent for multiple early neonatal deaths).
- Almost 43 per cent of total early neonatal deaths occurred between 1 and 6 completed days of life (43.6 per cent for singleton early neonatal deaths and 36.8 per cent for multiple early neonatal deaths).

FIGURE 5.10

Early Neonatal Deaths by Age at Death and Plurality



Notes: Percentages are subject to rounding
See Appendix G, Table G14 for data.

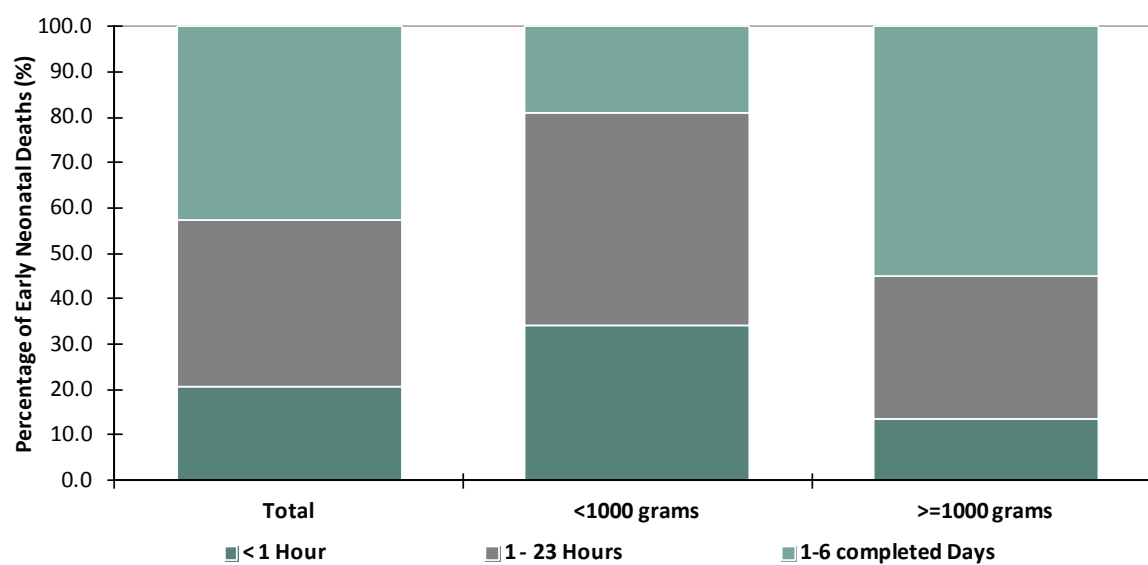
Figure 5.11 presents age at death for early neonatal deaths by birthweight groups below and above 1,000 grams.

- For early neonatal deaths recording a birthweight of less than 1,000 grams, 34.0 per cent died within the first hour of life compared to 13.5 per cent for early neonatal deaths with a birthweight of 1,000 grams or more.

- Over 80 per cent of early neonatal deaths recording a birthweight of less than 1,000 grams occurred within the first day of life compared to 44.9 per cent for early neonatal deaths with a birthweight of 1,000 grams or more.

FIGURE 5.11

Early Neonatal Deaths by Age at Death and Birthweight Groups



Notes: Percentages are subject to rounding
See Appendix G, Table G15 for data.

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.³⁶ Table 5.5 presents data on post-mortem examinations.

- The percentage of early neonatal deaths undergoing post-mortem examinations was 31.6 per cent compared to 48.6 per cent of stillbirths.
- A post-mortem examination was undertaken for 43.1 per cent of total perinatal deaths in 2014.
- The percentage of singleton perinatal deaths undergoing a post-mortem was 44.3 per cent compared to 31.6 per cent of multiple perinatal deaths.

TABLE 5.5

Post-Mortem Examinations, Total Perinatal Deaths (Per Cent)

	Type of Death		
	Stillbirths	Early Neonatal Deaths	Total
	Per cent	Per cent	Per cent
Total Births			
Post-Mortem	48.6	31.6	43.1
No Post-Mortem	50.7	61.8	54.3
Not Stated	0.7	6.6	2.6
Total	100	100	100
Singleton Births			
Post-Mortem	49.4	32.5	44.3
No Post-Mortem	49.8	60.7	53.1
Not Stated	0.7	6.8	2.6
Total	100	100	100
Multiple Births			
Post-Mortem	36.8	26.3	31.6
No Post-Mortem	63.2	68.4	65.8
Not Stated	0.0	5.3	2.6
Total	100	100	100

Note: Percentages are subject to rounding.

³⁶ Previous reports in this series can be downloaded from www.hpo.ie

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 2014, there were 45 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: Eight 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
6. Civil partner
7. Former civil partner
8. Surviving civil partner

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:³⁷

1. Spontaneous cephalic delivery
2. Breech delivery, spontaneous, with or without forceps to after-coming head, breech extraction
3. Forceps delivery
4. Vacuum extraction³⁸
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 Socio-economic Groups: Occupations are coded and grouped, with minor modifications, according to the system of socio-economic 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 at 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.

³⁷ For the purpose of presenting data in this report 'instrumental delivery' includes breech/forceps, forceps or vacuum extraction.

³⁸ 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. It gives the theoretical average number of children who would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year. See also definition for ASFR.

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

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.

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 2014.

Notification of Birth – To: National Perinatal Reporting System, Healthcare Pricing Office (HPO)			
TYPE OF BIRTH (Live = 1, Still = 2)		PLACE OF BIRTH (Hospital = 1, BHA = 2, Domiciliary = 3)	
NAME AND ADDRESS OF HOSPITAL		HOSPITAL NO.	
CASE NO.		ADDRESS OF HOSPITAL	
INFANT'S DETAILS DATE OF BIRTH (DDMM/YYYY) 14 _____ TIME OF BIRTH _____ IF MULTIPLE BIRTH ORDER OF BIRTH No. 22 of 23 SEX (Male = 1, Female = 2, Indeterminate = 3) 34 _____ BIRTHWEIGHT 25 _____ GRAMMES PERIOD OF GESTATION 29 _____ WEEKS FATHER'S DETAILS COUNTY 31 _____ COUNTRY 34 _____ NATIONALITY 38 _____ OCCUPATION 42 _____ DATE OF BIRTH (DDMM/YYYY) 44 _____ MOTHER'S DETAILS COUNTY 52 _____ COUNTRY 55 _____ NATIONALITY 59 _____ OCCUPATION 63 _____ DATE OF BIRTH (DDMM/YYYY) 65 _____ CIVIL STATUS (Married = 1, Single = 2, Widowed = 3, Separated = 4, Divorced = 5, Civil Partner = 6, Former Civil Partner = 7, Surviving Civil Partner = 8) 73 _____ DATE OF PRESENT MARRIAGE/CIVIL PARTNERSHIP (DDMM/YYYY) 74 _____ DATE OF LAST BIRTH (live or still) (DDMM/YYYY) 82 _____ NO. OF PREVIOUS LIVE BIRTHS 90 _____ CHILDREN STILL LIVING 92 _____ STILLBIRTHS 94 _____ SPONTANEOUS ABORTIONS 96 _____ PERINATAL DEATH TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2) 98 _____ WAS AUTOPSY PERFORMED (Yes = 1, No = 2) 99 _____ AGE AT DEATH 100 _____ DAYS 101 _____ HOURS PLACE OF DEATH 103 _____ IF STILLBIRTH, DID DEATH OCCUR BEFORE LABOUR (1) DURING LABOUR (2) NOT KNOWN (3) 106 _____ CAUSE OF DEATH MAIN DISEASE OR CONDITION IN FETUS OR INFANT 107 _____ OTHER DISEASES OR CONDITIONS IN FETUS OR INFANT 112 _____			
MOTHER'S HEALTH ANTENATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4, Midwife Only = 5) 117 _____ DATE OF FIRST VISIT TO DOCTOR DURING PREGNANCY (DDMM/YYYY) 118 _____ DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY (DDMM/YYYY) 126 _____ WAS MOTHER IMMUNE TO RUBELLA (Yes = 1, No = 2, Not Known = 3) 134 _____ METHOD OF DELIVERY (Spontaneous = 1, Breech = Forceps = 2, Forceps = 3, Vac. Extraction = 4, Caesarean Sec. = 5, Other = 6) 135 _____ MAIN MATERNAL DISEASE OR CONDITION AFFECTING FETUS OR INFANT 136 _____ OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FETUS OR INFANT 141 _____ INFANT'S HEALTH TYPE OF FEEDING (Artificial = 1, Breast = 2, Combined = 3) 146 _____ WAS BCG ADMINISTERED (Yes = 1, No = 2) 147 _____ MAIN DISEASE OR CONGENITAL MALFORMATION AFFECTING INFANT 148 _____ OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT 153 _____ HOSPITAL WAS ADMISSION BOOKED (Yes = 1, No = 2) 158 _____ DATE OF MOTHER'S ADMISSION (DDMM/YYYY) 159 _____ DATE OF MOTHER'S DISCHARGE (DDMM/YYYY) 167 _____ DATE OF INFANT'S DISCHARGE (DDMM/YYYY) 175 _____ WAS INFANT TRANSFERRED TO OTHER HOSPITAL FOR MEDICAL REASONS (Yes = 1, No = 2) 183 _____ IF 'YES', NAME OF HOSPITAL 184 _____ GENERAL PRACTITIONER ATTENDED BY MOTHER			

Signature

Date

BNF01/2014

APPENDIX C

CLASSIFICATION OF SOCIO-ECONOMIC GROUPS

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 to the socio-economic group 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 socio-economic group. 'Not Classifiable' has been used to categorise indecipherable, unclear, or unlisted occupations where efforts to clarify the information have failed. 'Home Duties' is recorded as the socio-economic group 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 socio-economic group in this report, the categories 'Not Applicable' and 'Not Stated' are combined.

The full list of socio-economic 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.³⁹ 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).

³⁹ 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, as follows:

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 28 includes the following:

Bulgaria	Lithuania
Cyprus	Malta
Croatia ⁴⁰	Poland
Czech Republic	Slovakia
Estonia	Slovenia
Hungary	Romania.
Latvia	

Rest of Europe includes the following:

Albania	Liechtenstein
Andorra	Macedonia, The Former Yugoslav Republic of,
Armenia	Moldova, Republic of
Azerbaijan	Monaco
Belarus	Montenegro
Bosnia and Herzegovina	Norway
Faroe Islands	Russian Federation

⁴⁰ Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on year of birth, Croatia has been included as a member state of the EU for the first time in this report on births in 2014.

Georgia	San Marino
Gibraltar	Serbia
Guernsey	Switzerland
Iceland	Turkey
Isle of Man	Ukraine
Jersey	Vatican City
Kosovo	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 Martin
Dominica	Saint Pierre and Miquelon
Dominican Republic	Saint Vincent and the Grenadines
Ecuador	Suriname
El Salvador	Trinidad and Tobago
Falkland Islands (Malvinas)	Turks and Caicos Islands

French Guiana	United States
Greenland	Uruguay
Grenada	Venezuela
Guadeloupe	Virgin Islands, British
Guatemala	Virgin Island, US.

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 Mother's County of Residence, Total Births
- G2 Mother's Average Age by Mother's Nationality, Total Maternities
- G3 Age of Mother by Maternal Parity, Total Maternities
- G4 Birthweight (grams) for Primiparous Women
- G5 Birthweight (grams) for Multiparous Women
- G6 Birthweight (grams) by Sex, Total Live Births
- G7 Gestational Age (weeks) at Delivery for Primiparous Women
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- G9 Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births
- G10 Mother's County of Residence by Infant's Type of Feeding, Total Live Births
- G11 Mother's Nationality by Breastfed Infants, Total Live Births
- G12 Birthweight (grams) Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates
- G13 Cause of Death: Total Perinatal Deaths
- G14 Age at Death by Plurality, Early Neonatal Deaths (Per Cent)
- G15 Age at Death by Birthweight (<1,000g and ≥1,000g), Early Neonatal Deaths (Per Cent)

TABLE G1

Mother's County of Residence, Total Births

Mother's County of Residence	Number	Per Cent
Carlow	933	1.4
Cavan	1,048	1.6
Clare	1,391	2.1
Cork	7,627	11.3
Donegal	1,845	2.7
Dublin City	15,228	22.5
Dublin County	5,177	7.7
Galway	3,642	5.4
Kerry	1,705	2.5
Kildare	3,470	5.1
Kilkenny	1,310	1.9
Laois	1,187	1.8
Leitrim	395	0.6
Limerick	2,779	4.1
Longford	578	0.9
Louth	1,855	2.7
Mayo	1,653	2.4
Meath	2,969	4.4
Monaghan	825	1.2
Offaly	1,125	1.7
Roscommon	793	1.2
Sligo	821	1.2
Tipperary	2,095	3.1
Waterford	1,623	2.4
Westmeath	1,369	2.0
Wexford	2,104	3.1
Wicklow	2,033	3.0
Other	30	0.0
Total	67,610	100

Notes: Percentage column is subject to rounding.
See Appendix E for details of county of residence classification.

TABLE G2

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

Mother's Nationality	Average Age in Years
Ireland	32.1
UK	31.2
EU15 (excluding Ireland & UK)	33.5
EU15 to EU28	30.0
Rest of Europe	31.0
Africa	31.4
Asia	31.6
America	32.1
Total	31.8

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

TABLE G3

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	1,091 88.6	* ^	* ^	~ ^	0 0.0	~ ^	0 0.0	0 0.0	0 0.0	* 100
20-24 Years	3,591 60.9	1,724 29.3	458 7.8	* ^	* ^	~ ^	0 0.0	~ ^	0 0.0	5,892 100
25-29 Years	6,002 46.0	4,565 35.0	1,686 12.9	542 4.2	178 1.4	49 0.4	* ^	* ^	~ ^	13,057 100
30-34 Years	9,414 38.7	8,993 37.0	4,013 16.5	1,262 5.2	381 1.6	139 0.6	70 0.3	41 0.2	0 0.0	24,313 100
35-39 Years	4,440 25.0	6,247 35.1	4,658 26.2	1,635 9.2	476 2.7	179 1.0	74 0.4	83 0.5	0 0.0	17,792 100
40 Years and Over	* ^	1,274 31.5	938 23.2	506 12.5	197 4.9	95 2.3	* ^	42 1.0	0 0.0	4,047 100
Not Stated	~ ^	~ ^	~ ^	0 0.0	~ ^	0 0.0	0 0.0	0 0.0	0 0.0	~ 100
Total	25,497 38.4	22,920 34.6	11,777 17.8	4,036 6.1	1,257 1.9	468 0.7	206 0.3	* ^	~ ^	66,338 100

Notes: Percentage rows are subject to rounding.
~ Denotes five or fewer births reported to NPRS.
* Further suppression required to prevent disclosure of five or fewer births.
^ Percentage not provided to prevent disclosure of small numbers.

TABLE G4

Birthweight (grams) for Primiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
500-749	*	^	43	295.1	279.1	491.8	465.5	53
750-999	87	0.3	72	172.4	55.6	218.4	150.0	71
1000-1249	75	0.3	69	80.0	43.5	120.0	108.1	62
1250-1499	112	0.4	109	26.8	18.3	44.6	36.0	88
1500-1999	429	1.6	415	32.6	21.7	53.6	35.6	325
2000-2499	1,162	4.5	1,147	12.9	6.1	18.9	12.1	982
2500-2999	3,599	13.8	3,585	3.9	2.2	6.1	4.5	3,432
3000-3499	9,161	35.1	9,153	0.9	0.5	1.4	1.2	9,105
3500-3999	8,252	31.7	8,244	1.0	0.4	1.3	1.2	8,247
4000-4499	2,740	10.5	2,738	0.7	0.7	1.5	1.1	2,740
4500 and Over	392	1.5	392	-	-	-	-	392
Not stated	~	^	0	1000.0	-	1000.0	1000.0	0
Total	26,071	100	25,967	4.0	2.1	6.1	4.6	25,497
Singleton Births								
500-749	41	0.2	26	365.9	346.2	585.4	552.6	41
750-999	*	^	47	216.7	85.1	283.3	203.7	*
1000-1249	50	0.2	44	120.0	45.5	160.0	142.9	50
1250-1499	64	0.3	61	46.9	32.8	78.1	63.5	64
1500-1999	241	1.0	228	53.9	30.7	83.0	55.6	241
2000-2499	804	3.2	791	16.2	7.6	23.6	15.1	804
2500-2999	3,252	13.0	3,238	4.3	2.5	6.8	4.9	3,252
3000-3499	9,040	36.3	9,032	0.9	0.6	1.4	1.2	9,040
3500-3999	*	^	8,235	1.0	0.4	1.3	1.2	*
4000-4499	2,740	11.0	2,738	0.7	0.7	1.5	1.1	2,740
4500 and Over	392	1.6	392	-	-	-	-	392
Not stated	0	0.0	0	-	-	-	-	0
Total	24,927	100	24,832	3.8	1.9	5.7	4.3	24,927
Multiple Births								
500-749	*	^	17	150.0	176.5	300.0	300.0	12
750-999	*	^	25	74.1	-	74.1	38.5	*
1000-1249	25	2.2	25	-	40.0	40.0	40.0	12
1250-1499	48	4.2	48	-	-	-	-	24
1500-1999	188	16.4	187	5.3	10.7	16.0	10.7	84
2000-2499	358	31.3	356	5.6	2.8	8.4	5.6	178
2500-2999	347	30.3	347	-	-	-	-	180
3000-3499	121	10.6	121	-	-	-	-	65
3500-3999	*	^	9	-	-	-	-	~
4000-4499	0	0.0	0	-	-	-	-	0
4500 and Over	0	0.0	0	-	-	-	-	0
Not stated	~	^	0	1000.0	-	1000.0	1000.0	0
Total	1,144	100	1,135	7.9	6.2	14.0	11.4	570

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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 G5

Birthweight (grams) for Multiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
500-749	78	0.2	45	423.1	466.7	692.3	636.4	71
750-999	62	0.1	44	290.3	227.3	451.6	370.4	57
1000-1249	93	0.2	77	172.0	77.9	236.6	164.7	79
1250-1499	121	0.3	111	82.6	63.1	140.5	79.6	104
1500-1999	405	1.0	387	44.4	25.8	69.1	35.8	324
2000-2499	1,287	3.1	1,261	20.2	6.3	26.4	15.7	1,114
2500-2999	4,512	10.9	4,496	3.5	1.1	4.7	3.8	4,252
3000-3499	12,808	30.8	12,780	2.2	0.6	2.8	2.2	12,686
3500-3999	14,927	35.9	14,916	0.7	0.3	1.0	0.9	14,910
4000-4499	6,092	14.7	6,089	0.5	0.2	0.7	0.5	6,090
4500 and Over	1,153	2.8	1,150	2.6	0.9	3.5	2.6	1,153
Total	41,538	100	41,356	4.4	2.0	6.3	4.4	40,840
Singleton Births								
500-749	64	0.2	34	468.8	441.2	703.1	634.6	64
750-999	*	^	*	300.0	171.4	420.0	309.5	*
1000-1249	71	0.2	56	211.3	107.1	295.8	206.3	71
1250-1499	86	0.2	77	104.7	90.9	186.0	102.6	86
1500-1999	260	0.6	244	61.5	36.9	96.2	48.6	260
2000-2499	917	2.3	891	28.4	7.9	36.0	21.0	917
2500-2999	3,985	9.9	3,969	4.0	1.3	5.3	4.3	3,985
3000-3499	12,568	31.3	12,540	2.2	0.6	2.9	2.2	12,568
3500-3999	14,900	37.1	14,889	0.7	0.3	1.0	0.9	14,900
4000-4499	*	^	*	0.5	0.2	0.7	0.5	*
4500 and Over	1,153	2.9	1,150	2.6	0.9	3.5	2.6	1,153
Total	40,142	100	39,970	4.3	1.7	6.0	4.0	40,142
Multiple Births								
500-749	14	1.0	11	214.3	545.5	642.9	642.9	7
750-999	*	^	*	250.0	444.4	583.3	583.3	*
1000-1249	22	1.6	21	45.5	-	45.5	45.5	8
1250-1499	35	2.5	34	28.6	-	28.6	28.6	18
1500-1999	145	10.4	143	13.8	7.0	20.7	13.9	64
2000-2499	370	26.5	370	-	2.7	2.7	2.7	197
2500-2999	527	37.8	527	-	-	-	-	267
3000-3499	240	17.2	240	-	-	-	-	118
3500-3999	27	1.9	27	-	-	-	-	10
4000-4499	~	^	~	-	-	-	-	~
4500 and Over	0	0.0	0	-	-	-	-	0
Total	1,396	100	1,386	7.2	8.7	15.8	15.1	698

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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 G6

Birthweight (grams) by Sex, Total Live Births

	Male		Female		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
500-749	51	0.1	37	0.1	88	0.1
750-999	63	0.2	53	0.2	116	0.2
1000-1249	76	0.2	70	0.2	146	0.2
1250-1499	126	0.4	94	0.3	220	0.3
1500-1999	368	1.1	433	1.3	801	1.2
2000-2499	1,095	3.2	1,313	4.0	2,408	3.6
2500-2999	3,519	10.1	4,563	14.0	8,082	12.0
3000-3499	10,392	29.9	11,541	35.4	21,933	32.6
3500-3999	12,431	35.8	10,729	32.9	23,160	34.4
4000-4499	5,516	15.9	3,310	10.2	8,826	13.1
4500 and Over	1,075	3.1	467	1.4	1,542	2.3
Total	34,712	100	32,610	100	67,322	100

Notes: Percentage columns are subject to rounding.

There were 2 births where sex was recorded as indeterminate; these were excluded from this table.

TABLE G7

Gestational Age (weeks) at Delivery for Primiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Less than 28	120	0.5	94	216.7	159.6	341.7	319.0	103
28-31	236	0.9	217	80.5	41.5	118.6	99.1	193
32-36	1,661	6.4	1,634	16.3	5.5	21.7	14.0	1,385
37-41	23,006	88.2	22,976	1.3	0.9	2.2	1.6	22,768
42 and Over	1,042	4.0	1,040	1.9	1.9	3.8	1.0	1,042
Not Stated	6	0.0	6	-	-	-	-	6
Total	26,071	100	25,967	4.0	2.1	6.1	4.6	25,497
Singleton Births								
Less than 28	82	0.3	61	256.1	180.3	390.2	359.0	82
28-31	156	0.6	137	121.8	58.4	173.1	145.7	156
32-36	1,116	4.5	1,093	20.6	8.2	28.7	18.1	1,116
37-41	22,525	90.4	22,495	1.3	0.8	2.1	1.6	22,525
42 and Over	1,042	4.2	1,040	1.9	1.9	3.8	1.0	1,042
Not Stated	6	0.0	6	-	-	-	-	6
Total	24,927	100	24,832	3.8	1.9	5.7	4.3	24,927
Multiple Births								
Less than 28	38	3.3	33	131.6	121.2	236.8	236.8	21
28-31	80	7.0	80	-	12.5	12.5	12.5	37
32-36	545	47.6	541	7.3	-	7.3	5.5	269
37-41	481	42.0	481	-	4.2	4.2	-	243
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	1,144	100	1135	7.9	6.2	14.0	11.4	570

Notes: Percentage column is subject to rounding.

a Rates are calculated 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 G8

Gestational Age (weeks) at Delivery for Multiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Less than 28	*	^	*	301.4	333.3	534.2	484.8	*
28-31	256	0.6	228	109.4	26.3	132.8	101.2	219
32-36	2,053	4.9	2,010	20.9	9.0	29.7	14.8	1,755
37-41	38,339	92.3	38,276	1.6	0.6	2.2	1.6	37,990
42 and Over	741	1.8	737	5.4	-	5.4	2.7	741
Not Stated	~	^	~	-	-	-	-	~
Total	41,538	100	41,356	4.4	2.0	6.3	4.3	40,840
Singleton Births								
Less than 28	*	^	*	321.7	307.7	530.4	465.3	*
28-31	183	0.5	155	153.0	38.7	185.8	143.7	183
32-36	1,462	3.6	1,422	27.4	12.0	39.0	18.2	1,462
37-41	37,638	93.8	37,575	1.7	0.6	2.3	1.6	37,638
42 and Over	741	1.8	737	5.4	-	5.4	2.7	741
Not Stated	~	^	~	-	-	-	-	~
Total	40,142	100	39,970	4.3	1.7	6.0	4.0	40,142
Multiple Births								
Less than 28	31	2.2	24	225.8	416.7	548.4	548.4	17
28-31	73	5.2	73	-	-	-	-	36
32-36	591	42.3	588	5.1	1.7	6.8	6.8	293
37-41	701	50.2	701	-	1.4	1.4	-	352
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	1,396	100	1,386	7.2	8.7	15.8	15.1	698

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated 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 G9

Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births (per cent)

	Postnatal Length of Stay			
	0-2 Days	3-5 Days	6-8 Days	9+ Days
Singleton Births				
Spontaneous	78.8	20.5	0.6	0.1
Instrumental [#]	58.3	40.0	1.5	0.2
Caesarean section	5.8	89.1	4.5	0.6
Multiple Births				
Spontaneous	38.3	56.1	4.9	0.8
Instrumental [#]	23.9	69.1	4.2	2.7
Caesarean section	1.4	80.8	15.5	2.3

Notes:

- Percentages are subject to rounding.
- # Instrumental delivery includes breech/forceps, forceps or vacuum extraction. Domiciliary births are excluded from this table. See Appendix H for detailed analysis.

TABLE G10

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	Total
Carlow	449	435	46	930
	48.3	46.7	4.9	100
	1.6	1.4	0.6	1.4
Cavan	573	406	59	1,038
	55.2	39.1	5.7	100
	2.0	1.3	0.8	1.5
Clare	793	509	82	1,384
	57.3	36.8	5.9	100
	2.7	1.6	1.1	2.1
Cork	2,905	4,275	406	7,586
	38.3	56.4	5.4	100
	10.0	13.7	5.7	11.3
Donegal	1,062	636	140	1,838
	57.8	34.6	7.6	100
	3.7	2.0	2.0	2.7
Dublin City	5,480	7,417	2,227	15,124
	36.2	49.0	14.7	100
	18.9	23.8	31.2	22.5
Dublin County	1,648	2,689	816	5,153
	32.0	52.2	15.8	100
	5.7	8.6	11.4	7.7
Galway	1,517	1,443	658	3,618
	41.9	39.9	18.2	100
	5.2	4.6	9.2	5.4
Kerry	728	844	122	1,694
	43.0	49.8	7.2	100
	2.5	2.7	1.7	2.5
Kildare	1,420	1,553	486	3,459
	41.1	44.9	14.1	100
	4.9	5.0	6.8	5.1
Kilkenny	517	764	21	1,302
	39.7	58.7	1.6	100
	1.8	2.5	0.3	1.9
Laois	512	608	56	1,176
	43.5	51.7	4.8	100
	1.8	2.0	0.8	1.7
Leitrim	197	140	56	393
	50.1	35.6	14.2	100
	0.7	0.4	0.8	0.6
Limerick	1,629	1,002	133	2,764
	58.9	36.3	4.8	100
	5.6	3.2	1.9	4.1
Longford	291	261	20	572
	50.9	45.6	3.5	100
	1.0	0.8	0.3	0.9
Louth	967	656	220	1,843
	52.5	35.6	11.9	100
	3.3	2.1	3.1	2.7
Mayo	754	586	300	1,640
	46.0	35.7	18.3	100
	2.6	1.9	4.2	2.4

TABLE G10

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			
	Artificial	Breast	Combined	Total
Meath	1,278	1,339	338	2,955
	43.2	45.3	11.4	100
	4.4	4.3	4.7	4.4
Monaghan	443	329	48	820
	54.0	40.1	5.9	100
	1.5	1.1	0.7	1.2
Offaly	636	426	53	1,115
	57.0	38.2	4.8	100
	2.2	1.4	0.7	1.7
Roscommon	375	312	100	787
	47.6	39.6	12.7	100
	1.3	1.0	1.4	1.2
Sligo	414	263	142	819
	50.5	32.1	17.3	100
	1.4	0.8	2.0	1.2
Tipperary	1,140	897	39	2,076
	54.9	43.2	1.9	100
	3.9	2.9	0.5	3.1
Waterford	716	860	37	1,613
	44.4	53.3	2.3	100
	2.5	2.8	0.5	2.4
Westmeath	641	624	94	1,359
	47.2	45.9	6.9	100
	2.2	2.0	1.3	2.0
Wexford	1,014	899	172	2,085
	48.6	43.1	8.2	100
	3.5	2.9	2.4	3.1
Wicklow	813	939	264	2,016
	40.3	46.6	13.1	100
	2.8	3.0	3.7	3.0
Other	16	7	6	29
	55.2	24.1	20.7	100
	0.1	0.0	0.1	0.0
Total	28,928	31,119	7,141	67,188
	43.1	46.3	10.6	100
	100	100	100	100

Notes: Percentage rows and columns are subject to rounding.
See Appendix E for details of county of residence classification.
This table excludes early neonatal deaths.

TABLE G11

Mother's Nationality by Exclusively Breastfed Infants, Total Live Births (Per Cent)

Mother's Nationality	Breastfeeding (%)
Ireland	40.8
UK	50.6
EU15 (excluding Ireland & UK)	78.4
EU15 to EU28	73.4
Rest of Europe	73.9
Africa	44.7
Asia	53.0
America	72.9

Notes: Percentage rows are subject to rounding.
 Categories where percentages were based on <100 live births and where nationality was not stated are not included.
 See Appendix F for a description of the classification system for nationality.
 This table excludes early neonatal deaths.

TABLE G12

Birthweight (grams): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates

	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-partum Stillbirths	Intra-partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total Births										
500-749	84	19.9	44	*	~	366.9	33	375.0	604.3	556.5
750-999	47	11.1	32	0	~	221.5	*	120.7	315.4	238.8
1000-1249	31	7.3	21	~	0	131.0	*	61.6	184.5	138.4
1250-1499	22	5.2	*	0	~	55.8	9	40.9	94.4	58.0
1500-1999	51	12.1	27	~	~	38.4	19	23.7	61.2	35.7
2000-2499	56	13.3	38	~	~	16.7	15	6.2	22.9	14.0
2500-2999	43	10.2	28	~	~	3.7	13	1.6	5.3	4.1
3000-3499	49	11.6	31	~	~	1.6	13	0.6	2.2	1.8
3500-3999	26	6.2	17	~	0	0.8	*	0.3	1.1	1.0
4000-4499	8	1.9	~	0	0	0.6	~	0.3	0.9	0.7
4500 and over	~	^	~	0	0	1.9	~	0.6	2.6	1.9
Not stated	~	^	~	0	0	1000.0	0	-	1000.0	1000.0
Total	422	100	259	17	10	4.2	136	2.0	6.2	4.5
Singleton Births										
500-749	69	18.0	38	*	~	428.6	24	400.0	657.1	600.0
750-999	38	9.9	*	0	~	254.5	10	122.0	345.5	250.0
1000-1249	*	^	*	~	0	173.6	8	80.0	239.7	178.6
1250-1499	*	^	*	0	~	80.0	9	65.2	140.0	85.1
1500-1999	45	11.7	*	~	0	57.9	*	33.9	89.8	52.0
2000-2499	*	^	*	~	~	22.7	*	7.7	30.2	18.2
2500-2999	43	11.2	28	~	~	4.1	13	1.8	5.9	4.6
3000-3499	49	12.8	31	~	~	1.7	13	0.6	2.3	1.8
3500-3999	26	6.8	17	~	0	0.8	*	0.3	1.1	1.0
4000-4499	*	^	~	0	0	0.6	~	0.3	0.9	0.7
4500 and over	~	^	~	0	0	1.9	~	0.6	2.6	1.9
Not stated	0	0.0	0	0	0	-	0	-	-	-
Total	384	100	242	*	*	4.1	117	1.8	5.9	4.2
Multiple Births										
500-749	15	39.5	6	0	0	176.5	9	321.4	441.2	441.2
750-999	9	23.7	~	0	0	128.2	~	117.6	230.8	210.5
1000-1249	~	^	~	0	0	21.3	~	21.7	42.6	42.6
1250-1499	~	^	~	0	0	12.0	0	-	12.0	12.0
1500-1999	6	15.8	~	~	~	9.0	~	9.1	18.0	12.1
2000-2499	~	^	~	0	0	2.7	~	2.8	5.5	4.1
2500-2999	0	0.0	0	0	0	-	0	-	-	-
3000-3499	0	0.0	0	0	0	-	0	-	-	-
3500-3999	0	0.0	0	0	0	-	0	-	-	-
4000-4499	0	0.0	0	0	0	-	0	-	-	-
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Not stated	~	^	~	0	0	1000.0	0	-	1000.0	1000.0
Total	38	100	17	~	~	7.5	19	7.5	15.0	13.4

Notes: Percentage column is subject to rounding.

~ Denotes five or fewer births reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births.

^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated 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 G13

Cause of Death: Total Perinatal Deaths

	Stillbirth		Early Neonatal Death		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Maternal factors (P00-P04)	82	28.7	9	6.6	91	21.6
Immaturity (P05-P08)	24	8.4	24	17.6	48	11.4
Respiratory/cardiovascular disorders (P20-P29)	37	12.9	21	15.4	58	13.7
Unspecified/Unexplained (P95,P96.9)	33	11.5	18	13.2	51	12.1
Congenital malformations (Q00-Q99)	67	23.4	51	37.5	118	28.0
All other specific causes	43	15.0	13	9.6	56	13.3
Total	286	100	136	100	422	100

Note: Percentage columns are subject to rounding.

TABLE G14

Age at Death by Plurality, Early Neonatal Deaths (Per Cent)

	Total Births	Singleton Births	Multiple Births
	Per Cent	Per Cent	Per Cent
Completed Hours			
<1 hour	20.6	19.7	26.3
1-23 hours	36.8	36.8	36.8
Total under 1 day	57.4	56.4	63.2
1-6 completed days	42.6	43.6	36.8
Total	100	100	100

Note: Percentages are subject to rounding.

TABLE G15

Age at Death by Birthweight (<1,000g and ≥1,000g), Early Neonatal Deaths (Per Cent)

	Total Births	Birthweight < 1,000g	Birthweight ≥ 1,000g
	Per Cent	Per Cent	Per Cent
Completed Hours			
<1 hour	20.6	34.0	13.5
1-23 hours	36.8	46.8	31.5
Total under 1 day	57.4	80.9	44.9
1-6 completed days	42.6	19.1	55.1
Total	100	100	100

Note: Percentages are subject to rounding.

APPENDIX H

DOMICILIARY BIRTHS, 2005–2014

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.

Table H1 presents selected statistics for domiciliary births for the period 2005–2014.

- There were 186 domiciliary births in 2014 representing 0.3 per cent of all births.
- The number of domiciliary births has increased by 1.6 per cent over the decade while the increase from 162 births in 2013 to 186 births in 2014 is estimated at 14.8 per cent. The lowest number of domiciliary births over the 10-year period was reported for 2009 at 148 and the highest number reported in 2007 and 2014 at 186 (see Figure H1).
- The average age of mothers having domiciliary births has remained stable, ranging from 32.9 years in 2005 to 34.5 years in 2009 and is recorded as 34.1 years in 2014.
- Women choosing a domiciliary delivery in 2014 had an average maternal parity of 1.6 previous births.
- The percentage of women recording any breastfeeding was 94.0 per cent in 2005; this increased to 99.4 per cent in 2011 and is reported at 93.5 per cent in 2014.
- Exclusive breastfeeding was reported for 91.4 per cent of domiciliary births in 2014.
- The average birthweight for domiciliary births in 2014 was 3,767.7 grams.

TABLE H1

Trends in Domiciliary Births—Selected Statistics, 2005–2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
											2005-2014	2013-2014
General Characteristics												
Total Domiciliary Births	183	170	186	158	148	177	168	176	162	186	1.6	14.8
Age of mother (years) ^{1,2}	Avg	32.9	33.9	33.6	33.8	34.5	33.4	33.2	33.3	34.1	3.6	2.4
Single mothers ¹	%	23.5	20.0	16.1	25.3	22.3	24.3	29.2	24.1	24.7	5.1	2.5
Maternal parity ¹	Avg	1.7	1.7	1.6	1.5	1.7	1.4	1.5	1.5	1.6	-5.9	6.7
Gestational age at delivery in weeks ¹	Avg	40.0	40.1	40.0	40.1	40.0	40.0	39.9	39.8	40.0	0.0	0.5
Interval since last birth (years) ^{2,3}	Avg	2.8	2.9	2.9	3.1	3.2	2.9	2.7	2.6	2.5	-10.7	-3.8
Immunity to Rubella ¹	%	95.1	96.5	100.0	96.2	98.0	97.2	97.0	95.1	96.2	1.2	1.2
Any Breastfeeding ^{4,5}	%	94.0	98.2	96.2	95.6	96.6	97.2	99.4	96.3	93.5	-0.5	-2.9
Exclusive Breastfeeding ⁴	%	94.0	97.1	95.7	95.6	96.6	98.2	96.6	93.8	91.4	-2.8	-2.6
Combined Antenatal Care – Midwife and G.P./Hospital ⁶	%	71.6	76.5	60.8	77.8	99.3	98.9	93.5	96.9	93.0	29.9	-4.0
Birthweight (grams) ⁷	Avg	3,760.1	3,742.2	3,699.2	3,667.1	3,764.9	3,679.6	3,713.1	3,720.1	3,767.7	0.2	1.3
Low Birthweight (<2,500 grams) ⁷	%	0.5	0.6	1.1	0.6	0.0	0.0	0.0	0.0	0.5	0.0	0.5

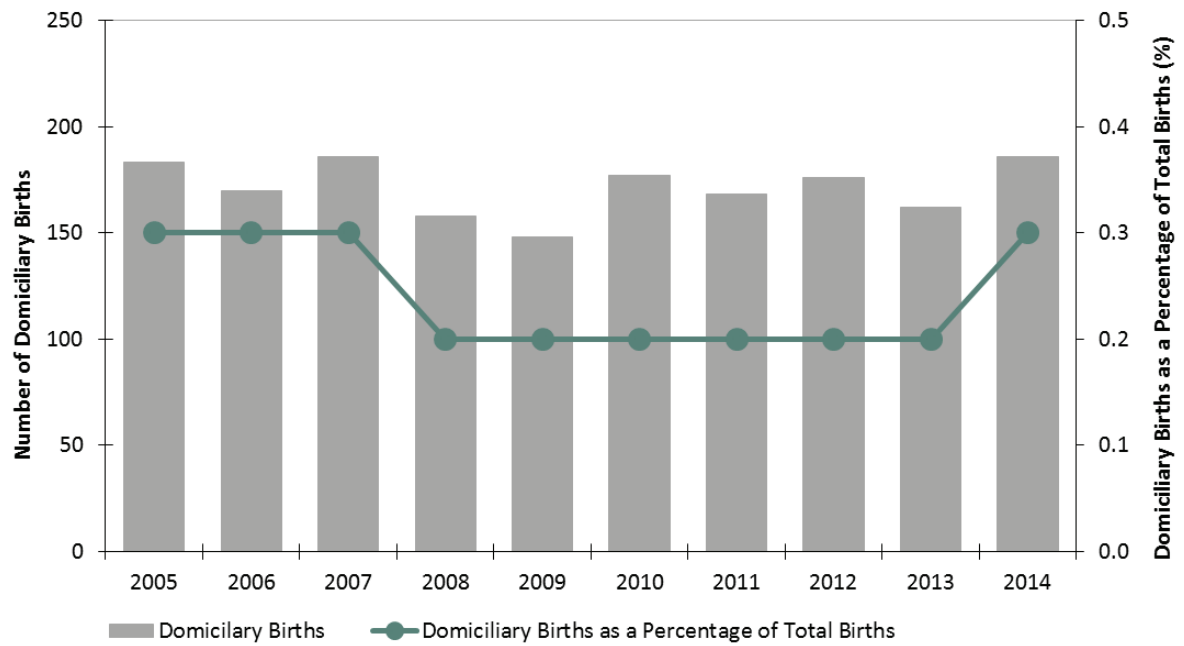
Notes:

Percentages are subject to rounding.

¹ There were no domiciliary multiple births in the years 2005–2014.² Based on maternities.³ The calculation of average number of years has been revised in this report, therefore, caution should be exercised when comparing this with data reported in previous publications.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.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.

FIGURE H1

Number and Percentage of Domiciliary Births Reported, 2005–2014



Note: See Table 2.1 and Table H1 for data.

APPENDIX I

METHOD OF DELIVERY FOR PRIMIPAROUS AND MULTIPAROUS WOMEN

Table I1 outlines trends in the method of delivery for primiparous and multiparous women over the decade 2005 to 2014.

- Spontaneous deliveries have fallen for total maternities from 59.6 per cent in 2005 to 55.0 per cent in 2014, with the rate of decrease higher for primiparous than multiparous women.
- Delivery by Caesarean section has increased for total maternities from 25.3 per cent in 2005 to 29.5 per cent in 2014.
- 31.6 per cent of primiparous women delivered by Caesarean section in 2014 compared to 27.6 per cent in 2005, with the rate of increase for Caesarean section delivery higher for multiparous women, increasing from 23.7 per cent in 2005 to 28.3 per cent in 2014 (see Figure I1).

TABLE I1

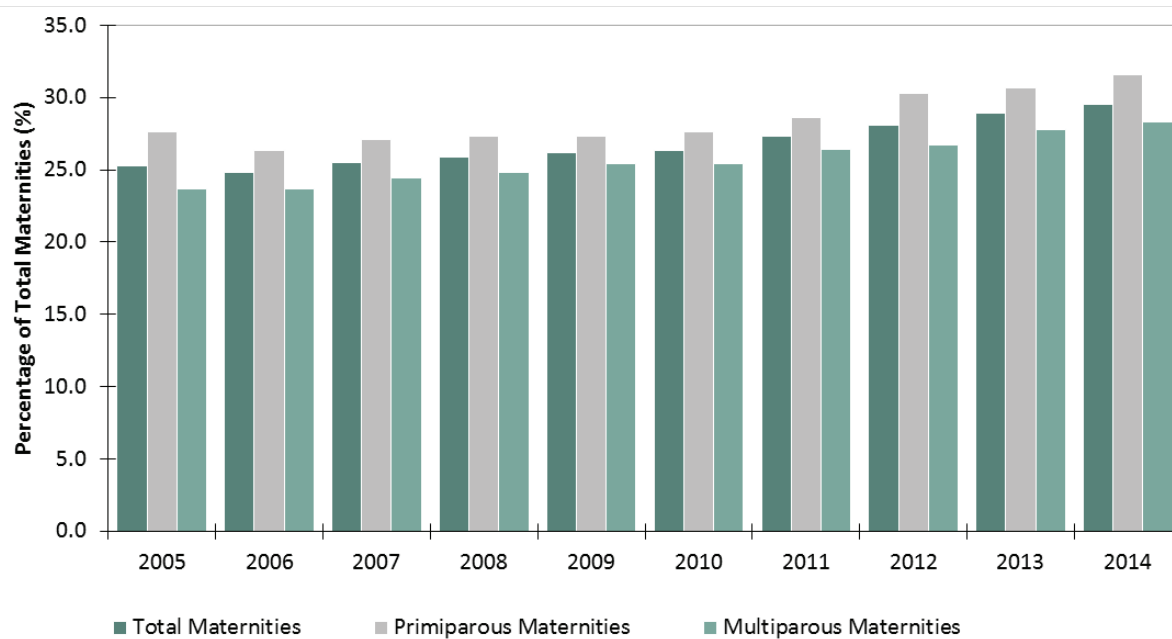
Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2005–2014

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	% Change	
											2005– 2014	2013– 2014
Total Maternities												
Spontaneous	59.6	59.4	58.0	57.4	57.0	57.2	56.6	56.3	55.9	55.0	-7.7	-1.6
Breech/forceps	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.3	-25.0	0.0
Forceps	2.8	3.0	3.7	3.7	4.1	4.0	4.1	3.9	3.9	3.8	35.7	-2.6
Vacuum extraction	11.7	12.2	12.2	12.6	12.2	11.9	11.5	11.3	10.9	11.3	-3.4	3.7
Caesarean section	25.3	24.8	25.5	25.9	26.2	26.3	27.3	28.1	28.9	29.5	16.6	2.1
Other specified & combined	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-100.0	0.0
Total	100	100	100	100	100	100	100	100	100	100		
Primiparous												
Spontaneous	45.0	45.6	44.1	43.5	42.7	42.7	41.2	40.5	40.2	39.0	-13.3	-3.0
Breech/forceps	0.6	0.6	0.6	0.5	0.5	0.7	0.6	0.4	0.4	0.4	-33.3	0.0
Forceps	5.6	5.8	7.2	7.2	8.2	8.0	8.6	8.3	8.4	8.2	46.4	-2.4
Vacuum extraction	21.0	21.5	21.0	21.4	21.2	21.0	21.0	20.5	20.3	20.8	-1.0	2.5
Caesarean section	27.6	26.3	27.1	27.3	27.3	27.6	28.6	30.3	30.7	31.6	14.5	2.9
Other specified & combined	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-100.0	0.0
Total	100	100	100	100	100	100	100	100	100	100		
Multiparous												
Spontaneous	69.5	69.1	68.0	67.6	67.4	67.5	66.8	66.4	65.7	65.0	-6.5	-1.1
Breech/forceps	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.0	-33.3
Forceps	0.9	1.0	1.2	1.1	1.1	1.2	1.1	1.1	1.0	1.0	11.1	0.0
Vacuum extraction	5.5	5.7	5.8	6.0	5.7	5.4	5.2	5.4	5.1	5.4	-1.8	5.9
Caesarean section	23.7	23.7	24.4	24.8	25.4	25.4	26.4	26.7	27.8	28.3	19.4	1.8
Other specified & combined	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	-100.0	-100.0
Total	100	100	100	100	100	100	100	100	100	100		

Notes: Percentage columns are subject to rounding.
Maternities with 'not stated' parity were excluded from the table.

FIGURE I1

Percentage Distribution of Maternities Delivering by Caesarean Section for Total, Primiparous and Multiparous Women, 2005–2014



Note: See Table I1 for data.

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