

# Perinatal Statistics Report

Healthcare Pricing Office

December 2014

2013



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive



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# METADATA

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## SUMMARY DESCRIPTION

This is a report on national data on Perinatal events in 2013. 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 note that there is the potential for minor revisions to the data set analysed in this report.

Please check online at [www.hpo.ie](http://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 Health Service Executive provide essential support for the operation and development of this system. In particular, we would like to express our gratitude to Professor Michael Turner and Dr. Léan McMahon (National Clinical Programme for Obstetrics and Gynaecology) for their valuable contributions and comments on an early draft of this report.

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 Malgorzata Chance, 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. We would also like to thank specifically Deirdre Murphy, Maureen Cronin and Lorna Collins for reviewing and commenting on earlier drafts of this report.

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.

Up to the end of 2013, Professor Miriam M Wiley was head of the Health Research and Information Division at the Economic and Social Research Institute and was responsible for the management of the HIPE and NPRS systems. We would like to acknowledge the valuable contribution that Professor Miriam M Wiley made to these systems.



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## KEY FINDINGS

The Perinatal Statistics Report 2013 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 2013.

### SUMMARY STATISTICS, 2013

#### 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 <sup>b</sup>	
	Number	Number	Number	Rate <sup>a</sup>	Number	Rate <sup>a</sup>	Number	Rate <sup>a</sup>	Number	Rate <sup>a</sup>
Singleton	66,650	66,386	264	4.0	133	2.0	397	6.0	269	4.0
Multiple	2,617	2,604	13	5.0	26	10.0	39	14.9	28	10.7
<b>Total</b>	<b>69,267</b>	<b>68,990</b>	<b>277</b>	<b>4.0</b>	<b>159</b>	<b>2.3</b>	<b>436</b>	<b>6.3</b>	<b>297</b>	<b>4.3</b>

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, 2013

- 69,267 births were reported to NPRS in 2013, representing a 3.8 per cent decrease between 2012 and 2013
- 6% 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)
- 56% of babies recorded any breastfeeding in 2013, compared to 53% in 2009 and 46% in 2004
- 46% of babies were exclusively breastfed, compared to 42% in 2009 and 45% in 2004
- 30% of total live births were delivered by caesarean section, with 28% of singleton and 68% of multiple live births delivered by this method. In 2004, 25% of total live births were delivered by caesarean section
- 95% of singleton births and 64% of multiple births were discharged from hospital within 5 days of birth
- The perinatal mortality rate was 6.3 per 1,000 live births and stillbirths (6.0 per 1,000 singleton births and 14.9 per 1,000 multiple births). This rate has fallen by 22% since 2004, when it was 8.1 per 1,000 live births and stillbirths
- The perinatal mortality rate was highest, at 9.1 per 1,000 live births and stillbirths, for babies born to mothers aged 40 to 44 years. The lowest perinatal mortality rate of 5.0 per 1,000 live births and stillbirths was for babies born to mothers aged 30 to 34 years.

### MOTHERS, 2013

- 67,952 maternities were reported to NPRS in 2013, representing a 3.9 per cent decrease between 2012 and 2013
- The average age of mothers has increased from 30.8 years in 2004 to 32.1 years in 2013
- 32% of mothers were aged 35 years or older, up from 24% in 2004
- 20% of first births were to women aged 35 years or older compared to 13% in 2004
- 2% of total mothers giving birth were aged under 20 years, compared to 4% in 2004
- 38% gave birth for the first time, with an average age for first time mothers of 30.3 years
- 2% had a multiple pregnancy
- 56% of mothers recorded any breastfeeding, compared to 53% in 2009 and 46% in 2004
- 47% of mothers exclusively breastfed, compared to 45% in 2009 and 42% in 2004
- 56% of women having a singleton live birth delivered spontaneously, while deliveries using forceps accounted for 4%, vacuum extractions for 11%, and 28% by caesarean section
- 25% of women having a multiple live birth delivered spontaneously, while deliveries using forceps accounted for 1%, vacuum extractions for 6%, and 67% by caesarean section
- For women having a singleton birth 54% had a postnatal length of stay of 2 days or less and 44% 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
- 23% of births in 2013 were to mothers born outside Ireland compared to 24% in 2009 and 15% in 2004.



# SECTION ONE

## INTRODUCTION

## INTRODUCTION

The National Perinatal Reporting System (NPRS) is the principal source of national data on perinatal events. From 1st January 2014 the Health Research and Information Division at the Economic and Social Research Institute (ESRI) and the National Casemix Programme (HSE) became the Healthcare Pricing Office (HPO).<sup>1</sup> While the HPO has initially been established on an administrative basis, attached to the HSE, it is planned that this Office will ultimately be established on a statutory basis. Part of the remit of the HPO is to oversee 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.<sup>2</sup> 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 2013.<sup>3</sup> 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. Unlike previous *Perinatal Statistics Reports*, European comparisons on perinatal mortality rates and total period fertility rates are not included as 2013 data were not available for any EU countries at time of publication.

**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.

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<sup>1</sup> See [www.hpo.ie](http://www.hpo.ie)

<sup>2</sup> 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).

<sup>3</sup> Previous reports in this series can be downloaded from [www.hpo.ie](http://www.hpo.ie).

**SECTION FOUR** presents tables relating to variables which fall more naturally into the category of the use of health care facilities, and deals in particular with the following: type of antenatal care received, timing of first antenatal visit, length of mother's antenatal and postnatal stay, whether hospital admission was 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 2004 to 2013. Appendix I includes data on method of delivery for primiparous and multiparous women for 2004 to 2013.

## 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.<sup>4</sup>
- Reporting of small numbers: It is policy of the HPO not to 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.

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<sup>4</sup> See [www.who.int/classifications/icd/ICD-10\\_2nd\\_ed\\_volume2.pdf](http://www.who.int/classifications/icd/ICD-10_2nd_ed_volume2.pdf) ; pg 96, 5.7.2. Reporting Criteria

- 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 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'. This category is combined with 'not stated' for the purposes of presenting data on father's socio-economic group<sup>5</sup> 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.

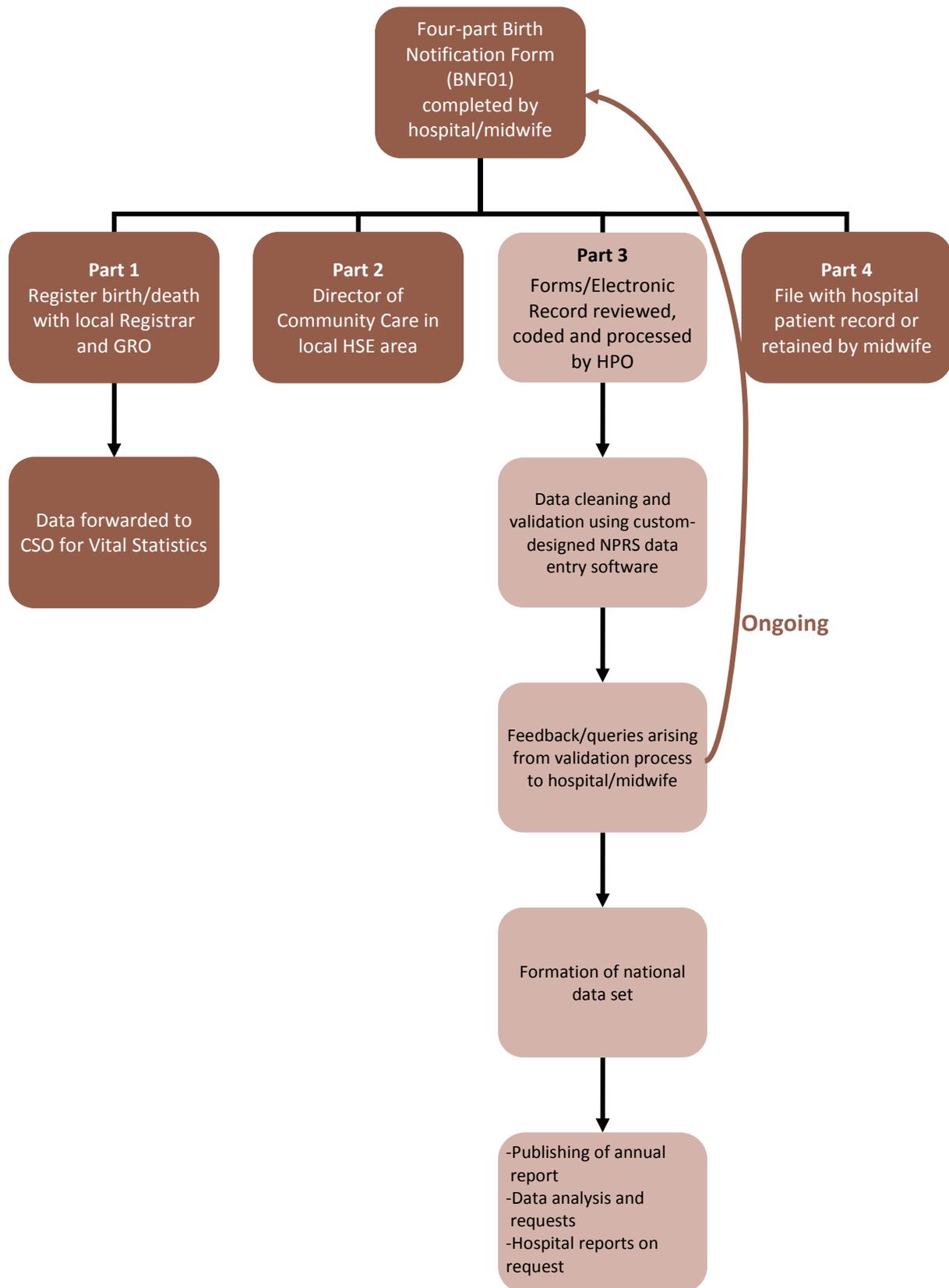
The link between the Birth Notification Form and the birth registration process for the General Register Office (GRO) ensures complete coverage of all births for the NPRS. The number of total births included in the NPRS are based on the data collected by the NPRS via part 3 of the Birth Notification 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.<sup>6</sup>

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<sup>5</sup> 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.

<sup>6</sup> 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 quarterly 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)
- Marital status of mother and date of present marriage

### CLINICAL DATA

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

### ADMINISTRATIVE DATA

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

## DATA COLLECTION AND QUALITY

The NPRS team at the HPO 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.

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 continued commitment of those persons responsible for notification and registration of the births in each hospital/maternity unit throughout the country and on each SECM.



# **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.<sup>7</sup> International comparisons then allow the most recent statistics for Ireland to be compared with those for other European countries.<sup>8</sup> The indicators for Ireland were calculated using data from the NPRS for the period 2004 to 2013.<sup>9</sup>

## TRENDS IN SELECTED STATISTICS

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

- While there has been an increase in total births from 2004 to 2013, the trend in total births over the past five years has been downward.
- Mothers giving birth in Ireland in 2013 with an average age of 32.1 years were on average 1.3 years older than those who gave birth in 2004 (average age 30.8 years) and just slightly older than those giving birth in 2012 (average age 31.9 years).
- Average parity (number of previous live births and stillbirths) has remained stable over the decade 2004–2013 and is recorded at 1.0 in 2013.
- Over the decade 2004–2013, 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 9.1 per cent of births in 2004 compared with 4.7 per cent in 2013. Births to primiparous women aged 40 years and older accounted for 1.8 per cent of births in 2004 compared to 3.5 per cent in 2013.
- The proportion of mothers giving birth for a second time or more fell for all mothers aged less than 30 years. Births to multiparous women aged less than 20 years accounted for 0.7 per cent of births in 2004 compared with 0.3 per cent in 2013.
- The number of previous stillbirths per 1,000 maternities has declined by 13.5 per cent over the decade from an average of 12.6 in 2004 to 10.9 in 2013.
- Immunity to rubella for mothers increased from 90.5 per cent in 2004 to 94.2 per cent in 2013.<sup>10</sup>

<sup>7</sup> 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.

<sup>8</sup> Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on year of birth, Croatia has not been included as a member state of the EU in this report.

<sup>9</sup> Previous reports in this series can be downloaded from [www.hpo.ie](http://www.hpo.ie).

<sup>10</sup> 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.

- The percentage of women recording any breastfeeding was 45.6 per cent in 2004, increasing to 55.9 per cent in 2013; an increase of 22.6 per cent in the proportion of women recording any breastfeeding over the decade.<sup>11</sup>
- The percentage of women exclusively breastfeeding has increased from 42.4 per cent in 2004 to 46.6 per cent in 2013; an increase of 9.9 per cent in the proportion of women recording exclusive breastfeeding over the decade.
- Mother's average length of stay in hospital was recorded at 3.9 days in 2004 and has decreased to 3.4 days in 2013 representing a decrease of 12.8 per cent over the decade.

Data on parents' nationality show the following:<sup>12</sup>

- Births to mothers born in Ireland has declined from 82.0 per cent of births in 2004 to 77.1 per cent of births in 2013, a decrease of 6.0 per cent over the time period.
- A decline of 55.6 per cent was recorded in births to mothers from Africa from 5.4 per cent in 2004 to 2.4 per cent in 2013.

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

- For total live births the percentage of spontaneous deliveries fell from 59.5 per cent in 2004 to 55.1 per cent in 2013. The upward trend in delivery by Caesarean section continues with a rate of 25.2 per cent reported in 2004 compared with 29.7 per cent for 2013.
- For total maternities, the percentage of spontaneous deliveries fell from 60.2 per cent in 2004 to 55.9 per cent in 2013. The rate in delivery by Caesarean section has increased from 24.6 per cent in 2004 to 28.9 per cent in 2013.

Regarding infant's characteristics, trends have been largely consistent over the decade 2004 to 2013.

- The average birthweight for total live births was 3,452.4 grams in 2013 which is broadly consistent with the preceding decade.
- While the average birthweight for singleton births of 3493.2 grams has remained consistent over the decade, slightly more variation is observed for multiple births, ranging from a high of 2,471.2 grams in 2004 to a low of 2,411.7 grams in 2013.
- The percentage of total live births recording low birthweight (<2,500 grams) was 5.0 per cent in 2004 compared with 5.5 per cent in 2013.
- The percentage of total live births classified as high birthweight (4,500 grams or more) has decreased from 2.8 per cent in 2004 to 2.3 per cent in 2013.
- For total births, the infant's average length of stay in hospital declined from 3.8 days in 2004 to 3.2 days in 2013.

<sup>11</sup> For further discussion and analysis on this issue see Brick A, Nolan A. *Explaining the Increase in Breastfeeding at Hospital Discharge in Ireland, 2004–2010*. Irish Journal of Medical Science, September 2013. 10.1007/s11845-013-1012-0

<sup>12</sup> As the EU expanded over this period caution should be exercised when interpreting these data. Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on year of birth, Croatia has not been included as a member state of the EU in this report.

**TABLE 2.1**

Trends in Selected Statistics, 2004–2013

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
													2004–2013	2012–2013
<b>Total Births</b>	<b>N</b>		<b>62,406</b>	<b>61,786</b>	<b>65,810</b>	<b>71,963</b>	<b>75,587</b>	<b>76,023</b>	<b>75,600</b>	<b>74,377</b>	<b>71,986</b>	<b>69,267</b>	<b>11.0</b>	<b>-3.8</b>
<b>Birth Rate<sup>1</sup></b>	<b>Per 1,000 population</b>		<b>15.3</b>	<b>14.9</b>	<b>15.5</b>	<b>16.4</b>	<b>16.8</b>	<b>16.7</b>	<b>16.5</b>	<b>16.2</b>	<b>15.6</b>	<b>15.0</b>	<b>-2.0</b>	<b>-3.8</b>
<b>Maternal Characteristics</b>														
Age of mother (years) <sup>2</sup>	Avg		30.8	31.0	31.0	31.1	31.1	31.3	31.5	31.7	31.9	32.1	4.2	0.6
Age of single mother (years) <sup>2,3</sup>	Avg		26.4	26.6	26.8	27.1	27.3	27.5	28.0	28.3	28.8	29.0	9.8	0.7
Mother's Marital Status	Married	%	67.7	67.6	66.8	66.4	66.0	66.0	65.6	65.2	64.0	63.8	-5.8	-0.3
	Single	%	30.5	30.5	31.4	31.7	32.2	32.2	32.8	33.2	34.3	34.7	13.8	1.2
	All other	%	1.7	1.8	1.9	1.9	1.7	1.8	1.6	1.6	1.7	1.5	-11.8	-11.8
Maternal parity <sup>2</sup>	Avg		1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-9.1	0.0
Births to Primiparous Women by Maternal Age <sup>2</sup>	Under 20 Years	%	9.1	8.9	8.0	7.7	6.9	6.5	5.9	5.2	5.1	4.7	-48.4	-7.8
	20–24 Years	%	20.3	19.6	20.5	19.9	19.5	18.4	16.8	15.5	15.3	14.8	-27.1	-3.3
	25–29 Years	%	26.9	25.7	26.7	27.3	28.5	29.5	29.2	27.5	26.1	24.5	-8.9	-6.1
	30–34 Years	%	31.1	32.3	30.5	30.9	30.8	31.1	32.6	34.7	35.6	36.3	16.7	2.0
	35–39 Years	%	10.5	11.6	12.1	12.2	12.1	12.4	12.9	14.1	14.8	16.2	54.3	9.5
	40 Years and Older	%	1.8	1.9	2.1	2.1	2.1	2.2	2.6	3.0	3.2	3.5	94.4	9.4
Births to Multiparous Women by Maternal Age <sup>2</sup>	Under 20 Years	%	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	-57.1	-25.0
	20–24 Years	%	8.9	8.1	7.6	7.4	7.2	7.1	6.7	6.4	6.1	6.0	-32.6	-1.6
	25–29 Years	%	21.1	19.9	20.7	20.4	20.4	20.3	19.9	19.4	18.5	17.7	-16.1	-4.3
	30–34 Years	%	36.9	37.2	36.6	36.5	36.1	35.4	36.2	37.0	36.8	37.0	0.3	0.5
	35–39 Years	%	27.0	28.3	28.7	29.2	29.8	30.4	30.4	30.2	31.1	31.8	17.8	2.3
	40 Years and Older	%	5.3	5.8	5.9	5.9	5.9	6.3	6.3	6.5	7.0	7.2	35.8	2.9
Number of previous stillbirths per 1,000 maternities <sup>2</sup>	Avg		12.6	12.8	10.6	10.8	10.9	11.7	11.5	11.9	9.7	10.9	-13.5	12.4
Gestational age at delivery (weeks) <sup>2</sup>	Avg		39.4	39.4	39.4	39.4	39.4	39.4	39.4	39.3	39.3	39.3	-0.3	0.0
Interval since last birth (years) <sup>4</sup>	Avg		3.7	3.8	3.8	3.9	3.9	3.8	3.9	3.8	3.8	3.9	5.4	2.6
Immunity to rubella <sup>2</sup>	%		90.5	90.3	92.2	92.4	90.0	90.5	92.3	94.3	94.3	94.2	4.1	-0.1
Any breastfeeding <sup>1,2,5,6</sup>	%		45.6	47.7	48.9	50.6	51.1	52.8	54.1	55.3	55.4	55.9	22.6	0.9
Exclusive breastfeeding <sup>1,2,5</sup>	%		42.4	44.1	44.4	45.2	44.6	45.5	46.2	47.0	46.9	46.6	9.9	-0.6
Mother's length of stay (days) <sup>1,2,7</sup>	Avg		3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.3	3.4	3.4	-12.8	0.0

**TABLE 2.1**  
Trends in Selected Statistics, 2004–2013 (contd.)

			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
													2004–2013	2012–2013
<b>Parents Nationality<sup>8</sup></b>														
Mother's Nationality	Irish	%	82.0	82.9	81.4	79.1	77.3	76.1	75.4	76.1	76.0	77.1	-6.0	1.4
	UK	%	3.0	3.3	3.3	2.9	2.7	2.6	2.7	2.3	2.4	2.3	-23.3	-4.2
	EU <sup>9</sup>	%	2.0	3.2	5.2	8.5	10.6	11.7	12.9	13.0	12.9	12.7	535.0	-1.6
	Africa	%	5.4	4.4	4.0	3.6	3.4	3.4	3.0	2.6	2.7	2.4	-55.6	-11.1
	Asia	%	2.5	2.9	3.0	3.6	3.7	4.0	3.8	4.0	4.0	3.4	36.0	-15.0
Father's Nationality <sup>10</sup>	Irish	%	53.6	61.6	62.1	60.5	58.4	58.0	59.1	59.4	57.5	57.1	6.5	-0.7
	UK	%	2.2	2.9	2.8	2.6	2.5	2.3	2.4	2.2	2.0	2.0	-9.1	0.0
	EU <sup>9</sup>	%	1.0	1.8	2.9	5.3	6.8	7.8	8.6	8.8	8.4	8.1	710.0	-3.6
	Africa	%	3.7	3.5	3.2	3.0	2.7	2.7	2.4	2.1	1.9	1.6	-56.8	-15.8
	Asia	%	1.5	2.0	2.3	2.8	2.9	3.3	3.1	3.3	3.1	2.4	60.0	-22.6
<b>Perinatal Care</b>														
Hospital & G.P. combined antenatal care <sup>2</sup>		%	77.2	77.4	78.9	77.4	79.3	80.7	80.9	77.3	77.3	79.5	3.0	2.8
Booked hospital admissions <sup>2,7</sup>		%	98.3	98.4	98.9	99.0	98.9	99.0	99.3	99.3	99.3	99.2	0.9	-0.1
Method of delivery <sup>11</sup> Total live births <sup>12</sup>	Spontaneous	%	59.5	59.0	58.8	57.3	56.6	56.4	56.5	55.8	55.6	55.1	-7.4	-0.9
	Caesarean section	%	25.2	25.9	25.4	26.2	26.7	26.9	27.1	28.1	28.9	29.7	17.9	2.8
	Forceps <sup>13</sup>	%	2.5	2.8	3.0	3.7	3.7	4.1	4.0	4.1	3.9	3.8	52.0	-2.6
Method of delivery <sup>11</sup> Total maternities	Spontaneous	%	60.2	59.7	59.4	58.0	57.4	57.0	57.2	56.6	56.3	55.9	-7.1	-0.7
	Caesarean section	%	24.6	25.3	24.8	25.5	25.9	26.2	26.3	27.3	28.1	28.9	17.5	2.8
	Forceps <sup>13</sup>	%	2.5	2.8	3.0	3.7	3.7	4.1	4.0	4.1	3.9	3.9	56.0	0.0
<b>Infant Characteristics</b>														
Birthweight (grams) <sup>1</sup>	Total births	Avg	3476.6	3472.0	3473.0	3465.4	3464.0	3466.1	3468.4	3467.0	3464.0	3452.4	-0.7	-0.3
	Singleton births	Avg	3508.0	3503.2	3503.9	3499.3	3501.9	3498.9	3504.0	3505.0	3502.0	3493.2	-0.4	-0.3
	Multiple births	Avg	2471.2	2469.2	2464.8	2421.4	2424.5	2465.2	2447.2	2464.6	2420.2	2411.7	-2.4	-0.4
Low birthweight (<2500 grams) <sup>1</sup>	Total births	%	5.0	5.0	5.0	5.3	5.3	5.0	5.1	5.2	5.4	5.5	10.0	1.9
	Singleton births	%	3.7	3.8	3.7	3.8	3.8	3.7	3.6	3.6	3.8	3.8	2.7	0.0
	Multiple births	%	45.5	45.6	46.4	50.4	48.4	45.4	47.6	46.0	49.9	49.0	7.7	-1.8
High birthweight (≥4500 grams) <sup>1</sup>	Total births	%	2.8	2.9	2.9	2.8	2.7	2.7	2.7	2.6	2.5	2.3	-17.9	-8.0
	Total births	Avg	3.8	3.7	3.7	3.5	3.4	3.3	3.2	3.2	3.2	3.2	-15.8	0.0
	Singleton births	Avg	3.6	3.5	3.5	3.3	3.1	3.1	3.0	3.0	3.0	3.0	-16.7	0.0
Infant's length of stay (days) <sup>1,5,7</sup>	Multiple births	Avg	10.6	10.1	9.9	10.0	9.9	9.0	9.5	8.6	9.4	9.7	-8.5	3.2
	Multiple births	Avg	10.6	10.1	9.9	10.0	9.9	9.0	9.5	8.6	9.4	9.7	-8.5	3.2
Post-mortems for early neonatal deaths		%	34.5	23.0	26.3	30.3	28.9	33.5	32.9	24.8	27.3	35.2	2.0	28.9

Notes: Percentages are subject to rounding. <sup>1</sup> Based on live births. <sup>2</sup> Based on maternities. <sup>3</sup> Data recording marital status as 'never married' are classified as 'single' in this report. <sup>4</sup> Based on multiparous maternities. <sup>5</sup> Excludes early neonatal deaths. <sup>6</sup> Any breastfeeding includes type of feeding recorded as either breast or combined. <sup>7</sup> Excludes domiciliary births. <sup>8</sup> Nationality data collected from 2004. <sup>9</sup> Based on EU25 for 2004–2006 and EU27 from 2007 onwards. As the EU expanded over this period caution should be exercised when interpreting these data. See also Appendix F. <sup>10</sup> 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. <sup>11</sup> See also Appendix I 'Method of Delivery for Primiparous and Multiparous Women'. <sup>12</sup> These figures were based on total live births, as each infant in a multiple pregnancy can have a different method of delivery. <sup>13</sup> Excludes breech deliveries.

## SINGLETON AND MULTIPLE BIRTHS

Table 2.2 shows the numbers of singleton and multiple births each year for the period 2004 to 2013.

- There were 66,650 singleton births, 2,526 twin births, 87 triplet births and 4 quadruplet births in 2013.<sup>13</sup>
- The twinning rate was 18.6 per 1,000 maternities in 2013; this represents an increase of 24.0 per cent over the decade and a 8.1 per cent increase between 2012 and 2013.

**TABLE 2.2**

Singleton and Multiple Births, 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
											2004-2013	2012-2013
Singleton births	60,499	59,902	63,839	69,692	72,916	73,603	73,046	71,651	69,452	66,650	10.2	-4.0
Twin births	1,849	1,833	1,916	2,185	2,575	2,373	2,480	2,638	2,435	2,526	36.6	3.7
Triplet births	54	47	51	83	92	39	74	84	99	87	61.1	-12.1
Quadruplet births	4	4	4	3	4	4	0	4	0	4	0.0	-
Twinning rate (per 1,000 maternities)	15.0	15.1	14.8	15.4	17.4	15.9	16.7	18.1	17.2	18.6	24.0	8.1

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 and early neonatal deaths for singleton and multiple births between 2004 and 2013 are presented in Table 2.3.<sup>14</sup>

- Higher mortality rates were observed for multiple births when compared to singleton births.
- The stillbirth mortality rate for singleton births has decreased over the decade from 5.2 in 2004 to 3.8 in 2012, and has increased slightly in 2013 to a rate of 4.0 per 1,000 live births and stillbirths.
- The early neonatal mortality rate for singleton births decreased from 2.3 per 1,000 live births in 2004 to 1.8 per 1,000 live births in 2012 and is reported at 2.0 per 1,000 live births in 2013.

<sup>13</sup> 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 2013, there were 66,698 singleton births, 2,550 twin births, 90 triplets and 4 quadruplets reported to the NPRS; of these 75 births weighed less than 500 grams (including 48 singleton births and 27 multiple births) and so were excluded from the analysis.

<sup>14</sup> 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.

TABLE 2.3

Live Births, Stillbirths and Early Neonatal Deaths, Numbers and Rates, Singleton and Multiple Births, 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
	Number of Births and Perinatal Deaths										2004-2013	2012-2013
<b>Total Births</b>	<b>62,406</b>	<b>61,786</b>	<b>65,810</b>	<b>71,963</b>	<b>75,587</b>	<b>76,023</b>	<b>75,600</b>	<b>74,377</b>	<b>71,986</b>	<b>69,267</b>	<b>11.0</b>	<b>-3.8</b>
Singleton	60,499	59,902	63,839	69,692	72,916	73,603	73,046	71,651	69,452	66,650	10.2	-4.0
Multiple	1,907	1,884	1,971	2,271	2,671	2,420	2,554	2,726	2,534	2,617	37.2	3.3
<b>Live Births</b>	<b>62,067</b>	<b>61,480</b>	<b>65,502</b>	<b>71,570</b>	<b>75,229</b>	<b>75,651</b>	<b>75,245</b>	<b>74,080</b>	<b>71,705</b>	<b>68,990</b>	<b>11.2</b>	<b>-3.8</b>
Singleton	60,186	59,621	63,555	69,318	72,582	73,247	72,709	71,375	69,188	66,386	10.3	-4.0
Multiple	1,881	1,859	1,947	2,252	2,647	2,404	2,536	2,705	2,517	2,604	38.4	3.5
<b>Stillbirths</b>	<b>339</b>	<b>306</b>	<b>308</b>	<b>393</b>	<b>358</b>	<b>372</b>	<b>355</b>	<b>297</b>	<b>281</b>	<b>277</b>	<b>-18.3</b>	<b>-1.4</b>
Singleton	313	281	284	374	334	356	337	276	264	264	-15.7	0.0
Multiple	26	25	24	19	24	16	18	21	17	13	-50.0	-23.5
<b>Early Neonatal Deaths</b>	<b>168</b>	<b>139</b>	<b>152</b>	<b>132</b>	<b>159</b>	<b>155</b>	<b>161</b>	<b>153</b>	<b>143</b>	<b>159</b>	<b>-5.4</b>	<b>11.2</b>
Singleton	140	109	129	118	138	142	135	126	122	133	-5.0	9.0
Multiple	28	30	23	14	21	13	26	27	21	26	-7.1	23.8
	<b>Rates<sup>a</sup></b>											
<b>Stillbirths</b>	<b>5.4</b>	<b>5.0</b>	<b>4.7</b>	<b>5.5</b>	<b>4.7</b>	<b>4.9</b>	<b>4.7</b>	<b>4.0</b>	<b>3.9</b>	<b>4.0</b>	<b>-25.9</b>	<b>2.6</b>
Singleton	5.2	4.7	4.4	5.4	4.6	4.8	4.6	3.9	3.8	4.0	-23.1	5.3
Multiple	13.6	13.3	12.2	8.4	9.0	6.6	7.0	7.7	6.7	5.0	-63.2	-25.4
<b>Early Neonatal Deaths</b>	<b>2.7</b>	<b>2.3</b>	<b>2.3</b>	<b>1.8</b>	<b>2.1</b>	<b>2.0</b>	<b>2.1</b>	<b>2.1</b>	<b>2.0</b>	<b>2.3</b>	<b>-14.8</b>	<b>15.0</b>
Singleton	2.3	1.8	2.0	1.7	1.9	1.9	1.9	1.8	1.8	2.0	-13.0	11.1
Multiple	14.9	16.1	11.8	6.2	7.9	5.4	10.3	10.0	8.3	10.0	-32.9	20.5

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.<sup>15</sup> Stillbirths account for 63.5 per cent of perinatal deaths in 2013.<sup>16,17</sup> Table 2.4 presents the numbers and rates for total births and perinatal deaths for Ireland from 2004 to 2013.

- In 2013 approximately 1 in every 250 births was stillborn and 1 in every 435 live births died in the first week of life.
- The perinatal mortality rate has fallen from 8.1 per 1,000 live births and stillbirths in 2004 to 6.3 per 1,000 in 2013. This represents a 22.2 per cent decrease over the decade, and a 6.8 per cent increase since 2012 (see Figure 2.1).

<sup>15</sup> 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](http://www.europeristat.com)

<sup>16</sup> Details on rate calculations are in Appendix A.

<sup>17</sup> 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.

TABLE 2.4

Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2004–2013

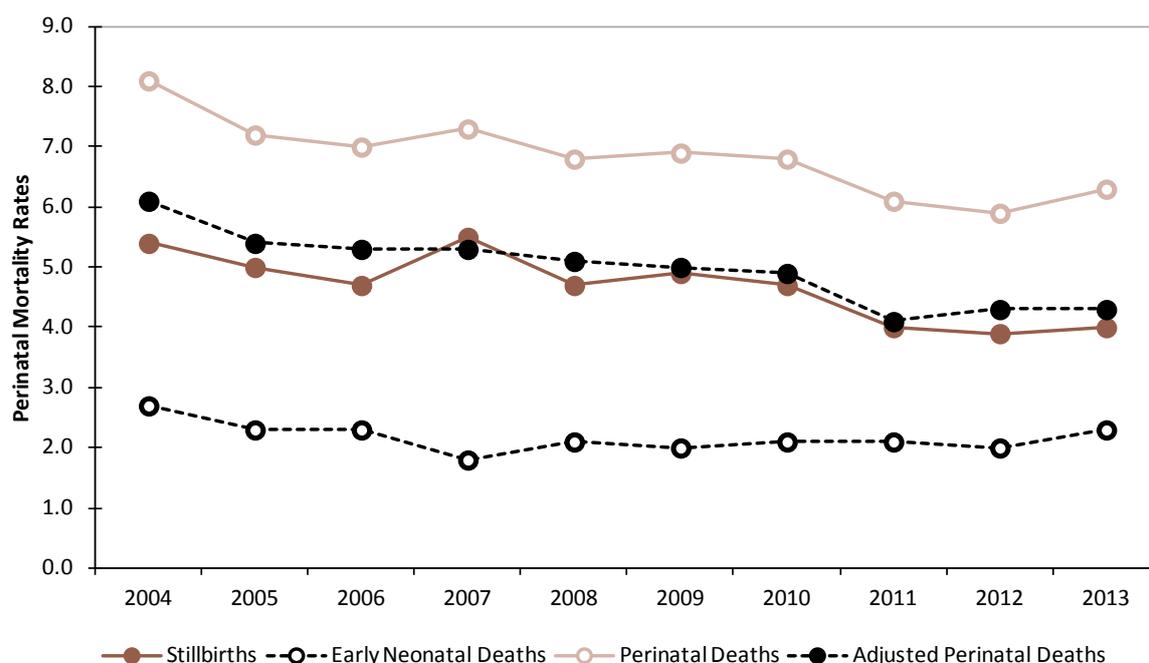
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
	Number of Births and Perinatal Deaths										2004–2013	2012–2013
<b>Total Births</b>	<b>62,406</b>	<b>61,786</b>	<b>65,810</b>	<b>71,963</b>	<b>75,587</b>	<b>76,023</b>	<b>75,600</b>	<b>74,377</b>	<b>71,986</b>	<b>69,267</b>	<b>11.0</b>	<b>-3.8</b>
Live Births	62,067	61,480	65,502	71,570	75,229	75,651	75,245	74,080	71,705	68,990	11.2	-3.8
Stillbirths	339	306	308	393	358	372	355	297	281	277	-18.3	-1.4
Early Neonatal Deaths	168	139	152	132	159	155	161	153	143	159	-5.4	11.2
Perinatal Deaths	507	445	460	525	517	527	516	450	424	436	-14.0	2.8
Adjusted Perinatal Deaths	382	330	345	383	384	381	368	308	309	297	-22.3	-3.9
	Rates <sup>a</sup>											
Stillbirth	5.4	5.0	4.7	5.5	4.7	4.9	4.7	4.0	3.9	4.0	-25.9	2.6
Early Neonatal Death	2.7	2.3	2.3	1.8	2.1	2.0	2.1	2.1	2.0	2.3	-14.8	15.0
Perinatal Mortality	8.1	7.2	7.0	7.3	6.8	6.9	6.8	6.1	5.9	6.3	-22.2	6.8
Adjusted Perinatal Mortality	6.1	5.4	5.3	5.3	5.1	5.0	4.9	4.1	4.3	4.3	-29.5	0.0

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'.

FIGURE 2.1

Stillbirth, Early Neonatal and Perinatal Mortality Rates, Ireland, 2004–2013



Note: See Table 2.4 for data.

At time of publication there were no perinatal mortality rates for 2013 available for other EU countries, therefore, a European comparison on perinatal mortality rates has not been presented here.

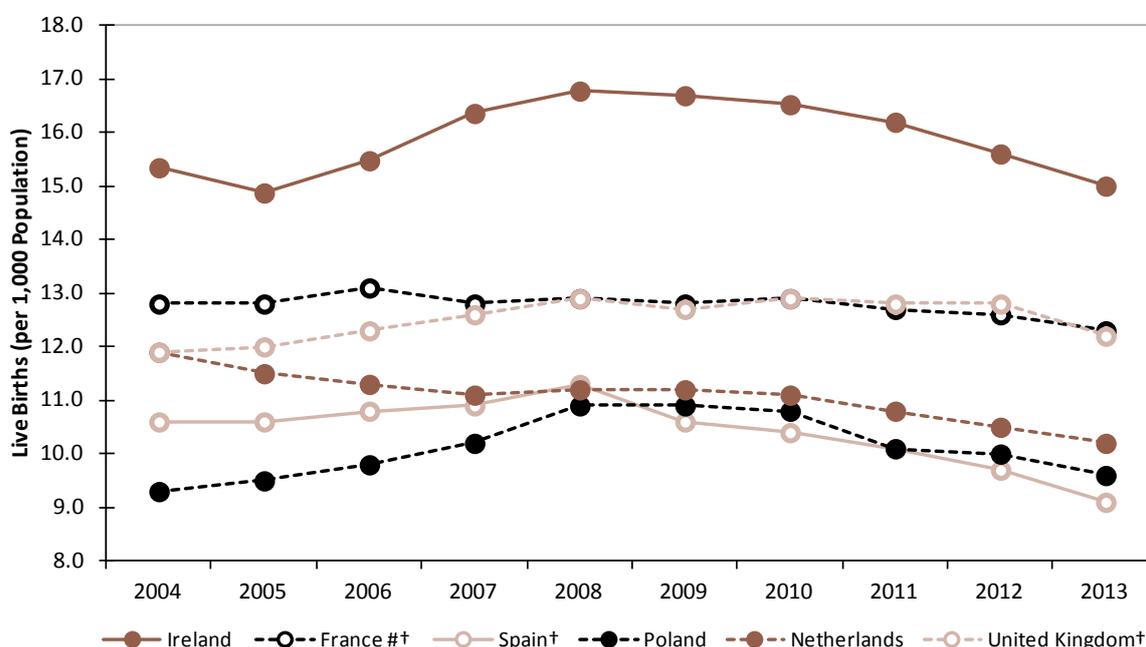
## BIRTH RATES<sup>18</sup>

The birth rate is based on the total number of live births per 1,000 population.<sup>19</sup> Figure 2.2 presents trends in birth rates for selected EU countries over the decade 2004 to 2013. Figure 2.3 presents birth rates in the 27 EU countries for 2013.<sup>20</sup>

- Of the countries reviewed, Ireland has consistently had the highest birth rate over the period, and is recorded at 15.0 per 1,000 population in 2013 (see Figure 2.2).<sup>21</sup>
- The birth rate for Ireland has declined from a high of 16.8 per 1,000 population in 2008 to 15.6 per 1,000 population in 2012 and 15.0 per 1,000 population in 2013.
- After Ireland, the countries with the next highest birth rates in 2013 are France and the United Kingdom (12.3 and 12.2 respectively) followed by Sweden and Luxembourg (11.8 and 11.3 respectively). In 2013, Portugal (7.9) had the lowest birth rate, followed by Germany, Greece and Italy, each having a birth rate of 8.5 (see Figure 2.3).

**FIGURE 2.2**

Trends in Birth Rates for Selected EU Countries, 2004–2013



Sources: 'Population', Eurostat, Data Navigation Tree, date consulted December 2014. <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database>. # estimated 2013 figure. † provisional 2013 figure  
Data for Ireland are based on NPRS data on live births from 2004 onwards. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted December 2014. [www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0](http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0)

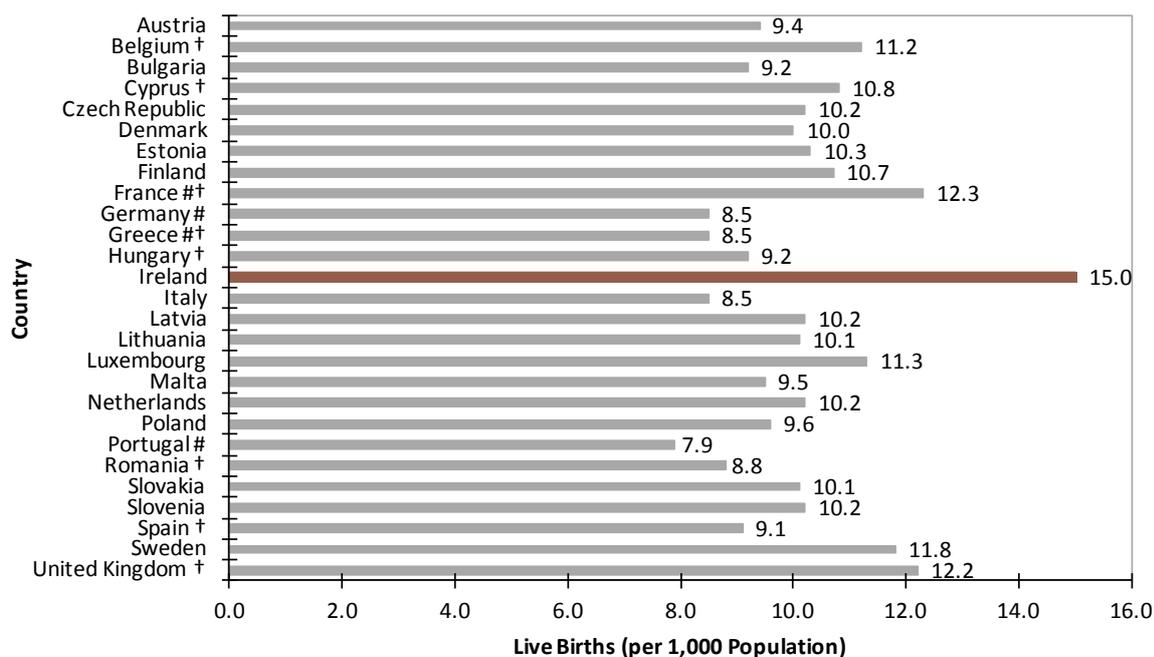
<sup>18</sup> It should be noted that the crude birth rate could rise or fall depending on the numbers of women in the age cohorts from 15 to 49 years old. Changes in the crude birth rate often mask underlying trends in fertility.

<sup>19</sup> The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted November 2014. [www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0](http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0)

<sup>20</sup> Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on year of birth, Croatia has not been included as a member state of the EU in this report.

<sup>21</sup> The CSO also estimates the Irish birth rate at 15.0 per 1,000 population for 2013. See Vital Statistics, Fourth Quarter and Yearly Summary 2013, May 2014. CSO 2013 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, 2013



Sources: 'Population', Eurostat, Data Navigation Tree, date consulted December 2014.  
<http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database>. # estimated 2013 figure. † provisional 2013 figure  
 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 December 2014.  
[www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0](http://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.<sup>22</sup> 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 TPFR in Ireland from 2004 to 2013.

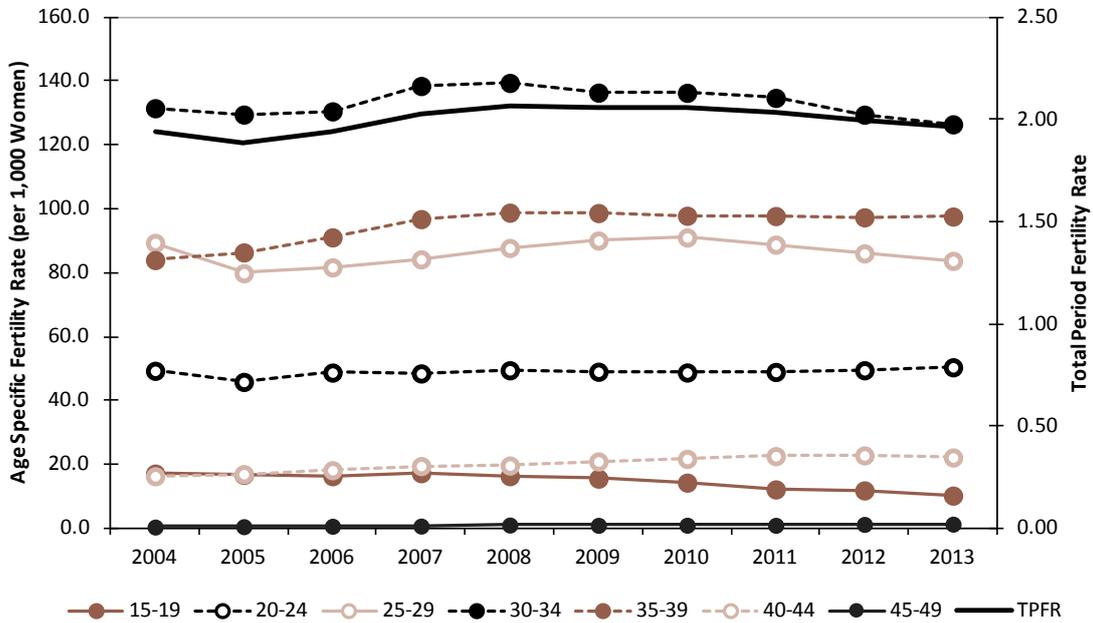
- The Irish TPFR has increased from an average of 1.94 in 2004 to a high of 2.06 in 2008 and is estimated at 1.96 in 2013.<sup>23</sup>
- The ASFRs for the 20 to 24, 35 to 39 and 45 to 49 year age groups increased slightly from 2012 to 2013. All other age groups recorded decreasing ASFR rates for 2013.
- Over the decade 2004-2013, the ASFR for the 15 to 19 year age group has declined.
- The ASFRs show women aged 25 to 29 recorded an annual decrease in fertility between 2004 and 2005 and reported increasing rates between 2006 and 2010. Since 2011 the ASFR for this age group has declined.

<sup>22</sup> See Appendix A, definitions for calculation of TPFR and ASFR.

<sup>23</sup> The CSO estimates the TPFR at 1.96 for 2013. See Vital Statistics, Fourth Quarter and Yearly Summary 2013, May 2014. CSO 2013 data are provisional and are based on the number of births registered within the year as opposed to births occurring in the year.

- 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 2013, and this divergence has been increasing since 2005.

**FIGURE 2.4**  
Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2004–2013



Sources: Total period fertility rates (TPFRs) and age-specific fertility rates (ASFRs) are calculated using NPRS data from 2004 onwards. Female population estimates from 2004 onwards were obtained from the CSO Statistical Databases, date consulted December 2014. [www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0](http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0)

The TPFR for Ireland is based on population data for 2013, and at 1.96 is below the level required for the long-term replacement of the population in the absence of any net inward migration (2.10).<sup>24</sup> At time of publication there were no TPFRs for 2013 available for other EU countries, therefore, a European comparison on TPFRs has not been presented here.

<sup>24</sup> CSO Statistical Databases, date consulted December 2014. [www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA01&PLanguage=0](http://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 2013.

Data for a selection of variables are presented including:

- mother's age, marital status, county of residence, socio-economic group, nationality, parity, number of previous stillbirths, and interval since last birth<sup>25</sup>
- 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.

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<sup>25</sup> 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.

## MATERNAL AGE

Table 3.1 presents data on maternal age.

- In 2013, 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.
- 5.8 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Under 20 Years	1,386	2.0	1,382	2.9	2.9	5.8	2.9	1,379
20-24 Years	6,443	9.3	6,406	5.7	2.7	8.4	6.2	6,379
25-29 Years	13,951	20.1	13,900	3.7	1.9	5.5	3.9	13,775
30-34 Years	25,434	36.7	25,357	3.0	2.0	5.0	3.7	24,967
35-39 Years	17,993	26.0	17,912	4.5	2.8	7.3	4.4	17,550
40-44 Years	3,831	5.5	3,806	6.5	2.6	9.1	6.0	3,700
45 Years and Over	*	^	*	8.9	4.5	13.4	9.0	*
Not Stated	~	^	~	-	-	-	-	~
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Under 20 Years	1,372	2.1	1,368	2.9	1.5	4.4	2.9	1,372
20-24 Years	6,315	9.5	6,278	5.9	2.2	8.1	5.9	6,315
25-29 Years	13,602	20.4	13,555	3.5	1.8	5.3	3.8	13,602
30-34 Years	24,511	36.8	24,435	3.1	1.7	4.8	3.6	24,511
35-39 Years	17,106	25.7	17,030	4.4	2.5	6.9	4.0	17,106
40-44 Years	3,569	5.4	3,547	6.2	2.3	8.4	5.3	3,569
45 Years and Over	*	^	*	11.8	6.0	17.6	11.8	*
Not Stated	~	^	~	0.0	-	-	-	~
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Under 20 Years	14	0.5	14	-	142.9	142.9	-	7
20-24 Years	128	4.9	128	-	23.4	23.4	23.4	64
25-29 Years	349	13.3	345	11.5	2.9	14.3	8.6	173
30-34 Years	923	35.3	922	1.1	9.8	10.8	8.7	456
35-39 Years	887	33.9	882	5.6	10.2	15.8	11.3	444
40-44 Years	262	10.0	259	11.5	7.7	19.1	15.3	131
45 Years and Over	54	2.1	54	-	-	-	-	27
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

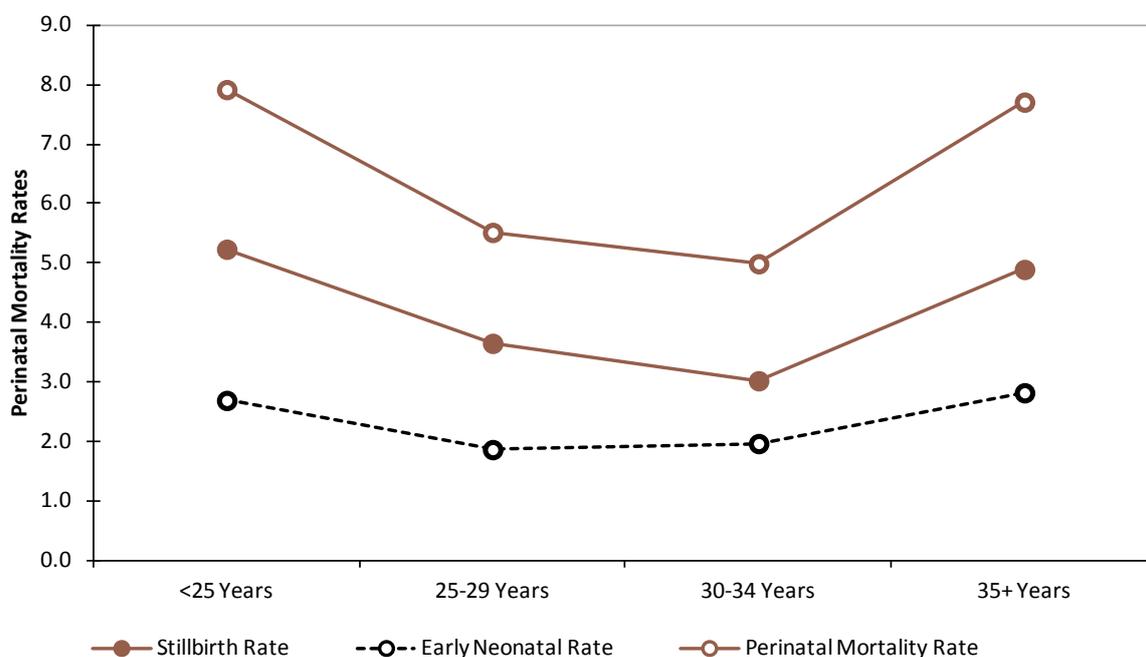
**Notes:**

- 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.

- The perinatal mortality rate was highest for mothers aged less than 25 years, with a rate of 7.9 per 1,000 live births and stillbirths, while the lowest perinatal mortality rate was recorded for the 30 to 34 year age group (5.0 per 1,000 live births and stillbirths).
- At 5.2 per 1,000 live births and stillbirths the highest stillbirth rate was recorded for mothers aged less than 25 years, while the lowest stillbirth rate was recorded for the 30 to 34 year age group (3.0 per 1,000 live births and stillbirths).
- At 2.8 per 1,000 live births the highest early neonatal rate was recorded for mothers aged 35 years and over, while the lowest early neonatal rate was recorded for mothers aged 25 to 29 years (1.9 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 MARITAL STATUS

Table 3.2 presents data on mother's marital status and shows that married women accounted for close to two-thirds of total births.

**TABLE 3.2**

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

	Total Births	Total Births %	Live Births	Stillbirth Rate <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Married	44,176	63.8	44,016	3.6	2.2	5.8	3.8	43,230
Single	24,028	34.7	23,918	4.6	2.4	7.0	5.1	23,678
Widowed	68	0.1	67	14.7	0.0	14.7	14.7	67
Separated	540	0.8	536	7.4	3.7	11.1	9.3	533
Divorced	438	0.6	436	4.6	–	4.6	2.3	427
Not Stated	17	0.0	17	–	58.8	58.8	58.8	17
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Married	42,293	63.5	42,142	3.6	1.9	5.5	3.6	42,293
Single	23,331	35.0	23,225	4.5	2.1	6.6	4.8	23,331
Widowed	*	^	*	15.2	–	15.2	15.2	*
Separated	*	^	*	7.6	3.8	11.4	9.5	*
Divorced	417	0.6	415	4.8	–	4.8	2.4	417
Not Stated	17	0.0	17	–	58.8	58.8	58.8	17
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Married	1,883	72.0	1,874	4.8	8.5	13.3	8.5	937
Single	697	26.6	693	5.7	14.4	20.1	17.3	347
Widowed	~	^	~	–	–	–	–	~
Separated	*	^	*	–	–	–	–	*
Divorced	21	0.8	21	–	–	–	–	10
Not Stated	0	0.0	0	–	–	–	–	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

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.

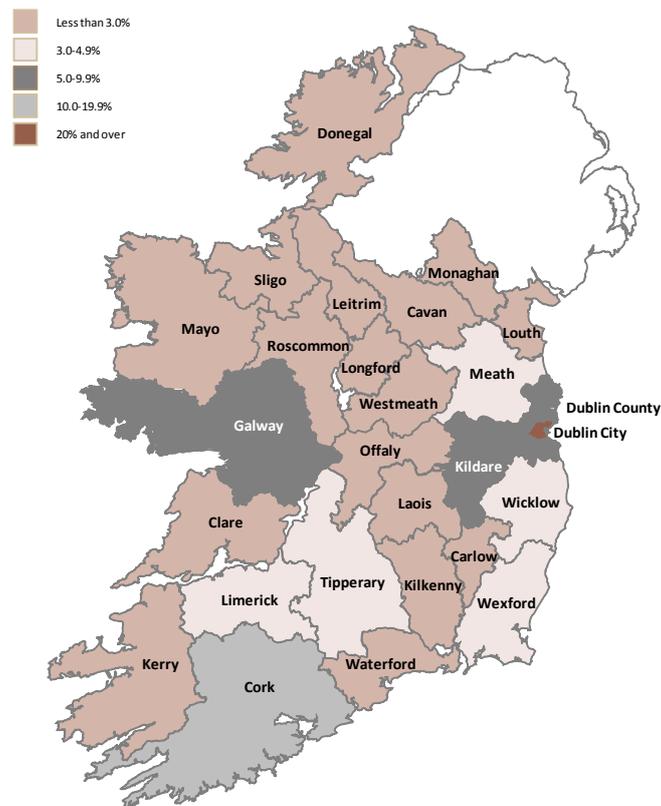
## MOTHER'S COUNTY OF RESIDENCE

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

- Over 21 per cent of births were to mothers resident in Dublin City, and 11.4 per cent 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: 2.9 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' (20.4 per cent) or 'intermediate non-manual workers' (20.0 per cent).
- Mothers classified as 'lower professional' accounted for 16.8 per cent of total births, while mothers in the 'other non-manual workers' group accounted for a further 13.5 per cent of total births.
- Where rates are calculated on more than 20 observations, the highest perinatal mortality rate of 9.2 per 1,000 live births and stillbirths was reported for mothers in the socio-economic group 'not classifiable' followed by 'home duties' (9.0 per 1,000 live births and stillbirths)-see Figure 3.3.
- The lowest perinatal mortality rates were recorded for mothers in the 'employers and managers' socio-economic group (4.4 per 1,000 live births and stillbirths), and a perinatal mortality rate of 5.0 per 1,000 live births and stillbirths was recorded for mothers in the 'other non-manual workers' socio-economic group.

TABLE 3.3

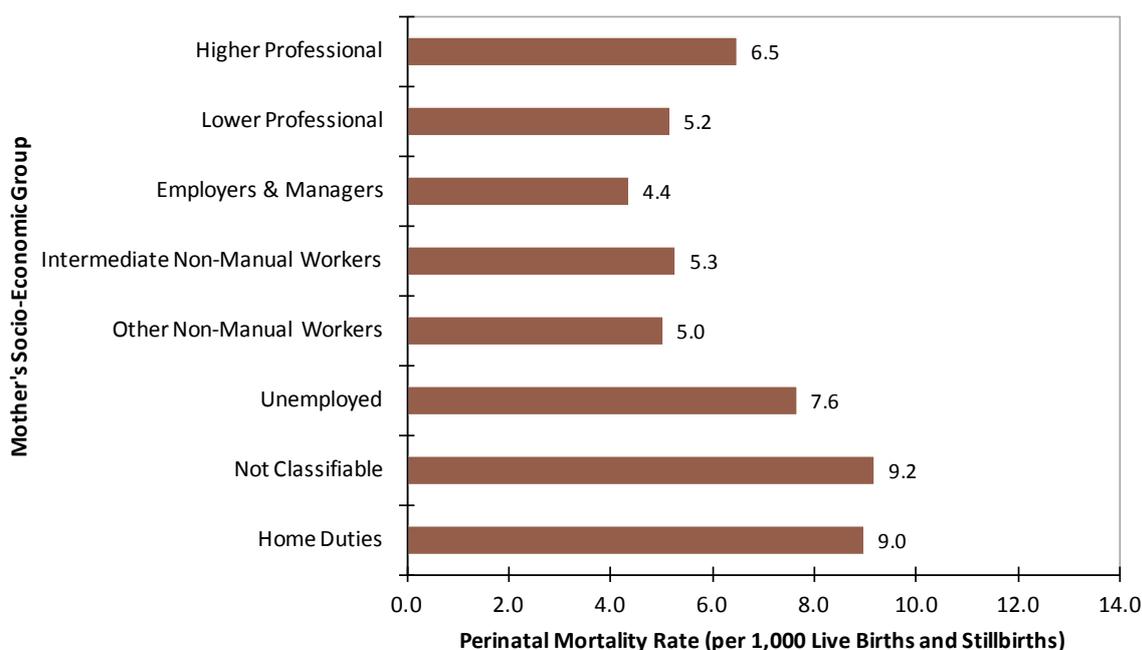
Mother's Socio-economic Group: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Farmers & Farm Managers	68	0.1	68	-	-	-	-	67
Other Agricultural Occupations & Fishermen	80	0.1	80	-	-	-	-	78
Higher Professional	4,629	6.7	4,610	4.1	2.4	6.5	3.7	4,527
Lower Professional	11,635	16.8	11,599	3.1	2.1	5.2	3.3	11,410
Employers & Managers	4,824	7.0	4,808	3.3	1.0	4.4	3.5	4,703
Salaried Employees	928	1.3	928	-	2.2	2.2	1.1	915
Intermediate Non-Manual Workers	13,824	20.0	13,777	3.4	1.9	5.3	3.3	13,539
Other Non-Manual Workers	9,364	13.5	9,335	3.1	1.9	5.0	3.2	9,205
Skilled Manual Workers	912	1.3	911	1.1	1.1	2.2	1.1	894
Semi-Skilled Manual Workers	2,158	3.1	2,148	4.6	1.9	6.5	6.5	2,122
Unskilled Manual Workers	58	0.1	58	-	17.2	17.2	17.2	58
Unemployed	3,268	4.7	3,251	5.2	2.5	7.6	5.5	3,228
Not Classifiable	2,396	3.5	2,381	6.3	2.9	9.2	7.1	2,373
Home Duties	14,156	20.4	14,074	5.8	3.2	9.0	6.2	13,890
Not Stated	967	1.4	962	5.2	7.3	12.4	10.4	943
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Farmers & Farm Managers	*	^	*	-	-	-	-	*
Other Agricultural Occupations & Fishermen	*	^	*	-	-	-	-	*
Higher Professional	4,429	6.6	4,411	4.1	2.3	6.3	3.6	4,429
Lower Professional	11,182	16.8	11,149	3.0	1.5	4.5	2.7	11,182
Employers & Managers	4,583	6.9	4,569	3.1	0.2	3.3	2.6	4,583
Salaried Employees	902	1.4	902	-	2.2	2.2	1.1	902
Intermediate Non-Manual Workers	13,264	19.9	13,219	3.4	1.8	5.2	3.2	13,264
Other Non-Manual Workers	9,048	13.6	9,019	3.2	1.8	5.0	3.2	9,048
Skilled Manual Workers	874	1.3	873	1.1	1.1	2.3	1.1	874
Semi-Skilled Manual Workers	2,088	3.1	2,079	4.3	1.9	6.2	6.2	2,088
Unskilled Manual Workers	58	0.1	58	-	17.2	17.2	17.2	58
Unemployed	3,188	4.8	3,172	5.0	2.2	7.2	5.0	3,188
Not Classifiable	2,350	3.5	2,335	6.4	3.0	9.4	7.2	2,350
Home Duties	13,623	20.4	13,544	5.8	2.7	8.5	6.0	13,623
Not Stated	919	1.4	914	5.4	6.6	12.0	9.8	919
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Farmers & Farm Managers	~	^	~	-	-	-	-	~
Other Agricultural Occupations & Fishermen	~	^	~	-	-	-	-	~
Higher Professional	200	7.6	199	5.0	5.0	10.0	5.0	98
Lower Professional	453	17.3	450	6.6	15.6	22.1	17.7	228
Employers & Managers	241	9.2	239	8.3	16.7	24.9	20.8	120
Salaried Employees	26	1.0	26	-	-	-	-	13
Intermediate Non-Manual Workers	560	21.4	558	3.6	3.6	7.1	3.6	275
Other Non-Manual Workers	316	12.1	316	-	6.3	6.3	3.2	157
Skilled Manual Workers	38	1.5	38	-	-	-	-	20
Semi-Skilled Manual Workers	70	2.7	69	14.3	-	14.3	14.3	34
Unskilled Manual Workers	0	0.0	0	-	-	-	-	0
Unemployed	80	3.1	79	12.5	12.7	25.0	25.0	40
Not Classifiable	46	1.8	46	-	-	-	-	23
Home Duties	533	20.4	530	5.6	15.1	20.6	13.2	267
Not Stated	48	1.8	48	-	20.8	20.8	20.8	24
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

## 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 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'. 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 marital 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.

- Almost 19 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 9.2 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Farmers & Farm Managers	2,113	3.1	2,110	1.4	0.5	1.9	0.5	2,060
Other Agricultural Occupations & Fishermen	622	0.9	620	3.2	-	3.2	3.2	610
Higher Professional	4,830	7.0	4,816	2.9	2.7	5.6	2.9	4,721
Lower Professional	4,298	6.2	4,282	3.7	2.1	5.8	4.4	4,181
Employers & Managers	4,819	7.0	4,805	2.9	2.7	5.6	3.7	4,714
Salaried Employees	1,130	1.6	1,128	1.8	2.7	4.4	3.5	1,104
Intermediate Non-Manual Workers	5,844	8.4	5,828	2.7	1.0	3.8	2.9	5,730
Other Non-Manual Workers	6,358	9.2	6,333	3.9	1.1	5.0	3.6	6,256
Skilled Manual Workers	12,873	18.6	12,834	3.0	2.5	5.5	3.5	12,622
Semi-Skilled Manual Workers	3,243	4.7	3,231	3.7	1.5	5.2	4.0	3,189
Unskilled Manual Workers	473	0.7	469	8.5	2.1	10.6	4.3	465
Unemployed	3,248	4.7	3,229	5.8	2.8	8.6	4.9	3,200
Not Classifiable	1,985	2.9	1,978	3.5	2.5	6.0	3.5	1,948
Home Duties	128	0.2	127	7.8	-	7.8	-	127
Not Stated/Not Applicable	17,303	25.0	17,200	6.0	3.2	9.1	6.7	17,025
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Farmers & Farm Managers	2,008	3.0	2,005	1.5	-	1.5	-	2,008
Other Agricultural Occupations & Fishermen	598	0.9	596	3.3	-	3.3	3.3	598
Higher Professional	4,612	6.9	4,599	2.8	2.0	4.8	2.4	4,612
Lower Professional	4,066	6.1	4,050	3.9	2.0	5.9	4.7	4,066
Employers & Managers	4,607	6.9	4,594	2.8	2.4	5.2	3.3	4,607
Salaried Employees	1,078	1.6	1,076	1.9	0.9	2.8	1.9	1,078
Intermediate Non-Manual Workers	5,618	8.4	5,602	2.8	1.1	3.9	3.0	5,618
Other Non-Manual Workers	6,156	9.2	6,131	4.1	1.1	5.2	3.7	6,156
Skilled Manual Workers	12,372	18.6	12,336	2.9	2.1	5.0	3.2	12,372
Semi-Skilled Manual Workers	3,137	4.7	3,126	3.5	1.6	5.1	3.8	3,137
Unskilled Manual Workers	*	^	*	8.8	2.2	10.9	4.4	*
Unemployed	3,152	4.7	3,134	5.7	2.9	8.6	5.1	3,152
Not Classifiable	1,912	2.9	1,905	3.7	2.1	5.8	3.7	1,912
Home Duties	*	^	*	7.9	-	7.9	-	*
Not Stated/Not Applicable	16,751	25.1	16,654	5.8	2.8	8.5	6.2	16,751
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Farmers & Farm Managers	105	4.0	105	-	9.5	9.5	9.5	52
Other Agricultural Occupations & Fishermen	24	0.9	24	-	-	-	-	12
Higher Professional	218	8.3	217	4.6	18.4	22.9	13.9	109
Lower Professional	232	8.9	232	-	4.3	4.3	0.0	115
Employers & Managers	212	8.1	211	4.7	9.5	14.2	14.2	107
Salaried Employees	52	2.0	52	-	38.5	38.5	38.5	26
Intermediate Non-Manual Workers	226	8.6	226	-	-	-	-	112
Other Non-Manual Workers	202	7.7	202	-	-	-	-	100
Skilled Manual Workers	501	19.1	498	6.0	12.0	18.0	10.1	250
Semi-Skilled Manual Workers	106	4.1	105	9.4	-	9.4	9.4	52
Unskilled Manual Workers	*	^	*	-	-	-	-	*
Unemployed	96	3.7	95	10.4	-	10.4	0.0	48
Not Classifiable	73	2.8	73	-	13.7	13.7	0.0	36
Home Duties	~	^	~	-	-	-	-	~
Not Stated/Not Applicable	552	21.1	546	10.9	16.5	27.2	23.6	274
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

## 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.
- After births to mothers from Ireland, the next highest proportion of total births were to mothers from the EU15 to EU27 at 11.2 per cent, followed by mothers from Asia at 3.4 per cent.<sup>26</sup>
- Where rates are calculated on more than 20 observations, the highest perinatal mortality rate was recorded for babies born to mothers from Africa (13.0 per 1,000 live births and stillbirths) and the lowest perinatal mortality rates were reported for babies born to mothers from EU15 to EU27 at 4.5 per 1,000 live births and stillbirths.

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<sup>26</sup> EU15 to EU27 includes the following countries Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia and Romania. See Appendix F for a description of the classification system for nationality. Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on births by year of occurrence, Croatia has not been included as a member state of the EU for this Report on Perinatal Statistics 2013.

TABLE 3.5

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

	Total Births	Total Births %	Live Births	Stillbirth Rate <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Ireland	53,383	77.1	53,170	4.0	2.4	6.3	4.1	52,319
UK	1,561	2.3	1,558	1.9	1.9	3.8	3.2	1,537
EU15 (excluding Ireland & UK)	1,009	1.5	1,004	5.0	4.0	8.9	6.0	991
EU15 to EU27	7,780	11.2	7,756	3.1	1.4	4.5	3.7	7,668
Rest of Europe	540	0.8	538	3.7	0.0	3.7	3.7	526
Africa	1,692	2.4	1,678	8.3	4.8	13.0	10.1	1,660
Asia	2,357	3.4	2,349	3.4	1.3	4.7	3.8	2,323
America	583	0.8	581	3.4	1.7	5.1	3.4	571
Australia	101	0.1	101	-	-	-	-	98
New Zealand and Other Oceania	37	0.1	37	-	-	-	-	37
Not Stated	224	0.3	218	26.8	18.3	44.6	44.6	222
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Ireland	51,260	76.9	51,056	4.0	2.0	5.9	3.8	51,260
UK	1,514	2.3	1,511	2.0	1.3	3.3	3.3	1,514
EU15 (excluding Ireland & UK)	973	1.5	968	5.1	4.1	9.2	6.2	973
EU15 to EU27	7,559	11.3	7,538	2.8	1.5	4.2	3.4	7,559
Rest of Europe	514	0.8	512	3.9	-	3.9	3.9	514
Africa	1,630	2.4	1,617	8.0	4.9	12.9	9.8	1,630
Asia	2,288	3.4	2,280	3.5	1.3	4.8	3.9	2,288
America	559	0.8	557	3.6	1.8	5.4	3.6	559
Australia	*	^	*	-	-	-	-	*
New Zealand and Other Oceania	37	0.1	37	-	-	-	-	37
Not Stated	*	^	*	27.1	18.6	45.2	45.2	*
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Ireland	2,123	81.1	2,114	4.2	11.8	16.0	11.4	1,059
UK	47	1.8	47	-	21.3	21.3	-	23
EU15 (excluding Ireland & UK)	36	1.4	36	-	-	-	-	18
EU15 to EU27	221	8.4	218	13.6	-	13.6	13.6	109
Rest of Europe	26	1.0	26	-	-	-	-	12
Africa	62	2.4	61	16.1	-	16.1	16.1	30
Asia	69	2.6	69	-	-	-	-	35
America	24	0.9	24	-	-	-	-	12
Australia	*	^	*	-	-	-	-	~
New Zealand and Other Oceania	0	0.0	0	-	-	-	-	0
Not Stated	~	^	~	-	-	-	-	~
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

## 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.

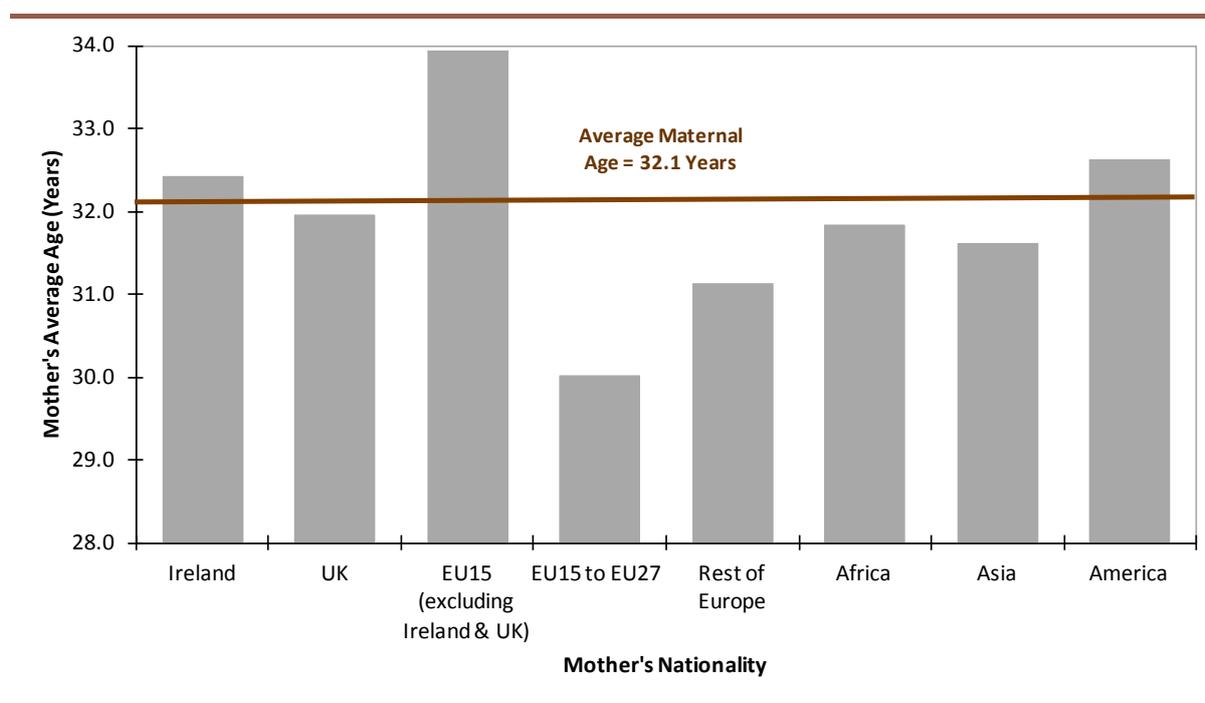
a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix F for a description of the classification system for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

Figure 3.4 presents the average age of mother by mother's nationality for 2013.

- The average age of all mothers giving birth was 32.1 years and the average age of mothers from Ireland giving birth was slightly higher at 32.4 years.
- Mothers giving birth from the EU15 to EU27 were on average younger at 30.0 years, while mothers from the EU15 (excluding Ireland and United Kingdom) and America recorded the highest average maternal age at 33.9 years and 32.6 years respectively.

**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 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'. 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 marital status.

Table 3.6 presents information on father's nationality.

- Births to Irish fathers accounted for 57.1 per cent of total births.
- Births to fathers from the EU15 to EU27 and Asia accounted for 7.2 per cent and 2.4 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Ireland	39,554	57.1	39,416	3.5	2.1	5.6	3.5	38,754
UK	1,352	2.0	1,348	3.0	2.2	5.2	3.7	1,325
EU15 (excluding Ireland & UK)	633	0.9	629	6.3	1.6	7.9	6.3	626
EU15 to EU27	5,002	7.2	4,991	2.2	1.2	3.4	3.2	4,932
Rest of Europe	391	0.6	390	2.6	-	2.6	2.6	379
Africa	1,136	1.6	1,128	7.0	2.7	9.7	7.1	1,112
Asia	1,675	2.4	1,667	4.8	0.6	5.4	4.8	1,650
America	341	0.5	340	2.9	5.9	8.8	2.9	339
Australia	84	0.1	84	-	11.9	11.9	11.9	79
New Zealand and Other Oceania	*	^	*	-	-	-	-	*
Other Nationality	~	^	~	-	-	-	-	~
Not Stated/ Not Applicable	19,042	27.5	18,940	5.4	3.2	8.5	6.1	18,700
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Ireland	37,954	56.9	37,819	3.6	1.8	5.3	3.3	37,954
UK	1,300	2.0	1,296	3.1	1.5	4.6	3.1	1,300
EU15 (excluding Ireland & UK)	618	0.9	614	6.5	1.6	8.1	6.5	618
EU15 to EU27	4,863	7.3	4,854	1.9	1.2	3.1	2.9	4,863
Rest of Europe	368	0.6	367	2.7	-	2.7	2.7	368
Africa	1,090	1.6	1,083	6.4	2.8	9.2	6.4	1,090
Asia	1,626	2.4	1,618	4.9	0.6	5.5	4.9	1,626
America	*	^	*	3.0	6.0	8.9	3.0	*
Australia	73	0.1	73	-	-	-	-	73
New Zealand and Other Oceania	*	^	*	-	-	-	-	*
Other Nationality	~	^	~	-	-	-	-	~
Not Stated/ Not Applicable	18,366	27.6	18,271	5.2	2.8	7.9	5.7	18,366
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Ireland	1,600	61.1	1,597	1.9	9.4	11.3	6.9	800
UK	52	2.0	52	-	19.2	19.2	19.2	25
EU15 (excluding Ireland & UK)	15	0.6	15	-	-	-	-	8
EU15 to EU27	139	5.3	137	14.4	-	14.4	14.4	69
Rest of Europe	23	0.9	23	-	-	-	-	11
Africa	46	1.8	45	21.7	-	21.7	21.7	22
Asia	49	1.9	49	-	-	-	-	24
America	~	^	~	-	-	-	-	~
Australia	11	0.4	11	-	90.9	90.9	90.9	6
New Zealand and Other Oceania	~	^	~	-	-	-	-	~
Other Nationality	0	0.0	0	-	-	-	-	0
Not Stated/ Not Applicable	676	25.8	669	10.4	13.5	23.7	17.9	334
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

## 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.

## 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 38.3 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
0	26,665	38.5	26,572	3.5	2.4	5.9	4.2	26,059
1	24,340	35.1	24,249	3.7	1.6	5.4	3.7	23,905
2	11,971	17.3	11,919	4.3	2.3	6.7	4.4	11,797
3	4,069	5.9	4,046	5.7	4.4	10.1	6.7	4,007
4	1,350	1.9	1,343	5.2	3.0	8.1	3.7	1,327
5	496	0.7	490	12.1	2.0	14.1	10.1	487
6	214	0.3	213	4.7	9.4	14.0	4.7	211
More than 6	*	^	*	18.6	6.3	24.8	18.8	*
Not Stated	~	^	~	1000.0	-	1000.0	1000.0	~
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
0	25,462	38.2	25,376	3.4	2.0	5.3	3.8	25,462
1	23,476	35.2	23,389	3.7	1.5	5.2	3.5	23,476
2	11,622	17.4	11,570	4.5	2.0	6.5	4.3	11,622
3	3,944	5.9	3,921	5.8	4.6	10.4	6.9	3,944
4	1,304	2.0	1,298	4.6	3.1	7.7	3.8	1,304
5	478	0.7	473	10.5	2.1	12.6	8.4	478
6	208	0.3	207	4.8	9.7	14.4	4.9	208
More than 6	*	^	*	19.4	6.6	25.8	19.5	*
Not Stated	~	^	~	1000.0	-	1000.0	1000.0	~
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
0	1,203	46.0	1,196	5.8	12.5	18.3	13.4	597
1	864	33.0	860	4.6	7.0	11.6	10.4	429
2	349	13.3	349	-	14.3	14.3	5.8	175
3	125	4.8	125	-	-	-	-	63
4	46	1.8	45	21.7	-	21.7	0.0	23
5	18	0.7	17	55.6	-	55.6	55.6	9
6	6	0.2	6	-	-	-	-	3
More than 6	6	0.2	6	-	-	-	-	3
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

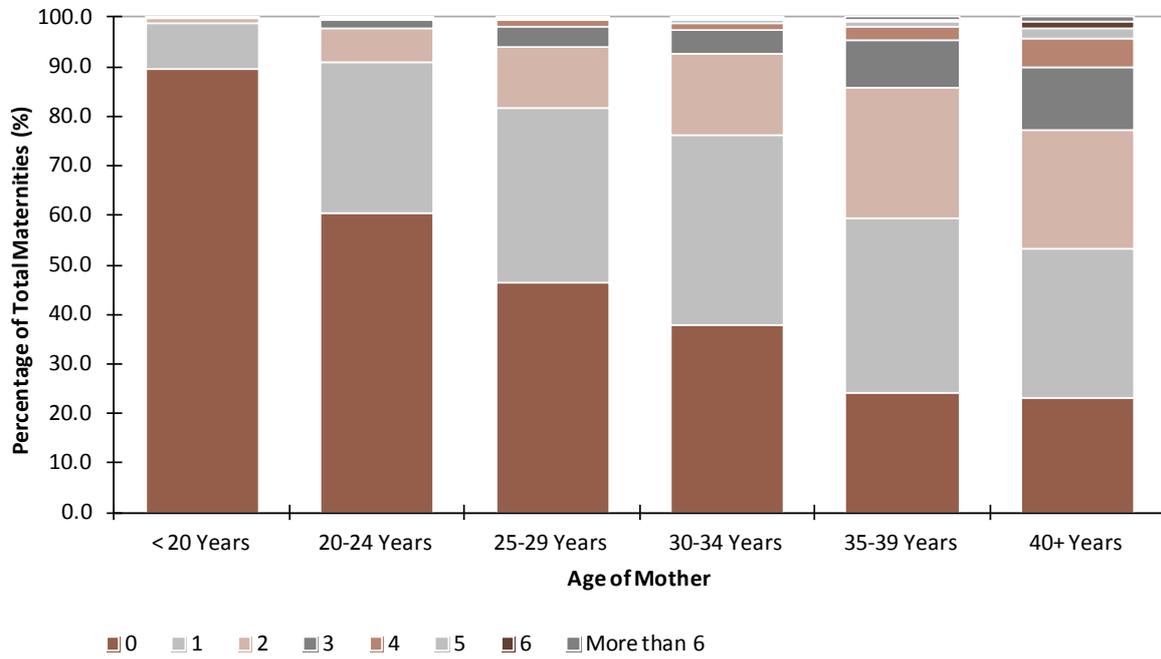
**Notes:**

- ~ 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.

- Of mothers aged less than 20 years, 89.4 per cent gave birth for the first time (see Figure 3.5).
- For women aged 30 to 34 years, 37.9 per cent gave birth for the first time and 38.5 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 2013, 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
0	41,914	98.4	41,738	4.2	2.2	6.4	4.2	41,214
1	639	1.5	633	9.4	4.7	14.1	12.5	631
2	34	0.1	34	-	-	-	-	33
3 and over	14	0.0	13	71.4	-	71.4	71.4	14
<b>Total</b>	<b>42,601</b>	<b>100</b>	<b>42,418</b>	<b>4.3</b>	<b>2.2</b>	<b>6.5</b>	<b>4.3</b>	<b>41,892</b>
<b>Singleton Births</b>								
0	40,520	98.4	40,350	4.2	2.0	6.2	4.0	40,520
1	*	^	*	9.7	4.9	14.5	12.9	*
2	*	^	*	-	-	-	-	*
3 and over	14	0.0	13	71.4	-	71.4	71.4	14
<b>Total</b>	<b>41,187</b>	<b>100</b>	<b>41,010</b>	<b>4.3</b>	<b>2.0</b>	<b>6.3</b>	<b>4.2</b>	<b>41,187</b>
<b>Multiple Births</b>								
0	1,394	98.6	1,388	4.3	7.9	12.2	8.6	694
1	*	^	*	-	-	-	-	*
2	~	^	~	-	-	-	-	~
3 and over	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>1,414</b>	<b>100</b>	<b>1,408</b>	<b>4.2</b>	<b>7.8</b>	<b>12.0</b>	<b>8.5</b>	<b>705</b>

*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.

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 25 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
1 year or less	521	1.2	516	9.6	5.8	15.4	11.6	505
>1 year to 2 years	9,879	23.2	9,832	4.8	2.1	6.9	4.6	9,744
>2 years to 3 years	11,451	26.9	11,410	3.6	2.4	5.9	3.3	11,250
>3 years to 4 years	7,017	16.5	6,992	3.6	2.1	5.7	4.0	6,916
>4 years to 5 years	4,207	9.9	4,191	3.8	2.6	6.4	3.8	4,124
>5 years to 6 years	2,772	6.5	2,759	4.7	1.4	6.1	4.3	2,719
More than 6 years	6,514	15.3	6,481	5.1	1.7	6.8	5.2	6,398
Not Stated	240	0.6	237	12.5	8.4	20.8	20.8	236
<b>Total</b>	<b>42,601</b>	<b>100</b>	<b>42,418</b>	<b>4.3</b>	<b>2.2</b>	<b>6.5</b>	<b>4.3</b>	<b>41,892</b>
<b>Singleton Births</b>								
1 year or less	488	1.2	483	10.2	6.2	16.4	12.3	*
>1 year to 2 years	9,612	23.3	9,567	4.7	1.8	6.5	4.3	9,612
>2 years to 3 years	11,049	26.8	11,009	3.6	2.0	5.6	3.0	11,049
>3 years to 4 years	6,814	16.5	6,789	3.7	2.1	5.7	4.1	6,814
>4 years to 5 years	4,040	9.8	4,024	4.0	2.7	6.7	4.0	4,040
>5 years to 6 years	2,671	6.5	2,659	4.5	1.5	6.0	4.5	2,671
More than 6 years	6,281	15.2	6,250	4.9	1.8	6.7	5.1	6,281
Not Stated	232	0.6	229	12.9	4.4	17.2	17.2	*
<b>Total</b>	<b>41,187</b>	<b>100</b>	<b>41,010</b>	<b>4.3</b>	<b>2.0</b>	<b>6.3</b>	<b>4.2</b>	<b>41,187</b>
<b>Multiple Births</b>								
1 year or less	33	2.3	33	-	-	-	-	*
>1 year to 2 years	267	18.9	265	7.5	15.1	22.5	15.1	132
>2 years to 3 years	402	28.4	401	2.5	12.5	14.9	12.5	201
>3 years to 4 years	203	14.4	203	-	4.9	4.9	-	102
>4 years to 5 years	167	11.8	167	-	-	-	-	84
>5 years to 6 years	101	7.1	100	9.9	-	9.9	-	48
More than 6 years	233	16.5	231	8.6	-	8.6	8.6	117
Not Stated	8	0.6	8	-	125.0	125.0	125.0	~
<b>Total</b>	<b>1,414</b>	<b>100</b>	<b>1,408</b>	<b>4.2</b>	<b>7.8</b>	<b>12.0</b>	<b>8.5</b>	<b>705</b>

**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.
- 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.<sup>27</sup>

- The average birthweight for live births was 3,493.2 grams for singletons, 2,411.7 grams for multiples, and 3,452.4 grams for total live births.
- The average birthweight of live births was 3,509.0 grams for males compared to 3,392.8 grams for females.
- The average birthweight for total stillbirths was 2,011.9 grams.

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

- The percentage of total live births classified as low birthweight was 5.5 per cent (3.8 per cent of singletons and 49.0 per cent of multiples).
- There was considerable variation in very low birthweight rates between singleton and multiple births with 0.6 per cent of singleton live births weighing less than 1,500 grams compared to 8.7 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 marginally smaller proportion of male live births were low birthweight (5.3 per cent) compared with female live births (5.8 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 1.5 per cent of females) (see Figure 3.8).

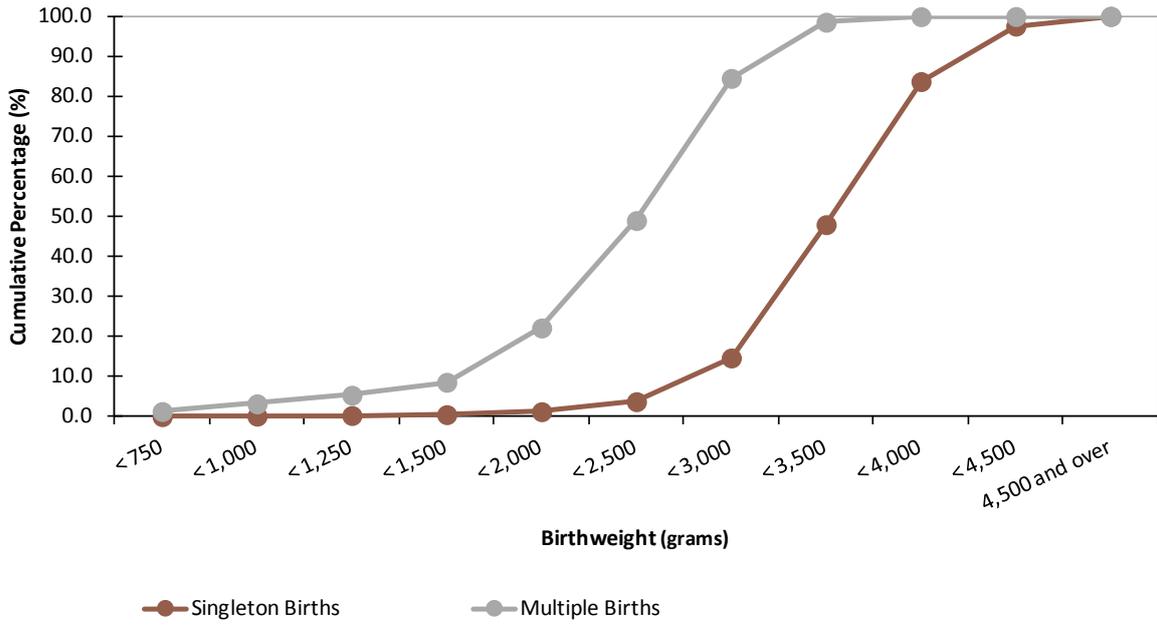
<sup>27</sup> EURO-PERISTAT Project with SCPE and EUROCAT. *European Perinatal Health Report. The health and care of pregnant women and babies in Europe in 2010*. May 2013. Available [www.europeristat.com](http://www.europeristat.com)

**TABLE 3.10**  
Birthweight (grams): Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
500-749	*	^	*	263.5	394.5	554.1	531.9	*
750-999	150	0.2	127	153.3	110.2	246.7	209.8	121
1000-1249	192	0.3	166	135.4	48.2	177.1	127.1	158
1250-1499	243	0.4	225	74.1	44.4	115.2	61.1	195
1500-1999	881	1.3	842	44.3	24.9	68.1	29.6	696
2000-2499	2,392	3.5	2,358	14.2	9.8	23.8	11.4	2,025
2500-2999	8,202	11.8	8,166	4.4	2.3	6.7	4.4	7,763
3000-3499	22,484	32.5	22,453	1.4	0.5	1.9	1.6	22,310
3500-3999	23,759	34.3	23,739	0.8	0.2	1.1	0.9	23,742
4000-4499	9,196	13.3	9,191	0.5	0.3	0.9	0.7	9,196
4500 and Over	1,616	2.3	1,613	1.9	0.6	2.5	1.2	1,615
Not Stated	~	^	~	750.0	1000.0	1000.0	1000.0	~
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
500-749	108	0.2	73	324.1	411.0	601.9	582.5	108
750-999	98	0.1	77	214.3	142.9	326.5	282.6	98
1000-1249	135	0.2	110	185.2	54.5	229.6	174.6	135
1250-1499	157	0.2	141	101.9	63.8	159.2	83.3	157
1500-1999	527	0.8	489	72.1	34.8	104.4	46.5	527
2000-2499	1,694	2.5	1,660	20.1	12.7	32.5	15.6	1,694
2500-2999	7,278	10.9	7,242	4.9	2.5	7.4	4.8	7,278
3000-3499	22,119	33.2	22,088	1.4	0.5	1.9	1.6	22,119
3500-3999	23,723	35.6	23,703	0.8	0.2	1.1	0.9	23,723
4000-4499	*	^	*	0.5	0.3	0.9	0.7	*
4500 and Over	*	^	*	1.9	0.6	2.5	1.2	*
Not Stated	~	^	~	-	1000.0	1000.0	1000.0	~
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
500-749	*	^	*	100.0	361.1	425.0	394.7	*
750-999	52	2.0	50	38.5	60.0	96.2	78.4	23
1000-1249	57	2.2	56	17.5	35.7	52.6	18.2	23
1250-1499	86	3.3	84	23.3	11.9	34.9	23.5	38
1500-1999	354	13.5	353	2.8	11.3	14.1	5.7	169
2000-2499	698	26.7	698	-	2.9	2.9	1.4	331
2500-2999	924	35.3	924	-	1.1	1.1	1.1	485
3000-3499	365	13.9	365	-	-	-	-	191
3500-3999	36	1.4	36	-	-	-	-	19
4000-4499	~	^	~	-	-	-	-	~
4500 and Over	~	^	~	-	-	-	-	0
Not Stated	~	^	0	1000.0	-	1000.0	1000.0	~
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

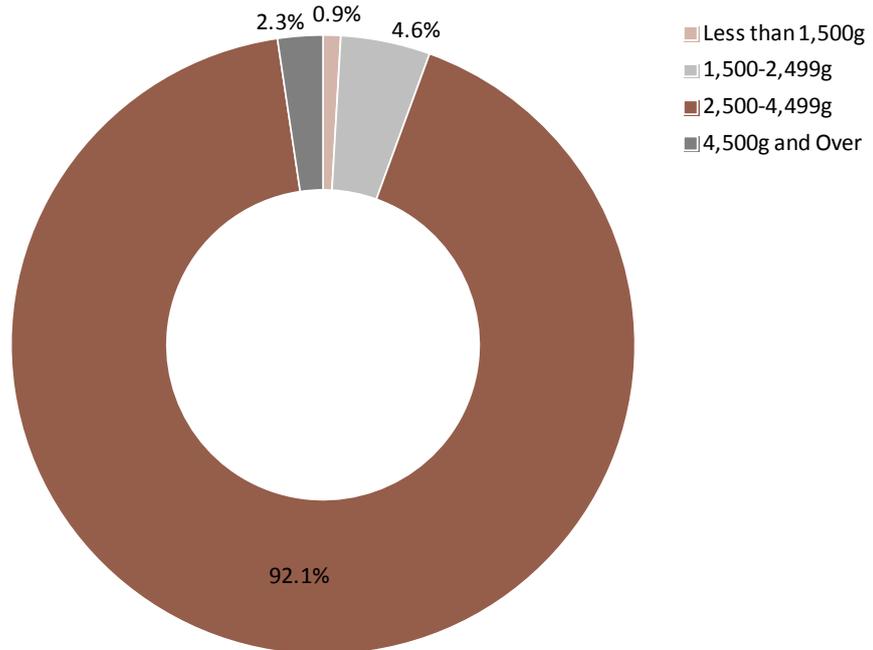
Notes: Percentage column is subject to rounding.  
 ~ Denotes five or fewer births (or maternities) reported to NPRS.  
 \* Further suppression required to prevent disclosure of five or fewer births (or maternities).  
 ^ Percentage not provided to prevent disclosure of small numbers.  
 a Rates are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

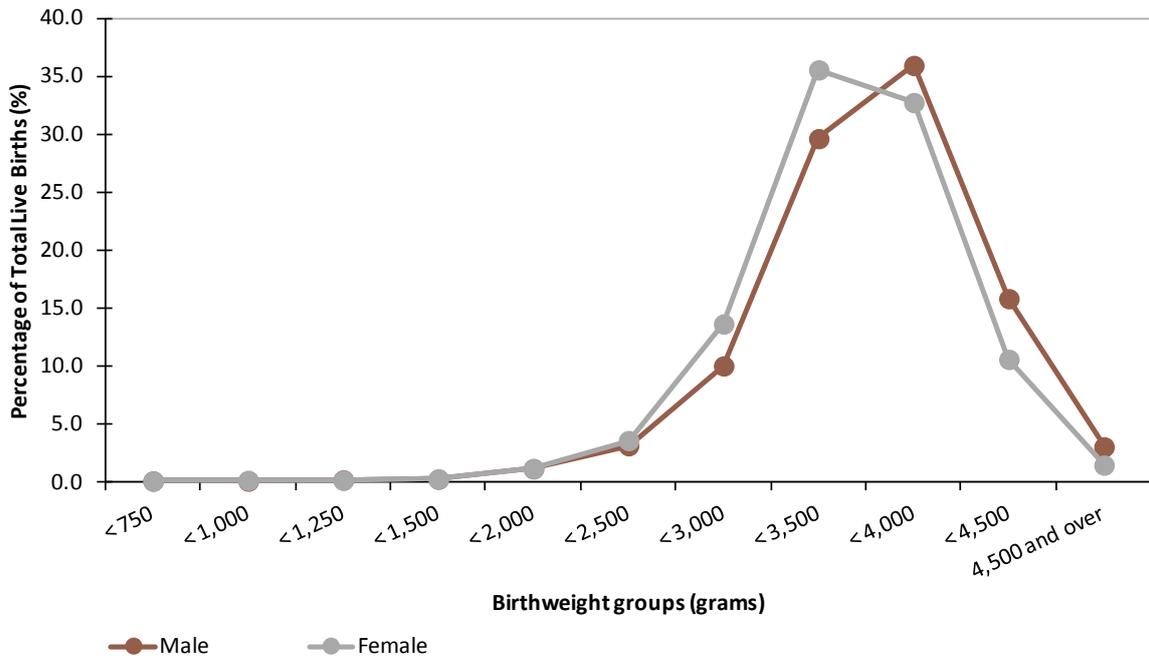
**FIGURE 3.7**  
Percentage of Births by Birthweight Groups, Total Live Births



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 39.3 weeks. Live births reported an average gestational age of 39.3 weeks and stillbirths reported an average gestational age of 33.3 weeks. The average gestational age for singleton live births was 39.4 weeks compared with 35.6 weeks for live twin births and 31.7 weeks for higher-order multiple live births.

Table 3.11 presents data on mother's 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 6.2 per cent of live 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Less than 28	311	0.4	253	186.5	245.1	385.9	359.1	264
28-31	520	0.8	483	71.2	16.6	86.5	65.0	429
32-36	3,645	5.3	3,563	22.5	12.9	35.1	20.1	3,097
37-41	62,834	90.7	62,736	1.6	0.7	2.2	1.3	62,205
42 and Over	1,947	2.8	1,946	0.5	1.0	1.5	0.5	1,947
Not Stated	10	0.0	9	100.0	-	100.0	100.0	10
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Less than 28	220	0.3	167	240.9	275.4	450.0	421.1	220
28-31	342	0.5	307	102.3	22.8	122.8	93.7	342
32-36	2,559	3.8	2,483	29.7	16.5	45.7	25.9	2,559
37-41	61,572	92.4	61,474	1.6	0.6	2.2	1.3	61,572
42 and Over	1,947	2.9	1,946	0.5	1.0	1.5	0.5	1,947
Not Stated	10	0.0	9	100.0	-	100.0	100.0	10
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Less than 28	91	3.5	86	54.9	186.0	230.8	213.5	44
28-31	178	6.8	176	11.2	5.7	16.9	11.3	87
32-36	1,086	41.5	1,080	5.5	4.6	10.1	6.5	538
37-41	1,262	48.2	1,262	-	3.2	3.2	-	633
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

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 (7.5 per cent) and the highest occurring in July (9.0 per cent).
- July recorded the highest number of singleton births (9.0 per cent), while October recorded the highest number of multiple births (10.9 per cent) (see Figure 3.9).

**TABLE 3.12**

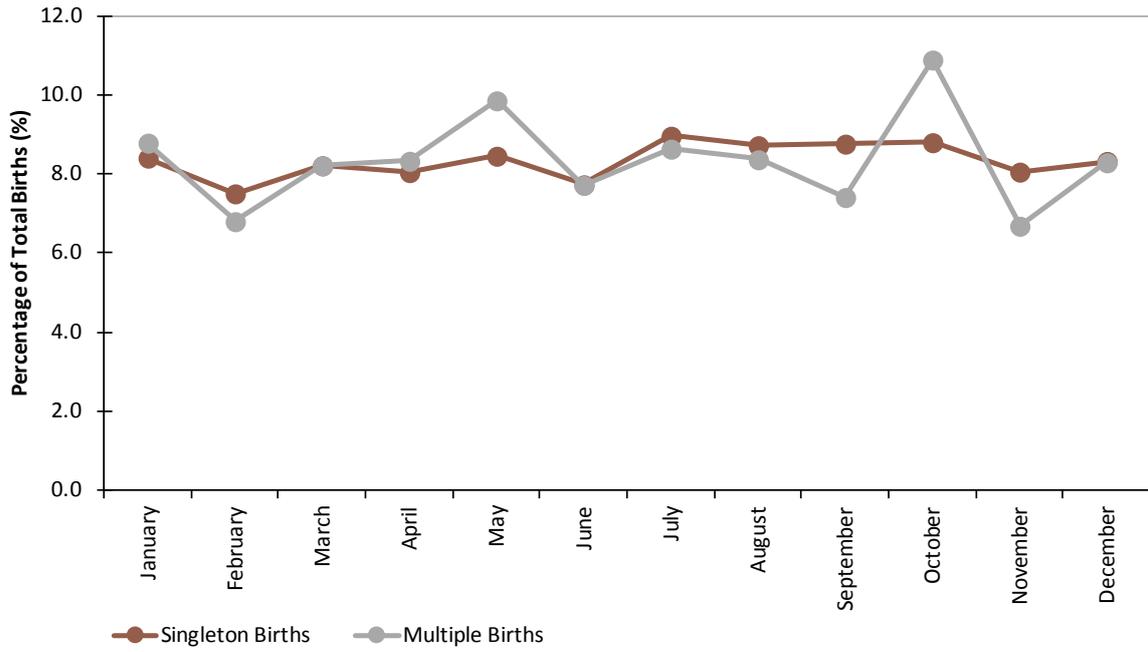
Month of Birth: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
January	5,835	8.4	5,812	3.9	1.7	5.7	4.5	5,719
February	5,181	7.5	5,161	3.9	2.7	6.6	4.6	5,092
March	5,691	8.2	5,681	1.8	2.5	4.2	2.5	5,583
April	5,579	8.1	5,550	5.2	1.6	6.8	4.5	5,469
May	5,895	8.5	5,870	4.2	1.9	6.1	3.9	5,766
June	5,357	7.7	5,325	6.0	1.7	7.7	5.6	5,255
July	6,200	9.0	6,169	5.0	3.2	8.2	5.0	6,087
August	6,034	8.7	6,011	3.8	3.2	7.0	5.5	5,923
September	6,035	8.7	6,007	4.6	2.0	6.6	4.8	5,937
October	6,150	8.9	6,130	3.3	1.8	5.0	3.4	6,009
November	5,544	8.0	5,524	3.6	2.2	5.8	3.6	5,456
December	5,766	8.3	5,750	2.8	3.1	5.9	3.7	5,656
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
January	5,605	8.4	5,584	3.7	1.4	5.2	3.9	5,605
February	5,003	7.5	4,984	3.8	2.6	6.4	4.4	5,003
March	5,476	8.2	5,466	1.8	2.0	3.8	2.2	5,476
April	5,361	8.0	5,333	5.2	1.5	6.7	4.7	5,361
May	5,637	8.5	5,614	4.1	1.2	5.3	3.2	5,637
June	5,155	7.7	5,124	6.0	1.4	7.4	5.2	5,155
July	5,974	9.0	5,943	5.2	3.2	8.4	5.0	5,974
August	5,815	8.7	5,793	3.8	2.8	6.5	5.3	5,815
September	5,841	8.8	5,814	4.6	1.9	6.5	4.8	5,841
October	5,865	8.8	5,847	3.1	1.7	4.8	3.4	5,865
November	5,369	8.1	5,349	3.7	1.9	5.6	3.5	5,369
December	5,549	8.3	5,535	2.5	2.3	4.9	2.7	5,549
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
January	230	8.8	228	8.7	8.8	17.4	17.4	114
February	178	6.8	177	5.6	5.6	11.2	11.2	89
March	215	8.2	215	-	14.0	14.0	9.3	107
April	218	8.3	217	4.6	4.6	9.2	-	108
May	258	9.9	256	7.8	15.6	23.3	19.5	129
June	202	7.7	201	5.0	10.0	14.9	14.9	100
July	226	8.6	226	-	4.4	4.4	4.4	113
August	219	8.4	218	4.6	13.8	18.3	9.2	108
September	194	7.4	193	5.2	5.2	10.3	5.2	96
October	285	10.9	283	7.0	3.5	10.5	3.5	144
November	175	6.7	175	-	11.4	11.4	5.7	87
December	217	8.3	215	9.2	23.3	32.3	27.8	107
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

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, stillbirths, early neonatal deaths 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 79.5 per cent of total maternities.
- Hospital/Obstetrician care was more common for maternities delivering multiple births (37.9 per cent) than those delivering singleton births (19.8 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Hospital/ Obstetrician	14,183	20.5	14,116	4.7	4.0	8.7	5.3	13,682
General Practitioner only	139	0.2	136	21.6	7.4	28.8	21.7	136
Hospital & G.P. combined	54,858	79.2	54,658	3.6	1.8	5.5	3.8	54,049
None	76	0.1	69	92.1	43.5	131.6	131.6	75
Not Stated	11	0.0	11	-	-	-	-	10
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Hospital/ Obstetrician	13,189	19.8	13,128	4.6	3.1	7.7	4.6	13,189
General Practitioner only	133	0.2	130	22.6	7.7	30.1	22.7	133
Hospital & G.P. combined	53,245	79.9	53,052	3.6	1.7	5.3	3.7	53,245
None	*	^	*	94.6	44.8	135.1	135.1	*
Not Stated	*	^	*	-	-	-	-	*
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Hospital/ Obstetrician	994	38.0	988	6.0	15.2	21.1	15.2	493
General Practitioner only	6	0.2	6	-	-	-	-	3
Hospital & G.P. combined	1,613	61.6	1,606	4.3	6.8	11.2	8.1	804
None	~	^	~	-	-	-	-	~
Not Stated	~	^	~	-	-	-	-	~
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

- 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.

- Just over 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
0-12	46,463	67.1	46,305	3.4	1.7	5.1	3.4	45,534
13-19	19,064	27.5	18,980	4.4	1.9	6.3	4.5	18,773
20 and over	3,633	5.2	3,601	8.8	10.8	19.5	13.0	3,544
Not Stated	107	0.2	104	28.0	28.8	56.1	47.2	101
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
0-12	44,617	66.9	44,465	3.4	1.5	4.9	3.3	44,617
13-19	18,485	27.7	18,405	4.3	1.9	6.2	4.4	18,485
20 and over	3,453	5.2	3,424	8.4	7.9	16.2	10.8	3,453
Not Stated	95	0.1	92	31.6	32.6	63.2	53.2	95
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
0-12	1,846	70.5	1,840	3.3	6.5	9.8	7.1	917
13-19	579	22.1	575	6.9	3.5	10.4	8.7	288
20 and over	180	6.9	177	16.7	67.8	83.3	57.1	91
Not Stated	12	0.5	12	-	-	-	-	6
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

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 79.2 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 35.2 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

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

**TABLE 4.3**

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

	Total Births	Total Births %	Live Births	Stillbirth Rate <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Booked	68,540	99.2	68,283	3.7	2.1	5.9	3.9	67,244
Not Booked	558	0.8	538	35.8	24.2	59.1	52.3	539
Not Stated	7	0.0	7	-	-	-	-	7
<b>Total</b>	<b>69,105</b>	<b>100</b>	<b>68,828</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,790</b>
<b>Singleton Births</b>								
Booked	65,962	99.2	65,718	3.7	1.9	5.6	3.7	65,962
Not Booked	519	0.8	499	38.5	16.0	53.9	48.4	519
Not Stated	7	0.0	7	-	-	-	-	7
<b>Total</b>	<b>66,488</b>	<b>100</b>	<b>66,224</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.1</b>	<b>66,488</b>
<b>Multiple Births</b>								
Booked	2,578	98.5	2,565	5.0	8.2	13.2	9.3	1,282
Not Booked	39	1.5	39	-	128.2	128.2	105.3	20
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

**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 162, 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 74.5 per cent of multiple births were delivered within a day of mother's admission to hospital.
- For total births, 2.2 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
0-1 Days	61,332	88.8	61,112	3.6	2.0	5.6	3.8	60,357
2 Days	4,320	6.3	4,293	6.3	2.3	8.6	5.8	4,222
3-5 Days	1,957	2.8	1,939	9.2	3.6	12.8	9.7	1,871
6-8 Days	570	0.8	568	3.5	1.8	5.3	5.3	518
9-11 Days	258	0.4	256	7.8	15.6	23.3	19.5	223
12-14 Days	162	0.2	159	18.5	12.6	30.9	12.6	145
More than 2 Weeks	452	0.7	447	11.1	22.4	33.2	26.7	400
Not Stated	54	0.1	54	-	-	-	-	54
<b>Total</b>	<b>69,105</b>	<b>100</b>	<b>68,828</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,790</b>
<b>Singleton Births</b>								
0-1 Days	59,383	89.3	59,169	3.6	1.8	5.4	3.6	59,383
2 Days	4,127	6.2	4,101	6.3	1.7	8.0	5.3	4,127
3-5 Days	1,786	2.7	1,771	8.4	4.0	12.3	9.0	1,786
6-8 Days	472	0.7	470	4.2	2.1	6.4	6.4	472
9-11 Days	190	0.3	189	5.3	21.2	26.3	21.2	190
12-14 Days	128	0.2	126	15.6	15.9	31.3	8.0	128
More than 2 Weeks	348	0.5	344	11.5	20.3	31.6	28.8	348
Not Stated	54	0.1	54	-	-	-	-	54
<b>Total</b>	<b>66,488</b>	<b>100</b>	<b>66,224</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.1</b>	<b>66,488</b>
<b>Multiple Births</b>								
0-1 Days	1,949	74.5	1,943	3.1	10.3	13.3	9.3	974
2 Days	193	7.4	192	5.2	15.6	20.7	15.6	95
3-5 Days	171	6.5	168	17.5	0.0	17.5	17.5	85
6-8 Days	98	3.7	98	0.0	0.0	0.0	0.0	46
9-11 Days	68	2.6	67	14.7	0.0	14.7	14.7	33
12-14 Days	34	1.3	33	29.4	0.0	29.4	29.4	17
More than 2 Weeks	104	4.0	103	9.6	29.1	38.5	19.6	52
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

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 162, 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 2.6 days and 4.2 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 11.8 per cent of maternities delivering multiple births.
- For total maternities 43.7 per cent of singleton births and 74.3 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 14.0 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
0-1 Days	15,189	22.0	15,051	9.1	3.9	13.0	8.7	15,155
2 Days	21,126	30.6	21,057	3.3	0.9	4.2	3.0	21,013
3-5 Days	31,007	44.9	30,942	2.1	2.2	4.3	3.0	30,031
6-8 Days	1,533	2.2	1,530	2.0	5.2	7.2	3.9	1,364
9-11 Days	162	0.2	160	12.3	6.3	18.5	18.5	147
12-14 Days	35	0.1	35	-	28.6	28.6	28.6	31
More than 2 Weeks	41	0.1	41	-	48.8	48.8	25.0	37
Not Stated	12	0.0	12	-	-	-	-	12
<b>Total</b>	<b>69,105</b>	<b>100</b>	<b>68,828</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,790</b>
<b>Singleton Births</b>								
0-1 Days	15,117	22.7	14,982	8.9	3.7	12.6	8.2	15,117
2 Days	20,898	31.4	20,830	3.3	0.9	4.2	3.0	20,898
3-5 Days	29,064	43.7	29,005	2.0	1.7	3.8	2.6	29,064
6-8 Days	1,204	1.8	1,203	0.8	4.2	5.0	2.5	1,204
9-11 Days	131	0.2	130	7.6	7.7	15.3	15.3	131
12-14 Days	*	^	27	-	37.0	37.0	37.0	*
More than 2 Weeks	*	^	35	-	57.1	57.1	29.4	*
Not Stated	12	0.0	12	-	-	-	-	12
<b>Total</b>	<b>66,488</b>	<b>100</b>	<b>66,224</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.1</b>	<b>66,488</b>
<b>Multiple Births</b>								
0-1 Days	72	2.8	69	41.7	58.0	97.2	97.2	38
2 Days	228	8.7	227	4.4	-	4.4	4.4	115
3-5 Days	1,943	74.2	1,937	3.1	9.8	12.9	8.3	967
6-8 Days	329	12.6	327	6.1	9.2	15.2	9.2	160
9-11 Days	31	1.2	30	32.3	-	32.3	32.3	16
12-14 Days	*	^	8	-	-	-	-	~
More than 2 Weeks	*	^	6	-	-	-	-	~
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

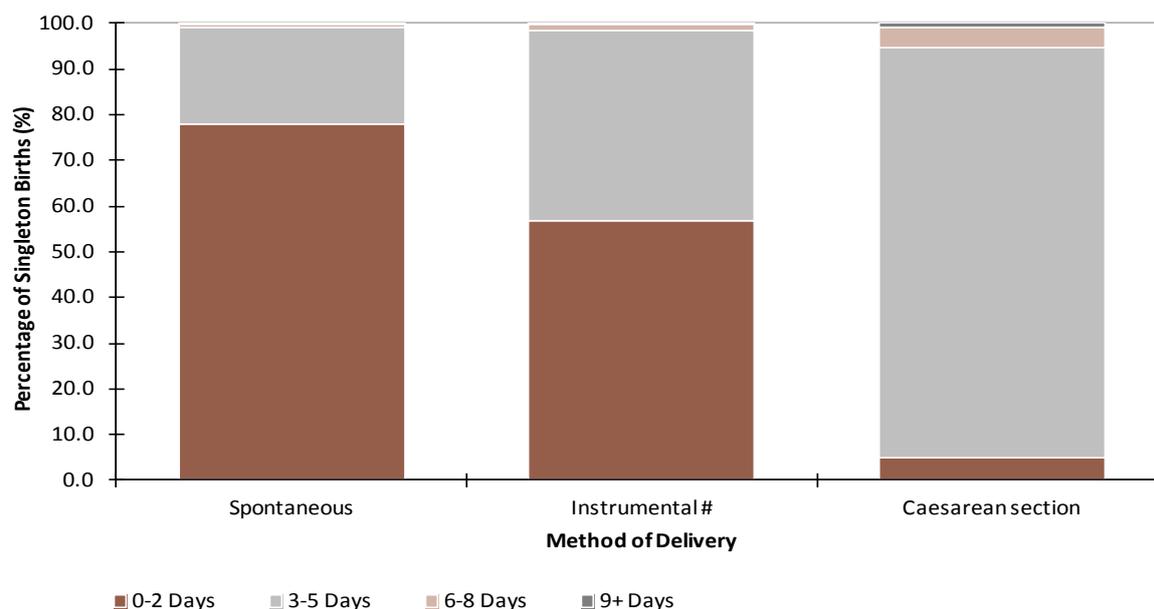
**Notes:**

- 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 162, are excluded from this table. See Appendix H for detailed analysis.

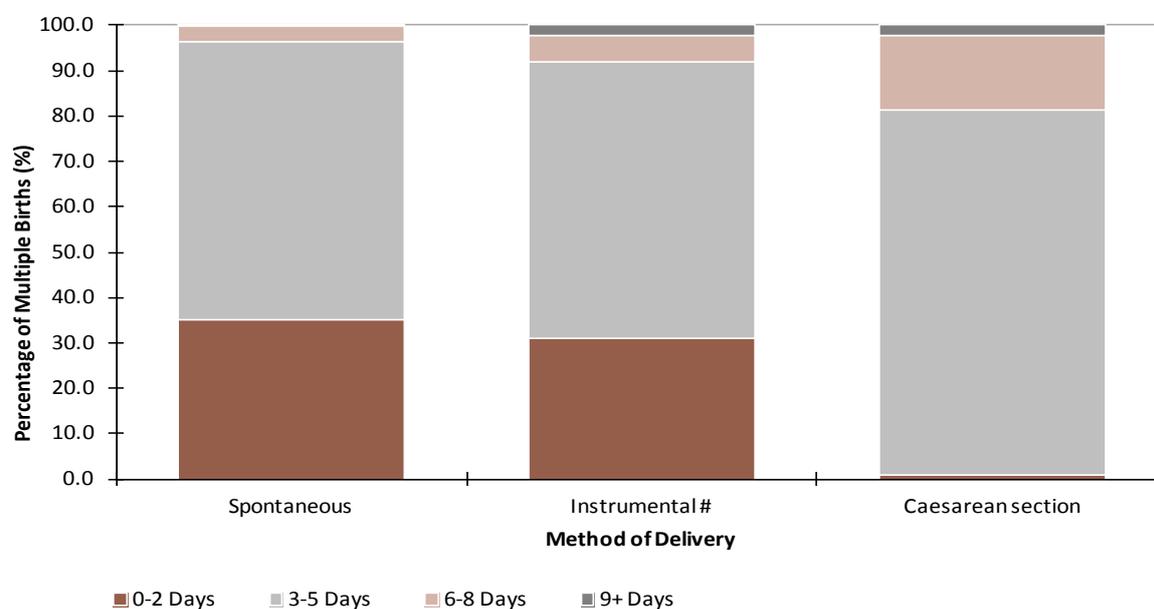
Figures 4.1 and 4.2 present data on mother's postnatal length of stay by method of delivery for singleton and multiple births.

- 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 over 78 per cent of singleton spontaneous deliveries compared to 35.0 per cent of multiple spontaneous deliveries.
- For Caesarean section deliveries, mother's postnatal length of stay was 3 to 5 days for 90.0 per cent of singleton deliveries compared to 80.4 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, over 94 per cent of total maternities were rubella immune.<sup>28</sup>

**TABLE 4.6**

Rubella: Immune Status of Mother, Numbers and Percentages

Rubella Immunity	Number of Maternities	Per Cent
<b>Total Births</b>		
Immune	63,986	94.2
Not Immune	2,287	3.4
Not known	1,679	2.5
<b>Total</b>	<b>67,952</b>	<b>100</b>
<b>Singleton Births</b>		
Immune	62,757	94.2
Not Immune	2,250	3.4
Not known	1,643	2.5
<b>Total</b>	<b>66,650</b>	<b>100</b>
<b>Multiple Births</b>		
Immune	1,229	94.4
Not Immune	37	2.8
Not known	36	2.8
<b>Total</b>	<b>1,302</b>	<b>100</b>

Note: Percentage column is subject to rounding.

## METHOD OF DELIVERY<sup>29</sup>

### METHOD OF DELIVERY BY BIRTHS AND PLURALITY

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

- Over 55 per cent of total live births delivered spontaneously (56.5 per cent of live singleton births and 20.8 per cent of live multiple births) (see Figure 4.3).
- There were 20,518 live births delivered by Caesarean section, representing 29.7 per cent of total live births, 28.2 per cent of live singleton births, and 68.2 per cent of live multiple births.
- 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 (15.3 per cent) compared with live multiple births (10.9 per cent).

<sup>28</sup> 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

<sup>29</sup> 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Spontaneous	38,242	55.2	38,035	5.4	1.6	7.0	5.1	38,019
Breech / Forceps	305	0.4	272	108.2	51.5	154.1	104.2	218
Forceps	2,637	3.8	2,634	1.1	1.5	2.7	1.5	2,622
Vacuum extraction	7,509	10.8	7,506	0.4	0.5	0.9	0.8	7,430
Caesarean section	20,548	29.7	20,518	1.5	3.6	5.0	2.9	19,638
Other specified & combined	26	0.0	25	38.5	120.0	153.8	120.0	25
<b>Total</b>	<b>69,267</b>	<b>100</b>	<b>68,990</b>	<b>4.0</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>	<b>67,952</b>
<b>Singleton Births</b>								
Spontaneous	37,694	56.6	37,493	5.3	1.5	6.8	4.9	37,694
Breech / Forceps	216	0.3	184	148.1	65.2	203.7	140.0	*
Forceps	*	^	*	1.2	1.5	2.7	1.5	2,603
Vacuum extraction	7,348	11.0	7,345	0.4	0.3	0.7	0.5	7,348
Caesarean section	18,765	28.2	18,741	1.3	3.1	4.4	2.5	18,765
Other specified & combined	*	^	*	41.7	43.5	83.3	43.5	*
<b>Total</b>	<b>66,650</b>	<b>100</b>	<b>66,386</b>	<b>4.0</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>	<b>66,650</b>
<b>Multiple Births</b>								
Spontaneous	548	20.9	542	10.9	9.2	20.1	16.5	325
Breech / Forceps	89	3.4	88	11.2	22.7	33.7	22.7	~
Forceps	*	^	*	-	-	-	-	19
Vacuum extraction	161	6.2	161	-	12.4	12.4	12.4	82
Caesarean section	1,783	68.1	1,777	3.4	8.4	11.8	7.3	873
Other specified & combined	~	^	~	-	1000.0	1000.0	1000.0	~
<b>Total</b>	<b>2,617</b>	<b>100</b>	<b>2,604</b>	<b>5.0</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>	<b>1,302</b>

## Notes:

Percentage column is subject to rounding.

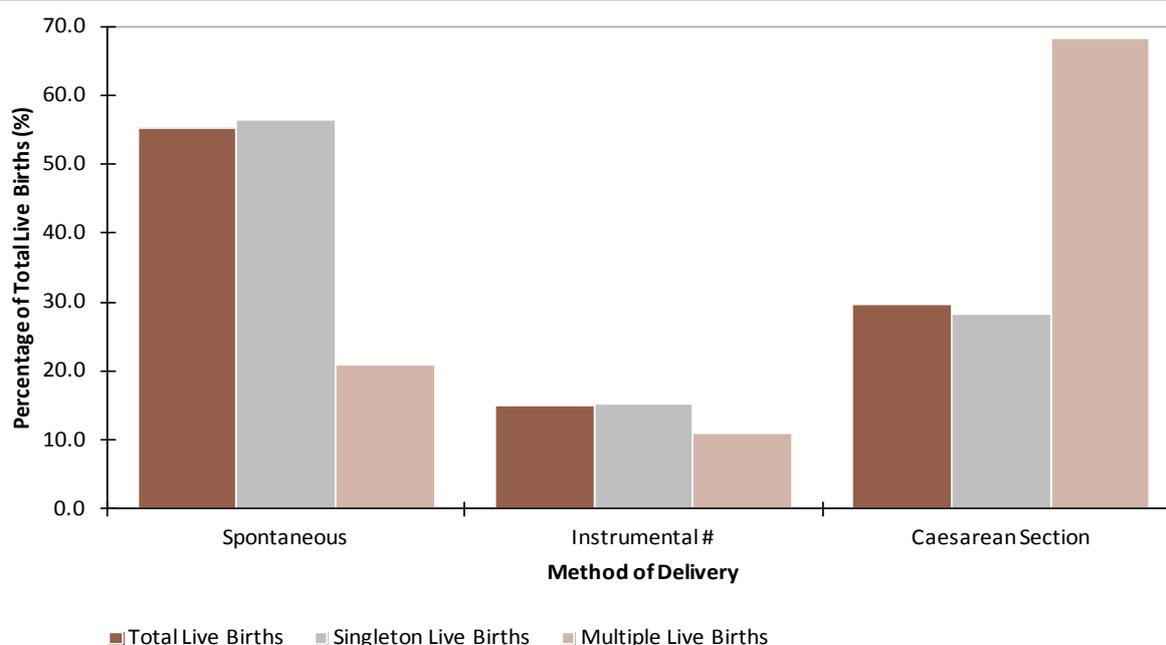
~ Denotes five or fewer births (or maternities) reported to NPRS.

\* 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 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.

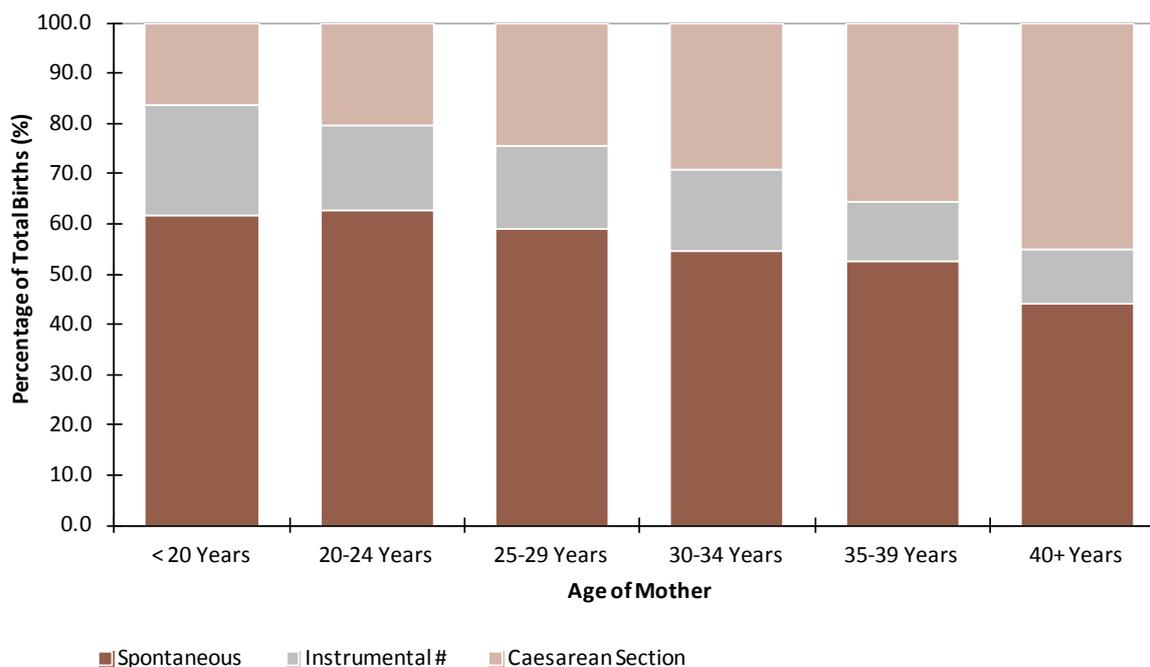
- The percentage of babies delivered by spontaneous delivery declined with age and was reported at 61.8 per cent for mothers aged less than 20 years compared to 44.0 per cent to mothers aged 40 years and over (see Figure 4.4).
- Caesarean section rates ranged from 16.4 per cent for mothers aged less than 20 years to 45.1 per cent for mothers aged 40 years and over.

**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	856 61.8	4,043 62.8	8,211 58.9	13,904 54.7	9,441 52.5	1,783 44.0	38,238 55.2
Breech/Forceps	6 0.4	* ^	* ^	106 0.4	* ^	* ^	305 0.4
Forceps	76 5.5	267 4.1	625 4.5	1,034 4.1	534 3.0	101 2.5	2,637 3.8
Vacuum extraction	221 15.9	800 12.4	1,626 11.7	2,995 11.8	1,548 8.6	318 7.8	7,508 10.8
Caesarean section	227 16.4	1,303 20.2	3,419 24.5	7,386 29.0	6,385 35.5	1,828 45.1	20,548 29.7
Other specified & combined	0 0.0	~ ^	~ ^	9 0.0	~ ^	~ ^	26 0.0
<b>Total</b>	<b>1,386</b> <b>100</b>	<b>6,443</b> <b>100</b>	<b>13,951</b> <b>100</b>	<b>25,434</b> <b>100</b>	<b>17,993</b> <b>100</b>	<b>4,055</b> <b>100</b>	<b>69,262</b> <b>100</b>

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 (24.1 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 almost half (49.6 per cent) of total births (see Figure 4.5).

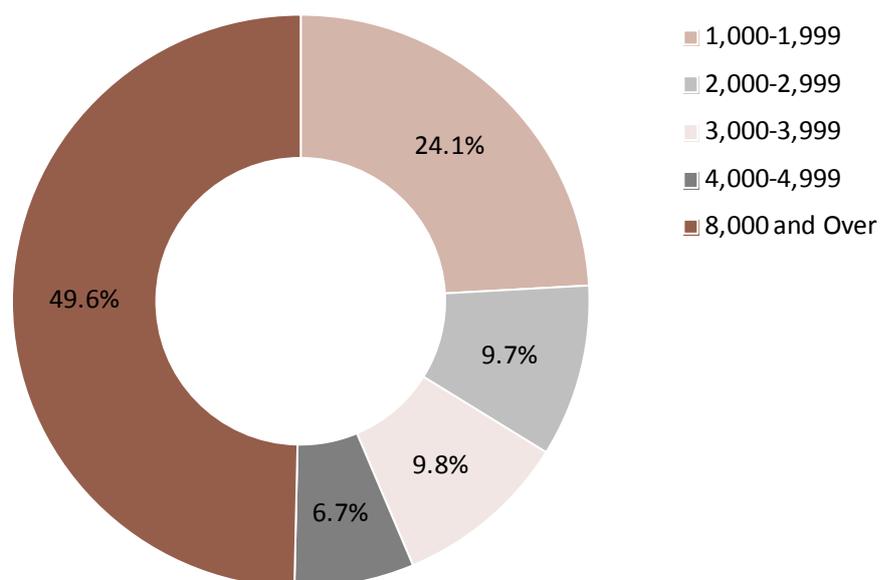
**TABLE 4.8**

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 <sup>a</sup>	Early Neonatal Deaths	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>
1000-1999	10	16,680	24.1	16,630	50	3.0	25	1.5	4.5	2.9
2000-2999	3	6,714	9.7	6,682	32	4.8	13	1.9	6.7	5.2
3000-3999	2	6,787	9.8	6,757	30	4.4	9	1.3	5.7	4.4
4000-4999	1	4,621	6.7	4,603	18	3.9	11	2.4	6.3	4.3
8000 and Over	4	34,303	49.6	34,156	147	4.3	101	3.0	7.2	4.8
<b>Total</b>	<b>20</b>	<b>69,105</b>	<b>100</b>	<b>68,828</b>	<b>277</b>	<b>4.0</b>	<b>159</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>

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 in 2013, each of which delivered over 1,000 births per annum. No unit delivered between 5,000 and 7,999 births. Domiciliary births, of which there were 162, 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 2013.

### 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 2.0 per cent of multiple births.

**TABLE 4.9**  
Inter-Hospital Transfer of Infants

	Live Births	Per Cent Live Births
<b>Total Births</b>		
Transferred	447	0.6
Not Transferred	68,374	99.3
Not Stated	7	0.0
<b>Total</b>	<b>68,828</b>	<b>100</b>
<b>Singleton Births</b>		
Transferred	394	0.6
Not Transferred	65,823	99.4
Not Stated	7	0.0
<b>Total</b>	<b>66,224</b>	<b>100</b>
<b>Multiple Births</b>		
Transferred	53	2.0
Not Transferred	2,551	98.0
Not Stated	0	0.0
<b>Total</b>	<b>2,604</b>	<b>100</b>

*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 3.2 days. When analysed by birth weight, low birthweight babies (weighing less than 2,500 grams) recorded a mean length of stay of 13.5 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 12.8 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 7<sup>th</sup> 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 8.4 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 64.4 per cent of multiple live births.
- 5.7 per cent of total live births had a length of stay of 6 or more days.

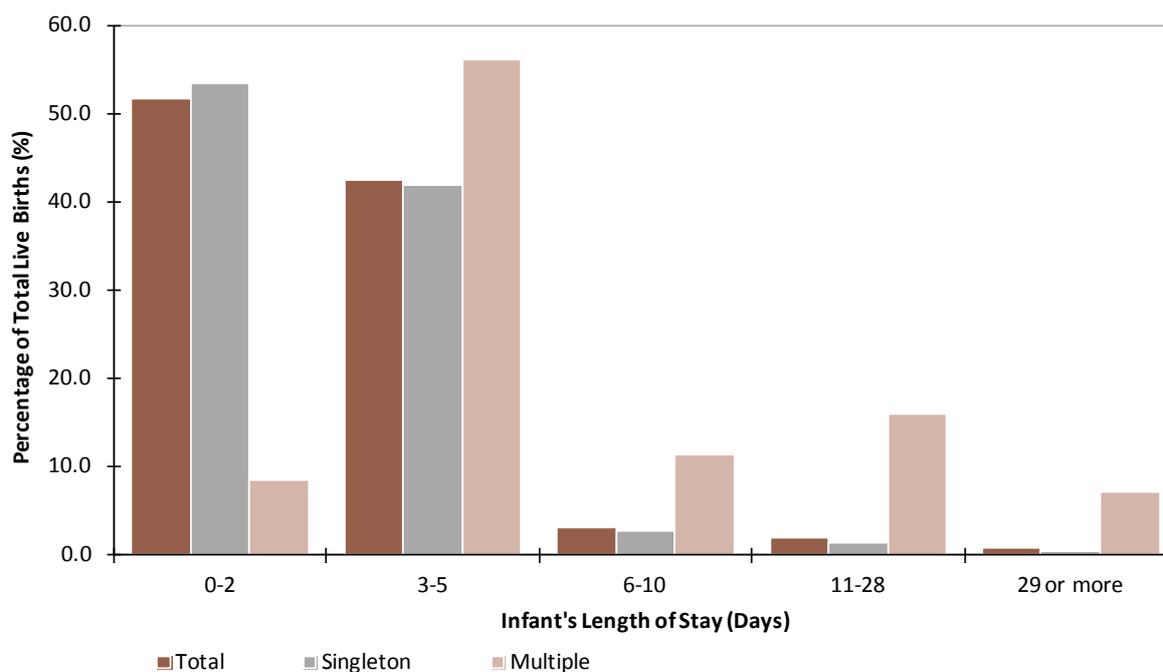
**TABLE 4.10**

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

	Live Births	Per Cent Live Births
<b>Total Births</b>		
0-2 Days	35,501	51.7
3-5 Days	29,177	42.5
6-10 Days	2,090	3.0
11-28 Days	1,295	1.9
29 Days or more	513	0.7
Not Stated	93	0.1
<b>Total</b>	<b>68,669</b>	<b>100</b>
<b>Singleton Births</b>		
0-2 Days	35,284	53.4
3-5 Days	27,733	42.0
6-10 Days	1,799	2.7
11-28 Days	883	1.3
29 Days or more	330	0.5
Not Stated	62	0.1
<b>Total</b>	<b>66,091</b>	<b>100</b>
<b>Multiple Births</b>		
0-2 Days	217	8.4
3-5 Days	1,444	56.0
6-10 Days	291	11.3
11-28 Days	412	16.0
29 Days or more	183	7.1
Not Stated	31	1.2
<b>Total</b>	<b>2,578</b>	<b>100</b>

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.<sup>30</sup>

- At 46.3 per cent, a slightly higher proportion of total births were breastfed compared to 44.2 per cent reporting artificial feeding.
- Artificial feeding is more common for multiple births (50.1 per cent for multiple births compared to 44.0 per cent for singleton births), while breastfeeding is more common for singleton births (46.9 per cent for singleton births compared to 30.8 per cent for multiple births).
- Breastfeeding was more common than artificial feeding among mothers aged 30 years or more. Mothers in the 30–39 year age groups reported the highest breastfeeding rate at 50.2 per cent (see Figure 4.7).
- One-fifth (20.5 per cent) of infants born to mothers aged under 20 years were exclusively breastfed.

<sup>30</sup> Throughout this section, discussion of breastfeeding refers to exclusive breastfeeding only.

**TABLE 4.11**

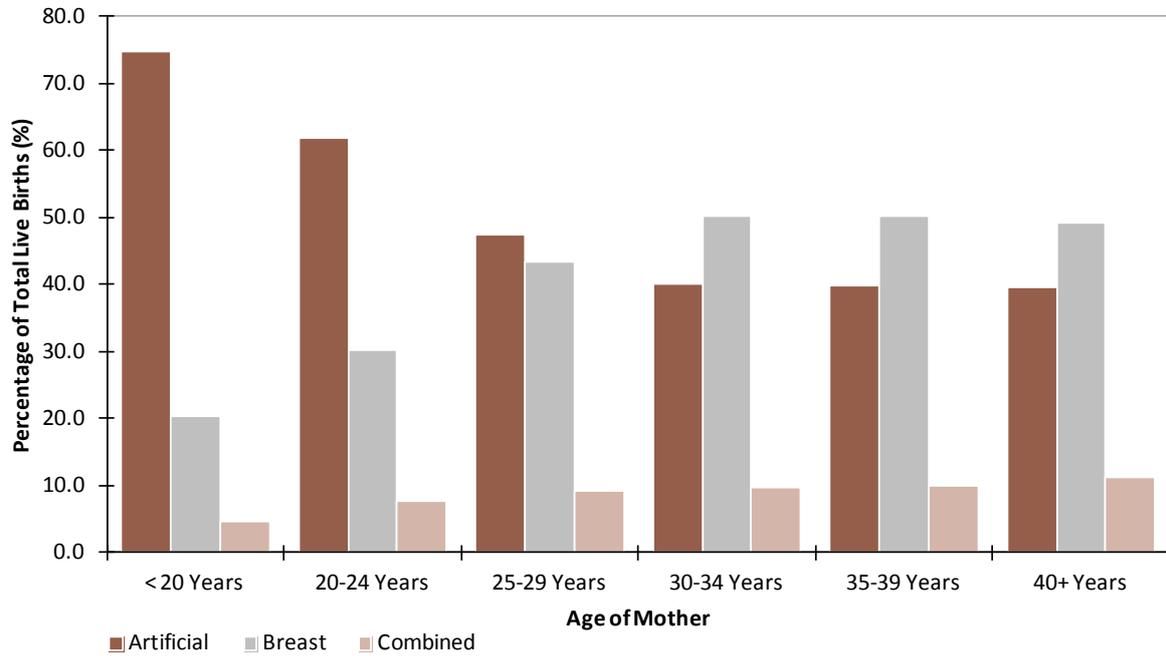
Age of Mother by Infant's Type of Feeding, Numbers and Percentages, Total Live Births

Frequency Row Per Cent Col. Per Cent	Type of Feeding											
	Total Births				Singleton Births				Multiple Births			
	Artificial	Breast	Combined	Total	Artificial	Breast	Combined	Total	Artificial	Breast	Combined	Total
Under 20	1,032	282	64	1,378	1,020	282	64	1,366	12	0	0	12
Years	74.9	20.5	4.6	100	74.7	20.6	4.7	100	100.0	0.0	0.0	100
	3.4	0.9	1.0	2.0	3.5	0.9	1.1	2.1	0.9	0.0	0.0	0.5
20-24 Years	3,960	1,935	494	6,389	3,887	1,907	470	6,264	73	28	24	125
	62.0	30.3	7.7	100	62.1	30.4	7.5	100	58.4	22.4	19.2	100
	13.0	6.1	7.6	9.3	13.3	6.1	7.8	9.5	5.7	3.5	4.9	4.8
25-29 Years	6,592	6,018	1,264	13,874	6,401	5,919	1,210	13,530	191	99	54	344
	47.5	43.4	9.1	100	47.3	43.7	8.9	100	55.5	28.8	15.7	100
	21.6	18.9	19.5	20.2	21.9	19.0	20.2	20.4	14.8	12.5	10.9	13.3
30-34 Years	10,177	12,697	2,433	25,307	9,718	12,431	2,245	24,394	459	266	188	913
	40.2	50.2	9.6	100	39.8	51.0	9.2	100	50.3	29.1	20.6	100
	33.4	39.8	37.5	36.8	33.3	40.0	37.4	36.8	35.6	33.5	38.1	35.4
35-39 Years	7,101	8,974	1,785	17,860	6,680	8,690	1,617	16,987	421	284	168	873
	39.8	50.2	10.0	100	39.3	51.2	9.5	100	48.2	32.5	19.2	100
	23.3	28.1	27.5	25.9	22.9	28.0	27.0	25.6	32.6	35.8	34.0	33.9
40-44 Years	1,502	1,870	424	3,796	1,396	1,771	372	3,539	106	99	52	257
	39.6	49.3	11.2	100	39.4	50.0	10.5	100	41.2	38.5	20.2	100
	4.9	5.9	6.5	5.5	4.8	5.7	6.2	5.3	8.2	12.5	10.5	10.0
45 Years and Over	91	105	25	221	62	88	17	167	29	17	8	54
	41.2	47.5	11.3	100	37.1	52.7	10.2	100	53.7	31.5	14.8	100
	0.3	0.3	0.4	0.3	0.2	0.3	0.3	0.3	2.2	2.1	1.6	2.1
<b>Total</b>	<b>30,455</b>	<b>31,881</b>	<b>6,489</b>	<b>68,825</b>	<b>29,164</b>	<b>31,088</b>	<b>5,995</b>	<b>66,247</b>	<b>1,291</b>	<b>793</b>	<b>494</b>	<b>2,578</b>
	44.2	46.3	9.4	100	44.0	46.9	9.0	100	50.1	30.8	19.2	100
	100	100	100	100	100	100	100	100	100	100	100	100

Notes: Percentage rows and columns are subject to rounding.  
 This table excludes early neonatal deaths.  
 There were 5 births to mothers with unknown maternal age and 1 birth where infants feeding was unknown; these were excluded from this table.

**FIGURE 4.7**

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



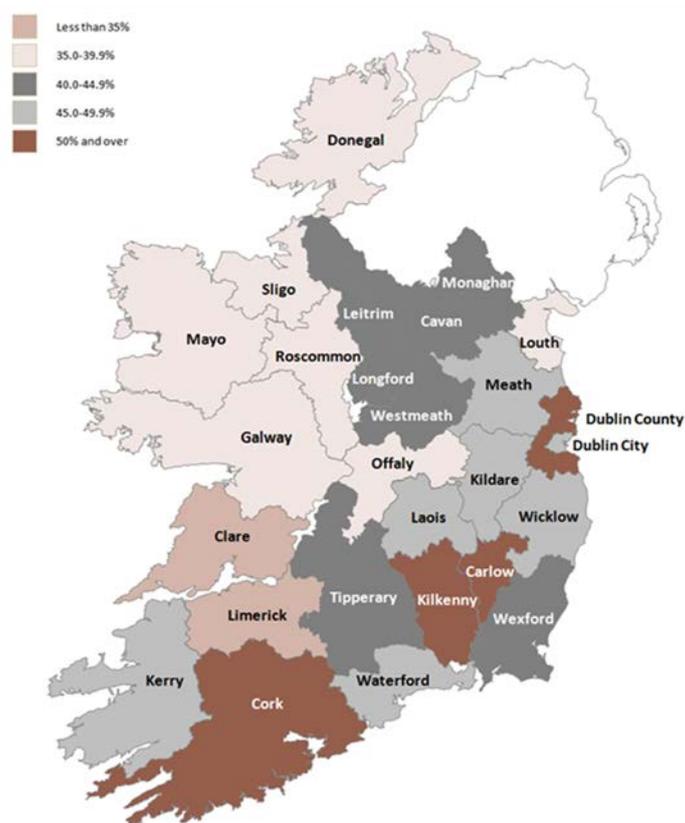
Note: See Table 4.11 for data.

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

- Infants born to mothers resident in Cork recorded the highest rate of breastfeeding at 54.9 per cent, with Kilkenny and Dublin County reporting rates at 54.8 per cent and 53.4 per cent respectively.
- Other counties reporting exclusive breastfeeding rates higher than the national rate of 46.3 per cent include Carlow, Waterford, Dublin City, Kerry, Kildare and Meath.

**FIGURE 4.8**

Percentage Distribution of 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, 50.3 per cent were breastfed.

Table 4.12 and Figure 4.9 present data on type of feeding by mother's socio-economic group.<sup>30</sup>

- Breastfeeding was most common among mothers in 'higher professional' (63.3 per cent) and 'lower professional' (60.1 per cent) socio-economic groups. Breastfeeding was least common among 'unemployed' mothers (28.5 per cent) (see Figure 4.9).
- Artificial feeding was most common among 'unemployed' mothers with a rate of 64.2 per cent, and mothers whose socio-economic group was recorded as 'home duties' (51.2 per cent).

<sup>30</sup> 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.

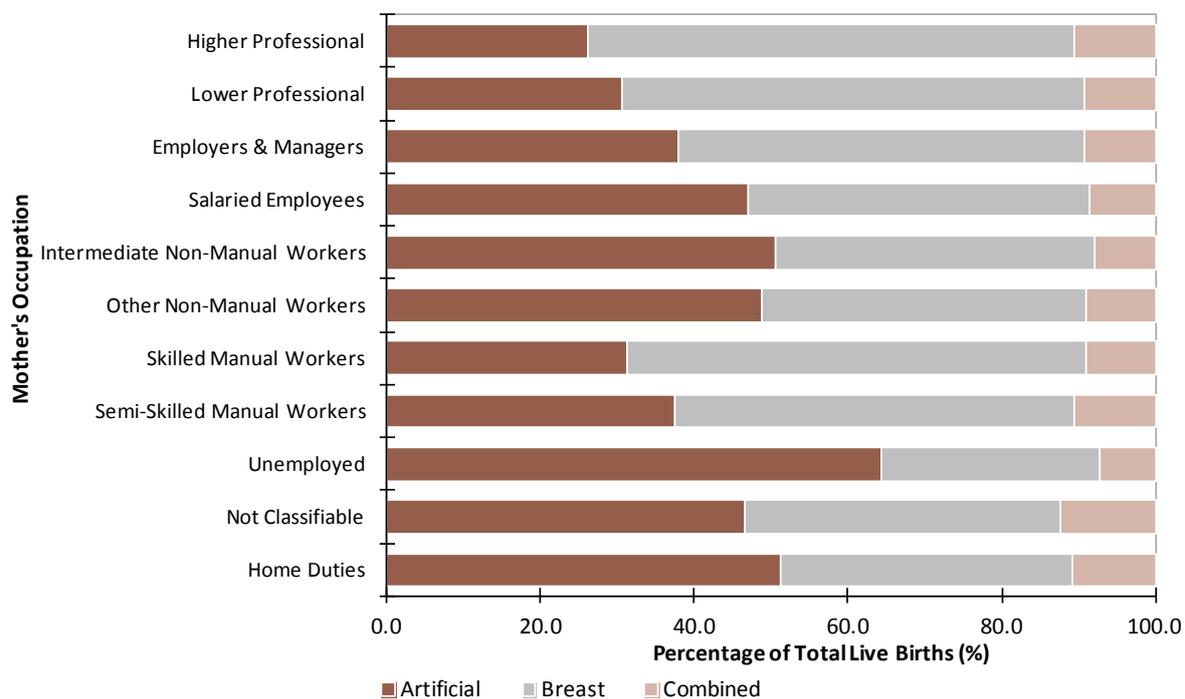
**TABLE 4.12**  
**Mother's Socio-economic Group by Infant's Type of Feeding, Total Live Births**

Frequency Row Per Cent	Type of Feeding			
	Artificial	Breast	Combined	Total
Farmers & Farm Managers	*	35	~	68
	^	51.5	^	100
Other Agricultural Occupations & Fishermen	*	51	~	80
	^	63.8	^	100
Higher Professional	1,205	2,909	485	4,599
	26.2	63.3	10.5	100
Lower Professional	3,542	6,961	1,072	11,575
	30.6	60.1	9.3	100
Employers & Managers	1,818	2,542	443	4,803
	37.9	52.9	9.2	100
Salaried Employees	436	411	79	926
	47.1	44.4	8.5	100
Intermediate Non-Manual Workers	6,960	5,717	1,074	13,751
	50.6	41.6	7.8	100
Other Non-Manual Workers	4,539	3,943	835	9,317
	48.7	42.3	9.0	100
Skilled Manual Workers	285	544	81	910
	31.3	59.8	8.9	100
Semi-Skilled Manual Workers	803	1,113	228	2,144
	37.5	51.9	10.6	100
Unskilled Manual Workers	*	34	~	57
	^	59.6	^	100
Unemployed	2,083	923	237	3,243
	64.2	28.5	7.3	100
Not Classifiable	1,103	977	294	2,374
	46.5	41.2	12.4	100
Home Duties	7,187	5,335	1,506	14,028
	51.2	38.0	10.7	100
Not Stated	423	388	144	955
	44.3	40.6	15.1	100
<b>Total</b>	<b>30,458</b>	<b>31,883</b>	<b>6,489</b>	<b>68,830</b>
	<b>44.3</b>	<b>46.3</b>	<b>9.4</b>	<b>100</b>

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.  
There was 1 birth where infants feeding was unknown; this was excluded from this table.

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.

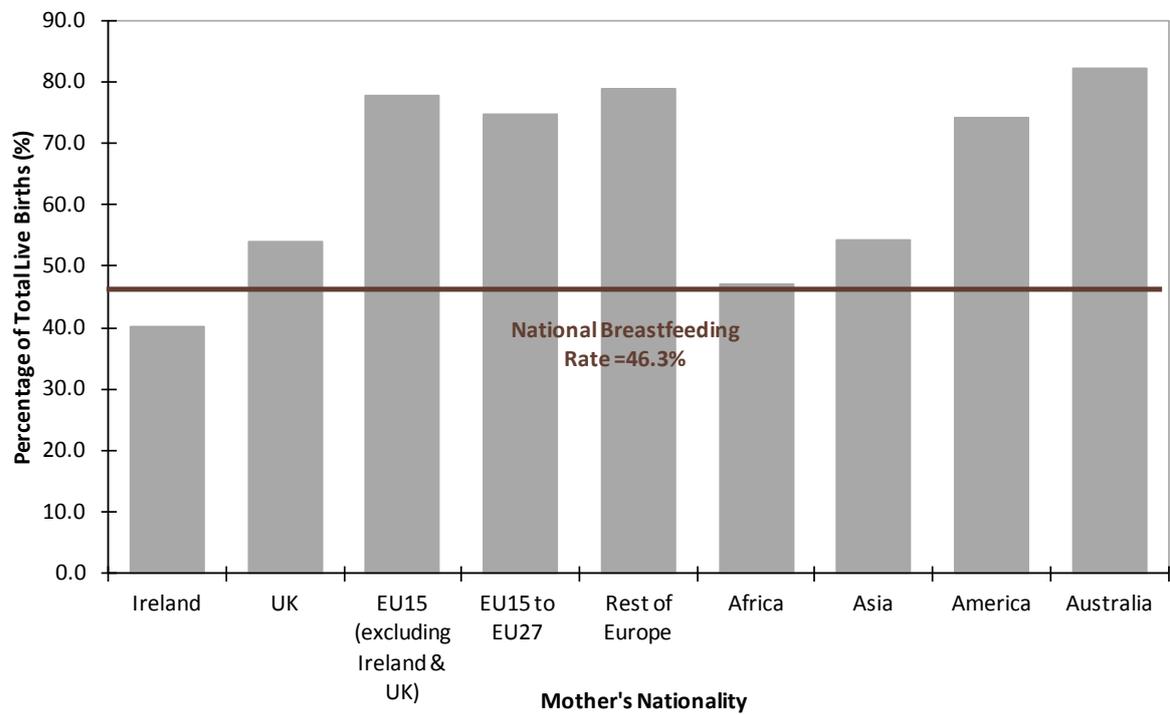
Figure 4.10 presents the rate of exclusive breastfeeding by mother's nationality.<sup>31</sup>

- At 40.2 per cent, births to mothers from Ireland recorded the lowest proportion of breastfeeding, while births to mothers from Australia reported the highest proportion of breastfeeding at 82.2 per cent.
- Births to mothers from the EU15 (excluding Ireland and UK), EU15 to EU27 and the Rest of Europe each record breastfeeding percentages of 75 per cent or higher. Mothers from America recorded 74.3 per cent breastfeeding.
- Similar breastfeeding rates are reported for mothers from the UK and Asia at just over 54 per cent, while mothers from Africa reported a breastfeeding rate of 47.1 per cent.

<sup>31</sup> For further discussion and analysis on this issue see Brick A, Nolan A. *Explaining the Increase in Breastfeeding at Hospital Discharge in Ireland, 2004–2010*. Irish Journal of Medical Science, September 2013. 10.1007/s11845-013-1012-0

**FIGURE 4.10**

Percentage Distribution of 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).<sup>33</sup> A detailed description of the cause of death classification and the coding rules applied is available in Appendix D.

Of the 69,267 births recorded by the NPRS in 2013, 277 were stillbirths and 159 were early neonatal deaths, giving a total of 436 perinatal deaths and a perinatal mortality rate of 6.3 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.<sup>34</sup>

- Just over 68 per cent of total perinatal deaths weighed less than 2,500 grams, 71.5 per cent for primiparous women and 66.4 per cent for multiparous women (see Figure 5.1).
- The perinatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 74.2 per 1,000 live births and stillbirths (57.8 per 1,000 for primiparous women and 89.8 per 1,000 for multiparous women).
- For births weighing 2,500 grams or more, the perinatal mortality rate was 2.1 per 1,000 live births and stillbirths (1.8 for primiparous women and 2.2 for multiparous women).
- The highest perinatal mortality rate for all births was recorded for births weighing between 500–749 grams at 551.0 per 1,000 live births and stillbirths (see Figure 5.2).

<sup>33</sup> World Health Organisation, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Revision*, Vols. 1-3. Geneva: World Health Organisation

<sup>34</sup> 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

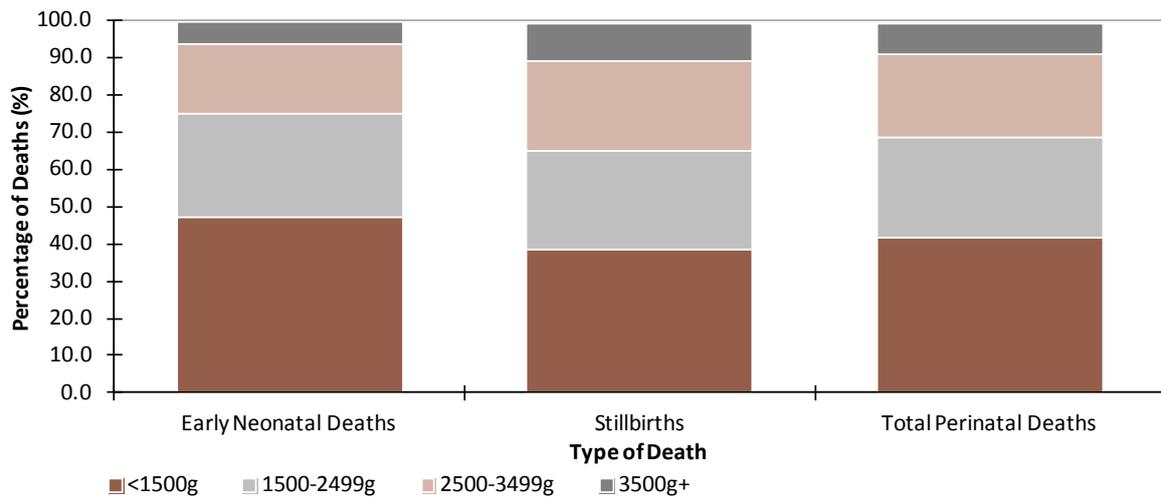
	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate <sup>a</sup>	Early Neonatal Deaths	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adj. PMR <sup>a</sup>
<b>Total</b>										
500-749	81	18.6	29	*	~	258.5	43	394.5	551.0	528.6
750-999	37	8.5	21	~	~	153.3	*	110.2	246.7	209.8
1000-1249	34	7.8	23	~	~	135.4	8	48.2	177.1	127.1
1250-1499	28	6.4	17	~	~	74.1	*	44.4	115.2	61.1
1500-1999	60	13.8	34	~	~	44.3	21	24.9	68.1	29.6
2000-2499	57	13.1	32	~	~	14.2	23	9.8	23.8	11.4
2500-2999	55	12.6	33	~	0	4.4	*	2.3	6.7	4.4
3000-3499	42	9.7	28	~	~	1.4	11	0.5	1.9	1.6
3500-3999	25	5.7	*	0	0	0.8	~	0.2	1.1	0.9
4000-4499	8	1.8	~	~	0	0.5	~	0.3	0.9	0.7
4500 and over	~	^	~	0	0	1.9	~	0.6	2.5	1.2
Not stated	~	^	~	0	0	750.0	~	1000.0	1000.0	1000.0
<b>Total</b>	<b>435</b>	<b>100</b>	<b>247</b>	<b>20</b>	<b>9</b>	<b>4.0</b>	<b>159</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>
<b>Primiparous Women</b>										
500-749	40	25.3	11	~	0	200.0	*	375.0	500.0	466.7
750-999	17	10.8	9	0	~	128.2	*	102.9	217.9	164.4
1000-1249	9	5.7	~	~	0	63.2	~	33.7	94.7	85.1
1250-1499	12	7.6	7	0	~	62.0	~	33.1	93.0	41.0
1500-1999	22	13.9	12	~	0	31.8	*	18.8	50.0	18.8
2000-2499	13	8.2	6	0	0	5.3	7	6.2	11.5	5.3
2500-2999	17	10.8	10	~	0	3.2	~	1.3	4.6	4.0
3000-3499	14	8.9	9	0	~	1.1	~	0.4	1.5	1.2
3500-3999	11	7.0	*	0	0	0.9	~	0.4	1.3	1.1
4000-4499	~	^	~	0	0	0.7	0	-	0.7	0.7
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Not stated	~	^	~	0	0	1000.0	0	-	1000.0	1000.0
<b>Total</b>	<b>158</b>	<b>100</b>	<b>80</b>	<b>*</b>	<b>~</b>	<b>3.5</b>	<b>65</b>	<b>2.4</b>	<b>5.9</b>	<b>4.2</b>
<b>Multiparous Women</b>										
500-749	41	14.8	18	~	~	328.4	19	422.2	611.9	600.0
750-999	20	7.2	12	0	~	180.6	*	118.6	277.8	257.1
1000-1249	25	9.0	18	0	~	206.2	~	64.9	257.7	172.4
1250-1499	16	5.8	10	0	0	87.7	6	57.7	140.4	84.1
1500-1999	38	13.7	22	~	~	56.7	13	31.3	86.2	40.5
2000-2499	44	15.9	26	~	~	22.2	16	13.0	34.9	17.0
2500-2999	38	13.7	23	~	0	5.4	*	3.1	8.5	4.7
3000-3499	28	10.1	19	~	0	1.6	*	0.5	2.1	1.8
3500-3999	14	5.1	*	0	0	0.8	~	0.1	0.9	0.8
4000-4499	6	2.2	~	~	0	0.5	~	0.5	0.9	0.6
4500 and over	~	^	~	0	0	2.5	~	0.8	3.3	1.7
Not stated	~	^	~	0	0	666.7	~	1000.0	1000.0	1000.0
<b>Total</b>	<b>277</b>	<b>100</b>	<b>167</b>	<b>10</b>	<b>6</b>	<b>4.3</b>	<b>94</b>	<b>2.2</b>	<b>6.5</b>	<b>4.3</b>

## Notes:

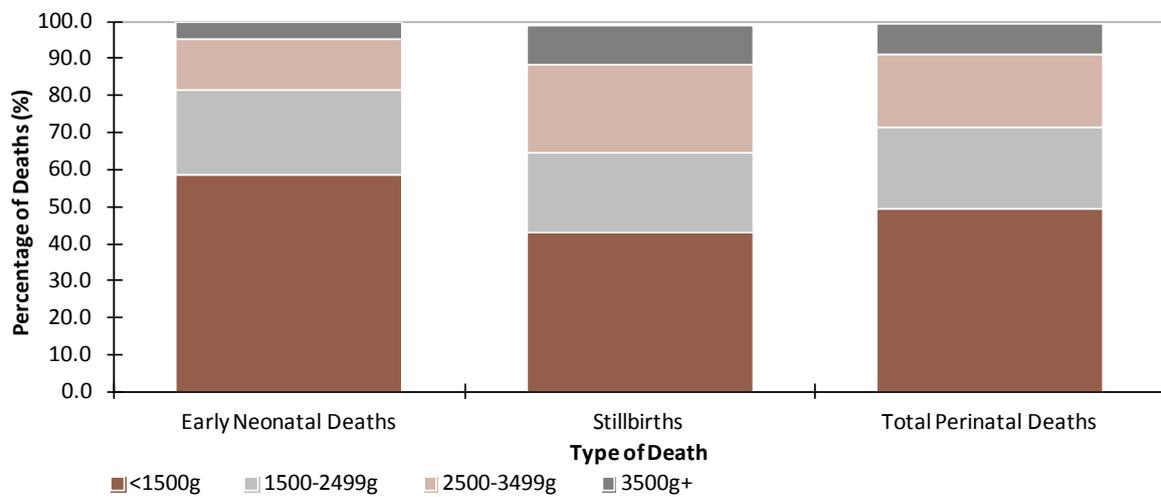
- ~ Percentage column is subject to rounding.
  - \* Denotes five or fewer births (or maternities) reported to NPRS.
  - \* Further suppression required to prevent disclosure of five or fewer births (or maternities).
  - ^ Percentage not provided to prevent disclosure of small numbers.
  - a Rates are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

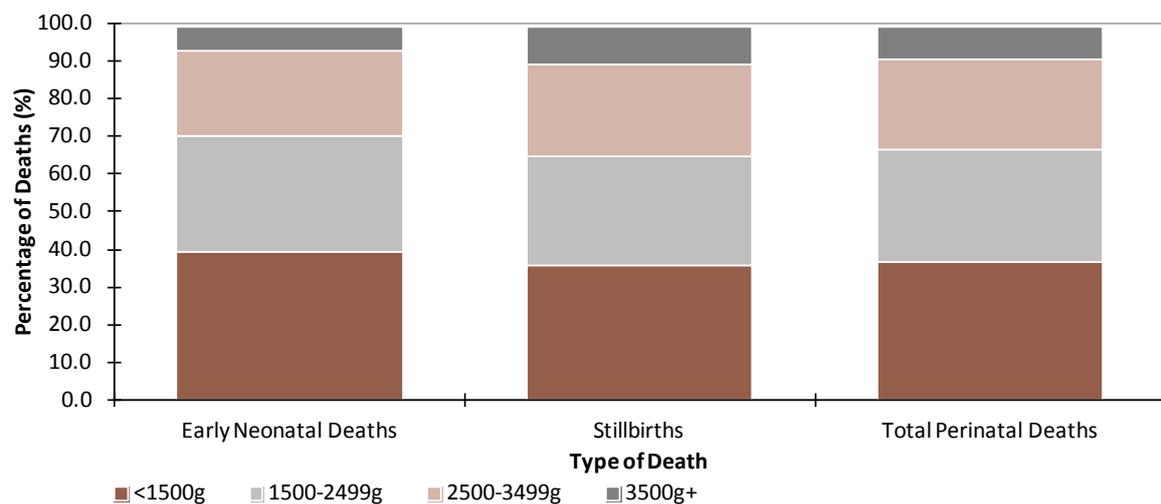
**Total Perinatal Deaths**



**Perinatal Deaths: Primiparous Women**

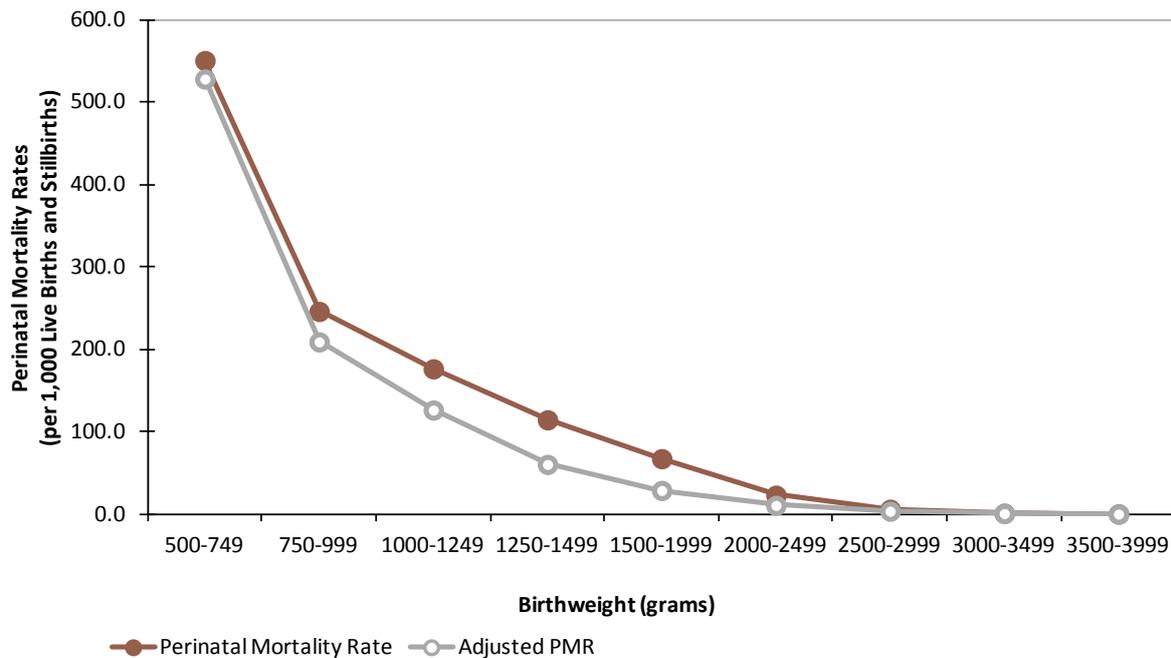


**Perinatal Deaths: Multiparous Women**



Note: See Table 5.1 for data.

**FIGURE 5.2**  
Perinatal Mortality Rates by Birthweight



Notes: See Table 5.1 for data.  
This figure does not 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.<sup>35</sup> 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.<sup>36</sup>

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

- Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04) accounted for the largest proportion of total perinatal deaths (22.0 per cent).
- Over two-thirds of perinatal deaths weighed <2,500 grams, and of these 34.9 per cent were due to congenital malformations (Q00-Q99), followed by maternal factors (P00-P04) accounting for 22.1 per cent (see Figure 5.3).
- Of the 30.7 per cent of perinatal deaths weighing  $\geq$ 2,500 grams, 25.4 per cent recorded cause of death due to congenital malformations (Q00-Q99) and 22.4 per cent were due to maternal factors (P00-P04) (see Figure 5.4).

<sup>35</sup> World Health Organisation, *op. cit.*

<sup>36</sup> See Appendix D for more detail.

**TABLE 5.2**

 Total Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate<sup>a</sup> 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 <sup>a</sup>
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	108.1	80.0	46.9	28.8	9.1	5.9	1.5	0.4	0.3	0.2	-	-	96	1.4
Disorders related to length of gestation and foetal growth	P05-P08	182.4	26.7	20.8	8.2	2.3	0.4	0.2	-	-	-	-	250.0	43	0.6
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	81.1	26.7	20.8	4.1	4.5	1.7	1.5	0.3	0.2	-	1.2	-	54	0.8
Infections specific to the perinatal period	P35-P39	54.1	13.3	10.4	-	1.1	0.8	0.4	0.0	-	0.1	-	-	20	0.3
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	13.5	6.7	5.2	-	-	-	-	0.1	0.0	-	-	-	7	0.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	-	-	-	-	-	0.4	0.1	-	-	-	-	-	~	0.0
Digestive system disorders of foetus and newborn	P75-P78	6.8	-	-	-	-	-	-	-	-	-	-	-	~	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	6.8	26.7	-	-	1.1	0.4	0.1	0.0	-	0.1	-	-	10	0.1
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	-	-	-	-	-	-	-	0.1	0.0	-	-	-	~	0.0
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	54.1	20.0	10.4	16.5	10.2	1.7	0.5	0.5	0.3	0.2	-	500.0	57	0.8
Congenital malformations of the nervous system	Q00-Q07	-	13.3	10.4	8.2	6.8	2.9	0.7	0.0	0.1	0.1	1.2	250.0	32	0.5
Congenital malformations of the circulatory system	Q20-Q28	-	-	10.4	8.2	6.8	2.5	0.4	0.0	-	-	-	-	20	0.3
Congenital malformations of the respiratory system	Q30-Q34	-	-	-	-	2.3	-	-	-	-	-	-	-	~	0.0
Cleft lip and cleft palate	Q35-Q37	6.8	-	-	-	-	-	-	-	-	-	-	-	~	0.0
Congenital malformations of the urinary system	Q60-Q64	-	-	-	-	5.7	1.3	0.1	0.1	-	-	-	-	11	0.2
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	6.8	-	5.2	4.1	1.1	0.4	0.2	0.0	-	-	-	-	8	0.1
Other congenital malformations	Q80-Q89	27.0	-	10.4	16.5	6.8	1.7	0.5	0.0	-	-	-	-	25	0.4
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	6.8	33.3	20.8	20.6	10.2	3.8	0.4	0.0	0.1	0.1	-	-	40	0.6
All other causes	A000-O999, R000-Z999	-	-	5.2	-	-	-	0.1	0.0	0.0	-	-	-	~	0.1
<b>Total</b>	<b>N</b>	<b>82</b>	<b>37</b>	<b>34</b>	<b>28</b>	<b>60</b>	<b>57</b>	<b>55</b>	<b>42</b>	<b>25</b>	<b>8</b>	<b>~</b>	<b>~</b>	<b>436</b>	<b>6.3</b>
	<b>PMR</b>	<b>554.1</b>	<b>246.7</b>	<b>177.1</b>	<b>115.2</b>	<b>68.1</b>	<b>23.8</b>	<b>6.7</b>	<b>1.9</b>	<b>1.1</b>	<b>0.9</b>	<b>2.5</b>	<b>1000.0</b>		

**TABLE 5.2**

 Singleton Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate<sup>a</sup> 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 <sup>a</sup>
		Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	111.1	112.2	66.7	38.2	13.3	8.3	1.6	0.4	0.3	0.2	-	-
Disorders related to length of gestation and foetal growth	P05-P08	240.7	20.4	29.6	12.7	3.8	0.6	0.3	-	-	-	-	1000.0	40	0.6
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	64.8	40.8	29.6	6.4	7.6	2.4	1.6	0.3	0.2	-	1.2	-	49	0.7
Infections specific to the perinatal period	P35-P39	55.6	20.4	14.8	-	1.9	1.2	0.4	0.0	-	0.1	-	-	18	0.3
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	9.3	-	-	-	-	-	-	0.1	0.0	-	-	-	~	0.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	-	-	-	-	-	-	0.1	-	-	-	-	-	~	0.0
Digestive system disorders of foetus and newborn	P75-P78	9.3	-	-	-	-	-	-	-	-	-	-	-	~	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	9.3	40.8	-	-	1.9	0.6	0.1	0.0	-	0.1	-	-	10	0.2
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	-	-	-	-	-	-	-	0.1	0.0	-	-	-	~	0.0
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	55.6	30.6	14.8	19.1	15.2	2.4	0.4	0.5	0.3	0.2	-	-	50	0.8
Congenital malformations of the nervous system	Q00-Q07	-	10.2	14.8	12.7	11.4	3.5	0.8	0.0	0.1	0.1	1.2	-	29	0.4
Congenital malformations of the circulatory system	Q20-Q28	-	-	7.4	6.4	11.4	3.5	0.4	0.0	-	-	-	-	18	0.3
Congenital malformations of the respiratory system	Q30-Q34	-	-	-	-	3.8	-	-	-	-	-	-	-	~	0.0
Congenital malformations of the urinary system	Q60-Q64	-	-	-	-	7.6	1.8	0.1	0.1	-	-	-	-	10	0.2
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	9.3	-	7.4	6.4	1.9	0.6	0.3	0.0	-	-	-	-	8	0.1
Other congenital malformations	Q80-Q89	27.8	-	7.4	25.5	7.6	2.4	0.5	0.0	-	-	-	-	21	0.3
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	9.3	51.0	29.6	31.8	17.1	5.3	0.4	0.0	0.1	0.1	-	-	40	0.6
All other causes	A000-0999, R000-Z999	-	-	7.4	-	-	-	0.1	0.0	0.0	-	-	-	~	0.1
<b>Total</b>	<b>N</b>	<b>65</b>	<b>32</b>	<b>31.0</b>	<b>25</b>	<b>55</b>	<b>55</b>	<b>54</b>	<b>42</b>	<b>25</b>	<b>8</b>	<b>~</b>	<b>~</b>	<b>397</b>	<b>6.0</b>
	<b>PMR</b>	<b>601.9</b>	<b>326.5</b>	<b>229.6</b>	<b>159.2</b>	<b>104.4</b>	<b>32.5</b>	<b>7.4</b>	<b>1.9</b>	<b>1.1</b>	<b>0.9</b>	<b>2.5</b>	<b>1000.0</b>		

**TABLE 5.2**

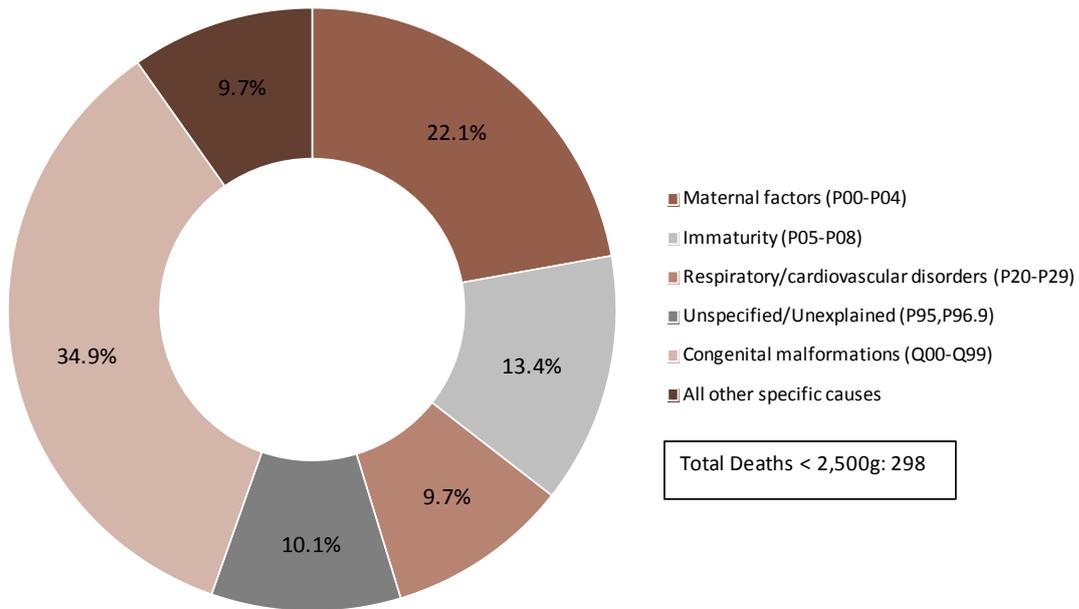
 Multiple Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate<sup>a</sup> and Numbers (Total)

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 <sup>a</sup>	
		Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	100.0	19.2	-	11.6	2.8	-	-	-	-	-	-	-	-
Disorders related to length of gestation and foetal growth	P05-P08	25.0	38.5	-	-	-	-	-	-	-	-	-	-	-	~	1.1
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	125.0	-	-	-	-	-	-	-	-	-	-	-	-	~	1.9
Infections specific to the perinatal period	P35-P39	50.0	-	-	-	-	-	-	-	-	-	-	-	-	~	0.8
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	25.0	19.2	17.5	-	-	-	-	-	-	-	-	-	-	~	1.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	-	-	-	-	-	1.4	-	-	-	-	-	-	-	~	0.4
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	50.0	-	-	11.6	2.8	-	1.1	-	-	-	-	-	666.7	7	2.7
Congenital malformations of the nervous system	Q00-Q07	-	19.2	-	-	-	1.4	-	-	-	-	-	-	333.3	~	1.1
Congenital malformations of the circulatory system	Q20-Q28	-	-	17.5	11.6	-	-	-	-	-	-	-	-	-	~	0.8
Cleft lip and cleft palate	Q35-Q37	25.0	-	-	-	-	-	-	-	-	-	-	-	-	~	0.4
Congenital malformations of the urinary system	Q60-Q64	-	-	-	-	2.8	-	-	-	-	-	-	-	-	~	0.4
Other congenital malformations	Q80-Q89	25.0	-	17.5	-	5.6	-	-	-	-	-	-	-	-	~	1.5
<b>Total</b>	<b>N</b>	<b>17</b>	<b>~</b>	<b>~</b>	<b>~</b>	<b>~</b>	<b>~</b>	<b>~</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>~</b>	<b>39</b>	<b>14.9</b>	
	<b>PMR</b>	<b>425.0</b>	<b>96.2</b>	<b>52.6</b>	<b>34.9</b>	<b>14.1</b>	<b>2.9</b>	<b>1.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,000.0</b>			

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

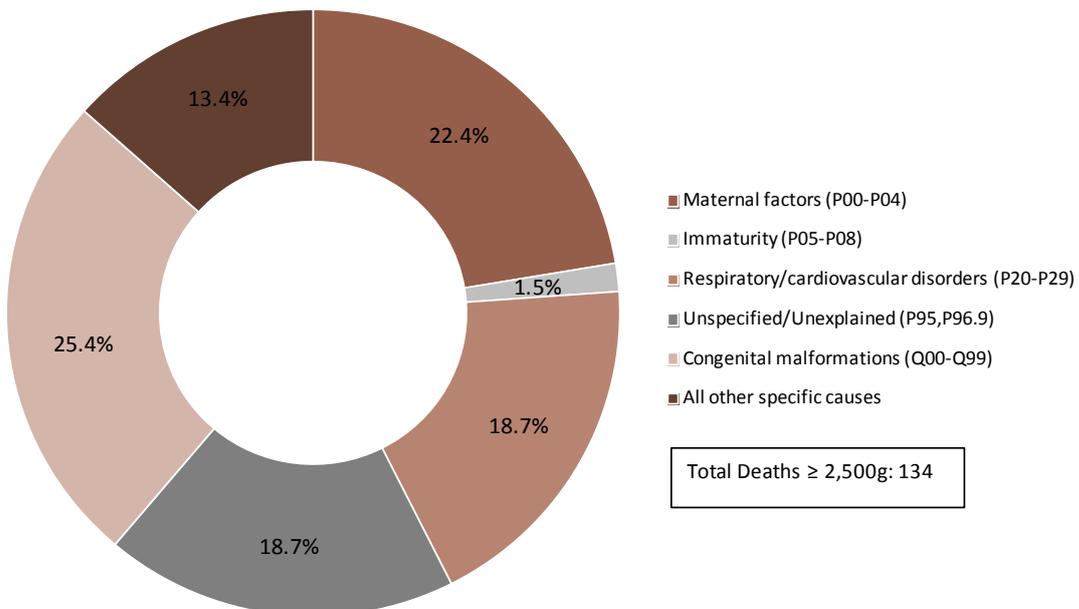
a Rates are calculated per 1,000 births. For perinatal deaths, rates are calculated on total live births and stillbirths.

**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.<sup>37,38</sup>
- 65.0 per cent of singleton perinatal deaths and 89.7 per cent of multiple perinatal deaths were preterm.
- The perinatal mortality rate for babies born before 37 completed weeks of gestation was 65.5 per 1,000 live births and stillbirths (82.7 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 2.2 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

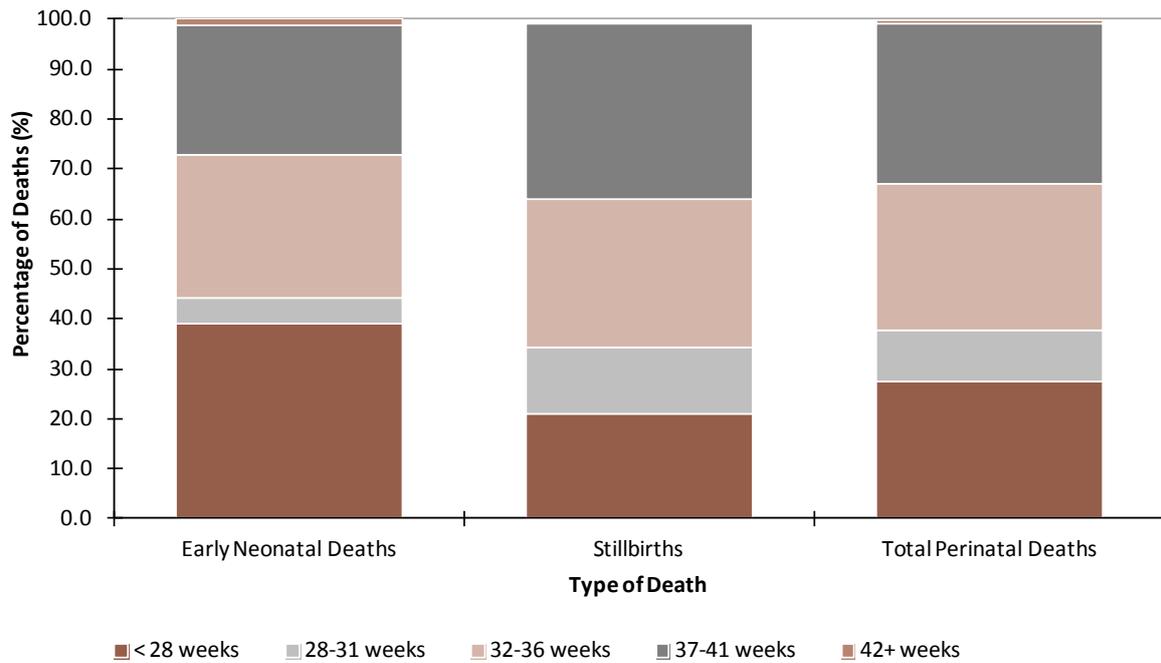
	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-Partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate <sup>a</sup>	Early Neonatal Deaths	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adj. PMR <sup>a</sup>
<b>Total Births</b>										
Less than 28	120	27.5	45	*	~	186.5	62	245.1	385.9	359.1
28-31	45	10.3	36	0	~	71.2	*	16.6	86.5	65.0
32-36	128	29.4	75	~	~	22.5	46	12.9	35.1	20.1
37-41	139	31.9	89	*	~	1.6	41	0.7	2.2	1.3
42 and Over	~	^	~	0	0	0.5	~	1.0	1.5	0.5
Not stated	~	^	~	0	0	100.0	0	-	100.0	100.0
<b>Total</b>	<b>436</b>	<b>100</b>	<b>247</b>	<b>20</b>	<b>10</b>	<b>4.0</b>	<b>159</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>
<b>Singleton Births</b>										
Less than 28	99	24.9	42	*	~	240.9	46	275.4	450.0	421.1
28-31	*	^	34	0	~	102.3	*	22.8	122.8	93.7
32-36	117	29.5	71	~	~	29.7	41	16.5	45.7	25.9
37-41	*	^	89	*	~	1.6	37	0.6	2.2	1.3
42 and Over	~	^	~	0	0	0.5	~	1.0	1.5	0.5
Not stated	~	^	~	0	0	100.0	0	-	100.0	100.0
<b>Total</b>	<b>397</b>	<b>100</b>	<b>238</b>	<b>18</b>	<b>8</b>	<b>4.0</b>	<b>133</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>
<b>Multiple Births</b>										
Less than 28	21	53.8	~	~	~	54.9	16	186.0	230.8	213.5
28-31	~	^	~	0	0	11.2	~	5.7	16.9	11.3
32-36	11	28.2	~	~	~	5.5	~	4.6	10.1	6.5
37-41	~	^	0	0	0	-	~	3.2	3.2	-
42 and Over	0	0.0	0	0	0	-	0	-	-	-
Not stated	0	0.0	0	0	0	-	0	-	-	-
<b>Total</b>	<b>39</b>	<b>100</b>	<b>9</b>	<b>~</b>	<b>~</b>	<b>5.0</b>	<b>26</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>

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.

<sup>37</sup> Defined as less than 37 completed weeks of gestation.

<sup>38</sup> In 2013, 6.5 per cent of total births were preterm.

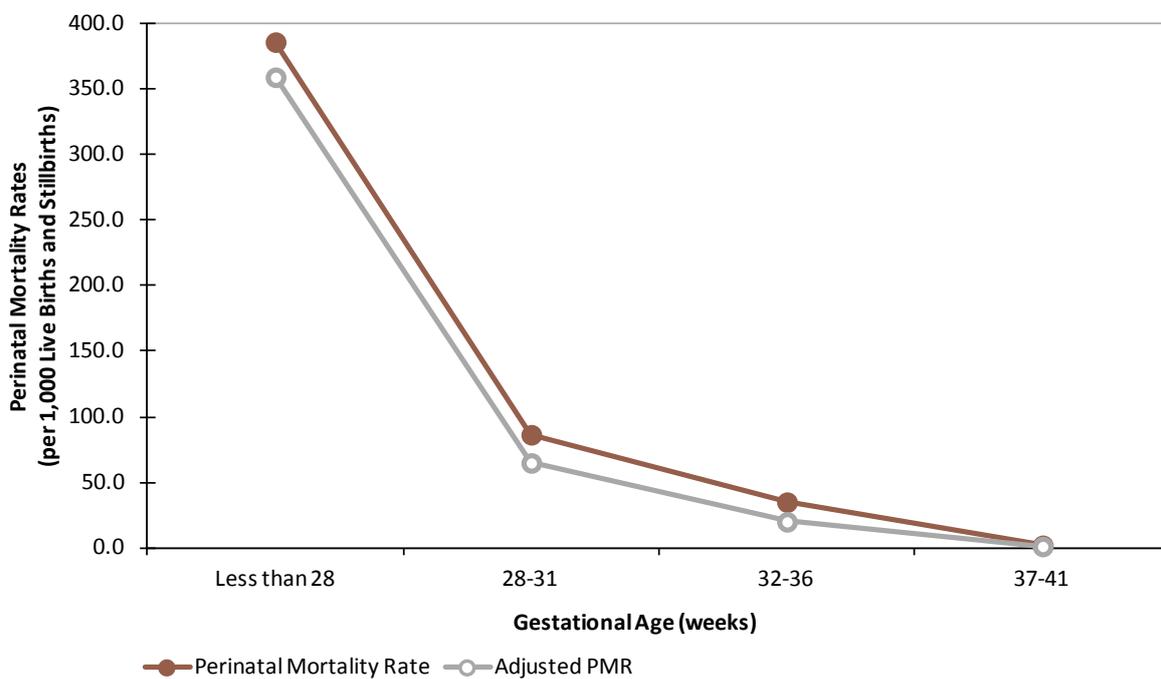
**FIGURE 5.5**  
Total Perinatal Deaths by Gestational Age (weeks)



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 13.1% of total perinatal deaths were classified as 'unspecified/unexplained' (P95 ,P96.9). The fact that just over 57 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<sup>a</sup> 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
<b>Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery</b>	<b>P00-P04</b>	<b>1.3</b>	<b>0.1</b>	<b>96</b>	<b>1.4</b>	<b>1.2</b>	<b>0.1</b>	<b>89</b>	<b>1.3</b>	<b>1.9</b>	<b>0.8</b>	<b>7</b>	<b>2.7</b>
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	P000 - P009	0.1	-	~	0.1	0.1	-	~	0.1	-	-	0	-
Foetus and newborn affected by maternal complications of pregnancy	P010 - P019	0.1	0.0	7	0.1	0.1	0.0	7	0.1	-	-	0	-
Foetus and newborn affected by complications of placenta, cord and membranes	P020 - P029	1.1	0.1	84	1.2	1.1	0.1	77	1.2	1.9	0.8	7	2.7
Fetus and newborn affected by other complications of labour and delivery	P030 - P039	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
<b>Disorders related to length of gestation and foetal growth</b>	<b>P05-P08</b>	<b>0.3</b>	<b>0.3</b>	<b>43</b>	<b>0.6</b>	<b>0.3</b>	<b>0.3</b>	<b>*</b>	<b>0.6</b>	<b>0.4</b>	<b>0.8</b>	<b>~</b>	<b>1.1</b>
Slow foetal growth and foetal malnutrition	P050 - P059	0.1	-	10	0.1	0.2	-	10	0.2	-	-	0	-
Disorders related to short gestation and low birth weight, not elsewhere classified	P070 - P073	0.2	0.3	33	0.5	0.2	0.3	*	0.5	0.4	0.8	~	1.1
<b>Respiratory and cardiovascular disorders specific to the perinatal period</b>	<b>P20-P29</b>	<b>0.5</b>	<b>0.3</b>	<b>54</b>	<b>0.8</b>	<b>0.5</b>	<b>0.2</b>	<b>*</b>	<b>0.7</b>	<b>-</b>	<b>1.9</b>	<b>~</b>	<b>1.9</b>
Intrauterine hypoxia	P200 - P209	0.3	0.0	~	0.3	0.3	0.0	~	0.3	-	0.4	~	0.4
Respiratory distress of newborn	P220 - P229	-	0.0	~	0.0	-	0.0	~	0.0	-	0.8	~	0.8
Congenital pneumonia	P230 - P239	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Neonatal aspiration syndromes	P240 - P249	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Pulmonary haemorrhage originating in the perinatal period	P260 - P269	0.0	0.0	~	0.1	0.0	0.0	~	0.0	-	0.4	~	0.4
Other respiratory conditions originating in the perinatal period	P280 - P289	-	0.1	7	0.1	-	0.1	7	0.1	-	-	0	-
Cardiovascular disorders originating in the perinatal period	P290 - P299	0.1	0.0	9	0.1	0.1	0.0	~	0.1	-	0.4	~	0.4
<b>Infections specific to the perinatal period</b>	<b>P35-P39</b>	<b>0.2</b>	<b>0.1</b>	<b>20</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	<b>~</b>	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>	<b>~</b>	<b>0.8</b>
Bacterial sepsis of newborn	P360 - P369	0.1	0.0	*	0.1	0.0	0.0	~	0.1	0.4	0.4	~	0.8
Other congenital infectious and parasitic diseases	P370 - P379	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other infections specific to the perinatal period	P390 - P399	0.1	0.0	12	0.2	0.1	0.0	12	0.2	-	-	0	-
<b>Haemorrhagic and haematological disorders of foetus and newborn</b>	<b>P50-P61</b>	<b>0.0</b>	<b>0.1</b>	<b>7</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>~</b>	<b>0.1</b>	<b>-</b>	<b>1.2</b>	<b>~</b>	<b>1.1</b>
Foetal blood loss	P500 - P509	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Intracranial nontraumatic haemorrhage of foetus and newborn	P520 - P529	-	0.1	~	0.1	-	0.0	~	0.0	-	1.2	~	1.1
Other neonatal haemorrhages	P540 - P549	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-

Table 5.4: Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates<sup>a</sup> 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
<b>Transitory endocrine and metabolic disorders specific to foetus and newborn</b>	<b>P70-P74</b>	<b>0.0</b>	<b>0.0</b>	~	<b>0.0</b>	<b>0.0</b>	-	~	<b>0.0</b>	-	<b>0.4</b>	~	<b>0.4</b>
Transitory disorders of carbohydrate metabolism specific to foetus and newborn	P700 - P709	0.0	0.0	~	0.0	0.0	-	~	0.0	-	0.4	~	0.4
<b>Digestive system disorders of foetus and newborn</b>	<b>P75 - P78</b>	-	<b>0.0</b>	~	<b>0.0</b>	-	<b>0.0</b>	~	<b>0.0</b>	-	-	<b>0</b>	-
Necrotizing enterocolitis of foetus and newborn	P77	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
<b>Conditions involving the integument and temperature regulation of foetus and newborn</b>	<b>P80-P83</b>	<b>0.1</b>	<b>0.1</b>	<b>10</b>	<b>0.1</b>	<b>0.1</b>	<b>10</b>	<b>0.2</b>	-	-	<b>0</b>	-	-
Other conditions of integument specific to foetus and newborn	P830 - P839	0.1	0.1	10	0.1	0.1	10	0.2	-	-	0	-	-
<b>Other disorders originating in the perinatal period</b>	<b>P90-P96</b>	<b>0.7</b>	<b>0.2</b>	<b>60</b>	<b>0.9</b>	<b>0.7</b>	<b>0.1</b>	<b>53</b>	<b>0.8</b>	<b>1.5</b>	<b>1.2</b>	<b>7</b>	<b>2.7</b>
Other disturbances of cerebral status of newborn	P910 - P919	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Foetal death of unspecified cause, Condition origination in the perinatal period, unspecified	P95, P969	0.7	0.1	*	0.8	0.7	0.1	*	0.8	1.5	1.2	7	2.7
<b>Congenital malformations of the nervous system</b>	<b>Q00-Q07</b>	<b>0.1</b>	<b>0.3</b>	~	<b>0.5</b>	<b>0.1</b>	<b>0.3</b>	~	<b>0.4</b>	<b>0.4</b>	<b>0.8</b>	~	<b>1.1</b>
Anencephaly and similar malformations	Q000 - Q002	0.1	0.2	~	0.3	0.1	0.2	~	0.3	-	0.4	~	0.4
Encephalocele	Q010 - Q019	0.0	0.1	~	0.1	0.0	0.0	~	0.1	-	0.4	~	0.4
Microcephaly	Q02	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital hydrocephalus	Q030 - Q039	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of the brain	Q040 - Q049	0.0	-	~	0.0	-	-	0	-	0.4	-	~	0.4
<b>Congenital malformations of the circulatory system</b>	<b>Q20-Q28</b>	<b>0.1</b>	<b>0.2</b>	<b>20</b>	<b>0.3</b>	<b>0.1</b>	<b>0.2</b>	*	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>	~	<b>0.8</b>
Congenital malformations of cardiac chambers and connections	Q200 - Q209	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital malformations of cardiac septa	Q210 - Q219	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Other congenital malformations of heart	Q240 - Q249	0.1	0.1	14	0.2	0.1	0.1	*	0.2	0.4	0.4	~	0.8
Other congenital malformations of circulatory system	Q280 - Q289	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
<b>Congenital malformations of the respiratory system</b>	<b>Q30-Q34</b>	-	<b>0.0</b>	~	<b>0.0</b>	-	<b>0.0</b>	~	<b>0.0</b>	-	-	<b>0</b>	-
Congenital malformations of lung	Q330 - Q339	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
<b>Cleft lip and cleft palate</b>	<b>Q35-Q37</b>	-	<b>0.0</b>	~	<b>0.0</b>	-	-	<b>0</b>	-	-	<b>0.4</b>	~	<b>0.4</b>
Cleft palate	Q350 - Q359	-	0.0	~	0.0	-	-	0	-	-	0.4	~	0.4

Table 5.4: Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates<sup>a</sup> 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
<b>Congenital malformations of the urinary system</b>	<b>Q60-Q64</b>	<b>0.0</b>	<b>0.1</b>	<b>11</b>	<b>0.2</b>	<b>0.0</b>	<b>0.1</b>	<b>*</b>	<b>0.2</b>	-	<b>0.4</b>	<b>~</b>	<b>0.4</b>
Renal agenesis and other reduction defects of kidney	Q600 - Q606	0.0	0.1	9	0.1	0.0	0.1	*	0.1	-	0.4	~	0.4
Cystic kidney disease	Q610 - Q619	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of kidney	Q630 - Q639	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
<b>Congenital malformations and deformations of the musculoskeletal system</b>	<b>Q65-Q79</b>	<b>0.0</b>	<b>0.1</b>	<b>8</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>8</b>	<b>0.1</b>	-	-	<b>0</b>	-
Polydactyly	Q690 - Q699	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Osteochondrodysplasia with defects of growth of tubular bones and spine	Q770 - Q779	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital malformations of musculoskeletal system, not elsewhere classified	Q790 - Q799	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
<b>Other congenital malformations</b>	<b>Q80-Q89</b>	<b>0.1</b>	<b>0.2</b>	<b>25</b>	<b>0.4</b>	<b>0.1</b>	<b>0.2</b>	<b>*</b>	<b>0.3</b>	-	<b>1.5</b>	<b>~</b>	<b>1.5</b>
Other specified congenital malformation syndromes affecting multiple systems	Q870 - Q878	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Other congenital malformations, not elsewhere classified	Q890 - Q899	0.1	0.2	*	0.3	0.1	0.2	*	0.3	-	1.5	~	1.5
<b>Chromosomal abnormalities, not elsewhere classified</b>	<b>Q90-Q99</b>	<b>0.4</b>	<b>0.2</b>	<b>40</b>	<b>0.6</b>	<b>0.4</b>	<b>0.2</b>	<b>40</b>	<b>0.6</b>	-	-	<b>0</b>	-
Downs syndrome	Q900 - Q909	0.1	0.0	7	0.1	0.1	0.0	7	0.1	-	-	0	-
Edwards syndrome and Patau syndrome	Q910 - Q917	0.2	0.1	25	0.4	0.2	0.2	25	0.4	-	-	0	-
Other trisomies and partial trisomies of the autosomes, not elsewhere classified	Q920 - Q929	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Turners syndrome	Q960 - Q969	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other chromosome abnormalities, not elsewhere classified	Q990 - Q999	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
<b>All other causes</b>	<b>A00.0-O99.9, R00.0-Z99.9</b>	<b>0.0</b>	<b>0.0</b>	<b>~</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>~</b>	<b>0.1</b>	-	-	<b>0</b>	-
<b>Total</b>		<b>4.0</b>	<b>2.3</b>	<b>436</b>	<b>6.3</b>	<b>4.0</b>	<b>2.0</b>	<b>397</b>	<b>6.0</b>	<b>5.0</b>	<b>10.0</b>	<b>39</b>	<b>14.9</b>

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.

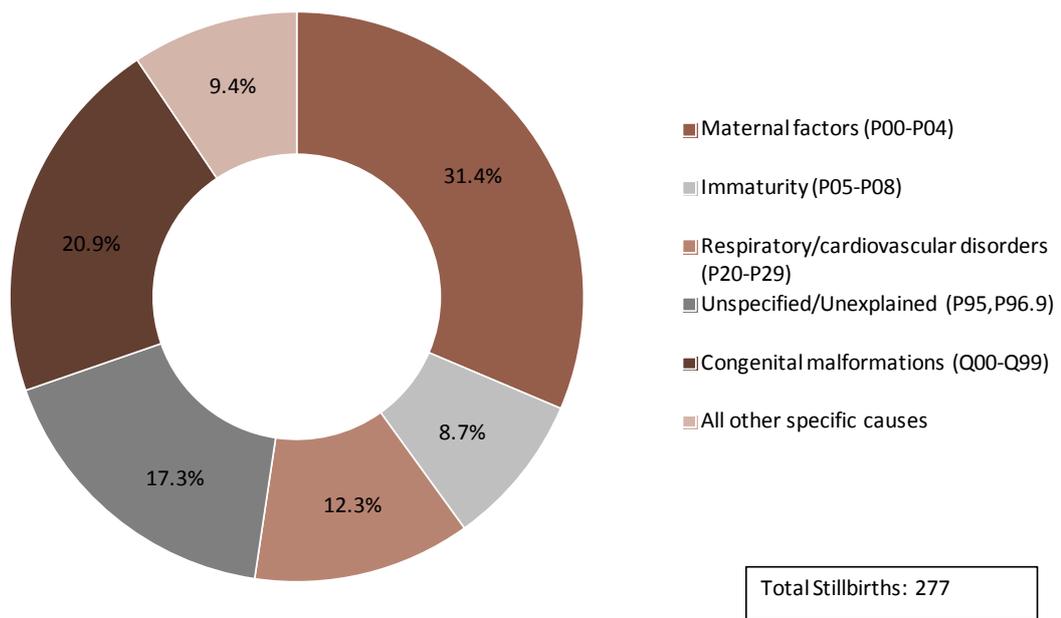
## STILLBIRTHS

Figure 5.7 presents the main cause of death for stillbirths.

- Maternal factors (P00-P04) were the leading cause of death for total stillbirths (31.4 per cent).
- Congenital malformations (Q00-Q99) contributed to over 1 in 5 deaths for total stillbirths (20.9 per cent).
- The cause of death was unspecified/unexplained (P95, P96.9) for 17.3 per cent of total stillbirths.

**FIGURE 5.7**

Total Stillbirths by Cause of Death



Notes: Percentages are subject to rounding.  
See Table 5.4 for data.

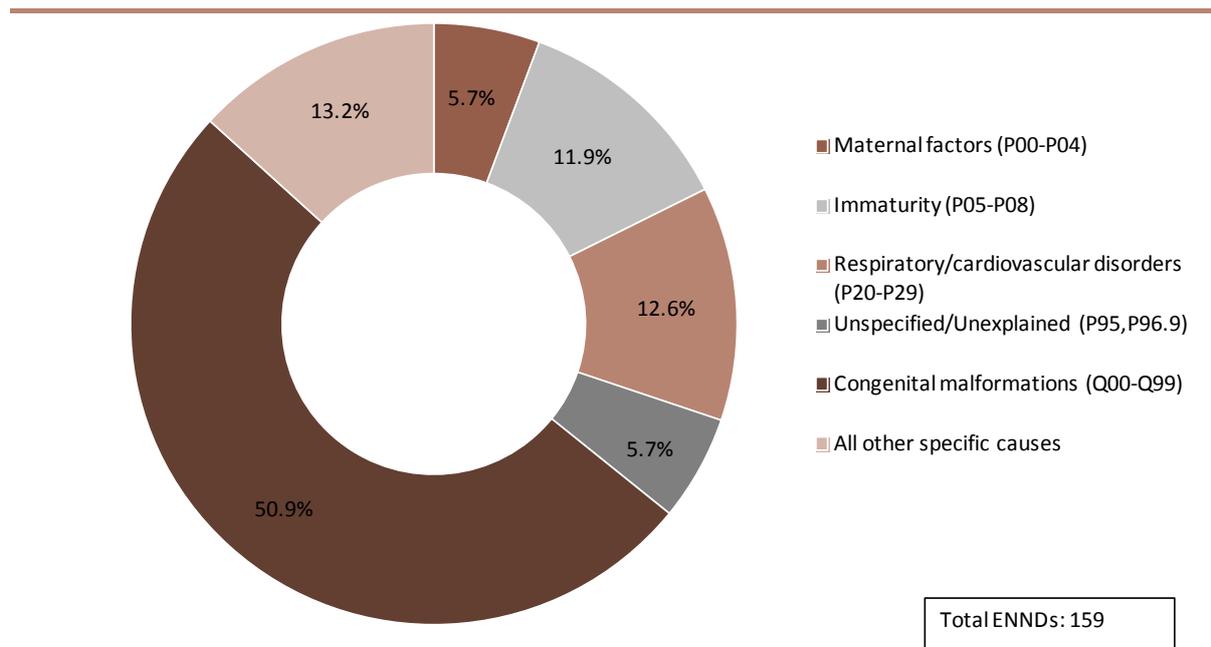
## EARLY NEONATAL DEATHS (ENNDs)

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 (50.9 per cent).
- Respiratory/cardiovascular disorders (P20-P29) was the second leading cause of death, contributing to 12.6 per cent of total early neonatal deaths.
- The cause of death was unspecified/unexplained (P95, P96.9) for 5.7 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 Table 5.4 for data.

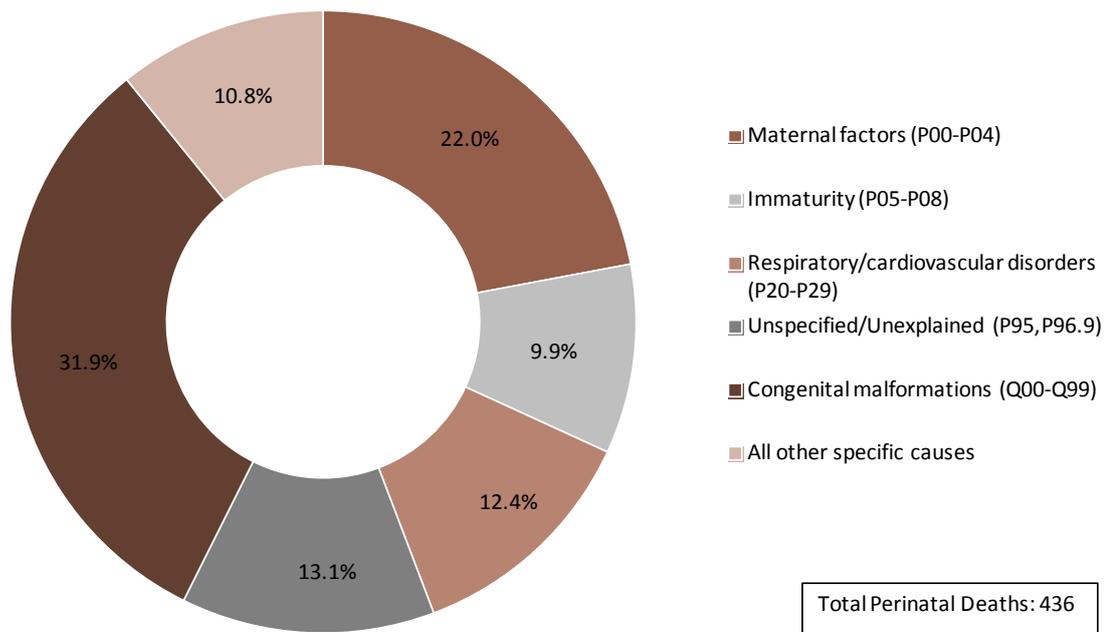
### TOTAL PERINATAL DEATHS

Figure 5.9 presents data on all perinatal deaths.

- Congenital malformations (Q00-Q99) accounted for almost 1 in 3 total perinatal deaths (31.9 per cent).
- Maternal factors (P00-P04) was the second most frequently reported cause of death for total perinatal deaths (22.0 per cent).
- The cause of death was unspecified/unexplained (P95, P96.9) for 13.1 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 for data.

## AGE AT DEATH

Table 5.5 presents age at death for early neonatal deaths.

- Over 1 in 5 early neonatal deaths occurred within the first hour of life.
- 61.6 per cent of total early neonatal deaths occurred within the first day of life (65.4 per cent for singleton early neonatal deaths and 42.3 per cent for multiple early neonatal deaths).
- Just over a quarter of early neonatal deaths occurred during the first and second completed days of life.

**TABLE 5.5**

Age at Death, Early Neonatal Deaths (Per Cent)

	Total Births Per Cent	Singleton Births Per Cent	Multiple Births Per Cent
<b>Completed Hours</b>			
<1 hour	22.6	24.8	11.5
1-23 hours	39.0	40.6	30.8
<b>Total under 1 day</b>	<b>61.6</b>	<b>65.4</b>	<b>42.3</b>
<b>Completed Days</b>			
1	15.1	14.3	19.2
2	10.1	8.3	19.2
3	3.8	3.8	3.8
4	5.0	3.8	11.5
5	3.8	3.8	3.8
6	0.6	0.8	0.0
<b>Total under 1 Week</b>	<b>38.4</b>	<b>34.6</b>	<b>57.7</b>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Percentages are subject to rounding.

## 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.<sup>39</sup> Table 5.6 presents data on post-mortem examinations.

- The percentage of early neonatal deaths undergoing post-mortem examinations was 35.2 per cent compared to 46.6 per cent of stillbirths.
- A post-mortem examination was undertaken for 42.4 per cent of total perinatal deaths in 2013.
- The percentage of singleton perinatal deaths undergoing a post-mortem was 43.6 per cent compared to 30.8 per cent of multiple perinatal deaths.

**TABLE 5.6**

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

	Type of Death		
	Stillbirths Per cent	Early Neonatal Deaths Per cent	Total Per cent
<b>Total Births</b>			
Post-Mortem	46.6	35.2	42.4
No Post-Mortem	53.4	63.5	57.1
Not Stated	0.0	1.3	0.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Singleton Births</b>			
Post-Mortem	47.3	36.1	43.6
No Post-Mortem	52.7	62.4	55.9
Not Stated	0.0	1.5	0.5
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Multiple Births</b>			
Post-Mortem	30.8	30.8	30.8
No Post-Mortem	69.2	69.2	69.2
Not Stated	0.0	0.0	0.0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Percentages are subject to rounding.

<sup>39</sup> Previous reports in this series can be downloaded from [www.hpo.ie](http://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*, 10<sup>th</sup> 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 2013, 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:** Five categories are used:

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

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

**Method of Delivery:** Six categories are used:<sup>40</sup>

1. Spontaneous cephalic delivery
2. Breech delivery, spontaneous, with or without forceps to after-coming head, breech extraction
3. Forceps delivery
4. Vacuum extraction<sup>41</sup>
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.

<sup>40</sup> For the purpose of presenting data in this report 'instrumental delivery' includes breech/forceps, forceps or vacuum extraction.

<sup>41</sup> Also known as Ventouse Deliveries (Source: World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> 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 2013.

**Notification of Birth - To: National Perinatal Reporting System, The Economic & Social Research Institute, Whitaker Square, Sir John Rogerson's Quay, Dublin 2**

TYPE OF BIRTH 1  PLACE OF BIRTH (Hospital = 1, BBA = 2, Domiciliary = 3) 2  NAME AND \_\_\_\_\_  
 (Live = 1, Still = 2) \_\_\_\_\_ ADDRESS OF \_\_\_\_\_  
 HOSPITAL NO. 3 \_\_\_\_\_ CASE NO. 6 \_\_\_\_\_ HOSPITAL \_\_\_\_\_

**INFANT'S DETAILS**  
 DATE OF BIRTH (DD/MM/YYYY) 14 \_\_\_\_\_  
 TIME OF BIRTH \_\_\_\_\_  
 IF MULTIPLE BIRTH ORDER OF BIRTH No.  22 of  23

SEX (Male = 1, Female = 2, Indeterminate = 3) 24   
 BIRTHWEIGHT 25 \_\_\_\_\_ GRAMMES  
 PERIOD OF GESTATION 29 \_\_\_\_\_ WEEKS

**FATHER'S DETAILS**  
 COUNTY \_\_\_\_\_ 31 \_\_\_\_\_  
 COUNTRY \_\_\_\_\_ 34 \_\_\_\_\_  
 NATIONALITY \_\_\_\_\_ 38 \_\_\_\_\_  
 OCCUPATION \_\_\_\_\_ 42 \_\_\_\_\_  
 DATE OF BIRTH (DDMMYYYY) 44 \_\_\_\_\_

**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 (DDMMYYYY) 118 \_\_\_\_\_  
 DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY (DDMMYYYY) 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 FOETUS OR INFANT \_\_\_\_\_ 136 \_\_\_\_\_  
 OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FOETUS 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 (DDMMYYYY) 159 \_\_\_\_\_  
 DATE OF MOTHER'S DISCHARGE (DDMMYYYY) 167 \_\_\_\_\_  
 DATE OF INFANT'S DISCHARGE (DDMMYYYY) 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**

**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 FOETUS OR INFANT \_\_\_\_\_ 107 \_\_\_\_\_  
 OTHER DISEASES OR CONDITIONS IN FOETUS OR INFANT \_\_\_\_\_ 112 \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**BNF01/2003**

## 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.<sup>42</sup> 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).

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<sup>42</sup> World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> 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.

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*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 27 includes the following:

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

#### Rest of Europe includes the following:

Andorra	Liechtenstein
Armenia	Macedonia, The Former Yugoslav Republic of,
Azerbaijan	Moldova, Republic of
Belarus	Monaco
Bosnia and Herzegovina	Montenegro
Croatia <sup>43</sup>	Norway
Faroe Islands	Russian Federation

<sup>43</sup> Croatia became the 28th EU country on 1 July 2013. As the Perinatal Statistics Reports are based on year of birth, Croatia has not been included as a member state of the EU in this report.

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	

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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	

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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.

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**Australia includes the following:**

Australia.

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**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	

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**Multi-Nationality includes the following:**

Mixed/Multi-Nationality (stated as so).

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**No Nationality:**

Stated as so

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**Not Stated:**

Where nationality is not provided

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**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
- G8 Gestational Age (weeks) at Delivery for Multiparous Women
- 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

**TABLE G1**

Mother's County of Residence, Total Births

Mother's County of Residence	Number	Per Cent
Carlow	879	1.3
Cavan	1,130	1.6
Clare	1,465	2.1
Cork	7,889	11.4
Donegal	1,956	2.8
Dublin City	15,123	21.8
Dublin County	5,428	7.8
Galway	3,743	5.4
Kerry	1,754	2.5
Kildare	3,455	5.0
Kilkenny	1,300	1.9
Laois	1,226	1.8
Leitrim	457	0.7
Limerick	2,813	4.1
Longford	622	0.9
Louth	1,981	2.9
Mayo	1,696	2.4
Meath	3,138	4.5
Monaghan	856	1.2
Offaly	1,061	1.5
Roscommon	828	1.2
Sligo	889	1.3
Tipperary	2,262	3.3
Waterford	1,715	2.5
Westmeath	1,345	1.9
Wexford	2,087	3.0
Wicklow	2,057	3.0
Other	112	0.2
<b>Total</b>	<b>69,267</b>	<b>100</b>

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	32.4
UK	32.0
EU15 (excluding Ireland & UK)	33.9
EU15 to EU27	30.0
Rest of Europe	31.1
Africa	31.9
Asia	31.6
America	32.6
<b>Total</b>	<b>32.1</b>

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	1,233 89.4	* ^	* ^	~ ^	~ ^	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	* 100
20-24 Years	3,859 60.5	1,931 30.3	450 7.1	111 1.7	* ^	~ ^	~ ^	~ ^	~ ^	0 0.0	6,379 100
25-29 Years	6,379 46.3	4,856 35.3	1,711 12.4	578 4.2	173 1.3	* ^	* ^	~ ^	~ ^	~ ^	13,775 100
30-34 Years	9,460 37.9	9,605 38.5	4,065 16.3	1,160 4.6	395 1.6	157 0.6	78 0.3	47 0.2	0 0.0	0 0.0	24,967 100
35-39 Years	4,227 24.1	6,206 35.4	4,624 26.3	1,667 9.5	504 2.9	184 1.0	69 0.4	69 0.4	0 0.0	0 0.0	17,550 100
40 Years and Over	* ^	1,175 30.2	934 24.0	488 12.5	228 5.9	85 2.2	50 1.3	* ^	0 0.0	0 0.0	3,897 100
Not Stated	~ ^	~ ^	~ ^	~ ^	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	~ 100
<b>Total</b>	<b>26,059</b> <b>38.3</b>	<b>23,905</b> <b>35.2</b>	<b>11,797</b> <b>17.4</b>	<b>4,007</b> <b>5.9</b>	<b>1,327</b> <b>2.0</b>	<b>487</b> <b>0.7</b>	<b>211</b> <b>0.3</b>	<b>*</b> <b>^</b>	<b>~</b> <b>^</b>	<b>~</b> <b>^</b>	<b>67,952</b> <b>100</b>

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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
500-749	80	0.3	64	200.0	375.0	500.0	466.7	70
750-999	*	^	68	128.2	102.9	217.9	164.4	57
1000-1249	95	0.4	89	63.2	33.7	94.7	85.1	74
1250-1499	129	0.5	121	62.0	33.1	93.0	41.0	101
1500-1999	440	1.7	426	31.8	18.8	50.0	18.8	344
2000-2499	1,133	4.2	1,127	5.3	6.2	11.5	5.3	946
2500-2999	3,724	14.0	3,712	3.2	1.3	4.6	4.0	3,544
3000-3499	9,193	34.5	9,183	1.1	0.4	1.5	1.2	9,138
3500-3999	8,570	32.1	8,562	0.9	0.4	1.3	1.1	8,564
4000-4499	2,810	10.5	2,808	0.7	-	0.7	0.7	2,810
4500 and Over	412	1.5	412	0.0	-	0.0	0.0	411
Not stated	~	^	0	1000.0	-	1000.0	1000.0	0
<b>Total</b>	<b>26,665</b>	<b>100</b>	<b>26,572</b>	<b>3.5</b>	<b>2.4</b>	<b>5.9</b>	<b>4.2</b>	<b>26,059</b>
<b>Singleton Births</b>								
500-749	57	0.2	44	228.1	386.4	526.3	500.0	57
750-999	*	^	*	200.0	138.9	311.1	243.9	45
1000-1249	59	0.2	53	101.7	18.9	118.6	118.6	59
1250-1499	83	0.3	76	84.3	52.6	132.5	52.6	83
1500-1999	253	1.0	240	51.4	20.8	71.1	24.9	253
2000-2499	778	3.1	772	7.7	9.1	16.7	7.8	778
2500-2999	3,340	13.1	3,328	3.6	1.2	4.8	4.2	3,340
3000-3499	9,069	35.6	9,059	1.1	0.4	1.5	1.2	9,069
3500-3999	8,557	33.6	8,549	0.9	0.4	1.3	1.1	8,557
4000-4499	2,810	11.0	2,808	0.7	-	0.7	0.7	2,810
4500 and Over	*	^	*	0.0	-	-	-	411
Not stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>25,462</b>	<b>100</b>	<b>25,376</b>	<b>3.4</b>	<b>2.0</b>	<b>5.3</b>	<b>3.8</b>	<b>25,462</b>
<b>Multiple Births</b>								
500-749	23	1.9	20	130.4	350.0	434.8	381.0	13
750-999	33	2.7	*	30.3	62.5	90.9	62.5	12
1000-1249	36	3.0	36	-	55.6	55.6	28.6	15
1250-1499	46	3.8	45	21.7	-	21.7	21.7	18
1500-1999	187	15.5	186	5.3	16.1	21.4	10.8	91
2000-2499	355	29.5	355	-	-	-	-	168
2500-2999	384	31.9	384	-	2.6	2.6	2.6	204
3000-3499	124	10.3	124	-	-	-	-	69
3500-3999	13	1.1	13	-	-	-	-	7
4000-4499	0	0.0	0	-	-	-	-	0
4500 and Over	~	^	~	-	-	-	-	0
Not stated	~	^	0	1000.0	-	1000.0	1000.0	0
<b>Total</b>	<b>1,203</b>	<b>100</b>	<b>1,196</b>	<b>5.8</b>	<b>12.5</b>	<b>18.3</b>	<b>13.4</b>	<b>597</b>

## 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
500-749	*	^	*	328.4	422.2	611.9	600.0	*
750-999	72	0.2	59	180.6	118.6	277.8	257.1	64
1000-1249	97	0.2	77	206.2	64.9	257.7	172.4	84
1250-1499	114	0.3	104	87.7	57.7	140.4	84.1	94
1500-1999	441	1.0	416	56.7	31.3	86.2	40.5	352
2000-2499	1,259	3.0	1,231	22.2	13.0	34.9	17.0	1,079
2500-2999	4,478	10.5	4,454	5.4	3.1	8.5	4.7	4,219
3000-3499	13,291	31.2	13,270	1.6	0.5	2.1	1.8	13,172
3500-3999	15,189	35.7	15,177	0.8	0.1	0.9	0.8	15,178
4000-4499	6,386	15.0	6,383	0.5	0.5	0.9	0.6	6,386
4500 and Over	1,204	2.8	1,201	2.5	0.8	3.3	1.7	1,204
Not stated	~	^	~	666.7	1000.0	1000.0	1000.0	~
<b>Total</b>	<b>42,601</b>	<b>100</b>	<b>42,418</b>	<b>4.3</b>	<b>2.2</b>	<b>6.5</b>	<b>4.3</b>	<b>41,892</b>
<b>Singleton Births</b>								
500-749	50	0.1	29	420.0	448.3	680.0	666.7	50
750-999	53	0.1	41	226.4	146.3	339.6	313.7	53
1000-1249	76	0.2	57	250.0	87.7	315.8	223.9	76
1250-1499	74	0.2	65	121.6	76.9	189.2	117.6	74
1500-1999	274	0.7	249	91.2	48.2	135.0	66.9	274
2000-2499	916	2.2	888	30.6	15.8	45.9	22.4	916
2500-2999	3,938	9.6	3,914	6.1	3.6	9.6	5.4	3,938
3000-3499	13,050	31.7	13,029	1.6	0.5	2.1	1.8	13,050
3500-3999	15,166	36.8	15,154	0.8	0.1	0.9	0.8	15,166
4000-4499	*	^	*	0.5	0.5	0.9	0.6	*
4500 and Over	1,204	2.9	1,201	2.5	0.8	3.3	1.7	1,204
Not stated	~	^	~	-	1000.0	1000.0	1000.0	~
<b>Total</b>	<b>41,187</b>	<b>100</b>	<b>41,010</b>	<b>4.3</b>	<b>2.0</b>	<b>6.3</b>	<b>4.2</b>	<b>41,187</b>
<b>Multiple Births</b>								
500-749	*	^	*	58.8	375.0	411.8	411.8	*
750-999	19	1.3	18	52.6	55.6	105.3	105.3	11
1000-1249	21	1.5	20	47.6	-	47.6	-	8
1250-1499	40	2.8	39	25.0	25.6	50.0	25.6	20
1500-1999	167	11.8	167	-	6.0	6.0	-	78
2000-2499	343	24.3	343	-	5.8	5.8	2.9	163
2500-2999	540	38.2	540	-	-	-	-	281
3000-3499	241	17.0	241	-	-	-	-	122
3500-3999	23	1.6	23	-	-	-	-	12
4000-4499	~	^	~	-	-	-	-	~
4500 and Over	0	0.0	0	-	-	-	-	0
Not stated	~	^	0	1000.0	-	1000.0	1000.0	0
<b>Total</b>	<b>1,414</b>	<b>100</b>	<b>1,408</b>	<b>4.2</b>	<b>7.8</b>	<b>12.0</b>	<b>8.5</b>	<b>705</b>

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	59	0.2	50	0.1	109	0.2
750-999	54	0.2	73	0.2	127	0.2
1000-1249	90	0.3	76	0.2	166	0.2
1250-1499	114	0.3	111	0.3	225	0.3
1500-1999	433	1.2	409	1.2	842	1.2
2000-2499	1,134	3.2	1,224	3.6	2,358	3.4
2500-2999	3,568	10.1	4,598	13.7	8,166	11.8
3000-3499	10,503	29.7	11,950	35.6	22,453	32.5
3500-3999	12,734	36.0	11,005	32.8	23,739	34.4
4000-4499	5,619	15.9	3,572	10.6	9,191	13.3
4500 and Over	1,099	3.1	514	1.5	1,613	2.3
<b>Total</b>	<b>35,407</b>	<b>100</b>	<b>33,582</b>	<b>100</b>	<b>68,989</b>	<b>100</b>

Notes: Percentage columns are subject to rounding.

There was 1 birth where infants birthweight was unknown; this was 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Less than 28	160	0.6	140	125.0	235.7	331.3	296.1	132
28-31	242	0.9	228	57.9	8.8	66.1	54.4	193
32-36	1,611	6.0	1,593	11.2	10.7	21.7	10.7	1,338
37-41	23,556	88.3	23,516	1.7	0.5	2.2	1.5	23,300
42 and Over	1,089	4.1	1,089	-	0.9	0.9	-	1,089
Not Stated	7	0.0	6	142.9	-	142.9	142.9	7
<b>Total</b>	<b>26,665</b>	<b>100</b>	<b>26,572</b>	<b>3.5</b>	<b>2.4</b>	<b>5.9</b>	<b>4.2</b>	<b>26,059</b>
<b>Singleton Births</b>								
Less than 28	107	0.4	90	158.9	266.7	383.2	346.5	107
28-31	147	0.6	134	88.4	7.5	95.2	82.8	147
32-36	1,070	4.2	1,055	14.0	13.3	27.1	11.4	1,070
37-41	23,042	90.5	23,002	1.7	0.4	2.2	1.6	23,042
42 and Over	1,089	4.3	1,089	0.0	0.9	0.9	0.0	1,089
Not Stated	7	0.0	6	142.9	0.0	142.9	142.9	7
<b>Total</b>	<b>25,462</b>	<b>100</b>	<b>25,376</b>	<b>3.4</b>	<b>2.0</b>	<b>5.3</b>	<b>3.8</b>	<b>25,462</b>
<b>Multiple Births</b>								
Less than 28	53	4.4	50	56.6	180.0	226.4	196.1	25
28-31	95	7.9	94	10.5	10.6	21.1	10.6	46
32-36	541	45.0	538	5.5	5.6	11.1	9.3	268
37-41	514	42.7	514	-	3.9	3.9	-	258
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>1,203</b>	<b>100.0</b>	<b>1,196</b>	<b>5.8</b>	<b>12.5</b>	<b>18.3</b>	<b>13.4</b>	<b>597</b>

Notes: Percentage column is subject to rounding.

<sup>a</sup> 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 <sup>a</sup>	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adjusted PMR <sup>a</sup>	Maternities
<b>Total Births</b>								
Less than 28	*	^	*	246.7	256.6	440.0	420.7	*
28-31	278	0.7	255	82.7	23.5	104.3	74.3	236
32-36	2,034	4.8	1,970	31.5	14.7	45.7	27.6	1,759
37-41	39,278	92.2	39,220	1.5	0.7	2.2	1.2	38,905
42 and Over	858	2.0	857	1.2	1.2	2.3	1.2	858
Not Stated	~	^	~	-	-	-	-	~
<b>Total</b>	<b>42,601</b>	<b>100</b>	<b>42,418</b>	<b>4.3</b>	<b>2.2</b>	<b>6.5</b>	<b>4.3</b>	<b>41,892</b>
<b>Singleton Births</b>								
Less than 28	*	^	*	312.5	285.7	508.9	486.0	*
28-31	195	0.5	173	112.8	34.7	143.6	102.2	195
32-36	1,489	3.6	1,428	41.0	18.9	59.1	36.5	1,489
37-41	38,530	93.5	38,472	1.5	0.7	2.2	1.2	38,530
42 and Over	858	2.1	857	1.2	1.2	2.3	1.2	858
Not Stated	~	^	~	-	-	-	-	~
<b>Total</b>	<b>41,187</b>	<b>100</b>	<b>41,010</b>	<b>4.3</b>	<b>2.0</b>	<b>6.3</b>	<b>4.2</b>	<b>41,187</b>
<b>Multiple Births</b>								
Less than 28	38	2.7	36	52.6	194.4	236.8	236.8	19
28-31	83	5.9	82	12.0	-	12.0	12.0	41
32-36	545	38.5	542	5.5	3.7	9.2	3.7	270
37-41	748	52.9	748	-	2.7	2.7	-	375
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
<b>Total</b>	<b>1,414</b>	<b>100</b>	<b>1,408</b>	<b>4.2</b>	<b>7.8</b>	<b>12.0</b>	<b>8.5</b>	<b>705</b>

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
<b>Singleton Births</b>				
Spontaneous	78.1	21.1	0.7	0.1
Instrumental <sup>#</sup>	57.0	41.6	1.3	0.2
Caesarean section	4.8	90.0	4.4	0.7
<b>Multiple Births</b>				
Spontaneous	35.0	61.5	3.3	0.2
Instrumental <sup>#</sup>	31.0	60.9	6.0	2.1
Caesarean section	1.0	80.4	16.5	2.1

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	406	441	29	876
	46.3	50.3	3.3	100
	1.3	1.4	0.4	1.3
Cavan	589	488	44	1121
	52.5	43.5	3.9	100.0
	1.9	1.5	0.7	1.6
Clare	855	508	92	1,455
	58.8	34.9	6.3	100
	2.8	1.6	1.4	2.1
Cork	3,148	4,302	388	7,838
	40.2	54.9	5.0	100
	10.3	13.5	6.0	11.4
Donegal	1,110	711	123	1,944
	57.1	36.6	6.3	100
	3.6	2.2	1.9	2.8
Dublin City	5,573	7,483	1,958	15,014
	37.1	49.8	13.0	100
	18.3	23.5	30.2	21.8
Dublin County	1,790	2,888	729	5,407
	33.1	53.4	13.5	100
	5.9	9.1	11.2	7.9
Galway	1,562	1,474	683	3,719
	42.0	39.6	18.4	100
	5.1	4.6	10.5	5.4
Kerry	785	818	136	1,739
	45.1	47.0	7.8	100
	2.6	2.6	2.1	2.5
Kildare	1,425	1,615	400	3,440
	41.4	46.9	11.6	100
	4.7	5.1	6.2	5.0
Kilkenny	575	710	10	1,295
	44.4	54.8	0.8	100
	1.9	2.2	0.2	1.9
Laois	577	564	78	1,219
	47.3	46.3	6.4	100
	1.9	1.8	1.2	1.8
Leitrim	208	198	51	457
	45.5	43.3	11.2	100
	0.7	0.6	0.8	0.7
Limerick	1,758	897	138	2,793
	62.9	32.1	4.9	100
	5.8	2.8	2.1	4.1
Longford	336	258	22	616
	54.5	41.9	3.6	100
	1.1	0.8	0.3	0.9
Louth	1,036	712	220	1,968
	52.6	36.2	11.2	100
	3.4	2.2	3.4	2.9
Mayo	810	666	210	1,686
	48.0	39.5	12.5	100
	2.7	2.1	3.2	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	1,366	1,449	300	3,115
	43.9	46.5	9.6	100
	4.5	4.5	4.6	4.5
Monaghan	460	351	41	852
	54.0	41.2	4.8	100
	1.5	1.1	0.6	1.2
Offaly	618	377	54	1,049
	58.9	35.9	5.1	100
	2.0	1.2	0.8	1.5
Roscommon	423	307	93	823
	51.4	37.3	11.3	100
	1.4	1.0	1.4	1.2
Sligo	422	314	148	884
	47.7	35.5	16.7	100
	1.4	1.0	2.3	1.3
Tipperary	1,184	1,008	59	2,251
	52.6	44.8	2.6	100
	3.9	3.2	0.9	3.3
Waterford	821	853	35	1,709
	48.0	49.9	2.0	100
	2.7	2.7	0.5	2.5
Westmeath	667	590	75	1,332
	50.1	44.3	5.6	100
	2.2	1.9	1.2	1.9
Wexford	1,013	930	132	2,075
	48.8	44.8	6.4	100
	3.3	2.9	2.0	3.0
Wicklow	895	927	222	2,044
	43.8	45.4	10.9	100
	2.9	2.9	3.4	3.0
Other	46	44	19	109
	42.2	40.4	17.4	100
	0.2	0.1	0.3	0.2
<b>Total</b>	<b>30,458</b>	<b>31,883</b>	<b>6,489</b>	<b>68,830</b>
	<b>44.3</b>	<b>46.3</b>	<b>9.4</b>	<b>100</b>
	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**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.  
 There was 1 birth where infants feeding was unknown; this was excluded from this table.

**TABLE G11**

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

Mother's Nationality	Breastfeeding (%)
Ireland	40.2
UK	77.9
EU15 (excluding Ireland & UK)	78.8
EU15 to EU27	54.4
Rest of Europe	82.2
Africa	40.2
Asia	77.9
America	78.8
Australia	54.4

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 <sup>a</sup>	Early Neonatal Deaths	Early Neonatal Mortality Rate <sup>a</sup>	Perinatal Mortality Rate <sup>a</sup>	Adj. PMR <sup>a</sup>
<b>Total Births</b>										
500-749	82	18.8	29	*	~	263.5	43	394.5	554.1	531.9
750-999	37	8.5	21	0	~	153.3	*	110.2	246.7	209.8
1000-1249	34	7.8	23	~	~	135.4	8	48.2	177.1	127.1
1250-1499	28	6.4	17	0	~	74.1	*	44.4	115.2	61.1
1500-1999	60	13.8	34	~	~	44.3	21	24.9	68.1	29.6
2000-2499	57	13.1	32	~	~	14.2	23	9.8	23.8	11.4
2500-2999	55	12.6	33	~	0	4.4	*	2.3	6.7	4.4
3000-3499	42	9.6	28	~	~	1.4	11	0.5	1.9	1.6
3500-3999	25	5.7	*	0	0	0.8	~	0.2	1.1	0.9
4000-4499	8	1.8	~	~	0	0.5	~	0.3	0.9	0.7
4500 and over	~	^	~	0	0	1.9	~	0.6	2.5	1.2
Not stated	~	^	~	0	0	750.0	~	1000.0	1000.0	1000.0
<b>Total</b>	<b>436</b>	<b>100</b>	<b>247</b>	<b>20</b>	<b>10</b>	<b>4.0</b>	<b>159</b>	<b>2.3</b>	<b>6.3</b>	<b>4.3</b>
<b>Singleton Births</b>										
500-749	65	16.4	*	*	~	324.1	30	411.0	601.9	582.5
750-999	*	^	*	0	~	214.3	*	142.9	326.5	282.6
1000-1249	*	^	*	~	~	185.2	*	54.5	229.6	174.6
1250-1499	*	^	*	0	0	101.9	*	63.8	159.2	83.3
1500-1999	*	^	34	~	~	72.1	*	34.8	104.4	46.5
2000-2499	*	^	32	~	~	20.1	*	12.7	32.5	15.6
2500-2999	*	^	33	~	0	4.9	*	2.5	7.4	4.8
3000-3499	42	10.6	28	~	~	1.4	11	0.5	1.9	1.6
3500-3999	25	6.3	*	0	0	0.8	~	0.2	1.1	0.9
4000-4499	8	2.0	~	~	0	0.5	~	0.3	0.9	0.7
4500 and over	~	^	~	0	0	1.9	~	0.6	2.5	1.2
Not stated	~	^	0	0	0	-	~	1000.0	1000.0	1000.0
<b>Total</b>	<b>397</b>	<b>100</b>	<b>238</b>	<b>*</b>	<b>*</b>	<b>4.0</b>	<b>133</b>	<b>2.0</b>	<b>6.0</b>	<b>4.0</b>
<b>Multiple Births</b>										
500-749	17	43.6	~	~	0	100.0	13	361.1	425.0	394.7
750-999	~	^	~	0	~	38.5	~	60.0	96.2	78.4
1000-1249	~	^	~	0	0	17.5	~	35.7	52.6	18.2
1250-1499	~	^	~	0	~	23.3	~	11.9	34.9	23.5
1500-1999	~	^	0	~	0	2.8	~	11.3	14.1	5.7
2000-2499	~	^	0	0	0	-	~	2.9	2.9	1.4
2500-2999	~	^	0	0	0	-	~	1.1	1.1	1.1
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
<b>Total</b>	<b>39</b>	<b>100</b>	<b>9</b>	<b>~</b>	<b>~</b>	<b>5.0</b>	<b>26</b>	<b>10.0</b>	<b>14.9</b>	<b>10.7</b>

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.

## APPENDIX H

### DOMICILIARY BIRTHS, 2004–2013

#### 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 2004–2013.

- There were 162 domiciliary births in 2013 representing just 0.2 per cent of all births.
- The number of domiciliary births has decreased by 19.8 per cent over the decade while the decrease from 176 births in 2012 is estimated at 8.0 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 2002 at 202 (see Figure H1).
- The average age of mothers having domiciliary births has remained stable, ranging from 33.4 years in 2005 to 35.0 years in 2009 and is recorded as 33.8 years in 2013.
- Women choosing a domiciliary delivery in 2013 had an average maternal parity of 1.5 previous births.
- The percentage of women recording any breastfeeding was 98.0 per cent in 2004; this has decreased to 96.3 per cent in 2013.
- Exclusive breastfeeding was reported for 93.8 per cent of domiciliary births in 2013.
- The average birthweight for domiciliary births in 2013 was 3,720.1 grams.

**TABLE H1**

Trends in Domiciliary Births—Selected Statistics, 2004–2013

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
													2004-2013
<b>General Characteristics</b>													
<b>Total Domiciliary Births</b>		<b>202</b>	<b>183</b>	<b>170</b>	<b>186</b>	<b>158</b>	<b>148</b>	<b>177</b>	<b>168</b>	<b>176</b>	<b>162</b>	<b>-19.8</b>	<b>-8.0</b>
Age of mother (years) <sup>1</sup>	Avg	34.3	33.4	34.3	34.1	34.3	35.0	33.8	33.7	34.3	33.8	-1.5	-1.5
Single mothers <sup>1,2</sup>	%	29.2	23.5	20.0	16.1	25.3	22.3	24.3	29.2	27.3	24.1	-17.5	-11.7
Maternal parity <sup>1</sup>	Avg	1.6	1.7	1.7	1.6	1.5	1.7	1.4	1.5	1.5	1.5	-6.3	0.0
Gestational age at delivery in weeks <sup>1</sup>	Avg	40.0	40.0	40.1	40.0	40.1	40.0	40.0	40.0	39.9	39.8	-0.5	-0.3
Interval since last birth (years) <sup>3</sup>	Avg	3.5	3.3	3.4	3.4	3.6	3.7	3.4	3.2	3.4	3.1	-11.4	-8.8
Immunity to Rubella <sup>1</sup>	%	97.0	95.1	96.5	100.0	96.2	98.0	97.2	97.0	96.6	95.1	-2.0	-1.6
Any Breastfeeding <sup>4,5</sup>	%	98.0	94.0	98.2	96.2	95.6	96.6	97.2	99.4	98.3	96.3	-1.7	-2.0
Exclusive Breastfeeding <sup>4</sup>	%	97.5	94.0	97.1	95.7	95.6	96.6	96.6	98.2	96.6	93.8	-3.8	-2.9
Combined Antenatal Care – Midwife and G.P./Hospital <sup>6</sup>	%	64.4	71.6	76.5	60.8	77.8	99.3	98.9	93.5	86.9	96.9	50.5	11.5
Birthweight (grams) <sup>7</sup>	Avg	3,738.4	3,760.1	3,742.2	3,699.2	3,667.1	3,764.9	3,833.9	3,679.6	3,713.1	3,720.1	-0.5	0.2
Low Birthweight (<2,500 grams) <sup>7</sup>	%	1.0	0.5	0.6	1.1	0.6	0.0	0.0	0.0	0.0	0.0	-100.0	-

Notes: Percentages are subject to rounding.

There were no domiciliary multiple births in the years 2004 -2013.

<sup>1</sup> Based on maternities.

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

<sup>3</sup> Based on multiparous maternities.

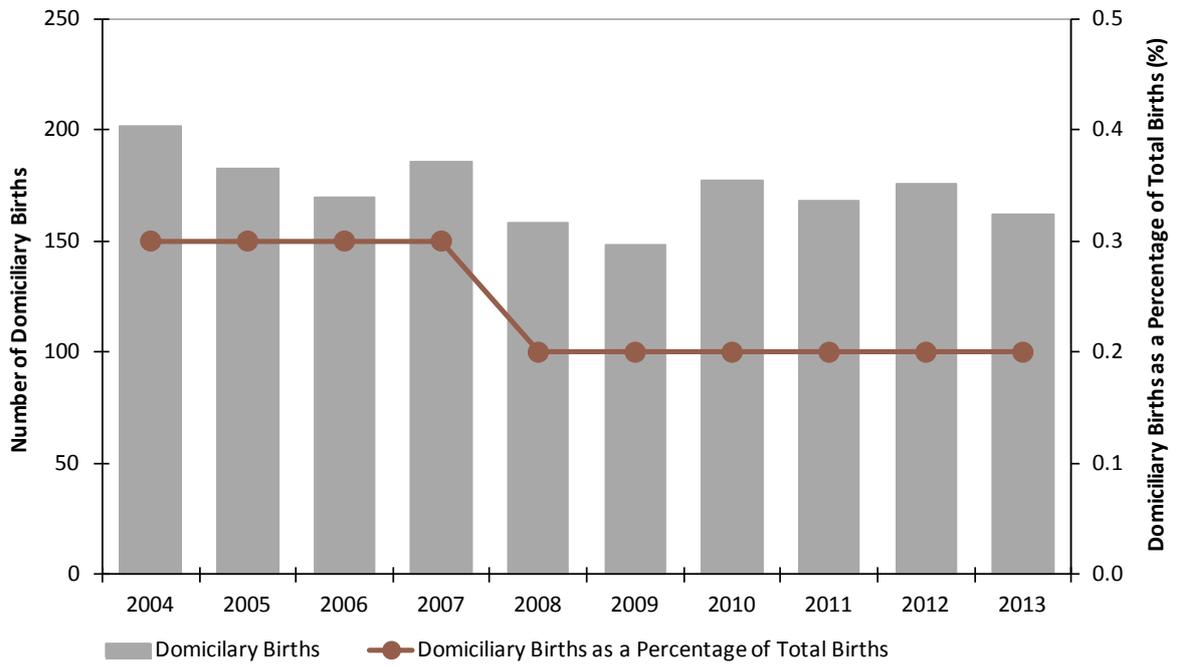
<sup>4</sup> Based on maternities with live births. Excludes early neonatal deaths.

<sup>5</sup> Any breastfeeding includes type of feeding recorded as either breast or combined.

<sup>6</sup> Based on maternities. This figure applies to the percentage of home births where antenatal care is stated as 'combined', rather than 'midwife only'.

<sup>7</sup> Based on live births.

**FIGURE H1**  
 Number and Percentage of Domiciliary Births Reported, 2003–2012



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 2004 to 2013.

- Spontaneous deliveries have fallen for total maternities from 60.2 per cent in 2004 to 55.9 per cent in 2013, with the rate of decrease higher for primiparous than multiparous women.
- Delivery by Caesarean section has increased for total maternities from 24.6 per cent in 2004 to 28.9 per cent in 2013.
- 30.7 per cent of primiparous women delivered by Caesarean section in 2013 compared to 27.7 per cent in 2004, with the rate of increase for Caesarean section delivery higher for multiparous women, increasing from 22.5 per cent in 2004 to 27.8 per cent in 2013 (see Figure I1).

**TABLE I1**

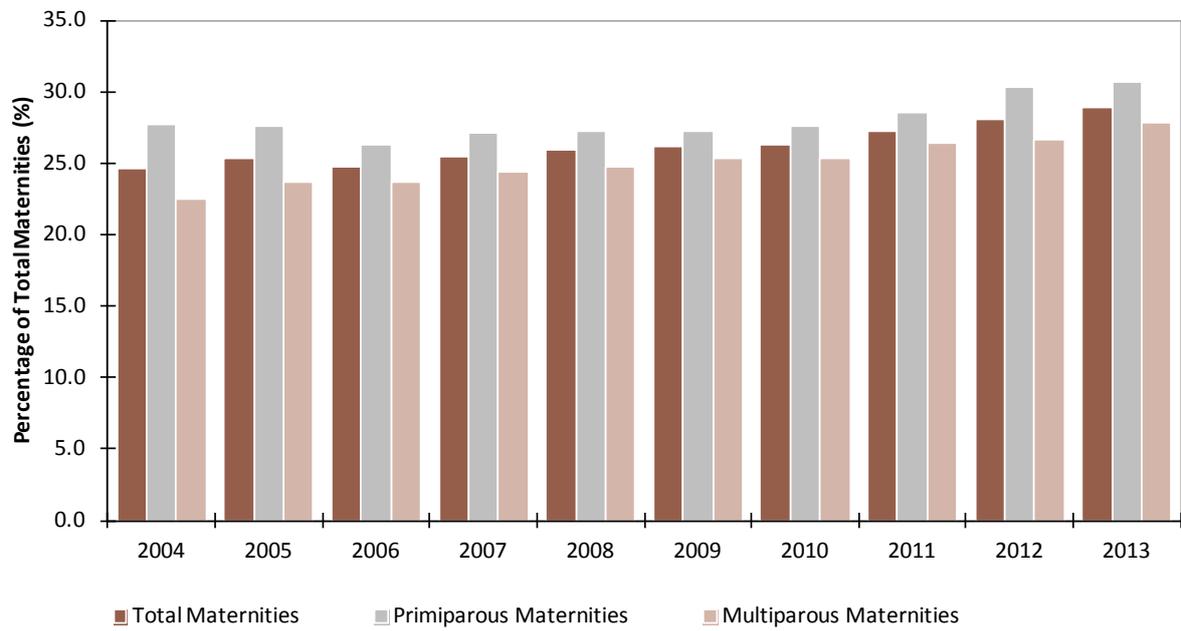
Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	% Change	
											2004–2013	2012–2013
<b>Total Maternities</b>												
Spontaneous	60.2	59.6	59.4	58.0	57.4	57.0	57.2	56.6	56.3	55.9	-7.1	-0.7
Breech/forceps	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.3	-25.0	0.0
Forceps	2.5	2.8	3.0	3.7	3.7	4.1	4.0	4.1	3.9	3.9	56.0	0.0
Vacuum extraction	12.0	11.7	12.2	12.2	12.6	12.2	11.9	11.5	11.3	10.9	-9.2	-3.5
Caesarean section	24.6	25.3	24.8	25.5	25.9	26.2	26.3	27.3	28.1	28.9	17.5	2.8
Other specified & combined	0.3	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	-100.0	0.0
<b>Total</b>	<b>100</b>											
<b>Primiparous</b>												
Spontaneous	45.4	45.0	45.6	44.1	43.5	42.7	42.7	41.2	40.5	40.2	-11.5	-0.7
Breech/forceps	0.5	0.6	0.6	0.6	0.5	0.5	0.7	0.6	0.4	0.4	-20.0	0.0
Forceps	5.1	5.6	5.8	7.2	7.2	8.2	8.0	8.6	8.3	8.4	64.7	1.2
Vacuum extraction	21.2	21.0	21.5	21.0	21.4	21.2	21.0	21.0	20.5	20.3	-4.2	-1.0
Caesarean section	27.7	27.6	26.3	27.1	27.3	27.3	27.6	28.6	30.3	30.7	10.8	1.3
Other specified & combined	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-100.0	0.0
<b>Total</b>	<b>100</b>											
<b>Multiparous</b>												
Spontaneous	70.1	69.5	69.1	68.0	67.6	67.4	67.5	66.8	66.4	65.7	-6.3	-1.1
Breech/forceps	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.0	0.0
Forceps	0.8	0.9	1.0	1.2	1.1	1.1	1.2	1.1	1.1	1.0	25.0	-9.1
Vacuum extraction	5.9	5.5	5.7	5.8	6.0	5.7	5.4	5.2	5.4	5.1	-13.6	-5.6
Caesarean section	22.5	23.7	23.7	24.4	24.8	25.4	25.4	26.4	26.7	27.8	23.6	4.1
Other specified & combined	0.4	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	-75.0	0.0
<b>Total</b>	<b>100</b>											

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, 2004–2013



Note: See Table I1 for data.



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The logo for the Healthcare Pricing Office is a dark green square. On the left side, there is a vertical white line. To the right of this line, the words 'HEALTHCARE', 'PRICING', and 'OFFICE' are stacked vertically in white, uppercase, sans-serif font. A horizontal white line is positioned below the word 'OFFICE'.