

Perinatal Statistics Report

Health Research and Information Division

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2009



ACKNOWLEDGEMENTS

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

In addition to financing the NPRS, the Department of Health and the Health Service Executive continue to provide essential support for the operation and development of this system. In particular, we would like to express our gratitude to Professor Michael Turner (UCD) for the advice and assistance provided in the course of preparing this report. We would also like to thank Alan Cahill and Lorna Collins (DoH) for their valuable contributions and comments on an early draft of this report.

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

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

TABLE OF CONTENTS

LIST OF TABLES	iii
LIST OF FIGURES	v
KEY FINDINGS	viii
SECTION ONE	1
INTRODUCTION	
Introduction	2
Purpose of this Report	2
Structure of this Report	2
Conventions used in this Report	3
National Minimum Data Set	4
Data Collection and Quality	5
SECTION TWO	7
TIME TRENDS AND INTERNATIONAL COMPARISONS	
Introduction	8
Trends in Selected Statistics, 2000–2009	8
Perinatal Mortality	12
Birth Rates	14
Fertility	16
Singleton and Multiple Births	17
Method of Delivery for Primiparous and Multiparous Women.....	19
SECTION THREE	21
GENERAL CHARACTERISTICS	
Introduction	22
Maternal Age	23
Mother’s Marital Status	24
Occupation	27
Mother’s Occupation	27
Father’s Occupation	29
Nationality	32
Mother’s Nationality	32
Father’s Nationality	35
Maternal Parity	37
Number of Previous Stillbirths	41
Interval Since Last Birth	42
Birthweight	43
Gestational Age	47
Month of Birth	48

SECTION FOUR	51
PERINATAL CARE	
Introduction	52
Type of Antenatal Care	53
Duration of Pregnancy at First Antenatal Visit	54
Advance Hospital Bookings	55
Mother's Antenatal Length of Stay	56
Mother's Postnatal Length of Stay	57
Rubella: Immune Status of Mother	60
Method of Delivery	61
Method of Delivery by Maternities and Parity	61
Method of Delivery by Births and Parity	62
Method of Delivery by Births and Plurality	64
Method of Delivery by Maternal Age	66
Distribution of Births by Size of Maternity Unit	68
Inter-Hospital Transfer of Infants	69
Infant's Length of Stay	70
Infant's Type of Feeding	72
SECTION FIVE	79
PERINATAL OUTCOMES	
Introduction	80
Mortality by Birthweight Category and Parity	80
Cause of Death by Birthweight	84
Mortality by Gestational Age	89
Cause of Death	92
Age at Death	101
Post-Mortem Examinations	102
SECTION SIX	103
DOMICILIARY BIRTHS	
Introduction	104
Domiciliary Births, 2000–2009	104
Maternal Age and Parity	106
Marital Status	107
Gestational Age	108
Birthweight	109
Occupation	110
Infant's Type of Feeding	111
Mother's County of Residence	112
APPENDICES	113
Appendix A: Definitions	114
Appendix B: Copy of Part 3 of the Birth Notification Form	118
Appendix C: Classification of Occupation	119
Appendix D: Cause of Death Classification	120
Appendix E: Classification of County of Residence	124
Appendix F: Classification of Nationality	125
Appendix G: Source Data for Figures	129

LIST OF TABLES

Tables for Time Trends and International Comparisons:

2.1	Trends in Selected Statistics, 2000–2009	10
2.2	Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2000–2009	12
2.3	Singleton and Multiple Births, 2000–2009	18
2.4	Live Births, Stillbirths and Early Neonatal Deaths, Numbers and Rates, Singleton and Multiple Births, 2000–2009	18
2.5	Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2000–2009	19

Tables for General Characteristics:

3.1	Age of Mother	23
3.2	Mother's Marital Status	25
3.3	Mother's Occupation	28
3.4	Father's Occupation	30
3.5	Mother's Nationality	33
3.6	Father's Nationality	36
3.7	Maternal Parity	38
3.8	Previous Stillbirths	41
3.9	Interval in Years Since Last Birth	42
3.10	Birthweight	44
3.11	Gestational Age at Delivery	47
3.12	Month of Birth	49

Tables for Perinatal Care:

4.1	Type of Antenatal Care	53
4.2	Time of First Visit to Doctor or Hospital during Pregnancy	54
4.3	Advance Hospital Bookings	55
4.4	Mother's Antenatal Length of Stay	56
4.5	Mother's Postnatal Length of Stay	58
4.6	Rubella: Immune Status of Mother, Numbers and Percentages	60
4.7a	Method of Delivery for Total Maternities by Parity	61
4.7b	Method of Delivery for Total Births by Parity	63
4.8a	Method of Delivery, Total Births	64
4.8b	Method of Delivery by Maternal Age	66
4.9	Size of Maternity Unit (number of live births and stillbirths annually)	68
4.10	Inter-Hospital Transfer of Infants	69
4.11	Percentage Distribution of Live Births by Infant's Length of Stay in Hospital	70
4.12	Age of Mother by Infant's Type of Feeding, Numbers and Percentages, Total Live Births	73
4.13	Mother's Occupation by Infant's Type of Feeding, Total Live Births	76

Tables for Perinatal Outcomes:

5.1	Total Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Birthweight and Parity	81
5.2	Perinatal Mortality: Numbers and Rates by Birthweight and Cause of Death	85
5.3	Total Births, Antepartum, and Intrapartum Stillbirths, Early Neonatal Deaths and Mortality Rates by Gestational Age	89
5.4	Stillbirths, Early Neonatal Deaths and Mortality Rates by Cause of Death by ICD-10 Chapter and Selected Subcategories	93
5.5	Age at Death, Early Neonatal Deaths	101
5.6	Stillbirths and Early Neonatal Deaths undergoing Post-Mortem Examinations	102

Tables for Domiciliary Births:

6.1	Trends in Domiciliary Births - Selected Statistics, 2000-2009	105
6.2	Age of Mother by Maternal Parity	106
6.3	Mother's Marital Status by Age of Mother	107
6.4	Age of Mother by Gestational Age at Delivery	108
6.5	Birthweight by Gestational Age at Delivery	109
6.6	Mother's Occupation by Birthweight	110
6.7	Distribution of Domiciliary Births by Mother's County of Residence	112

Appendix Tables:

D1	Cause of Death Coding Rules	122
D2	ICD-10, Cause of Death Codes	123

Tables for Source Data for Figures:

G1	Percentage Distribution of Total Births by Mother's Marital Status, 2005–2009	129
G2	Mother's County of Residence by Mother's Marital Status, Total Births	130
G3	Percentage Distribution of Total Births by Mother's Nationality, 2005–2009	131
G4	Mother's Average Age by Mother's Nationality, Total Births	132
G5	Percentage Distribution of Total Births to Primiparous Women by Maternal Age, 2005 and 2009	132
G6	Percentage Distribution of Total Births to Multiparous Women by Maternal Age, 2005 and 2009	132
G7	Age of Mother by Maternal Parity, Total Maternities	132
G8	Birthweight Groups for Primiparous Women	133
G9	Birthweight Groups for Multiparous Women	134
G10	Birthweight Groups, Numbers and Percentages, Total Live Births	135
G11	Birthweight Groups by Sex, Total Live Births	135
G12	Gestational Age at Delivery, Primiparous Women	135
G13	Gestational Age at Delivery, Multiparous Women	136
G14	Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births	137
G15	Method of Delivery by Parity, Total, Singleton and Multiple Births	138
G16	Mother's County of Residence by Infant's Type of Feeding, Total Live Births	139
G17	Total Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Birthweight	141
G18	Type of Feeding by Place of Birth, Total Live Births	141

LIST OF FIGURES

1.1	National Perinatal Reporting System, Data Collection	6
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Figures for Time Trends and International Comparisons:

2.1	Stillbirth, Early Neonatal and Perinatal Mortality Rates, Ireland, 2000–2009	13
2.2	Perinatal Mortality Rates for Selected EU Countries, 2009	14
2.3	Trends in Birth Rates for Selected EU Countries, 2000–2009	15
2.4	Birth Rates per 1,000 Population for Selected EU Countries, 2009	15
2.5	Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2000–2009	16
2.6	Total Period Fertility Rates for Selected EU Countries, 2009	17
2.7	Percentage Distribution of Maternities Delivering by Caesarean Section for Total, Primiparous and Multiparous Women, 2000–2009	20

Figures for General Characteristics:

3.1	Age-specific Stillbirth, Early Neonatal and Perinatal Mortality Rates, Total Births	24
3.2	Percentage of Births by Mother's Marital Status, Total Births, 2005–2009	26
3.3	Percentage of Births to Single Mothers by Mother's County of Residence, Total Births	26
3.4	Perinatal Mortality Rates by Mother's Occupation, Total Births	29
3.5	Perinatal Mortality Rates by Father's Occupation, Total Births	31
3.6	Percentage Distribution of Births by Nationality for Non-Irish Born Mothers, Total Births, 2005–2009	34
3.7	Average Age of Mother by Mother's Nationality, Total Births	34
3.8	Total Births to Primiparous Women by Mother's Age Group, 2005 and 2009	39
3.9	Total Births to Multiparous Women by Mother's Age Group, 2005 and 2009	39
3.10	Parity by Age of Mother, Total Maternities	40
3.11	Birthweight: Cumulative Percentages of Total Live Births	45
3.12	Percentage of Births by Birthweight Groups, Total Live Births	45
3.13	Percentage Distribution for Males and Females across Birthweight Groups, Total Live Births	46
3.14	Perinatal Mortality Rates by Gestational Age at Delivery, Total Births	48
3.15	Percentage of Births by Month of Birth, Total Births	50

Figures for Perinatal Care:

4.1	Mother's Postnatal Length of Stay by Method of Delivery, Singleton Births	59
4.2	Mother's Postnatal Length of Stay by Method of Delivery, Multiple Births	59
4.3	Percentage of Maternities by Method of Delivery	62
4.4	Percentage of Total Live Births by Method of Delivery	65
4.5	Percentage of Total Births by Method of Delivery and Mother's Age	67
4.6	Percentage Distribution of Births by Size of Maternity Unit, Total Births	68
4.7	Percentage Distribution of Total Live Births by Infant's Length of Stay	71
4.8	Infant's Type of Feeding by Age of Mother, Total Live Births	74
4.9	Percentage Distribution of Breastfed Infants by Mother's County of Residence, Total Live Births	75
4.10	Percentage Distribution of Infant's Type of Feeding by Mother's Occupation, Total Live Births	77

Figures for Perinatal Outcomes:

5.1	Deaths by Birthweight Groups and Parity	82
5.2	Perinatal Mortality Rates by Birthweight Groups, Total Births	83
5.3	Total Deaths with Birthweight < 2,500 grams by Cause of Death	88
5.4	Total Deaths with Birthweight ≥ 2,500 grams by Cause of Death	88
5.5	Deaths by Gestational Age Groups, Total, Singleton and Multiple Births	90
5.6	Perinatal Mortality Rates by Gestational Age at Delivery, Total Births	91
5.7	Stillbirths by Cause of Death, Total, Singleton and Multiple Births	98
5.8	Early Neonatal Deaths by Cause of Death, Total, Singleton and Multiple Births	99
5.9	Perinatal Deaths by Cause of Death, Total, Singleton and Multiple Births	100

Figures for Domiciliary Births:

6.1	Number and Percentage of Domiciliary Births Reported, 2000–2009	106
6.2	Age of Mother	107
6.3	Birthweight Groups	109
6.4	Distribution of Domiciliary Births by Mother’s Occupation	111
6.5	Infant’s Type of Feeding by Place of Birth, Total Live Births.....	111
6.6	Distribution of Domiciliary Births by Mother’s County of Residence	112

KEY FINDINGS

The *Perinatal Statistics Report 2009* presents national statistics on perinatal events in Ireland. This report is based on data collected for the National Perinatal Reporting System (NPRS) and provides information on mothers giving birth and babies born in 2009.

SUMMARY STATISTICS, 2009

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

	Total Births	Live Births	Stillbirths		Early Neonatal Deaths		Perinatal Deaths		Adjusted Perinatal Deaths*	
	Number	Number	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Singleton	73,605	73,249	356	4.8	141	1.9	497	6.8	358	4.9
Multiple	2,416	2,400	16	6.6	13	5.4	29	12.0	22	9.1
Total	76,021	75,649	372	4.9	154	2.0	526	6.9	380	5.0

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

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

BABIES

Of the babies born in 2009

- 6% were preterm (less than 37 weeks gestation)
- 5% of live births were low birthweight (less than 2,500 grams)
- 3% of live births were high birthweight (4,500 grams or more)
- 45% of babies were exclusively breastfed at discharge from hospital, compared to 44% in 2005 and 38% in 2000
- 27% of total live births were delivered by caesarean section, with 26% of singleton and 65% of multiple live births delivered by this method. In 2000, 21% of total live births were delivered by caesarean section
- 95% of singleton births and 66% of multiple births were discharged from hospital within 5 days of birth
- the perinatal mortality rate was 6.9 per 1,000 live births and stillbirths (6.8 per 1,000 singleton births and 12.0 per 1,000 multiple births). This has fallen by 22% since 2000, when it was 8.9 per 1,000 live births and stillbirths
- at 12.9 per 1,000 live births and stillbirths, the perinatal mortality rate was highest for babies born to mothers aged 40 to 44 years. The lowest perinatal mortality rate of 6.2 per 1,000 live births and stillbirths was for babies born to mothers aged 30 to 34 years.

MOTHERS

Of the women who gave birth in 2009

- the average age of mother has increased from 30.2 years in 2000 to 31.3 years in 2009
- 27% of mothers were aged 35 years or older, up from 22% in 2000
- 15% of first births were to women aged 35 years or older compared to 9% in 2000
- 3% of total mothers giving birth were aged 19 years or younger, compared to 6% in 2000
- 42% gave birth for the first time, with an average age for first time mothers of 29.1 years
- 32% of births were to single mothers, who had an average age of 27.5 years
- 2% had a multiple pregnancy
- 45% of mothers exclusively breastfed at discharge from hospital, compared to 44% in 2005 and 38% in 2000
- 57% of women having a singleton live birth delivered spontaneously, while deliveries using forceps accounted for 4%, vacuum extractions for 12%, and 26% by caesarean section
- for women having a singleton birth 53% had a postnatal length of stay of 2 days or less and 45% 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 76% had a postnatal length of stay of 3-5 days
- 24% of births in 2009 were to mothers from outside Ireland compared to 17% in 2005.

SECTION ONE

INTRODUCTION

INTRODUCTION

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

PURPOSE OF THIS REPORT

The principal aim of this report is the presentation of national statistics on perinatal events for the year 2009. In so doing this 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

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

SECTION TWO contains summary data on selected variables since 2000 and trends in international comparisons.

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

SECTION FOUR presents tables relating to variables which fall more naturally into the category of the use of health care facilities, and deals in particular with the following: type of antenatal care received, timing of first antenatal visit, length of mother's antenatal and postnatal stay, whether hospital admission was booked or not, mother's immunity to rubella, method of delivery, classification of outcome according to size of maternity unit, transfer of infants between hospitals, length of infant's hospital stay, and type of feeding.

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

SECTION SIX deals with domiciliary births, including trends since 2000. Tables are provided that examine the maternal characteristics of maternal age, parity, and marital status, and details of perinatal characteristics and care, including gestational age, birthweight and type of feeding.

APPENDICES include definitions (see Appendix A), source data tables for figures, and other relevant information for use when reading the report.

CONVENTIONS USED IN THIS REPORT

- 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).
- Caution should be exercised when interpreting rates based on small numbers. *Rates based on 20 observations or less 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.*
- Throughout this report 'Not Stated' values are not included in the calculation of percentages used in discussion or in compilation of figures. 'Not Stated' values are shown in data tables.
- Unless otherwise stated, discussion on total births in this report includes live births and stillbirths for singleton and multiple births.

NATIONAL MINIMUM DATA SET

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

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

DEMOGRAPHIC DATA

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

CLINICAL DATA

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

ADMINISTRATIVE DATA

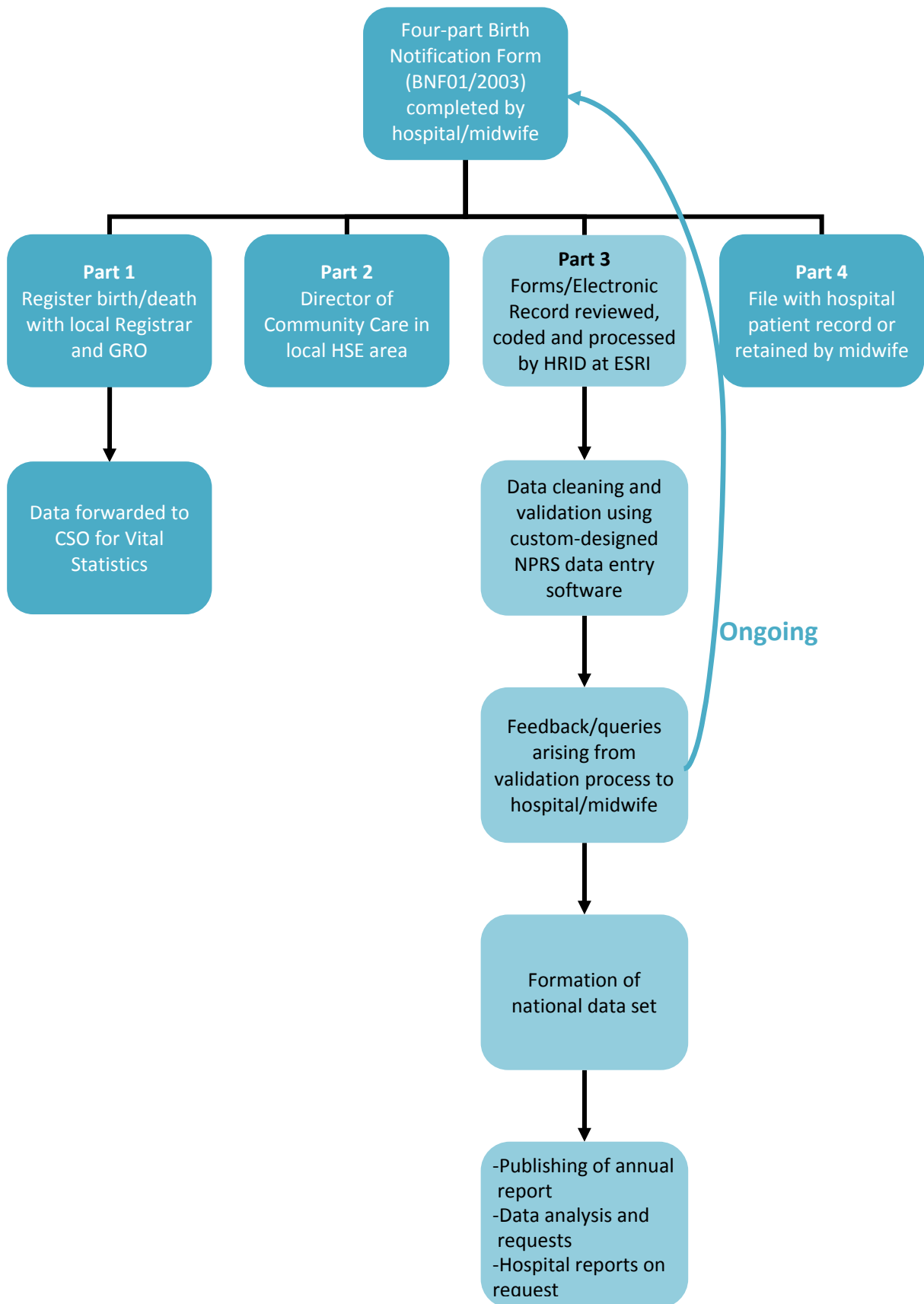
- Hospital number, case number (unique to hospital of birth)
- Type of birth indicator, place of birth
- Date of last birth (live birth or stillbirth)
- Type of death indicator, place of death
- Type of antenatal care received, dates of first visits to doctor and hospital during pregnancy
- Type of feeding,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

DATA COLLECTION AND QUALITY

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

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

FIGURE 1.1 NATIONAL PERINATAL REPORTING SYSTEM, DATA COLLECTION



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

SECTION TWO

**TIME TRENDS AND
INTERNATIONAL
COMPARISONS**

INTRODUCTION

This section presents selected statistics and data on three key indicators

- perinatal mortality
- birth rate
- fertility.

At a national level, data presented here show how these parameters have changed over time. International comparisons then allow the most recent statistics for Ireland to be compared with those for other European countries. The indicators for Ireland were calculated using data from the NPRS for the period 2000 to 2009.¹

TRENDS IN SELECTED STATISTICS, 2000–2009

For the period 2000 to 2009, Table 2.1 presents selected statistics for mothers indicating that

- over the decade the average age of all mothers giving birth increased by 3.6 per cent from 30.2 years to 31.3 years
- average parity (number of previous live births and stillbirths) has declined slightly from 1.1 to 1.0 over the period
- the percentage of total births to single mothers has increased from 30.1 to 32.4 per cent, representing a 7.7 per cent increase over the decade. The average age of single mothers increased from 25.0 years in 2000 to 27.5 years in 2009
- interval in years since delivery of the last birth has remained relatively stable at 3.8 years
- immunity to rubella for mothers increased from 87.8 per cent in 2000 to 92.4 per cent in 2007 and declined slightly in 2009 to 90.5 per cent
- the percentage of women exclusively breastfeeding at the time of hospital discharge has risen from 38.4 per cent in 2000 to 45.5 per cent in 2009.

Additional statistics relating to the birth episode show that

- the number of women choosing combined antenatal care has increased by 11.5 per cent over the decade, with 2009 recording the highest percentage to date at 80.8 per cent
- mother's average length of stay was recorded at 4.5 days in 2000 and has decreased by 1 day to 3.5 days in 2009
- booked admissions for 2009 are estimated at 99.0 per cent.

¹ Previous 'Perinatal Statistics' annual reports are available for download at www.esri.ie/health_information/latest_hipe_nprs_reports

Method of delivery is reported by total live births and by total maternities showing that

- for total live births the percentage of spontaneous deliveries fell from 63.8 per cent in 2000 to 56.4 per cent in 2009. The trend in delivery by caesarean section has increased from 21.3 per cent in 2000 to 26.9 per cent in 2009, which represents an increase of 26.1 per cent over the decade
- for total maternities the percentage of spontaneous deliveries fell from 64.3 per cent in 2000 to 57.0 per cent in 2009. The trend in delivery by caesarean section has increased from 20.9 per cent in 2000 to 26.2 per cent in 2009, which represents an increase of 25.4 per cent for caesarean section deliveries for maternities over the decade.

Trends in babies' characteristics have been largely consistent over the decade 2000 to 2009 showing that

- the average birthweight for all babies was 3,466.1 grams in 2009 which is consistent with previous years
- while the average birthweight for singleton births remained consistent, a more varied trend was observed for multiple births ranging from a high of 2,509.9 grams in 2000 to a low of 2,421.4 grams in 2007 and was recorded at 2,464.8 grams in 2009
- the percentage of total births recording low birthweight ranged between 4.9 per cent and 5.3 per cent over the decade and is recorded at 5.0 per cent for 2009
- the percentage of total births recording high birthweight (4,500 grams or more) has decreased by 15.6 per cent between 2000 (3.2 per cent) and 2009 (2.7 per cent)
- for babies, average length of stay was recorded at 4.3 days in 2000 and has decreased by 1 day to 3.3 days in 2009.

TABLE 2.1: TRENDS IN SELECTED STATISTICS, 2000–2009

Selected Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000–2009
Maternal Characteristics											
Average Age of Mother in years ¹	30.2	30.3	30.4	30.6	30.8	31.0	31.0	31.1	31.1	31.3	3.6
Average Maternal Parity ¹	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	-9.4
Single Mothers (%) ^{1,2}	30.1	30.1	30.0	30.2	30.6	30.7	31.5	31.8	32.4	32.4	7.7
Average Age of Single Mothers in years ^{1,2}	25.0	25.4	25.7	26.1	26.4	26.6	26.8	27.1	27.3	27.5	10.1
Average Number of Previous Stillbirths per 1,000 maternities ¹	13.1	13.6	12.4	12.0	12.6	12.8	10.6	10.8	10.9	11.7	-10.4
Average Gestational Age at delivery in weeks ¹	39.5	39.5	39.5	39.4	39.4	39.4	39.4	39.4	39.4	39.4	-0.2
Average Interval since last birth in years ³	3.8	3.8	3.9	3.8	3.7	3.8	3.8	3.9	3.9	3.8	-0.1
Immunity to Rubella (%) ¹	87.8	86.8	86.5	87.3	90.5	90.3	92.2	92.4	90.0	90.5	3.1
Mothers Breastfeeding (%) ^{1,4,6}	38.4	39.1	41.1	41.3	42.5	44.1	44.5	45.2	44.7	45.5	18.4
Perinatal Care											
Hospital & GP combined antenatal care (%) ¹	72.4	73.3	74.1	75.9	77.3	77.5	79.0	77.5	79.4	80.8	11.5
Mother's Average Length of Stay in days ^{1,4,5}	4.5	4.4	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.5	-23.8
Booked Hospital Admissions (%) ^{1,5}	96.6	98.3	97.7	97.6	98.4	98.5	99.0	99.1	98.9	99.0	2.5
Method of Delivery (%) ⁷											
<i>Total Live Births ⁸</i>											
Spontaneous	63.8	63.2	62.4	61.2	59.6	59.0	58.8	57.3	56.6	56.4	-11.6
Caesarean section	21.3	22.0	22.4	24.2	25.2	25.9	25.4	26.2	26.7	26.9	26.1
Forceps ⁹	3.7	3.2	3.2	2.9	2.5	2.8	3.0	3.7	3.7	4.1	8.8
<i>Total Maternities</i>											
Spontaneous	64.3	63.9	63.0	61.9	60.2	59.7	59.4	58.0	57.4	57.0	-11.2
Caesarean section	20.9	21.5	21.9	23.6	24.6	25.3	24.8	25.5	25.9	26.2	25.4
Forceps ⁹	3.8	3.2	3.2	2.9	2.5	2.8	3.0	3.7	3.7	4.1	9.6

TABLE 2.1: TRENDS IN SELECTED STATISTICS, 2000–2009 (CONTD.)

Selected Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000–2009
Infant Characteristics											
Average Weight in grams ⁴											
Singleton Births	3517.3	3509.4	3503.7	3500.6	3508.0	3503.2	3503.9	3499.3	3501.9	3498.9	-0.5
Multiple Births	2509.9	2470.4	2489.7	2487.1	2471.2	2469.2	2464.8	2421.4	2424.5	2464.8	-1.8
Total Births	3491.1	3477.0	3474.1	3471.1	3476.6	3472.0	3473.0	3465.4	3464.0	3466.1	-0.7
Low Birthweight <2500 grams (%) ⁴											
Singleton Births	3.8	3.8	3.8	3.9	3.7	3.8	3.7	3.8	3.8	3.7	-3.8
Multiple Births	43.4	46.5	44.2	45.1	45.6	45.6	46.4	50.4	48.4	45.4	4.7
Total Births	4.9	5.2	4.9	5.1	5.0	5.0	5.0	5.3	5.3	5.0	3.0
High Birthweight ≥4500 grams (%) ⁴											
Total Births	3.2	3.0	2.9	2.8	2.8	2.9	2.9	2.8	2.7	2.7	-15.6
Infant's Average Length of Stay in days ^{4,5,6}											
Singleton Births	4.1	3.9	3.7	3.6	3.6	3.5	3.5	3.3	3.1	3.1	-23.5
Multiple Births	10.7	11.5	10.2	10.1	10.6	10.1	9.9	10.0	9.9	9.0	-16.5
Total Births	4.3	4.1	3.9	3.8	3.8	3.7	3.7	3.5	3.4	3.3	-22.1
Post-mortems for Early Neonatal Deaths (%)	39.4	33.6	42.1	41.7	38.2	24.4	26.9	30.8	29.7	34.0	-13.8

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

² Based on maternities.

³ Data recording marital status as 'never married' are classified as 'single' in this report.

⁴ Based on multiparous maternities.

⁵ Based on live births.

⁶ Excludes domiciliary births.

⁷ Excludes early neonatal deaths.

⁸ See also 'Method of Delivery for Primiparous and Multiparous Women', page 19. See Section 4, Tables 4.7a, 4.7b, 4.8a, and 4.8b for data on all Methods of Delivery.

⁹ These figures were based on total live births, as each infant in a multiple pregnancy can have a different method of delivery.

¹⁰ Excludes breech deliveries.

PERINATAL MORTALITY

Despite improvements in reducing perinatal mortality in recent decades, the perinatal period continues to be a time of relatively high risk.² Stillbirths account for just over 70 per cent of perinatal deaths.^{3,4} Table 2.2 shows the numbers and rates for total births and perinatal deaths for Ireland from 2000 to 2009 showing that

- in 2009 approximately 1 in every 200 births were stillborn and 1 in every 490 live births died in the first week of life
- in 2000 the perinatal mortality rate was 8.9 per 1,000 live births and stillbirths which declined to a low of 6.8 per 1,000 in 2008 and increased slightly to 6.9 in 2009 (see Figure 2.1).

TABLE 2.2: LIVE BIRTHS, STILLBIRTHS, EARLY NEONATAL DEATHS, AND PERINATAL DEATHS, 2000–2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000–2009
Number of Births and Perinatal Deaths											
Total Births	55,186	58,261	60,865	61,989	62,406	61,786	65,810	71,963	75,587	76,021	37.8
Live Births	54,871	57,922	60,522	61,632	62,067	61,480	65,502	71,570	75,229	75,649	37.9
Stillbirths	315	339	343	357	339	306	308	393	358	372	18.1
Early Neonatal Deaths	176	160	170	177	168	139	152	132	159	154	-12.5
Perinatal Deaths	491	499	513	534	507	445	460	525	517	526	7.1
Adjusted Perinatal Deaths	355	356	396	384	382	330	345	383	384	380	7.0
Rates*											
Stillbirths	5.7	5.8	5.6	5.8	5.4	5.0	4.7	5.5	4.7	4.9	-14.3
Early Neonatal Deaths	3.2	2.8	2.8	2.9	2.7	2.3	2.3	1.8	2.1	2.0	-36.5
Perinatal Deaths	8.9	8.6	8.4	8.6	8.1	7.2	7.0	7.3	6.8	6.9	-22.2
Adjusted Perinatal Deaths	6.4	6.1	6.5	6.2	6.1	5.4	5.3	5.3	5.1	5.0	-22.3

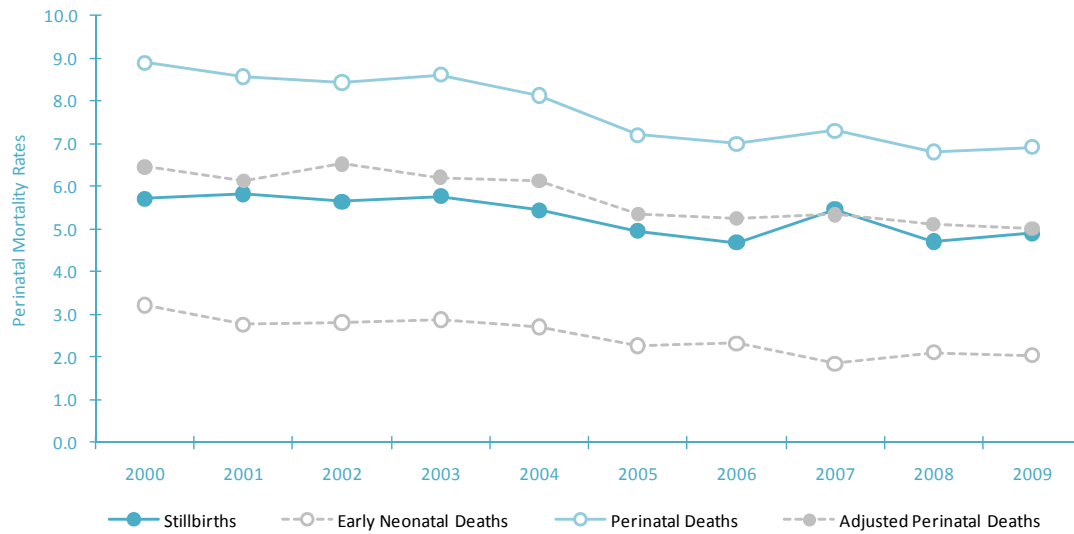
Notes: * For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix A for further details on calculation of rates. For numbers and rates by singleton and multiple births see Section Two 'Singleton and Multiple Births'.

² EURO-PERISTAT Project, with SCPE, EUROCAT, EURONEOSTAT. European Perinatal Health Report, 2008. www.europeristat.com

³ Details on rate calculations are in Appendix A.

⁴ Section 5 of this report focuses on perinatal outcomes in more detail, examining perinatal deaths by birthweight and gestational age, with particular focus on cause of death.

FIGURE 2.1
STILLBIRTH, EARLY NEONATAL AND PERINATAL MORTALITY RATES, IRELAND, 2000–2009



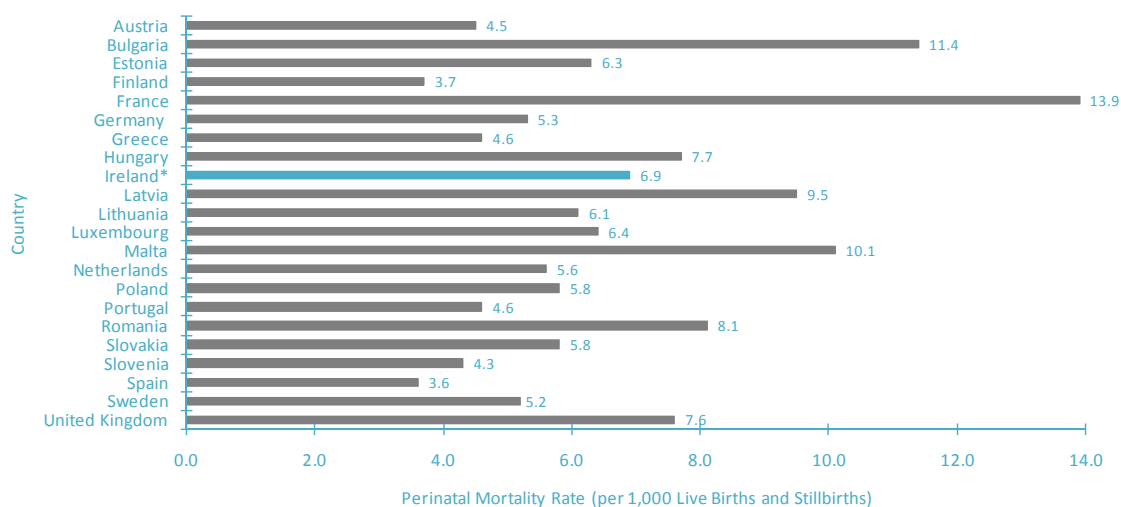
Note: See Table 2.2 for data.

Using available data, a European comparison⁵ on perinatal mortality rates in Figure 2.2 shows that for the countries included

- France recorded the highest perinatal mortality rate for 2009, at 13.9 per 1,000 live births and stillbirths
- Spain and Finland had the lowest perinatal mortality rate recording 3.6 and 3.7 per 1,000 live births and stillbirths respectively.

⁵ When countries are compared it should be remembered that rates are affected by many factors, such as national policies on abortion, screening for congenital anomalies, availability of services related to fertility treatment, differences in the comprehensiveness and accuracy of registration and notification systems, and variations in definitions employed (in particular, for stillbirth).

FIGURE 2.2
PERINATAL MORTALITY RATES FOR SELECTED EU COUNTRIES, 2009



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted June 2011. <http://epp.eurostat.ec.europa.eu>
 * National Figure compiled by NPRS. See Table 2.2 for data.

BIRTH RATES⁶

The birth rate is based on the total number of live births per 1,000 population.⁷ Figure 2.3 shows trends in birth rates for selected EU countries over the decade 2000 to 2009 showing that

- of the countries reviewed Ireland has consistently had the highest birth rate over the period, declining slightly in 2004 and 2005 but increasing thereafter with 2009 data reporting a birth rate of 17.0 per 1,000 population (see Figure 2.3)⁸
- after Ireland, the countries with the next highest birth rates are France and the United Kingdom (both at 12.8) followed by Cyprus and Sweden (both at 12.0). In 2009, Germany (8.1) had the lowest birth rate with Austria (9.1) next in line (see Figure 2.4).

⁶ 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. The next section is, therefore, concerned with changes in fertility over time.

⁷ The population estimates used in the denominator of the birth rate were calculated by the CSO, date consulted June 2011. <http://www.cso.ie/px/pxeirestat/database/eirestat/Population%20Estimates/Population%20Estimates.asp>

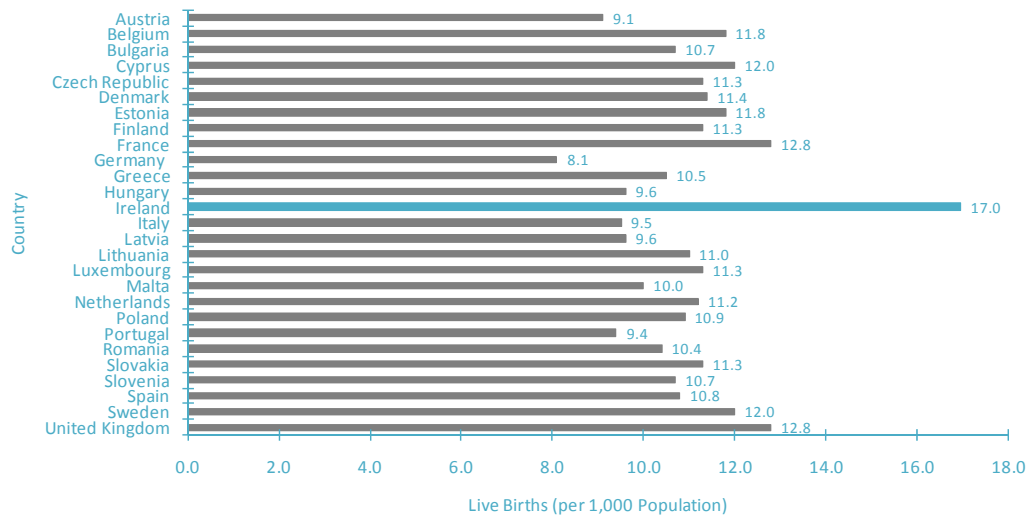
⁸ Based on registrations, the CSO estimates the Irish birth rate to be 16.7 per 1,000 of the population for 2009. See *Vital Statistics, Fourth Quarter and Yearly Summary 2009*, June 2010.

FIGURE 2.3
TRENDS IN BIRTH RATES FOR SELECTED EU COUNTRIES, 2000–2009



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted June 2011. <http://epp.eurostat.ec.europa.eu>
 *Data for Ireland are based on NPRS data on live births from 2000 onwards. The population estimates used in the denominator of the birth rate were calculated by the CSO, date consulted June 2011.
<http://www.cso.ie/px/pxeirestat/database/eirestat/Population%20Estimates/Population%20Estimates.asp>

FIGURE 2.4
BIRTH RATES PER 1,000 POPULATION FOR SELECTED EU COUNTRIES, 2009



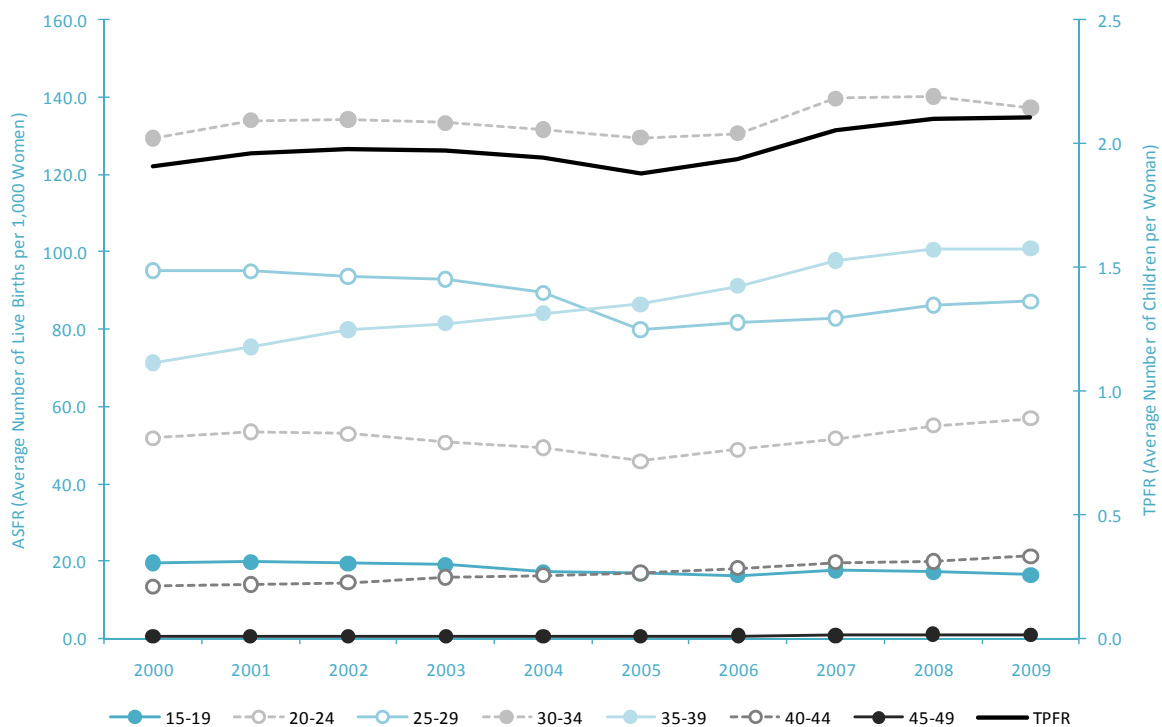
Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted June 2011. <http://epp.eurostat.ec.europa.eu>
 * Data for Ireland are based on NPRS data on live births. Population estimates for 2009 were obtained from the CSO, date consulted June 2011. <http://www.cso.ie/px/pxeirestat/database/eirestat/Population%20Estimates/Population%20Estimates.asp>

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.⁹ Figure 2.5 displays the trend in the TPFR in Ireland from 2000 to 2009 showing

- the Irish TPFR has increased overall from an average of 1.9 in 2000 to 2.1 in 2009¹⁰
- the ASFRs show women in the older age groups (30 to 49 years) recorded increased rates over the period 2000 to 2009, with women aged 35 to 44 being the only groups to record a continuous increase each year
- whilst women in the younger age groups (20 to 34 years) recorded decreasing rates up to 2005, these rates have been increasing in recent years
- in all years the 30 to 34 year age group recorded the highest ASFR
- the ASFR for the 40 to 44 year age group was greater than that reported for the 15 to 19 year age group in 2009, a trend observed since 2005.

FIGURE 2.5
AGE-SPECIFIC FERTILITY RATES (ASFRS) AND TOTAL PERIOD FERTILITY RATES (TPFRS), IRELAND, 2000–2009



Sources: Total period fertility rates (TPFRs) and age-specific fertility rates (ASFRs) are calculated using NPRS data from 2000 onwards. Female population estimates were obtained from the CSO, date consulted June 2011.
<http://www.cso.ie/px/pxeirestat/database/eirestat/Population%20Estimates/Population%20Estimates.asp>

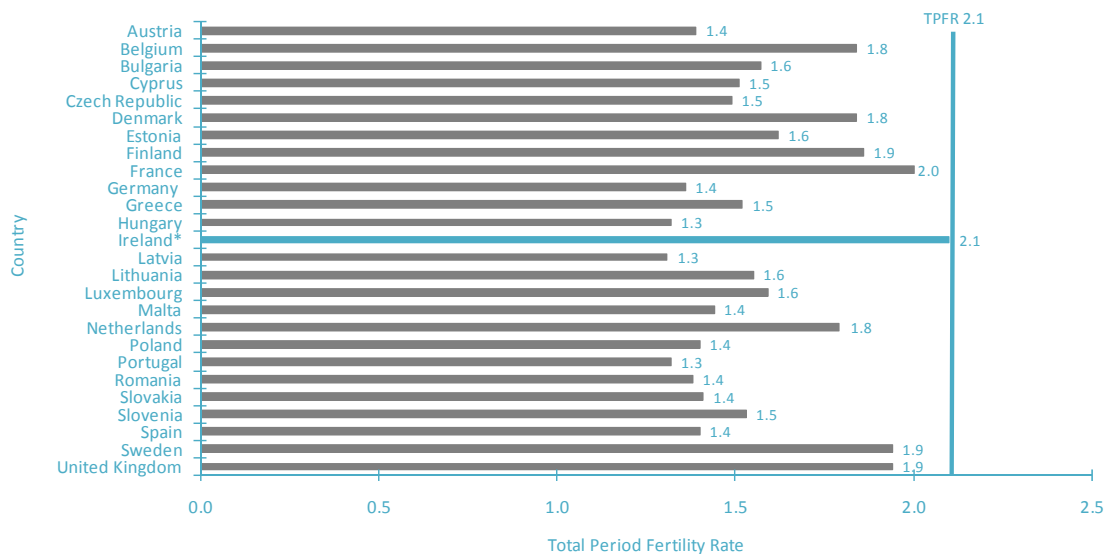
⁹ See Appendix A, Definitions for calculation of ASFR and TPFR.

¹⁰ See also *Vital Statistics, Fourth Quarter and Yearly Summary 2009*, June 2010.

The TPF_R for Ireland is based on estimated population data for 2009, and at 2.1 is now just at the level required for the long-term replacement of the population in the absence of any net inward migration. Using data from Eurostat and the NPRS, Figure 2.6 shows that

- Ireland had the highest TPF_R in the 26 EU countries for which 2009 data were available
- France was just behind with a TPF_R of 2.0, while Hungary, Latvia and Portugal recorded the lowest TPF_R's (1.3) in 2009.

FIGURE 2.6
TOTAL PERIOD FERTILITY RATES FOR SELECTED EU COUNTRIES, 2009



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted June 2011. <http://epp.eurostat.ec.europa.eu>
* Data for Ireland are based on NPRS data on live births. Population estimates for 2009 were obtained from the CSO, date consulted June 2011. <http://www.cso.ie/px/pxeirestat/database/eirestat/Population%20Estimates/Population%20Estimates.asp>

SINGLETON AND MULTIPLE BIRTHS

Table 2.3 shows the numbers of singleton and multiple births each year for the period 2000 to 2009. In 2009

- there were 73,605 singleton births, 2,373 twin births, 39 triplet births and 4 quadruplet births in 2009¹¹
- the twinning rate was 15.9 per 1,000 maternities in 2009.

¹¹ 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 2009, there were 73,660 singleton births, 2,382 twin births, 39 triplets and 4 quadruplets reported to the NPRS; of these 64 births weighed less than 500 grams (including 55 singleton births and 9 multiple births).

TABLE 2.3: SINGLETON AND MULTIPLE BIRTHS, 2000–2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000–2009
Singleton births	53,737	56,422	59,071	60,164	60,499	59,902	63,839	69,692	72,916	73,605	37.0
Twin births	1,397	1,756	1,728	1,747	1,849	1,833	1,916	2,185	2,575	2,373	69.9
Triplet births	48	71	54	78	54	47	51	83	92	39	-18.8
Quadruplet births	4	7	12	0	4	4	4	3	4	4	-
Quintuplet births	0	5	0	0	0	0	0	0	0	0	-
Twinning rate (per 1,000 maternities)	12.8	15.3	14.4	14.3	15.0	15.1	14.8	15.4	17.4	15.9	24.4

Notes: See Appendix A for details on calculation of twinning rate. Please note the twinning rate for 2008 has been revised as this was calculated using total multiple maternities instead of twin maternities.

The number of stillbirths and early neonatal deaths for singleton and multiple births between 2000 and 2009 is presented in Table 2.4 showing

- higher mortality rates were estimated for multiple births when compared to singleton births
- the stillbirth mortality rate for singleton births has fluctuated slightly over the decade ranging from 5.5 in 2000 to 4.4 in 2006, to the current rate of 4.8 per 1,000 live births and stillbirths in 2009
- the early neonatal mortality rate for singleton births decreased to 1.9 per 1,000 live births in 2009 compared to a rate of 2.9 in 2000.

TABLE 2.4: LIVE BIRTHS, STILLBIRTHS AND EARLY NEONATAL DEATHS, NUMBERS AND RATES, SINGLETON AND MULTIPLE BIRTHS, 2000–2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000–2009
Number of Births and Perinatal Deaths											
Total Births	55,186	58,261	60,865	61,989	62,406	61,786	65,810	71,963	75,587	76,021	37.8
Singleton	53,737	56,422	59,071	60,164	60,499	59,902	63,839	69,692	72,916	73,605	37.0
Multiple	1,449	1,839	1,794	1,825	1,907	1,884	1,971	2,271	2,671	2,416	66.7
Live Births	54,871	57,922	60,522	61,632	62,067	61,480	65,502	71,570	75,229	75,649	37.9
Singleton	53,442	56,115	58,752	59,837	60,186	59,621	63,555	69,318	72,582	73,249	37.1
Multiple	1,429	1,807	1,770	1,795	1,881	1,859	1,947	2,252	2,647	2,400	67.9
Stillbirths	315	339	343	357	339	306	308	393	358	372	18.1
Singleton	295	307	319	327	313	281	284	374	334	356	20.7
Multiple	20	32	24	30	26	25	24	19	24	16	-20.0
Early Neonatal Deaths	176	160	170	177	168	139	152	132	159	154	-12.5
Singleton	153	136	149	156	140	109	129	118	138	141	-7.8
Multiple	23	24	21	21	28	30	23	14	21	13	-43.5
Rates*											
Stillbirths	5.7	5.8	5.6	5.8	5.4	5.0	4.7	5.5	4.7	4.9	-14.2
Singleton	5.5	5.4	5.4	5.4	5.2	4.7	4.4	5.4	4.6	4.8	-12.1
Multiple	13.8	17.4	13.4	16.4	13.6	13.3	12.2	8.4	9.0	6.6	-52.0
Early Neonatal Deaths	3.2	2.8	2.8	2.9	2.7	2.3	2.3	1.8	2.1	2.0	-36.4
Singleton	2.9	2.4	2.5	2.6	2.3	1.8	2.0	1.7	1.9	1.9	-33.6
Multiple	16.1	13.3	11.9	11.7	14.9	16.1	11.8	6.2	7.9	5.4	-66.4

Note: * 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.

METHOD OF DELIVERY FOR PRIMIPAROUS¹² AND MULTIPAROUS¹³ WOMEN

Table 2.5 outlines trends in the method of delivery for primiparous and multiparous women over the decade 2000 to 2009 showing that

- 27.3 per cent of primiparous women delivered by Caesarean section in 2009 compared to 23.8 per cent in 2000, with the rate of increase for Caesarean section delivery higher for multiparous women, increasing from 18.8 per cent in 2000 to 25.4 per cent in 2009 (see Figure 2.7)
- spontaneous deliveries have fallen for total maternities from 64.3 per cent in 2000 to 57.0 per cent in 2009 with similar decreasing rates for primiparous and multiparous women.
- the proportion of total maternities who delivered by breech and forceps has remained relatively stable over the period, while vacuum extraction deliveries have increased, with a greater proportional increase amongst primiparous women.

TABLE 2.5: PERCENTAGE DISTRIBUTION OF MATERNITIES BY METHOD OF DELIVERY, PRIMIPAROUS AND MULTIPAROUS WOMEN, 2000–2009

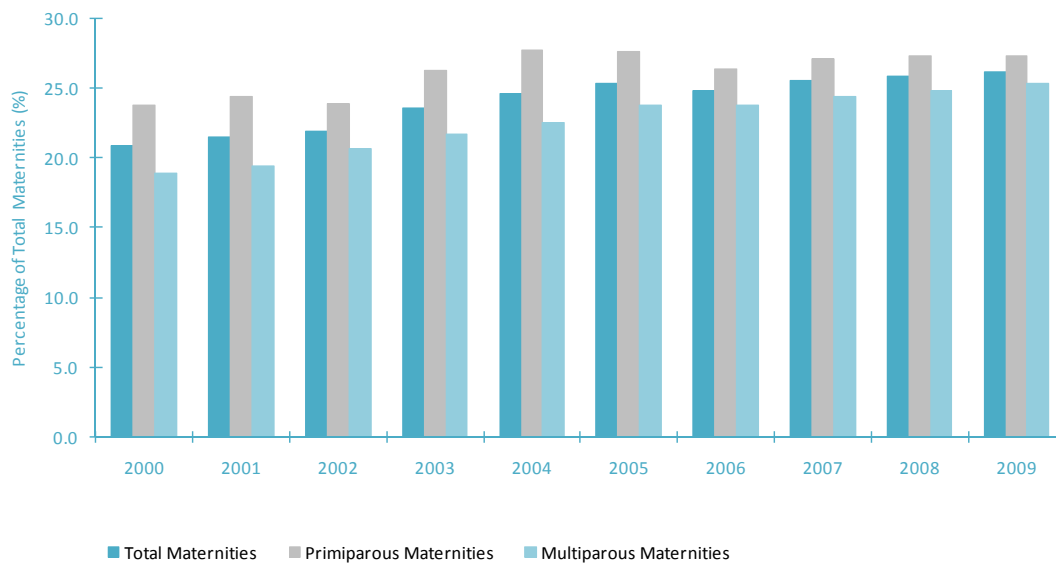
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000–2009
Total Maternities											
Spontaneous	64.3	63.9	63.0	61.9	60.2	59.7	59.4	58.0	57.4	57.0	-11.2
Breech/forceps	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-7.5
Forceps	3.8	3.2	3.2	2.9	2.5	2.8	3.0	3.7	3.7	4.1	9.5
Vacuum extraction	10.4	10.6	11.2	11.0	12.0	11.7	12.2	12.1	12.6	12.2	17.4
Caesarean section	20.9	21.4	21.9	23.6	24.6	25.3	24.8	25.5	25.9	26.2	25.4
Other	0.3	0.4	0.3	0.2	0.3	0.1	0.2	0.2	0.1	0.1	-80.1
Total	100	100	100	100	100	100	100	100	100	100	
Primiparous											
Spontaneous	50.2	50.2	49.6	47.8	45.4	45.0	45.6	44.1	43.5	42.7	-14.8
Breech/forceps	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.5	0.5	1.3
Forceps	7.5	6.2	6.2	5.7	5.1	5.6	5.8	7.2	7.2	8.2	9.6
Vacuum extraction	17.8	18.2	19.5	19.4	21.2	21.0	21.5	21.0	21.4	21.2	19.5
Caesarean section	23.8	24.4	23.8	26.3	27.7	27.7	26.3	27.1	27.3	27.3	14.7
Other	0.3	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	-97.7
Total	100	100	100	100	100	100	100	100	100	100	
Multiparous											
Spontaneous	74.0	73.5	72.2	71.5	70.1	69.5	69.1	68.0	67.6	67.4	-8.9
Breech/forceps	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	-16.0
Forceps	1.2	1.1	1.1	1.0	0.8	0.9	1.0	1.2	1.1	1.1	-2.2
Vacuum extraction	5.3	5.4	5.5	5.3	5.9	5.5	5.7	5.8	6.0	5.7	7.1
Caesarean section	18.8	19.4	20.6	21.7	22.5	23.7	23.7	24.4	24.8	25.4	34.6
Other	0.3	0.4	0.3	0.2	0.4	0.1	0.2	0.2	0.1	0.1	-66.9
Total	100	100	100	100	100	100	100	100	100	100	

Note: There were 9 maternities with unknown parity; these were excluded from the table.

¹² Women who have had no previous pregnancy resulting in a live birth or stillbirth.

¹³ Women who have had at least one previous pregnancy resulting in a live birth or stillbirth.

FIGURE 2.7
PERCENTAGE DISTRIBUTION OF MATERNITIES DELIVERING BY CAESAREAN SECTION FOR TOTAL, PRIMIPAROUS AND MULTIPAROUS WOMEN, 2000–2009



Note: See Table 2.5 for data.

SECTION THREE

GENERAL CHARACTERISTICS

INTRODUCTION

This section presents more detailed analyses of data reported to the NPRS for 2009 and provides some longitudinal comparisons.¹⁴ Tables and figures are presented in some detail for a number of variables relating to

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

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

¹⁴ Data for 2005-2008 will be presented in this section. See the relevant reports available at:
www.esri.ie/health_information/latest_hipe_nprs_reports/
Perinatal Statistics Report 2005, The Economic and Social Research Institute, July 2008
Perinatal Statistics Report 2006, The Economic and Social Research Institute, December 2008
Perinatal Statistics Report 2007, The Economic and Social Research Institute, October 2009
Perinatal Statistics Report 2008, The Economic and Social Research Institute, December 2010

MATERNAL AGE

In 2009, 34 per cent of total births were to mothers aged 30 to 34 years, representing just over a third of all mothers having either a singleton or multiple birth (see Table 3.1).

Generally maternal age has increased over the period 2005 to 2009

- average maternal age for total births increased from 31.0 in 2005 to 31.3 years in 2009
- the percentage of births to mothers aged 19 years and under fell from 3.9 to 3.0 per cent over the five-year period¹⁵
- mothers aged 35 years and over accounted for 26.0 per cent of births in 2005 compared with 27.6 per cent of births in 2009.

TABLE 3.1: AGE OF MOTHER

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

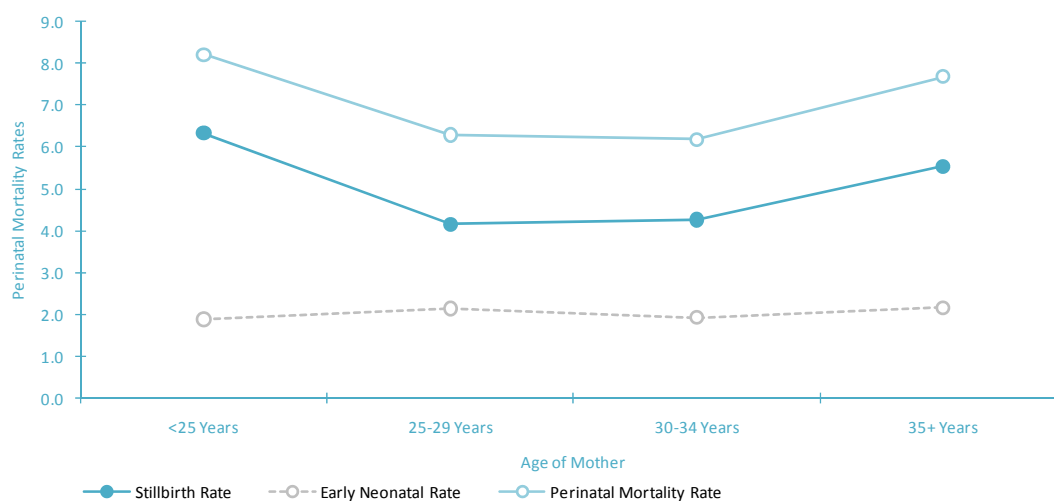
Age of Mother	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Under 15 Years	4	0.0	4	0	0.0	0	0.0	0.0	0.0	4
15-19 Years	2,265	3.0	2,249	16	7.1	3	1.3	8.4	8.0	2,249
20-24 Years	8,935	11.8	8,880	55	6.2	18	2.0	8.2	6.1	8,860
25-29 Years	18,296	24.1	18,220	76	4.2	39	2.1	6.3	4.7	18,062
30-34 Years	25,543	33.6	25,434	109	4.3	49	1.9	6.2	4.7	25,135
35-39 Years	17,460	23.0	17,380	80	4.6	34	2.0	6.5	4.4	17,081
40-44 Years	3,337	4.4	3,305	32	9.6	11	3.3	12.9	7.5	3,253
45 Years and Over	160	0.2	156	4	25.0	0	0.0	25.0	12.7	145
Not Stated	21	0.0	21	0	0.0	0	0.0	0.0	0.0	21
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Under 15 Years	4	0.0	4	0	0.0	0	0.0	0.0	0.0	4
15-19 Years	2,233	3.0	2,217	16	7.2	2	0.9	8.1	7.6	2,233
20-24 Years	8,784	11.9	8,730	54	6.1	16	1.8	8.0	5.9	8,784
25-29 Years	17,827	24.2	17,753	74	4.2	34	1.9	6.1	4.4	17,827
30-34 Years	24,730	33.6	24,627	103	4.2	45	1.8	6.0	4.6	24,730
35-39 Years	16,705	22.7	16,631	74	4.4	33	2.0	6.4	4.2	16,705
40-44 Years	3,171	4.3	3,140	31	9.8	11	3.5	13.2	7.9	3,171
45 Years and Over	130	0.2	126	4	30.8	0	0.0	30.8	15.6	130
Not Stated	21	0.0	21	0	0.0	0	0.0	0.0	0.0	21
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Under 15 Years	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
15-19 Years	32	1.3	32	0	0.0	1	31.3	31.3	31.3	16
20-24 Years	151	6.3	150	1	6.6	2	13.3	19.9	13.3	76
25-29 Years	469	19.4	467	2	4.3	5	10.7	14.9	12.8	235
30-34 Years	813	33.7	807	6	7.4	4	5.0	12.3	8.6	405
35-39 Years	755	31.3	749	6	7.9	1	1.3	9.3	8.0	376
40-44 Years	166	6.9	165	1	6.0	0	0.0	6.0	0.0	82
45 Years and Over	30	1.2	30	0	0.0	0	0.0	0.0	0.0	15
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

¹⁵ Throughout this section, 'Not Stated' values are not included in the calculation of percentages for discussion.

Perinatal mortality rates in Figure 3.1 show that in 2009

- the perinatal mortality rate is highest for mothers aged less than 25 years, with a rate of 8.2 per 1,000 live births and stillbirths, whilst the lowest perinatal mortality rate was recorded for the 30 to 34 year age group (6.2 per 1,000 live births and stillbirths)
- at 6.3 per 1,000 live births and stillbirths the highest stillbirth rate was recorded for mothers aged less than 25 years, whilst the lowest stillbirth rate was recorded for the 25 to 29 year age group (4.2 per 1,000 live births and stillbirths).

FIGURE 3.1
AGE-SPECIFIC STILLBIRTH, EARLY NEONATAL AND PERINATAL MORTALITY RATES, TOTAL BIRTHS



Note: See Table 3.1 for data.

MOTHER'S MARITAL STATUS

The distribution of total births by mother's marital status, shown in Table 3.2 and Figure 3.2, has remained fairly consistent in recent years showing that for 2009

- close to two-thirds of births were to married women, and under one-third to single women¹⁶
- just over 75 per cent of multiple births were to married women
- over the period 2005–2009 the combined proportion of total births recording marital status as either widowed, separated or divorced showed little variation, ranging between 1.6 and 1.8 per cent (see Figure 3.2)
- Figure 3.3 presents the distribution of births to single mothers by county. In Dublin City the estimate is 39.4 per cent, while in counties Carlow, Wexford and Louth over one third of births were to single mothers, with Roscommon reporting just less than a quarter of births to single mothers (See Appendix E for details of county of residence classification).

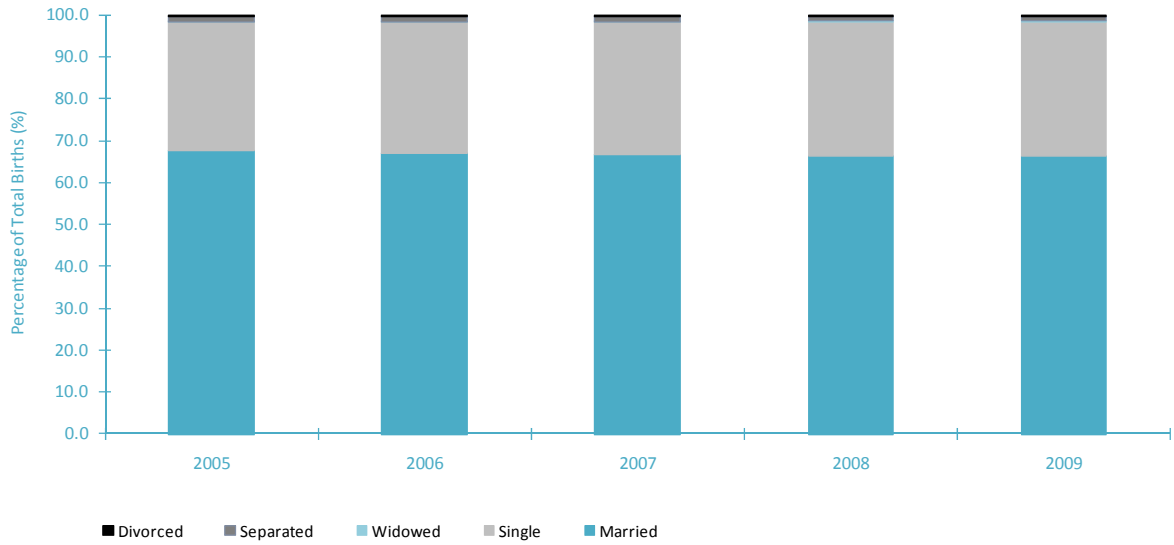
¹⁶ Data recording marital status as 'never married' are classified as 'single' in discussion in this report.

TABLE 3.2: MOTHER'S MARITAL STATUS

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

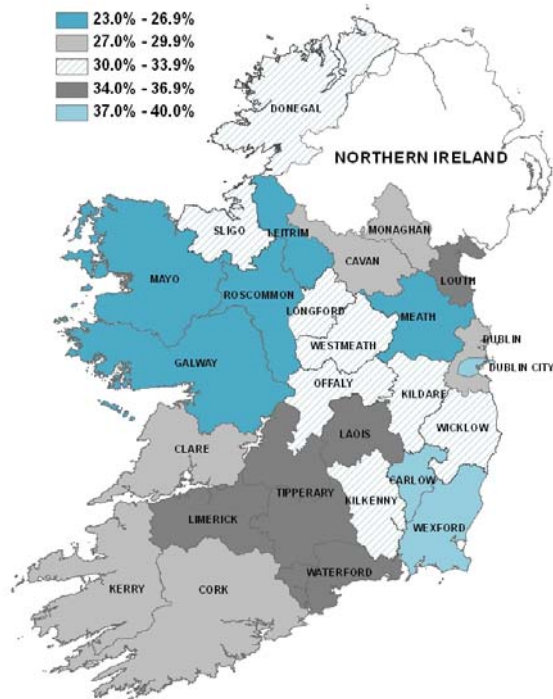
Mother's Marital Status	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Married	50,208	66.0	49,994	214	4.3	98	2.0	6.2	4.3	49,288
Never Married	24,477	32.2	24,325	152	6.2	55	2.3	8.5	6.5	24,213
Widowed	101	0.1	101	0	0.0	0	0.0	0.0	0.0	100
Separated	698	0.9	695	3	4.3	1	1.4	5.7	4.3	682
Divorced	453	0.6	451	2	4.4	0	0.0	4.4	4.4	444
Not Stated	84	0.1	83	1	11.9	0	0.0	11.9	11.9	83
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Married	48,372	65.7	48,170	202	4.2	90	1.9	6.0	4.1	48,372
Never Married	23,950	32.5	23,801	149	6.2	50	2.1	8.3	6.4	23,950
Widowed	99	0.1	99	0	0.0	0	0.0	0.0	0.0	99
Separated	667	0.9	664	3	4.5	1	1.5	6.0	4.5	667
Divorced	435	0.6	433	2	4.6	0	0.0	4.6	4.6	435
Not Stated	82	0.1	82	0	0.0	0	0.0	0.0	0.0	82
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Married	1,836	76.0	1,824	12	6.5	8	4.4	10.9	8.2	916
Never Married	527	21.8	524	3	5.7	5	9.5	15.2	11.4	263
Widowed	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Separated	31	1.3	31	0	0.0	0	0.0	0.0	0.0	15
Divorced	18	0.7	18	0	0.0	0	0.0	0.0	0.0	9
Not Stated	2	0.1	1	1	500.0	0	0.0	500.0	500.0	1
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

FIGURE 3.2
PERCENTAGE OF BIRTHS BY MOTHER'S MARITAL STATUS, TOTAL BIRTHS, 2005–2009



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

FIGURE 3.3
PERCENTAGE OF BIRTHS TO SINGLE MOTHERS BY MOTHER'S COUNTY OF RESIDENCE, TOTAL BIRTHS



Notes: See Appendix G, Table G2 for data. 'Not Stated' values are not included in the calculation of percentages. Example: Of all births to mothers resident in Carlow, 39.1 per cent were to single mothers.

OCCUPATION

MOTHER'S OCCUPATION

Data on mother's occupation presented in Table 3.3 and Figure 3.4 show that in 2009

- the highest proportions of total births were to mothers whose occupation was recorded as either 'home duties' (22.2 per cent) or 'intermediate non-manual workers' (22.1 per cent).
- mothers classified as 'lower professional' accounted for 14.8 per cent of total births, while mothers in the 'other non-manual workers' category accounted for a further 13.3 per cent of total births
- where rates are calculated on more than 20 observations, the highest perinatal mortality rate of 13.4 per 1,000 live births and stillbirths was reported for 'unemployed' mothers, while a perinatal mortality rate of 11.1 per 1,000 live births and stillbirths was reported for mothers whose occupation was reported as 'not classifiable'
- at 5.2 per 1,000 live births and stillbirths, the lowest perinatal mortality rate was recorded for mothers with an occupation in the 'intermediate non-manual workers' category, while a perinatal mortality rate of 5.6 per 1,000 live births and stillbirths was recorded for mothers in the 'lower professional' category.¹⁷

¹⁷ For further discussion and analysis on this issue see Layte, R., and Clyne, B., Did the Celtic Tiger Decrease Socio-Economic Differentials in Perinatal Mortality in Ireland?, *The Economic and Social Review*, Vol 41, No.2, June 2010.

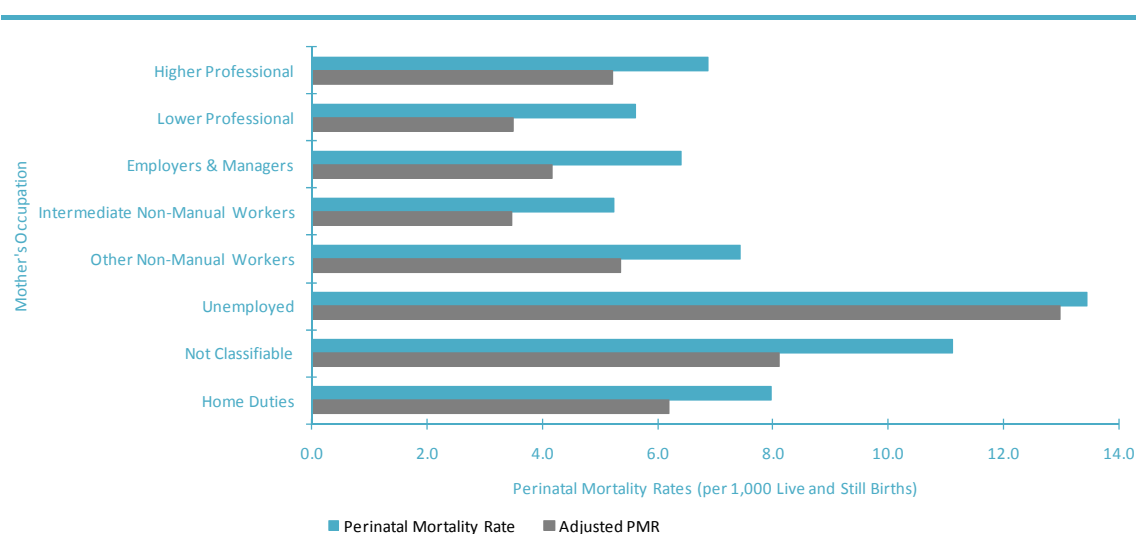
TABLE 3.3: MOTHER'S OCCUPATION

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

Mother's Occupation	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Farmers & Farm Managers	83	0.1	83	0	0.0	0	0.0	0.0	0.0	82
Other Agricultural Occupations & Fishermen	86	0.1	85	1	11.6	0	0.0	11.6	0.0	85
Higher Professional	4,797	6.3	4,773	24	5.0	9	1.9	6.9	5.2	4,693
Lower Professional	11,204	14.7	11,165	39	3.5	24	2.1	5.6	3.5	11,006
Employers & Managers	5,779	7.6	5,757	22	3.8	15	2.6	6.4	4.2	5,665
Salaried Employees	1,216	1.6	1,211	5	4.1	1	0.8	4.9	1.7	1,196
Intermediate Non-Manual Workers	16,768	22.1	16,707	61	3.6	27	1.6	5.2	3.5	16,490
Other Non-Manual Workers	10,101	13.3	10,043	58	5.7	17	1.7	7.4	5.4	9,961
Skilled Manual Workers	1,338	1.8	1,334	4	3.0	2	1.5	4.5	4.5	1,321
Semi-Skilled Manual Workers	2,548	3.4	2,536	12	4.7	1	0.4	5.1	3.9	2,517
Unskilled Manual Workers	4	0.0	3	1	250.0	0	0.0	250.0	250.0	4
Unemployed	2,159	2.8	2,136	23	10.7	6	2.8	13.4	13.0	2,137
Not Classifiable	2,967	3.9	2,943	24	8.1	9	3.1	11.1	8.1	2,921
Home Duties	16,818	22.1	16,727	91	5.4	43	2.6	8.0	6.2	16,581
Not Stated	153	0.2	146	7	45.8	0	0.0	45.8	33.1	151
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Farmers & Farm Managers	81	0.1	81	0	0.0	0	0.0	0.0	0.0	81
Other Agricultural Occupations & Fishermen	84	0.1	83	1	11.9	0	0.0	11.9	0.0	84
Higher Professional	4,589	6.2	4,568	21	4.6	6	1.3	5.9	4.1	4,589
Lower Professional	10,809	14.7	10,771	38	3.5	22	2.0	5.6	3.5	10,809
Employers & Managers	5,551	7.5	5,530	21	3.8	14	2.5	6.3	4.0	5,551
Salaried Employees	1,176	1.6	1,171	5	4.3	1	0.9	5.1	1.7	1,176
Intermediate Non-Manual Workers	16,215	22.0	16,158	57	3.5	26	1.6	5.1	3.3	16,215
Other Non-Manual Workers	9,823	13.3	9,767	56	5.7	16	1.6	7.3	5.3	9,823
Skilled Manual Workers	1,304	1.8	1,301	3	2.3	2	1.5	3.8	3.8	1,304
Semi-Skilled Manual Workers	2,486	3.4	2,474	12	4.8	1	0.4	5.2	4.0	2,486
Unskilled Manual Workers	4	0.0	3	1	250.0	0	0.0	250.0	250.0	4
Unemployed	2,115	2.9	2,092	23	10.9	6	2.9	13.7	13.2	2,115
Not Classifiable	2,876	3.9	2,853	23	8.0	8	2.8	10.8	7.7	2,876
Home Duties	16,343	22.2	16,255	88	5.4	39	2.4	7.8	6.1	16,343
Not Stated	149	0.2	142	7	47.0	0	0.0	47.0	34.0	149
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Farmers & Farm Managers	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Other Agricultural Occupations & Fishermen	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Higher Professional	208	8.6	205	3	14.4	3	14.6	28.8	28.8	104
Lower Professional	395	16.3	394	1	2.5	2	5.1	7.6	2.5	197
Employers & Managers	228	9.4	227	1	4.4	1	4.4	8.8	8.8	114
Salaried Employees	40	1.7	40	0	0.0	0	0.0	0.0	0.0	20
Intermediate Non-Manual Workers	553	22.9	549	4	7.2	1	1.8	9.0	7.2	275
Other Non-Manual Workers	278	11.5	276	2	7.2	1	3.6	10.8	7.2	138
Skilled Manual Workers	34	1.4	33	1	29.4	0	0.0	29.4	29.4	17
Semi-Skilled Manual Workers	62	2.6	62	0	0.0	0	0.0	0.0	0.0	31
Unskilled Manual Workers	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Unemployed	44	1.8	44	0	0.0	0	0.0	0.0	0.0	22
Not Classifiable	91	3.8	90	1	11.0	1	11.1	22.0	22.0	45
Home Duties	475	19.7	472	3	6.3	4	8.5	14.7	8.5	238
Not Stated	4	0.2	4	0	0.0	0	0.0	0.0	0.0	2
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

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

FIGURE 3.4
PERINATAL MORTALITY RATES BY MOTHER'S OCCUPATION, TOTAL BIRTHS



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

FATHER'S OCCUPATION

Fathers' details are only required for registration purposes where mother's marital status is recorded as 'married'. As a result, the proportion of records for which information is available is not complete and a category of 'not applicable' is required. With respect to availability and access to fathers' details for reporting maternity units, data quality measures are ongoing with hospital staff in an effort to improve completeness of returns for all fathers' details. Data on father's occupation show that in 2009

- excluding 'not applicable', almost one third of all births were to fathers whose occupation was recorded as 'skilled manual workers' (see Table 3.4)
- fathers recorded as 'other non-manual workers' accounted for 12.2 per cent of total births
- where rates are calculated on more than 20 observations, the occupations recording the highest perinatal mortality rates were 'unemployed', recording a perinatal mortality rate of 8.5 per 1,000 live births and stillbirths and 'lower professional' recording a perinatal mortality rate of 7.0 per 1,000 live births and stillbirths
- the lowest perinatal mortality rates were recorded for 'employers and managers' at 4.7 per 1,000 live births and stillbirths and 'higher professionals' at 5.0 per 1,000 live births and stillbirths.

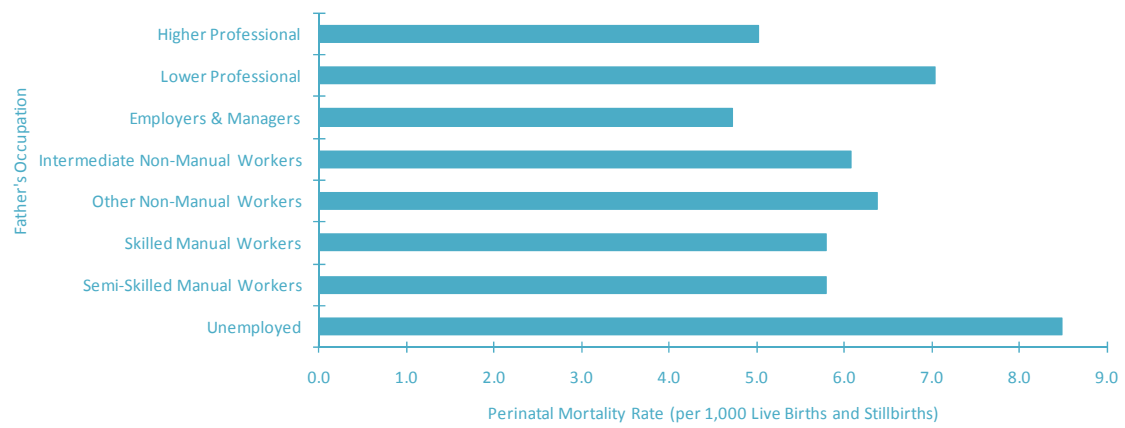
TABLE 3.4: FATHER'S OCCUPATION

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

Father's Occupation	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Farmers & Farm Managers	2,231	2.9	2,218	13	5.8	4	1.8	7.6	4.9	2,190
Other Agricultural Occupations & Fishermen	719	0.9	716	3	4.2	1	1.4	5.6	4.2	704
Higher Professional	5,769	7.6	5,745	24	4.2	5	0.9	5.0	3.1	5,665
Lower Professional	3,699	4.9	3,680	19	5.1	7	1.9	7.0	4.3	3,629
Employers & Managers	6,154	8.1	6,137	17	2.8	12	2.0	4.7	3.3	6,014
Salaried Employees	1,499	2.0	1,495	4	2.7	2	1.3	4.0	3.3	1,475
Intermediate Non-Manual Workers	6,251	8.2	6,229	22	3.5	16	2.6	6.1	4.0	6,152
Other Non-Manual Workers	7,365	9.7	7,330	35	4.8	12	1.6	6.4	5.3	7,261
Skilled Manual Workers	17,618	23.2	17,550	68	3.9	34	1.9	5.8	4.1	17,329
Semi-Skilled Manual Workers	3,631	4.8	3,616	15	4.1	6	1.7	5.8	3.9	3,577
Unskilled Manual Workers	709	0.9	706	3	4.2	2	2.8	7.1	5.6	700
Unemployed	2,827	3.7	2,809	18	6.4	6	2.1	8.5	6.0	2,785
Not Classifiable	1,520	2.0	1,516	4	2.6	2	1.3	3.9	3.9	1,495
Not Applicable	15,352	20.2	15,235	117	7.6	37	2.4	10.0	7.8	15,170
Home Duties	140	0.2	140	0	0.0	1	7.1	7.1	7.1	137
Not Stated	537	0.7	527	10	18.6	7	13.3	31.7	18.9	527
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Farmers & Farm Managers	2,149	2.9	2,136	13	6.0	4	1.9	7.9	5.1	2,149
Other Agricultural Occupations & Fishermen	688	0.9	685	3	4.4	1	1.5	5.8	4.4	688
Higher Professional	5,561	7.6	5,537	24	4.3	5	0.9	5.2	3.2	5,561
Lower Professional	3,560	4.8	3,541	19	5.3	6	1.7	7.0	4.5	3,560
Employers & Managers	5,875	8.0	5,859	16	2.7	10	1.7	4.4	3.1	5,875
Salaried Employees	1,451	2.0	1,447	4	2.8	2	1.4	4.1	3.4	1,451
Intermediate Non-Manual Workers	6,052	8.2	6,032	20	3.3	15	2.5	5.8	3.8	6,052
Other Non-Manual Workers	7,155	9.7	7,125	30	4.2	12	1.7	5.9	4.9	7,155
Skilled Manual Workers	17,045	23.2	16,980	65	3.8	31	1.8	5.6	3.9	17,045
Semi-Skilled Manual Workers	3,524	4.8	3,510	14	4.0	6	1.7	5.7	3.7	3,524
Unskilled Manual Workers	691	0.9	688	3	4.3	2	2.9	7.2	5.8	691
Unemployed	2,743	3.7	2,725	18	6.6	5	1.8	8.4	6.2	2,743
Not Classifiable	1,470	2.0	1,466	4	2.7	2	1.4	4.1	4.1	1,470
Not Applicable	14,989	20.4	14,875	114	7.6	34	2.3	9.9	7.6	14,989
Home Duties	134	0.2	134	0	0.0	0	0.0	0.0	0.0	134
Not Stated	518	0.7	509	9	17.4	6	11.8	29.0	17.6	518
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Farmers & Farm Managers	82	3.4	82	0	0.0	0	0.0	0.0	0.0	41
Other Agricultural Occupations & Fishermen	31	1.3	31	0	0.0	0	0.0	0.0	0.0	16
Higher Professional	208	8.6	208	0	0.0	0	0.0	0.0	0.0	104
Lower Professional	139	5.8	139	0	0.0	1	7.2	7.2	0.0	69
Employers & Managers	279	11.5	278	1	3.6	2	7.2	10.8	7.2	139
Salaried Employees	48	2.0	48	0	0.0	0	0.0	0.0	0.0	24
Intermediate Non-Manual Workers	199	8.2	197	2	10.1	1	5.1	15.1	10.1	100
Other Non-Manual Workers	210	8.7	205	5	23.8	0	0.0	23.8	19.1	106
Skilled Manual Workers	573	23.7	570	3	5.2	3	5.3	10.5	10.5	284
Semi-Skilled Manual Workers	107	4.4	106	1	9.3	0	0.0	9.3	9.3	53
Unskilled Manual Workers	18	0.7	18	0	0.0	0	0.0	0.0	0.0	9
Unemployed	84	3.5	84	0	0.0	1	11.9	11.9	0.0	42
Not classifiable	50	2.1	50	0	0.0	0	0.0	0.0	0.0	25
Not applicable	363	15.0	360	3	8.3	3	8.3	16.5	13.8	181
Home Duties	6	0.2	6	0	0.0	1	166.7	166.7	166.7	3
Not Stated	19	0.8	18	1	52.6	1	55.6	105.3	55.6	9
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

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

FIGURE 3.5
PERINATAL MORTALITY RATES BY FATHER'S OCCUPATION, TOTAL BIRTHS



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

NATIONALITY

MOTHER'S NATIONALITY

Information on mother's nationality which relates to 'place of birth' of the mother show that

- over the period 2005 to 2009 the proportion of births to Irish mothers fell from 83.5 per cent to 76.2 per cent
- the proportion of total births to mothers from Asia has increased slightly from 2.9 per cent in 2005 to 4.0 per cent in 2009 (see Figure 3.6)
- over 75% of total births in 2009 were to mothers from Ireland. The next highest proportion of total births were to mothers from the EU15 to EU27 Accession States at 10.3 per cent, followed by mothers from Africa at 3.4 per cent (see Table 3.5 and Figure 3.6)
- the highest perinatal mortality rate was recorded for babies born to mothers from Africa (8.1 per 1,000 live births and stillbirths) and the lowest perinatal mortality rates were reported for babies born to mothers from the EU15 to EU27 Accession States at 5.4 per 1,000 live births and stillbirths¹⁸ (see Table 3.5)
- the average age of all mothers giving birth was 31.3 years in 2009 and the average age of mothers from Ireland was slightly higher at 31.8 years in 2009 (see Figure 3.7)
- mothers giving birth from the EU15 to EU27 accession countries were on average younger at 28 years, whilst mothers from the EU15 (excluding Ireland and United Kingdom) and Australia recorded the highest average maternal age at 32.8 years and 32.5 years respectively (see Figure 3.7).

¹⁸ Rates are based on 20 or more observations.

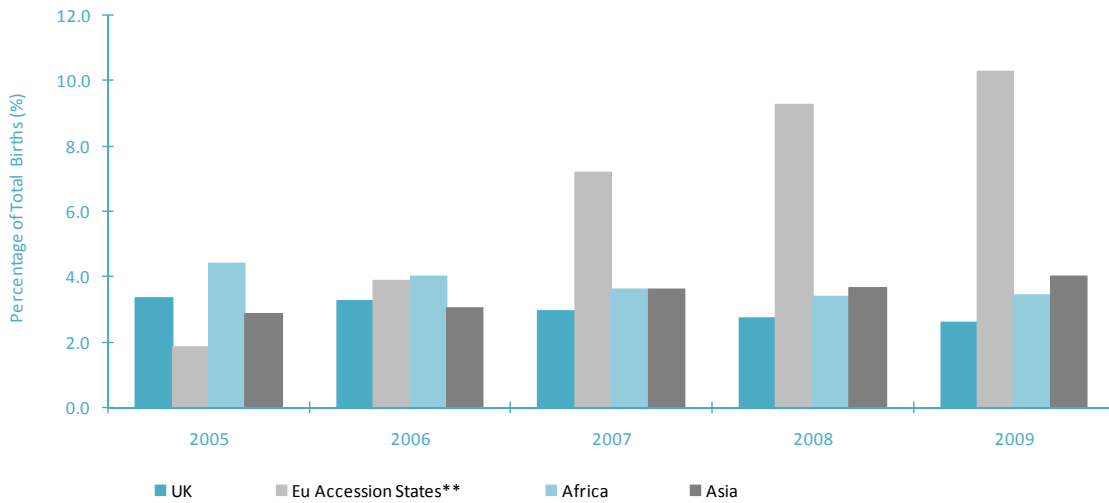
TABLE 3.5: MOTHER'S NATIONALITY

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

Mother's Nationality	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Ireland	57,881	76.1	57,597	284	4.9	130	2.3	7.2	5.0	56,948
UK	1,964	2.6	1,955	9	4.6	4	2.0	6.6	5.1	1,927
EU15 (excluding Ireland & UK)	1,096	1.4	1,090	6	5.5	0	0.0	5.5	4.6	1,074
EU15 to EU27 Accession States	7,816	10.3	7,783	33	4.2	9	1.2	5.4	4.5	7,726
Rest of Europe	676	0.9	672	4	5.9	2	3.0	8.9	5.9	666
Africa	2,604	3.4	2,586	18	6.9	3	1.2	8.1	6.9	2,535
Asia	3,046	4.0	3,033	13	4.3	5	1.6	5.9	5.6	3,012
America	662	0.9	660	2	3.0	0	0.0	3.0	3.0	650
Australia	114	0.1	114	0	0.0	0	0.0	0.0	0.0	114
New Zealand and Other Oceania	50	0.1	50	0	0.0	0	0.0	0.0	0.0	47
Other Nationality	4	0.0	4	0	0.0	0	0.0	0.0	0.0	4
Not Stated	108	0.1	105	3	27.8	1	9.5	37.0	18.9	107
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Ireland	56,021	76.1	55,751	270	4.8	120	2.2	7.0	4.8	56,021
UK	1,890	2.6	1,881	9	4.8	3	1.6	6.3	4.8	1,890
EU15 (excluding Ireland & UK)	1,052	1.4	1,046	6	5.7	0	0.0	5.7	4.8	1,052
EU15 to EU27 Accession States	7,635	10.4	7,602	33	4.3	7	0.9	5.2	4.5	7,635
Rest of Europe	657	0.9	653	4	6.1	2	3.1	9.1	6.1	657
Africa	2,466	3.4	2,448	18	7.3	3	1.2	8.5	7.3	2,466
Asia	2,978	4.0	2,967	11	3.7	5	1.7	5.4	5.0	2,978
America	638	0.9	636	2	3.1	0	0.0	3.1	3.1	638
Australia	114	0.2	114	0	0.0	0	0.0	0.0	0.0	114
New Zealand and Other Oceania	44	0.1	44	0	0.0	0	0.0	0.0	0.0	44
Other Nationality	4	0.0	4	0	0.0	0	0.0	0.0	0.0	4
Not Stated	106	0.1	103	3	28.3	1	9.7	37.7	19.2	106
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Ireland	1,860	77.0	1,846	14	7.5	10	5.4	12.9	9.7	927
UK	74	3.1	74	0	0.0	1	13.5	13.5	13.5	37
EU15 (excluding Ireland & UK)	44	1.8	44	0	0.0	0	0.0	0.0	0.0	22
EU15 to EU27 Accession States	181	7.5	181	0	0.0	2	11.0	11.0	5.6	91
Rest of Europe	19	0.8	19	0	0.0	0	0.0	0.0	0.0	9
Africa	138	5.7	138	0	0.0	0	0.0	0.0	0.0	69
Asia	68	2.8	66	2	29.4	0	0.0	29.4	29.4	34
America	24	1.0	24	0	0.0	0	0.0	0.0	0.0	12
Australia	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
New Zealand and Other Oceania	6	0.2	6	0	0.0	0	0.0	0.0	0.0	3
Other Nationality	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

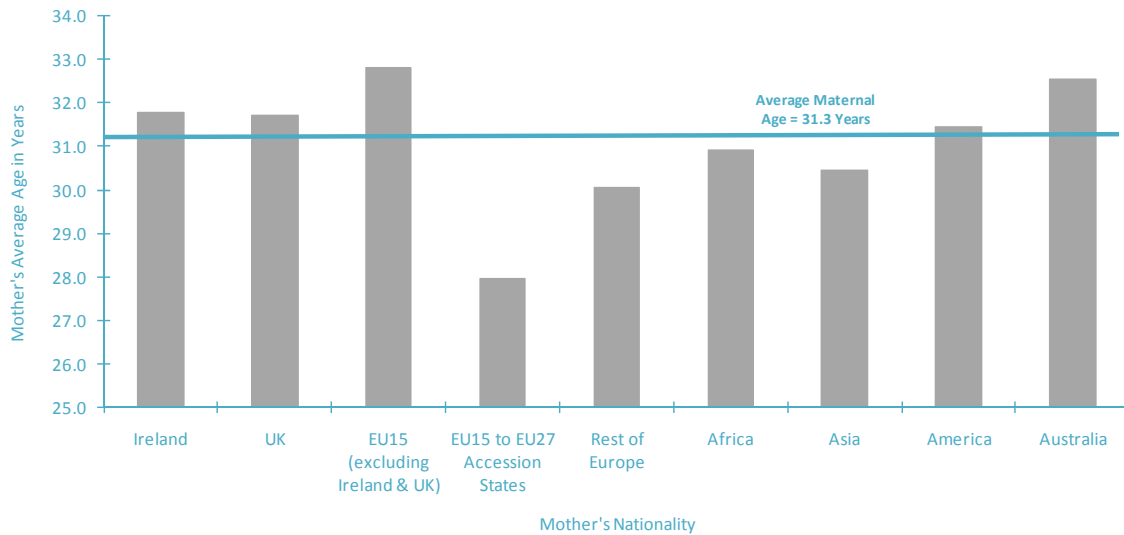
Note: See Appendix F for a description of the classification system for nationality.

FIGURE 3.6
PERCENTAGE DISTRIBUTION OF BIRTHS BY NATIONALITY FOR NON-IRISH BORN MOTHERS, TOTAL BIRTHS, 2005–2009*



Notes: See Appendix G, Table G3 for data. ‘Not Stated’ values are not included in the calculation of percentages.
 *Mothers from the United Kingdom, EU Accession States, Africa, and Asia accounted for 20.3 per cent of total births in 2009.
 **Please note that the following EU Accession States joined the EU in 2004: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Bulgaria and Romania joined the EU in 2007.

FIGURE 3.7
AVERAGE AGE OF MOTHER BY MOTHER’S NATIONALITY, TOTAL BIRTHS



Note: See Appendix G, Table G4 for data.

FATHER'S NATIONALITY

Table 3.6 presents information on father's nationality which relates to 'place of birth' and show that

- excluding births where fathers details are not available and are, therefore, classified as 'not applicable', 76.7 per cent of total births occurred to Irish fathers, compared to 83.6 per cent in 2005
- births to fathers from the EU Accession States accounted for 9.0 per cent of total births which increased from 1.4 per cent of total births in 2005
- the proportion of total births to fathers from Asia was 4.3 per cent in 2009 compared to 2.7 per cent in 2005
- births to fathers from Africa was 3.6 per cent of total births in 2009 compared to 4.7 per cent of total births in 2005.

TABLE 3.6: FATHER'S NATIONALITY

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

Father's Nationality	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Ireland	44,110	58.0	43,916	194	4.4	103	2.3	6.7	4.5	43,331
UK	1,733	2.3	1,724	9	5.2	2	1.2	6.3	4.0	1,701
EU15 (excluding Ireland & UK)	730	1.0	728	2	2.7	0	0.0	2.7	2.7	718
EU15 to EU27 Accession States	5,185	6.8	5,165	20	3.9	4	0.8	4.6	3.9	5,124
Rest of Europe	530	0.7	528	2	3.8	1	1.9	5.7	1.9	523
Africa	2,063	2.7	2,051	12	5.8	3	1.5	7.3	6.3	2,006
Asia	2,483	3.3	2,474	9	3.6	3	1.2	4.8	4.0	2,452
America	428	0.6	428	0	0.0	0	0.0	0.0	0.0	420
Australia	141	0.2	141	0	0.0	0	0.0	0.0	0.0	140
New Zealand and Other Oceania	86	0.1	86	0	0.0	0	0.0	0.0	0.0	84
Not Stated	449	0.6	441	8	17.8	0	0.0	17.8	17.8	443
Not Applicable	18,083	23.8	17,967	116	6.4	38	2.1	8.5	6.6	17,868
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Ireland	42,555	57.8	42,370	185	4.3	94	2.2	6.6	4.4	42,555
UK	1,669	2.3	1,660	9	5.4	1	0.6	6.0	4.2	1,669
EU15 (excluding Ireland & UK)	706	1.0	704	2	2.8	0	0.0	2.8	2.8	706
EU15 to EU27 Accession States	5,063	6.9	5,043	20	4.0	3	0.6	4.5	4.0	5,063
Rest of Europe	516	0.7	514	2	3.9	1	1.9	5.8	1.9	516
Africa	1,949	2.6	1,937	12	6.2	3	1.5	7.7	6.7	1,949
Asia	2,421	3.3	2,413	8	3.3	3	1.2	4.5	4.1	2,421
America	413	0.6	413	0	0.0	0	0.0	0.0	0.0	413
Australia	139	0.2	139	0	0.0	0	0.0	0.0	0.0	139
New Zealand and Other Oceania	82	0.1	82	0	0.0	0	0.0	0.0	0.0	82
Not Stated	438	0.6	433	5	11.4	0	0.0	11.4	11.4	438
Not Applicable	17,654	24.0	17,541	113	6.4	36	2.1	8.4	6.5	17,654
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Ireland	1,555	64.4	1,546	9	5.8	9	5.8	11.6	9.0	776
UK	64	2.6	64	0	0.0	1	15.6	15.6	0.0	32
EU15 (excluding Ireland & UK)	24	1.0	24	0	0.0	0	0.0	0.0	0.0	12
EU15 to EU27 Accession States	122	5.0	122	0	0.0	1	8.2	8.2	0.0	61
Rest of Europe	14	0.6	14	0	0.0	0	0.0	0.0	0.0	7
Africa	114	4.7	114	0	0.0	0	0.0	0.0	0.0	57
Asia	62	2.6	61	1	16.1	0	0.0	16.1	0.0	31
America	15	0.6	15	0	0.0	0	0.0	0.0	0.0	7
Australia	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
New Zealand and Other Oceania	4	0.2	4	0	0.0	0	0.0	0.0	0.0	2
Not Stated	11	0.5	8	3	272.7	0	0.0	272.7	272.7	5
Not Applicable	429	17.8	426	3	7.0	2	4.7	11.7	11.7	214
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

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

MATERNAL PARITY

Maternal parity is a mother's total number of previous live births and stillbirths.

Between 2005 and 2009

- the average maternal age rose from 28.7 years to 29.1 years for primiparous women and from 32.6 years to 32.9 years for multiparous women
- the proportion of mothers giving birth for the first time and aged 35 years or more increased from 13.7 per cent to 14.9 per cent, while the proportion of multiparous women aged 35 years or more increased from 34.2 per cent to 36.8 per cent (see Figures 3.8 and 3.9).

In 2009 data on maternal parity showed that

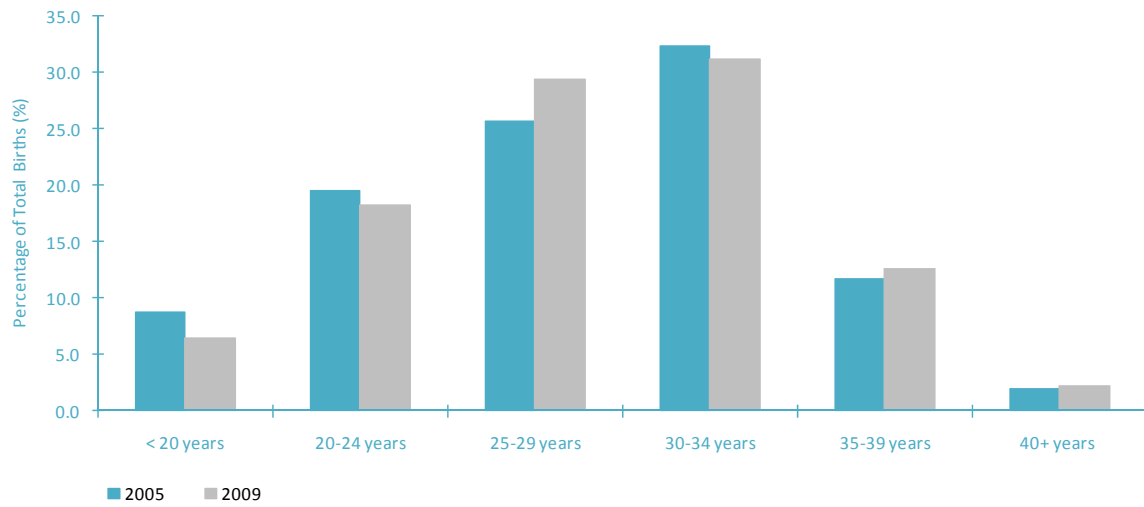
- primiparous mothers accounted for 42 per cent of all maternities with 58 per cent of maternities having one or more previous live births or stillbirths (see Table 3.7)
- of mothers aged less than 20 years, 90.7 per cent gave birth for the first time, with only 8.5 per cent delivering for the second time and 0.8 per cent delivering a third time or more
- for women aged 30-34 years 38.8 per cent gave birth for the first time and 36.1 per cent delivered for the second time (see Figure 3.10).

TABLE 3.7: MATERNAL PARITY

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

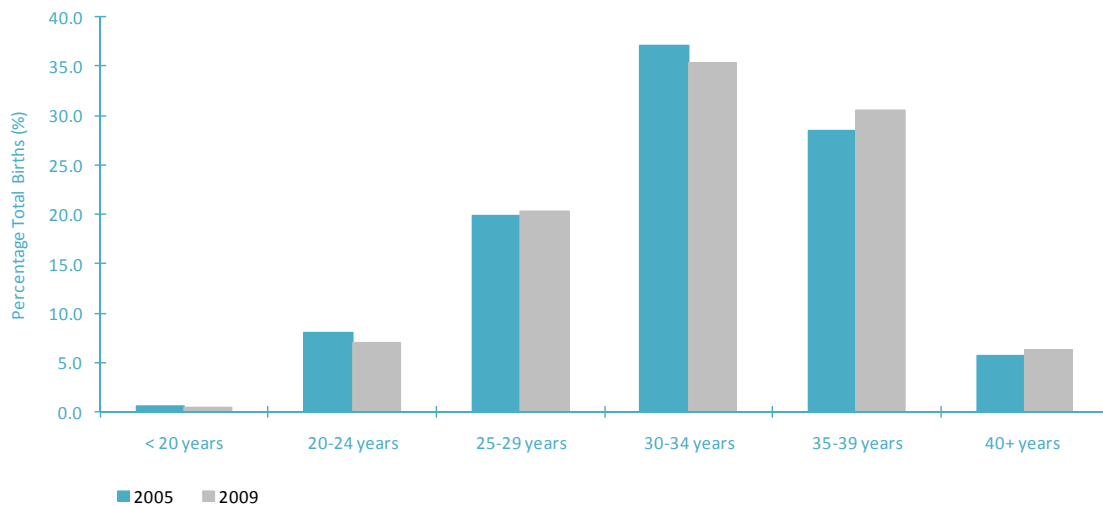
Maternal Parity	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
0	31,954	42.0	31,791	163	5.1	65	2.0	7.1	5.5	31,422
1	24,391	32.1	24,280	111	4.6	42	1.7	6.3	4.4	24,033
2	12,526	16.5	12,470	56	4.5	28	2.2	6.7	4.5	12,326
3	4,710	6.2	4,685	25	5.3	8	1.7	7.0	4.3	4,624
4	1,448	1.9	1,443	5	3.5	7	4.9	8.3	4.2	1,431
5	571	0.8	569	2	3.5	1	1.8	5.3	1.8	559
6	215	0.3	212	3	14.0	0	0.0	14.0	14.0	213
More than 6	197	0.3	192	5	25.4	2	10.4	35.5	35.5	193
Not Stated	9	0.0	7	2	222.2	1	142.9	333.3	250.0	9
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
0	30,891	42.0	30,738	153	5.0	57	1.9	6.8	5.3	30,891
1	23,679	32.2	23,573	106	4.5	42	1.8	6.3	4.4	23,679
2	12,128	16.5	12,073	55	4.5	25	2.1	6.6	4.4	12,128
3	4,538	6.2	4,513	25	5.5	7	1.6	7.1	4.4	4,538
4	1,414	1.9	1,409	5	3.5	6	4.3	7.8	4.3	1,414
5	547	0.7	545	2	3.7	1	1.8	5.5	1.8	547
6	210	0.3	207	3	14.3	0	0.0	14.3	14.3	210
More than 6	189	0.3	184	5	26.5	2	10.9	37.0	37.0	189
Not Stated	9	0.0	7	2	222.2	1	142.9	333.3	250.0	9
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
0	1,063	44.0	1,053	10	9.4	8	7.6	16.9	13.2	531
1	712	29.5	707	5	7.0	0	0.0	7.0	7.0	354
2	398	16.5	397	1	2.5	3	7.6	10.1	7.6	198
3	172	7.1	172	0	0.0	1	5.8	5.8	0.0	86
4	34	1.4	34	0	0.0	1	29.4	29.4	0.0	17
5	24	1.0	24	0	0.0	0	0.0	0.0	0.0	12
6	5	0.2	5	0	0.0	0	0.0	0.0	0.0	3
More than 6	8	0.3	8	0	0.0	0	0.0	0.0	0.0	4
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

FIGURE 3.8
TOTAL BIRTHS TO PRIMIPAROUS WOMEN BY MOTHER'S AGE GROUP, 2005 AND 2009



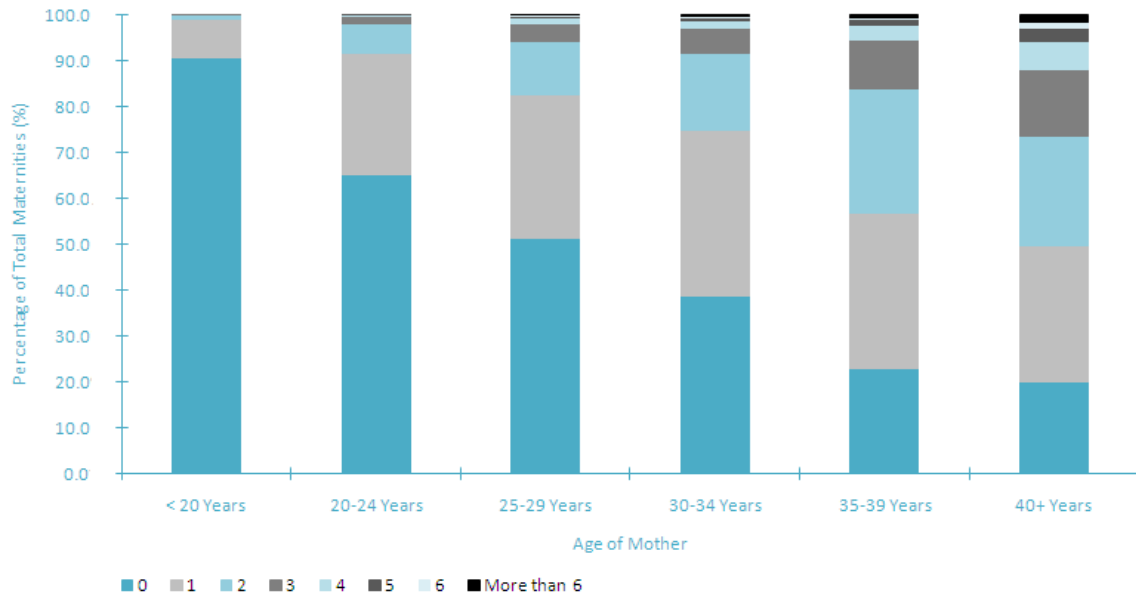
Note: See Appendix G, Table G5 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 3.9
TOTAL BIRTHS TO MULTIPAROUS WOMEN BY MOTHER'S AGE GROUP, 2005 AND 2009



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

FIGURE 3.10
PARITY BY AGE OF MOTHER, TOTAL MATERNITIES



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

NUMBER OF PREVIOUS STILLBIRTHS

In 2009, 98.2 per cent of multiparous women giving birth recorded no previous stillbirths while 1.7 per cent recorded at least 1 previous stillbirth (see Table 3.8). This is consistent with information from earlier years.

TABLE 3.8: PREVIOUS STILLBIRTHS

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

Previous Stillbirths	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
0	43,258	98.2	43,063	195	4.5	86	2.0	6.5	4.4	42,592
1	729	1.7	720	9	12.3	2	2.8	15.1	11.0	717
2	56	0.1	53	3	53.6	0	0.0	53.6	53.6	55
3 and over	15	0.0	15	0	0.0	0	0.0	0.0	0.0	15
Total	44,058	100	43,851	207	4.7	88	2.0	6.7	4.6	43,379
Singleton Births										
0	41,931	98.2	41,742	189	4.5	81	1.9	6.4	4.3	41,931
1	705	1.7	696	9	12.8	2	2.9	15.6	11.4	705
2	54	0.1	51	3	55.6	0	0.0	55.6	55.6	54
3 and over	15	0.0	15	0	0.0	0	0.0	0.0	0.0	15
Total	42,705	100	42,504	201	4.7	83	2.0	6.7	4.5	42,705
Multiple Births										
0	1,327	98.1	1,321	6	4.5	5	3.8	8.3	6.0	661
1	24	1.8	24	0	0.0	0	0.0	0.0	0.0	12
2	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
3 and over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,353	100	1,347	6	4.4	5	3.7	8.1	5.9	674

Notes: This table only includes women having second and subsequent births. Primiparous women (i.e. women who have had no previous pregnancy resulting in a live birth or stillbirth) are not included in this table.
There were 9 maternities with unknown parity; these were excluded from the table.

INTERVAL SINCE LAST BIRTH

Table 3.9 shows the interval since the last birth for multiparous women in 2009

- almost 53 per cent of all multiparous mothers had their previous birth within the last three years
- just over 16 per cent had their previous birth more than six years earlier.

TABLE 3.9: INTERVAL IN YEARS SINCE LAST BIRTH

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

Interval Since Last Birth	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
1 year or less	614	1.4	610	4	6.5	3	4.9	11.4	9.8	602
>1 year to 2 years	11,085	25.2	11,037	48	4.3	26	2.4	6.7	4.1	10,919
>2 years to 3 years	11,231	25.5	11,191	40	3.6	12	1.1	4.6	3.0	11,053
>3 years to 4 years	6,586	14.9	6,555	31	4.7	11	1.7	6.4	4.6	6,470
>4 years to 5 years	4,055	9.2	4,031	24	5.9	13	3.2	9.1	5.9	3,999
>5 years to 6 years	2,914	6.6	2,899	15	5.1	4	1.4	6.5	4.8	2,878
More than 6 years	7,079	16.1	7,042	37	5.2	16	2.3	7.5	5.7	6,965
Not Stated	494	1.1	486	8	16.2	3	6.2	22.3	16.3	493
Total	44,058	100	43,851	207	4.7	88	2.0	6.7	4.6	43,379
Singleton Births										
1 year or less	592	1.4	588	4	6.8	2	3.4	10.1	8.5	592
>1 year to 2 years	10,755	25.2	10,712	43	4.0	25	2.3	6.3	3.7	10,755
>2 years to 3 years	10,874	25.5	10,835	39	3.6	11	1.0	4.6	3.0	10,874
>3 years to 4 years	6,353	14.9	6,322	31	4.9	11	1.7	6.6	4.7	6,353
>4 years to 5 years	3,943	9.2	3,919	24	6.1	13	3.3	9.4	6.1	3,943
>5 years to 6 years	2,842	6.7	2,827	15	5.3	3	1.1	6.3	4.6	2,842
More than 6 years	6,854	16.0	6,817	37	5.4	15	2.2	7.6	5.8	6,854
Not Stated	492	1.2	484	8	16.3	3	6.2	22.4	16.4	492
Total	42,705	100	42,504	201	4.7	83	2.0	6.6	4.5	42,705
Multiple Births										
1 year or less	22	1.6	22	0	0.0	1	45.5	45.5	45.5	10
>1 year to 2 years	330	24.4	325	5	15.2	1	3.1	18.2	15.2	164
>2 years to 3 years	357	26.4	356	1	2.8	1	2.8	5.6	2.8	179
>3 years to 4 years	233	17.2	233	0	0.0	0	0.0	0.0	0.0	117
>4 years to 5 years	112	8.3	112	0	0.0	0	0.0	0.0	0.0	56
>5 years to 6 years	72	5.3	72	0	0.0	1	13.9	13.9	13.9	36
More than 6 years	225	16.6	225	0	0.0	1	4.4	4.4	0.0	111
Not Stated	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Total	1,353	100	1,347	6	4.4	5	3.7	8.1	5.9	674

Notes: This table only includes women having second and subsequent births. Primiparous women (i.e. women who have had no previous pregnancy resulting in a live birth or stillbirth) are not included in this table.
There were 9 maternities with unknown parity; these were excluded from the table.

BIRTHWEIGHT

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

In 2009

- the average birthweight of live births was 3,499 grams for singletons, 2,465 grams for multiples and 3,466 grams for total live births
- the percentage of total live births classified as low birthweight was 5.0 per cent (3.7 per cent of singletons and 45.4 per cent of multiples (see Table 3.10)
- there was considerable variation in very low birthweight rates between singleton and multiple births with the 0.6 per cent of singleton live births weighing less than 1,500 grams compared to 6.9 per cent for multiple births (see Figure 3.11)
- 92.3 per cent of total live births were in the healthy birthweight category weighing between 2,500 and 4,499 grams (see Figure 3.12)
- a marginally smaller proportion of male live births were low birthweight (4.6 per cent) compared with female babies (5.5 per cent) (see Figure 3.13)
- the average birthweight of live births was 3,525 grams for males compared to 3,404 grams for females
- 65.4 per cent of stillbirths were classified as low birthweight, with the average birthweight for total stillbirths at 1,971 grams.

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

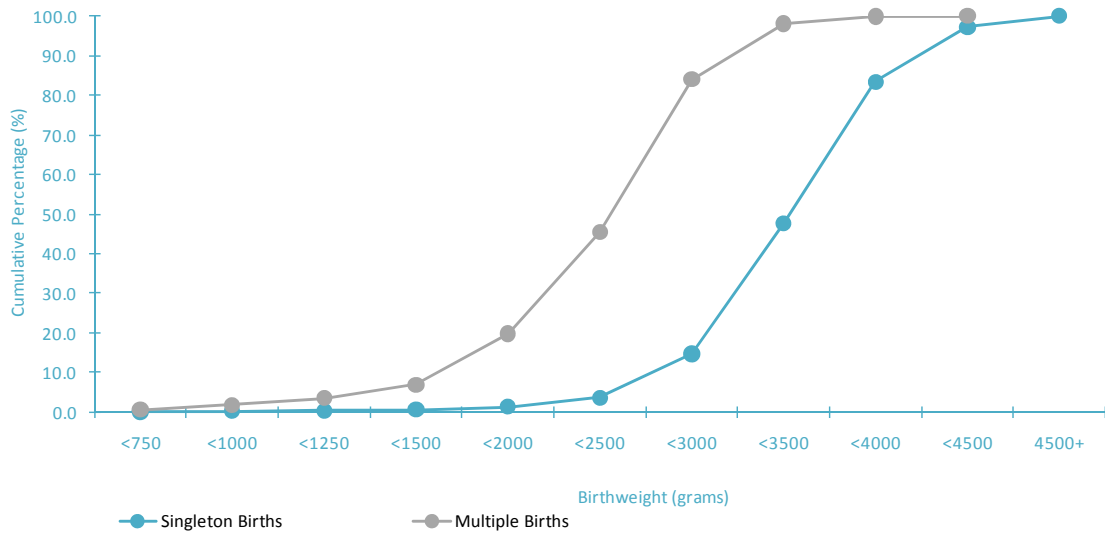
TABLE 3.10: BIRTHWEIGHT

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

Birthweight (grams)	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
500-749	161	0.2	99	62	385.1	42	424.2	646.0	606.9	150
750-999	166	0.2	136	30	180.7	15	110.3	271.1	176.9	149
1000-1249	181	0.2	150	31	171.3	9	60.0	221.0	175.4	159
1250-1499	275	0.4	245	30	109.1	8	32.7	138.2	102.3	227
1500-1999	910	1.2	861	49	53.8	16	18.6	71.4	43.0	744
2000-2499	2,344	3.1	2,304	40	17.1	25	10.9	27.7	16.0	2,047
2500-2999	9,017	11.9	8,970	47	5.2	12	1.3	6.5	4.8	8,553
3000-3499	24,633	32.4	24,588	45	1.8	13	0.5	2.4	1.9	24,472
3500-3999	26,137	34.4	26,111	26	1.0	7	0.3	1.3	1.0	26,114
4000-4499	10,186	13.4	10,178	8	0.8	2	0.2	1.0	1.0	10,185
4500 and Over	2,008	2.6	2,006	2	1.0	4	2.0	3.0	3.0	2,008
Not Stated	3	0.0	1	2	666.7	1	1,000.0	1,000.0	1,000.0	2
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
500-749	140	0.2	83	57	407.1	37	445.8	671.4	632.0	140
750-999	134	0.2	107	27	201.5	14	130.8	306.0	198.3	134
1000-1249	138	0.2	110	28	202.9	6	54.5	246.4	200.0	138
1250-1499	192	0.3	164	28	145.8	7	42.7	182.3	132.6	192
1500-1999	599	0.8	551	48	80.1	15	27.2	105.2	64.6	599
2000-2499	1,731	2.4	1,691	40	23.1	24	14.2	37.0	21.7	1,731
2500-2999	8,089	11.0	8,042	47	5.8	11	1.4	7.2	5.2	8,089
3000-3499	24,295	33.0	24,251	44	1.8	13	0.5	2.3	1.9	24,295
3500-3999	26,093	35.5	26,067	26	1.0	7	0.3	1.3	1.0	26,093
4000-4499	10,184	13.8	10,176	8	0.8	2	0.2	1.0	1.0	10,184
4500 and Over	2,008	2.7	2,006	2	1.0	4	2.0	3.0	3.0	2,008
Not Stated	2	0.0	1	1	500.0	1	1,000.0	1,000.0	1,000.0	2
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
500-749	21	0.9	16	5	238.1	5	312.5	476.2	450.0	10
750-999	32	1.3	29	3	93.8	1	34.5	125.0	96.8	15
1000-1249	43	1.8	40	3	69.8	3	75.0	139.5	97.6	21
1250-1499	83	3.4	81	2	24.1	1	12.3	36.1	36.1	35
1500-1999	311	12.9	310	1	3.2	1	3.2	6.4	3.2	145
2000-2499	613	25.4	613	0	0.0	1	1.6	1.6	0.0	316
2500-2999	928	38.4	928	0	0.0	1	1.1	1.1	1.1	464
3000-3499	338	14.0	337	1	3.0	0	0.0	3.0	3.0	177
3500-3999	44	1.8	44	0	0.0	0	0.0	0.0	0.0	21
4000-4499	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
4500 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	1	0.0	0	1	1,000.0	0	0.0	1,000.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

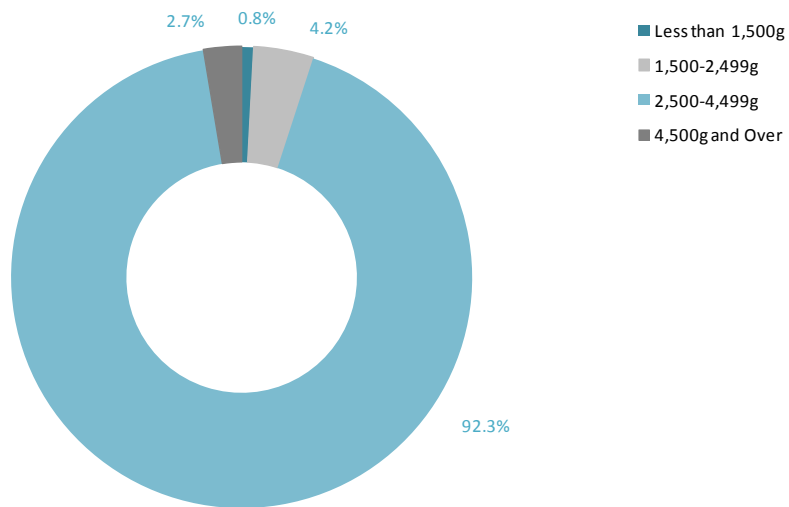
Note: Birthweight tables by primiparous and multiparous women are provided in Appendix G, Tables G8 and G9.

FIGURE 3.11
BIRTHWEIGHT: CUMULATIVE PERCENTAGES OF TOTAL LIVE BIRTHS



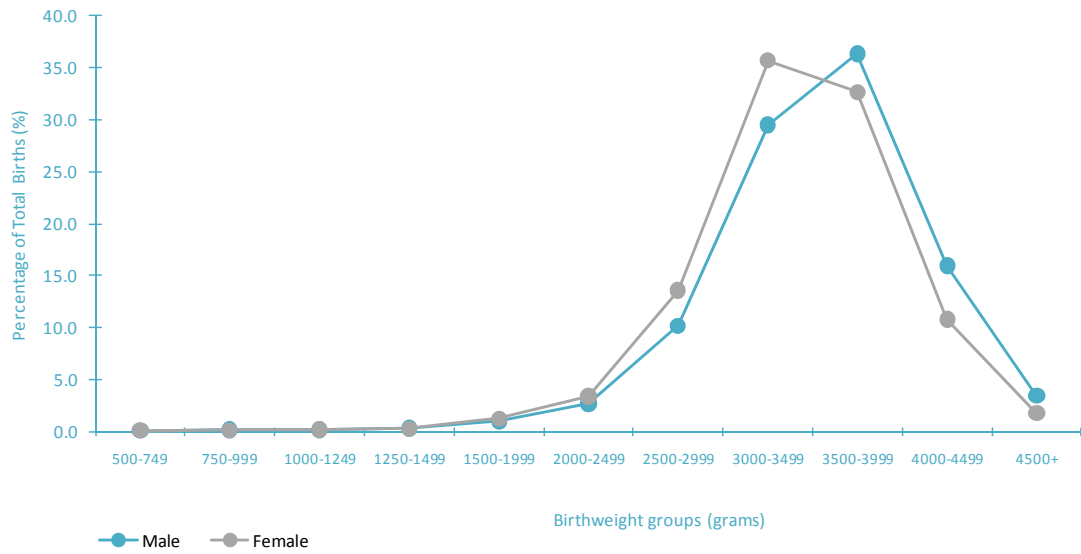
Note: See Table 3.10 for data. 'Not Stated' values are not included in the calculation of percentages.

FIGURE 3.12
PERCENTAGE OF BIRTHS BY BIRTHWEIGHT GROUPS, TOTAL LIVE BIRTHS



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

FIGURE 3.13
PERCENTAGE DISTRIBUTION FOR MALES AND FEMALES ACROSS BIRTHWEIGHT GROUPS, TOTAL LIVE BIRTHS



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

GESTATIONAL AGE

Data on mother's gestational age in Table 3.11 shows that in 2009

- the average gestational age for total births was 39.3 weeks
- 90.6 per cent of all babies were born at term (37–41 weeks)
- preterm births (born before 37 weeks) were associated with higher risk of perinatal death and comprised 6.0 per cent of total births (see also Figure 3.14)
- preterm birth occurred in 61.6 per cent of stillbirths and 5.7 per cent of live births
- the average gestational age for stillbirths was 33.1 weeks compared to 39.3 weeks for live births
- the average gestational age for singleton births was 39.4 weeks compared with 35.9 for twins and 31.7 for higher-order multiple births.

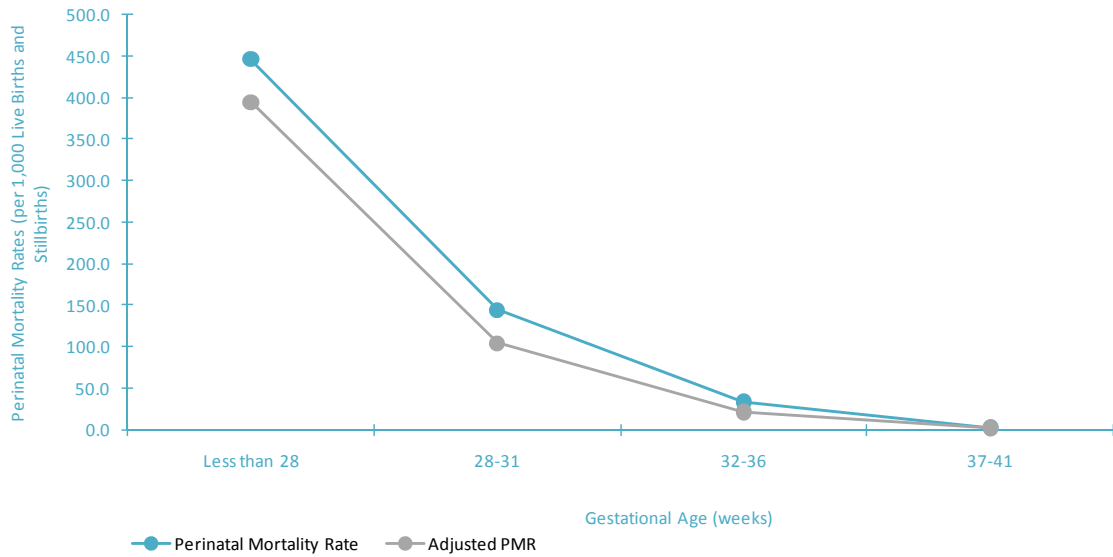
TABLE 3.11: GESTATIONAL AGE AT DELIVERY

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

Gestation (Weeks)	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Less than 28	305	0.4	224	81	265.6	55	245.5	445.9	394.3	282
28-31	514	0.7	457	57	110.9	17	37.2	144.0	103.9	446
32-36	3,721	4.9	3,631	90	24.2	35	9.6	33.6	21.5	3,245
37-41	68,854	90.6	68,715	139	2.0	43	0.6	2.6	1.9	68,210
42 and Over	2,621	3.4	2,618	3	1.1	3	1.1	2.3	1.1	2,621
Not Stated	6	0.0	4	2	333.3	1	250.0	500.0	500.0	6
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Less than 28	258	0.4	183	75	290.7	51	278.7	488.4	433.5	258
28-31	377	0.5	325	52	137.9	14	43.1	175.1	123.9	377
32-36	2,777	3.8	2,689	88	31.7	30	11.2	42.5	27.4	2,777
37-41	67,566	91.8	67,430	136	2.0	42	0.6	2.6	2.0	67,566
42 and Over	2,621	3.6	2,618	3	1.1	3	1.1	2.3	1.1	2,621
Not Stated	6	0.0	4	2	333.3	1	250.0	500.0	500.0	6
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Less than 28	47	1.9	41	6	127.7	4	97.6	212.8	195.7	24
28-31	137	5.7	132	5	36.5	3	22.7	58.4	51.5	69
32-36	944	39.1	942	2	2.1	5	5.3	7.4	4.3	468
37-41	1,288	53.3	1,285	3	2.3	1	0.8	3.1	1.6	644
42 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

Note: Gestational age tables by primiparous and multiparous women are provided in Appendix G, Tables G12 and G13.

FIGURE 3.14
PERINATAL MORTALITY RATES BY GESTATIONAL AGE AT DELIVERY, TOTAL BIRTHS



Note: See Table 3.11 for data. 'Not Stated' values are not included in the calculation of percentages.

MONTH OF BIRTH

Data for month of birth for 2009 show that

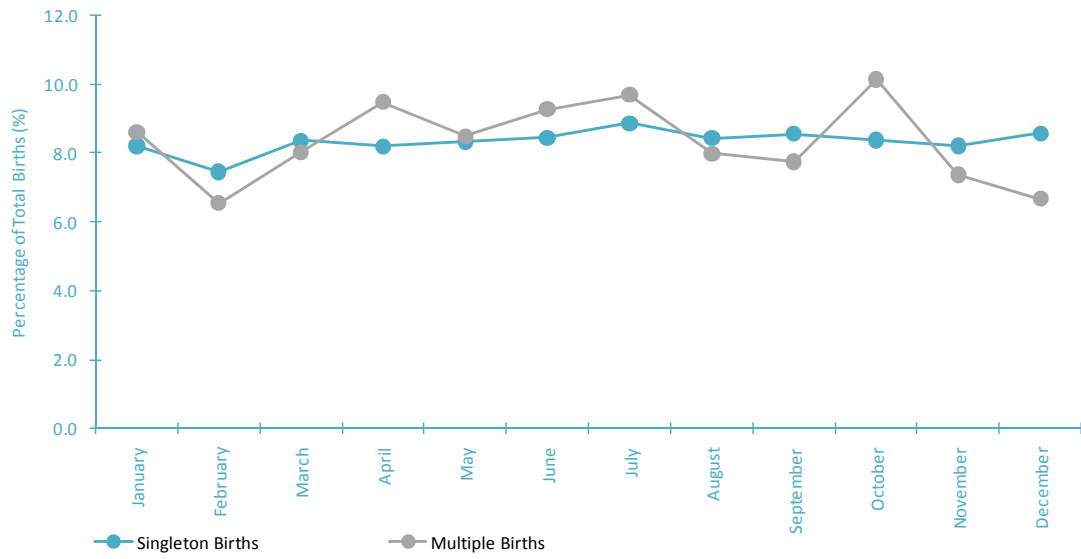
- total births were fairly evenly spread throughout the year, with the lowest number of births occurring in February (7.4 per cent) and the highest occurring in July (8.9 per cent)
- the highest number of singleton births occurred in July (8.9 per cent) and the highest number of multiple births in October (10.1 per cent) (see Table 3.12 and Figure 3.15).

TABLE 3.12: MONTH OF BIRTH

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

Month of Birth	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
January	6,250	8.2	6,218	32	5.1	15	2.4	7.5	5.3	6,146
February	5,642	7.4	5,607	35	6.2	14	2.5	8.7	6.2	5,562
March	6,352	8.4	6,322	30	4.7	7	1.1	5.8	4.3	6,255
April	6,258	8.2	6,231	27	4.3	9	1.4	5.8	4.2	6,143
May	6,334	8.3	6,307	27	4.3	9	1.4	5.7	3.3	6,231
June	6,443	8.5	6,405	38	5.9	18	2.8	8.7	6.4	6,331
July	6,759	8.9	6,736	23	3.4	14	2.1	5.5	3.6	6,642
August	6,397	8.4	6,370	27	4.2	11	1.7	5.9	4.1	6,301
September	6,490	8.5	6,452	38	5.9	13	2.0	7.9	5.7	6,396
October	6,414	8.4	6,377	37	5.8	14	2.2	8.0	7.0	6,292
November	6,216	8.2	6,189	27	4.3	16	2.6	6.9	5.2	6,127
December	6,466	8.5	6,435	31	4.8	14	2.2	7.0	5.1	6,384
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
January	6,042	8.2	6,011	31	5.1	14	2.3	7.4	5.1	6,042
February	5,484	7.5	5,449	35	6.4	14	2.6	8.9	6.4	5,484
March	6,158	8.4	6,128	30	4.9	7	1.1	6.0	4.4	6,158
April	6,029	8.2	6,004	25	4.1	9	1.5	5.6	4.0	6,029
May	6,129	8.3	6,102	27	4.4	9	1.5	5.9	3.4	6,129
June	6,219	8.4	6,183	36	5.8	15	2.4	8.2	6.3	6,219
July	6,525	8.9	6,502	23	3.5	12	1.8	5.4	3.4	6,525
August	6,204	8.4	6,180	24	3.9	10	1.6	5.5	3.9	6,204
September	6,303	8.6	6,267	36	5.7	9	1.4	7.1	5.1	6,303
October	6,169	8.4	6,136	33	5.3	12	2.0	7.3	6.5	6,169
November	6,038	8.2	6,012	26	4.3	16	2.7	7.0	5.1	6,038
December	6,305	8.6	6,275	30	4.8	14	2.2	7.0	5.1	6,305
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
January	208	8.6	207	1	4.8	1	4.8	9.6	9.6	104
February	158	6.5	158	0	0.0	0	0.0	0.0	0.0	78
March	194	8.0	194	0	0.0	0	0.0	0.0	0.0	97
April	229	9.5	227	2	8.7	0	0.0	8.7	8.7	114
May	205	8.5	205	0	0.0	0	0.0	0.0	0.0	102
June	224	9.3	222	2	8.9	3	13.5	22.3	9.0	112
July	234	9.7	234	0	0.0	2	8.5	8.5	8.5	117
August	193	8.0	190	3	15.5	1	5.3	20.7	10.5	97
September	187	7.7	185	2	10.7	4	21.6	32.1	26.9	93
October	245	10.1	241	4	16.3	2	8.3	24.5	20.5	123
November	178	7.4	177	1	5.6	0	0.0	5.6	5.6	89
December	161	6.7	160	1	6.2	0	0.0	6.2	6.2	79
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

FIGURE 3.15
PERCENTAGE OF BIRTHS BY MONTH OF BIRTH, TOTAL BIRTHS



Note: See Table 3.12 for data.

SECTION FOUR

PERINATAL CARE

INTRODUCTION

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

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

TYPE OF ANTENATAL CARE

Type of antenatal care is presented in Table 4.1 and shows that for 2009

- the preferred choice was the combined hospital and G.P. accounting for over 80 per cent of total maternities²⁰
- Hospital/Obstetrician care was higher for maternities delivering multiple births (34.1 per cent) than those delivering singleton births (18.6 per cent).

TABLE 4.1: TYPE OF ANTENATAL CARE

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

Type of Antenatal Care	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Hospital/Obstetrician	14,520	19.1	14,438	82	5.6	41	2.8	8.5	5.5	14,101
General Practitioner only	148	0.2	145	3	20.3	0	0.0	20.3	13.6	144
Hospital & G.P. combined	61,178	80.5	60,901	277	4.5	107	1.8	6.3	4.7	60,394
None	145	0.2	136	9	62.1	6	44.1	103.4	84.5	141
Unknown	30	0.0	29	1	33.3	0	0.0	33.3	0.0	30
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Hospital/Obstetrician	13,690	18.6	13,611	79	5.8	41	3.0	8.8	5.7	13,690
General Practitioner only	140	0.2	137	3	21.4	0	0.0	21.4	14.4	140
Hospital & G.P. combined	59,608	81.0	59,344	264	4.4	95	1.6	6.0	4.5	59,608
None	137	0.2	128	9	65.7	5	39.1	102.2	82.1	137
Unknown	30	0.0	29	1	33.3	0	0.0	33.3	0.0	30
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Hospital/Obstetrician	830	34.4	827	3	3.6	0	0.0	3.6	2.4	411
General Practitioner only	8	0.3	8	0	0.0	0	0.0	0.0	0.0	4
Hospital & G.P. combined	1,570	65.0	1,557	13	8.3	12	7.7	15.9	12.1	786
None	8	0.3	8	0	0.0	1	125.0	125.0	125.0	4
Unknown	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

Note: Deliveries under hospital schemes (including domino, early transfer home, planned community midwives, and midwifery-led units) and domiciliary births were included in combined care.

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

DURATION OF PREGNANCY AT FIRST ANTENATAL VISIT

Table 4.2 presents the time of first antenatal visit in 2009 showing that

- for singleton and multiple births over half of total births recorded their first antenatal visit within the first 12 weeks of pregnancy.

TABLE 4.2: TIME OF FIRST VISIT TO DOCTOR OR HOSPITAL DURING PREGNANCY

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

Time of first visit (weeks)	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
0-12	41,838	55.0	41,667	171	4.1	79	1.9	6.0	4.3	41,134
13-19	22,822	30.0	22,706	116	5.1	43	1.9	7.0	5.3	22,495
20 and over	9,178	12.1	9,106	72	7.8	20	2.2	10.0	6.7	9,048
Not Stated	2,183	2.9	2,170	13	6.0	12	5.5	11.5	7.8	2,133
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
0-12	40,432	54.9	40,274	158	3.9	74	1.8	5.7	4.1	40,432
13-19	22,171	30.1	22,055	116	5.2	38	1.7	6.9	5.3	22,171
20 and over	8,918	12.1	8,849	69	7.7	18	2.0	9.8	6.4	8,918
Not Stated	2,084	2.8	2,071	13	6.2	11	5.3	11.5	7.7	2,084
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
0-12	1,406	58.2	1,393	13	9.2	5	3.6	12.8	10.0	702
13-19	651	26.9	651	0	0.0	5	7.7	7.7	4.6	324
20 and over	260	10.8	257	3	11.5	2	7.8	19.2	15.4	130
Not Stated	99	4.1	99	0	0.0	1	10.1	10.1	10.1	49
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

Note: Although 80.5 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 44.5 per cent of these births. As a result of the absence of these data, the timing of first contact with health professionals within this category will reflect the date of the first hospital visit, even though this is likely to have been later than the first doctor visit. Consequently, caution should be exercised in interpreting the data presented here on the timing of the first visit to health services.

ADVANCE HOSPITAL BOOKINGS

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

TABLE 4.3: ADVANCE HOSPITAL BOOKINGS

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

Advance Hospital Bookings	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Booked	75,114	99.0	74,764	350	4.7	140	1.9	6.5	4.7	73,925
Not Booked	732	1.0	710	22	30.1	14	19.7	49.2	42.6	710
Not Stated	27	0.0	27	0	0.0	0	0.0	0.0	0.0	27
Total	75,873	100	75,501	372	4.9	154	2.0	6.9	5.0	74,662
Singleton Births										
Booked	72,740	99.0	72,404	336	4.6	128	1.8	6.4	4.5	72,740
Not Booked	690	0.9	670	20	29.0	13	19.4	47.8	40.9	690
Not Stated	27	0.0	27	0	0.0	0	0.0	0.0	0.0	27
Total	73,457	100	73,101	356	4.8	141	1.9	6.8	4.9	73,457
Multiple Births										
Booked	2,374	98.3	2,360	14	5.9	12	5.1	11.0	8.0	1,185
Not Booked	42	1.7	40	2	47.6	1	25.0	71.4	71.4	20
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

Notes: 'Not Stated' includes 6 births where place of birth was recorded as domiciliary but birth was registered by a hospital. For these cases, the mother was not admitted under a planned community midwife scheme. Therefore, hospital bookings were not applicable. There were 21 births where advance hospital booking was not stated. Domiciliary births, of which there were 148 singleton births, are excluded from this table. See Section Six for detailed analysis.

MOTHER'S ANTENATAL LENGTH OF STAY

Data in relation to mother's antenatal length of stay show that in 2009

- the average antenatal length of stay was less than one day for singleton births and 2.2 days for multiple births
- almost 90 per cent of singleton births and 76.7 per cent of multiple births were delivered within a day of mother's admission to hospital (see Table 4.4)
- less than 2 per cent of total births were delivered more than 5 days after mother's admission to hospital.

TABLE 4.4: MOTHER'S ANTENATAL LENGTH OF STAY

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

Antenatal Length of Stay	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
0-1 Days	67,595	89.1	67,300	295	4.4	119	1.8	6.1	4.3	66,666
2 Days	4,574	6.0	4,529	45	9.8	6	1.3	11.1	8.1	4,500
3-5 Days	2,187	2.9	2,164	23	10.5	11	5.1	15.5	13.7	2,088
6-8 Days	603	0.8	601	2	3.3	7	11.6	14.9	10.0	564
9-11 Days	265	0.3	264	1	3.8	1	3.8	7.5	7.5	246
12-14 Days	165	0.2	164	1	6.1	1	6.1	12.1	12.1	157
More than 2 Weeks	423	0.6	418	5	11.8	9	21.5	33.1	26.2	380
Not Stated	61	0.1	61	0	0.0	0	0.0	0.0	0.0	61
Total	75,873	100	75,501	372	4.9	154	2.0	6.9	5.0	74,662
Singleton Births										
0-1 Days	65,741	89.5	65,457	284	4.3	107	1.6	5.9	4.2	65,741
2 Days	4,425	6.0	4,381	44	9.9	6	1.4	11.3	8.2	4,425
3-5 Days	1,990	2.7	1,968	22	11.1	11	5.6	16.6	14.6	1,990
6-8 Days	525	0.7	523	2	3.8	7	13.4	17.1	11.5	525
9-11 Days	226	0.3	226	0	0.0	1	4.4	4.4	4.4	226
12-14 Days	148	0.2	148	0	0.0	0	0.0	0.0	0.0	148
More than 2 Weeks	341	0.5	337	4	11.7	9	26.7	38.1	29.6	341
Not Stated	61	0.1	61	0	0.0	0	0.0	0.0	0.0	61
Total	73,457	100	73,101	356	4.8	141	1.9	6.8	4.9	73,457
Multiple Births										
0-1 Days	1,854	76.7	1,843	11	5.9	12	6.5	12.4	8.7	925
2 Days	149	6.2	148	1	6.7	0	0.0	6.7	6.7	75
3-5 Days	197	8.2	196	1	5.1	0	0.0	5.1	5.1	98
6-8 Days	78	3.2	78	0	0.0	0	0.0	0.0	0.0	39
9-11 Days	39	1.6	38	1	25.6	0	0.0	25.6	25.6	20
12-14 Days	17	0.7	16	1	58.8	1	62.5	117.6	117.6	9
More than 2 Weeks	82	3.4	81	1	12.2	0	0.0	12.2	12.2	39
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

Notes: 'Not Stated' includes 49 births where place of birth was recorded as domiciliary but birth was registered by a hospital. For these cases, the mother was not admitted under a planned community midwife scheme. Therefore, dates of mother's antenatal length of stay were not applicable. There were 7 births where place of birth was recorded as 'Born Before Arrival'. In these cases, mother's admission date was after the infant's date of birth. Therefore, antenatal length of stay was not applicable. There were 5 births where mother's admission date was not stated.

Domiciliary births, of which there were 148 singleton births, are excluded from this table. See Section Six for detailed analysis.

MOTHER'S POSTNATAL LENGTH OF STAY

Maternal postnatal length of stay can be influenced by factors such as method of delivery, post delivery complications, neonatal mortality, and hospital discharge policies.

In 2009

- the mother's median postnatal length of stay was 2 days for live born singleton births and 4 days for live born multiple births
- average maternal postnatal lengths of stay for singleton and multiple births were 2.6 and 4.3 days respectively
- over 53 per cent of maternities delivering singleton births remained in hospital for up to 2 days following delivery, compared to 10.6 per cent of maternities delivering multiple births (see Table 4.5)
- the largest proportion of total maternities were discharged 3 to 5 days post delivery, 44.6 per cent for singleton births and 75.8 per cent for multiple births
- for singleton births, over 97 per cent were discharged home within 5 days of delivery compared to 86.3 per cent of multiple births.

TABLE 4.5: MOTHER'S POSTNATAL LENGTH OF STAY
Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

Postnatal Length of Stay	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
0-1 Days	15,384	20.3	15,153	231	15.0	77	5.1	20.0	14.7	15,362
2 Days	23,944	31.6	23,886	58	2.4	29	1.2	3.6	2.4	23,837
3-5 Days	34,553	45.5	34,486	67	1.9	42	1.2	3.2	2.3	33,637
6-8 Days	1,677	2.2	1,666	11	6.6	6	3.6	10.1	7.8	1,530
9-11 Days	210	0.3	208	2	9.5	0	0.0	9.5	9.5	193
12-14 Days	44	0.1	44	0	0.0	0	0.0	0.0	0.0	43
More than 2 Weeks	39	0.1	37	2	51.3	0	0.0	51.3	51.3	38
Not Stated	22	0.0	21	1	45.5	0	0.0	45.5	45.5	22
Total	75,873	100	75,501	372	4.9	154	2.0	6.9	5.0	74,662
Singleton Births										
0-1 Days	15,340	20.9	15,113	227	14.8	74	4.9	19.6	14.3	15,340
2 Days	23,731	32.3	23,673	58	2.4	29	1.2	3.7	2.4	23,731
3-5 Days	32,724	44.5	32,667	57	1.7	34	1.0	2.8	2.0	32,724
6-8 Days	1,385	1.9	1,376	9	6.5	4	2.9	9.4	7.2	1,385
9-11 Days	176	0.2	174	2	11.4	0	0.0	11.4	11.4	176
12-14 Days	42	0.1	42	0	0.0	0	0.0	0.0	0.0	42
More than 2 Weeks	37	0.1	35	2	54.1	0	0.0	54.1	54.1	37
Not Stated	22	0.0	21	1	45.5	0	0.0	45.5	45.5	22
Total	73,457	100	73,101	356	4.8	141	1.9	6.8	4.9	73,457
Multiple Births										
0-1 Days	44	1.8	40	4	90.9	3	75.0	159.1	159.1	22
2 Days	213	8.8	213	0	0.0	0	0.0	0.0	0.0	106
3-5 Days	1,829	75.7	1,819	10	5.5	8	4.4	9.8	6.6	913
6-8 Days	292	12.1	290	2	6.8	2	6.9	13.7	10.3	145
9-11 Days	34	1.4	34	0	0.0	0	0.0	0.0	0.0	17
12-14 Days	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
More than 2 Weeks	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

Notes: 'Not Stated' includes 17 births where place of birth was recorded as domiciliary but birth was registered by a hospital. For these cases, the mother was not admitted under a planned community midwife scheme. Therefore, dates of mother's postnatal length of stay were not applicable. There were 5 births where mother's discharge date was not stated. Domiciliary births, of which there were 148 singleton births, are excluded from this table. See Section Six for detailed analysis.

The postnatal length of stay for mothers differed by method of delivery and plurality. Data for 2009 shown in Figures 4.1 and 4.2 show that

- mother's postnatal length of stay was 2 days or less for 75.0 per cent of singleton spontaneous deliveries compared to 29.9 per cent of multiple deliveries
- for caesarean section deliveries, mother's postnatal length of stay was 3- 5 days for over 90 per cent of singleton deliveries compared to 80.6 per cent for multiple deliveries.

FIGURE 4.1
MOTHER'S POSTNATAL LENGTH OF STAY BY METHOD OF DELIVERY, SINGLETON BIRTHS

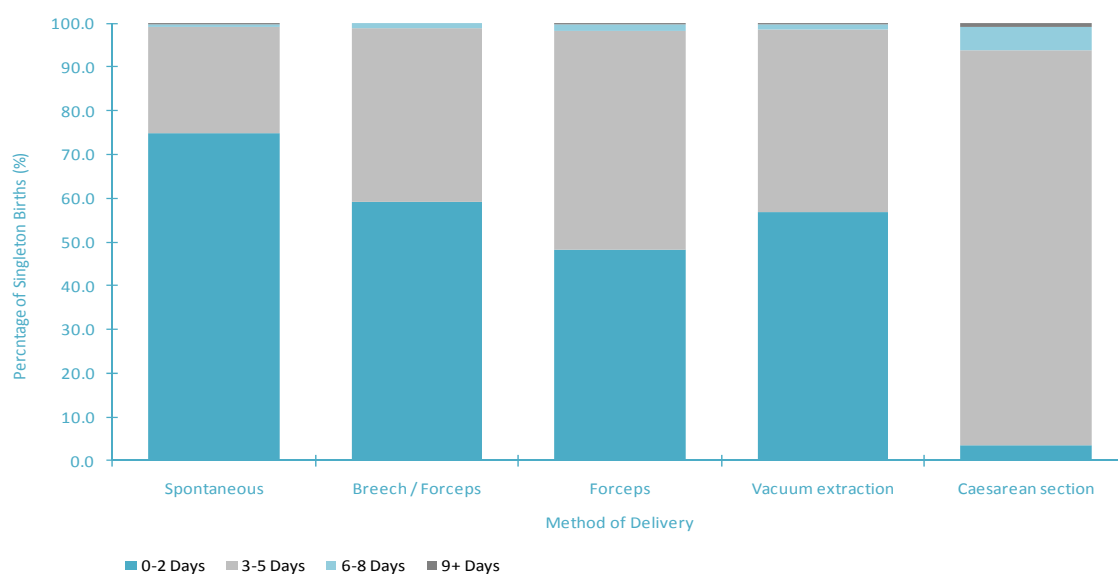
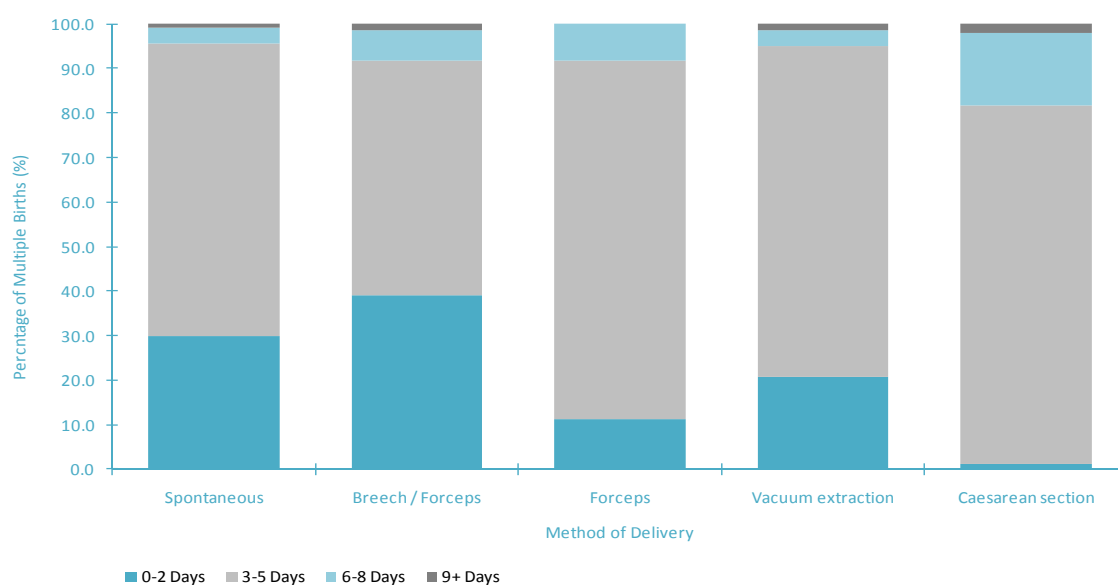


FIGURE 4.2
MOTHER'S POSTNATAL LENGTH OF STAY BY METHOD OF DELIVERY, MULTIPLE BIRTHS



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

RUBELLA: IMMUNE STATUS OF MOTHER

The rubella immune status of the mother is presented in Table 4.6. Of total maternities, over 90 per cent were rubella immune.

TABLE 4.6: RUBELLA: IMMUNE STATUS OF MOTHER, NUMBERS AND PERCENTAGES

Rubella Immunity	Number of Maternities	Per Cent
Total Births		
Immune	67,672	90.5
Not Immune	4,665	6.2
Unknown	2,473	3.3
Total	74,810	100
Singleton Births		
Immune	66,559	90.4
Not Immune	4,613	6.3
Unknown	2,433	3.3
Total	73,605	100
Multiple Births		
Immune	1,113	92.4
Not Immune	52	4.3
Unknown	40	3.3
Total	1,205	100

METHOD OF DELIVERY

METHOD OF DELIVERY BY MATERNITIES AND PARITY

Of mothers giving birth in 2009

- 57 per cent delivered spontaneously (42.7 per cent of primiparous and 67.4 per cent of multiparous women)
- as well as recording the highest proportion of caesarean sections (27.3 percent) primiparous women also recorded the highest proportion of births by instrumental delivery (either forceps or vacuum extraction) at 29.4 per cent compared to multiparous women (6.8 per cent) (see Figure 4.3)
- when method of delivery is analysed by plurality, almost two thirds of mothers (63.8 per cent) having a multiple birth delivered by caesarean section, compared with one quarter (25.6 per cent) of maternities delivering singleton births.

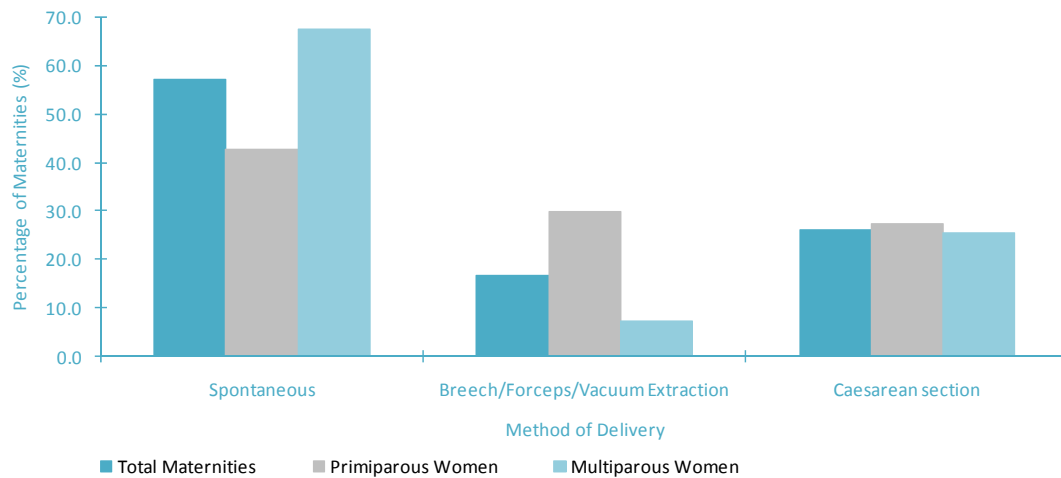
TABLE 4.7a METHOD OF DELIVERY FOR TOTAL MATERNITIES BY PARITY

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

Method of Delivery	Total Maternities		Maternities - Primiparous Women		Maternities - Multiparous Women	
	Number	Per cent	Number	Per cent	Number	Per cent
Total Births						
Spontaneous	42,671	57.0	13,430	42.7	29,241	67.4
Breech / Forceps	305	0.4	160	0.5	145	0.3
Forceps	3,074	4.1	2,577	8.2	497	1.1
Vacuum extraction	9,128	12.2	6,675	21.2	2,453	5.7
Caesarean section	19,582	26.2	8,578	27.3	11,004	25.4
Other specified & combined	40	0.1	2	0.0	38	0.1
Not stated	1	0.0	0	0.0	1	0.0
Total	74,801	100	31,422	100	43,379	100
Singleton Births						
Spontaneous	42,337	57.5	13,361	43.3	28,976	67.9
Breech / Forceps	302	0.4	159	0.5	143	0.3
Forceps	3,048	4.1	2,557	8.3	491	1.1
Vacuum extraction	9,056	12.3	6,631	21.5	2,425	5.7
Caesarean section	18,813	25.6	8,181	26.5	10,632	24.9
Other specified & combined	39	0.1	2	0.0	37	0.1
Not stated	1	0.0	0	0.0	1	0.0
Total	73,596	100	30,891	100	42,705	100
Multiple Births						
Spontaneous	334	27.7	69	13.0	265	39.3
Breech / Forceps	3	0.2	1	0.2	2	0.3
Forceps	26	2.2	20	3.8	6	0.9
Vacuum extraction	72	6.0	44	8.3	28	4.2
Caesarean section	769	63.8	397	74.8	372	55.2
Other specified & combined	1	0.1	0	0.0	1	0.1
Not stated	0	0.0	0	0.0	0	0.0
Total	1,205	100	531	100	674	100

Note: There were 9 Maternities with parity unknown; these were excluded from this table.

FIGURE 4.3
PERCENTAGE OF MATERNITIES BY METHOD OF DELIVERY



Note: See Table 4.7a for data. There were 9 Maternities with parity unknown; these were excluded from this figure.

METHOD OF DELIVERY BY BIRTHS AND PARITY

Births by method of delivery and parity are presented in Table 4.7b showing that

- births to multiparous women represented 58 per cent of total births with births to primiparous women accounting for the remaining 42 per cent
- the perinatal mortality rate for births to primiparous women was 7.1 per 1,000 live births and stillbirths compared to 6.7 per 1,000 live births and stillbirths for births to multiparous women
- the stillbirth rate was also lower for multiparous mothers at 4.7 per 1,000 births compared to 5.1 per 1,000 live births and stillbirths to primiparous women.

TABLE 4.7b: METHOD OF DELIVERY FOR TOTAL BIRTHS BY PARITY
 Total Births, Live Births, Stillbirths, Early Neonatal Deaths, and Mortality Rates

Method of Delivery	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR
Total Births									
Spontaneous	42,932	56.5	42,654	278	6.5	83	1.9	8.4	6.1
Breech / Forceps	376	0.5	343	33	87.8	16	46.6	130.3	111.4
Forceps	3,084	4.1	3,079	5	1.6	0	0.0	1.6	1.3
Vacuum extraction	9,201	12.1	9,195	6	0.7	7	0.8	1.4	1.0
Caesarean section	20,377	26.8	20,330	47	2.3	46	2.3	4.6	2.9
Other specified & combined	41	0.1	40	1	24.4	1	25.0	48.8	25.0
Not stated	1	0.0	1	0	0.0	0	0.0	0.0	0.0
Total	76,012	100	75,642	370	4.9	153	2.0	6.9	5.0
Births to Primiparous Women									
Spontaneous	13,494	42.2	13,366	128	9.5	32	2.4	11.9	9.7
Breech / Forceps	181	0.6	167	14	77.3	6	35.9	110.5	95.5
Forceps	2,586	8.1	2,584	2	0.8	0	0.0	0.8	0.4
Vacuum extraction	6,710	21.0	6,706	4	0.6	6	0.9	1.5	1.0
Caesarean section	8,981	28.1	8,966	15	1.7	21	2.3	4.0	2.5
Other specified & combined	2	0.0	2	0	0.0	0	0.0	0.0	0.0
Not stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0
Total	31,954	100	31,791	163	5.1	65	2.0	7.1	5.5
Births to Multiparous Women									
Spontaneous	29,438	66.8	29,288	150	5.1	51	1.7	6.8	4.5
Breech / Forceps	195	0.4	176	19	97.4	10	56.8	148.7	126.3
Forceps	498	1.1	495	3	6.0	0	0.0	6.0	6.0
Vacuum extraction	2,491	5.7	2,489	2	0.8	1	0.4	1.2	0.8
Caesarean section	11,396	25.9	11,364	32	2.8	25	2.2	5.0	3.3
Other specified & combined	39	0.1	38	1	25.6	1	26.3	51.3	26.3
Not stated	1	0.0	1	0	0.0	0	0.0	0.0	0.0
Total	44,058	100	43,851	207	4.7	88	2.0	6.7	4.6

Notes: There were 9 Maternities with parity unknown; these were excluded from this table.
 See Appendix G, Table G15 for a breakdown of Method of Delivery by Parity for Singleton and Multiple Births.

METHOD OF DELIVERY BY BIRTHS AND PLURALITY

Method of delivery for total births is given in Table 4.8a showing that

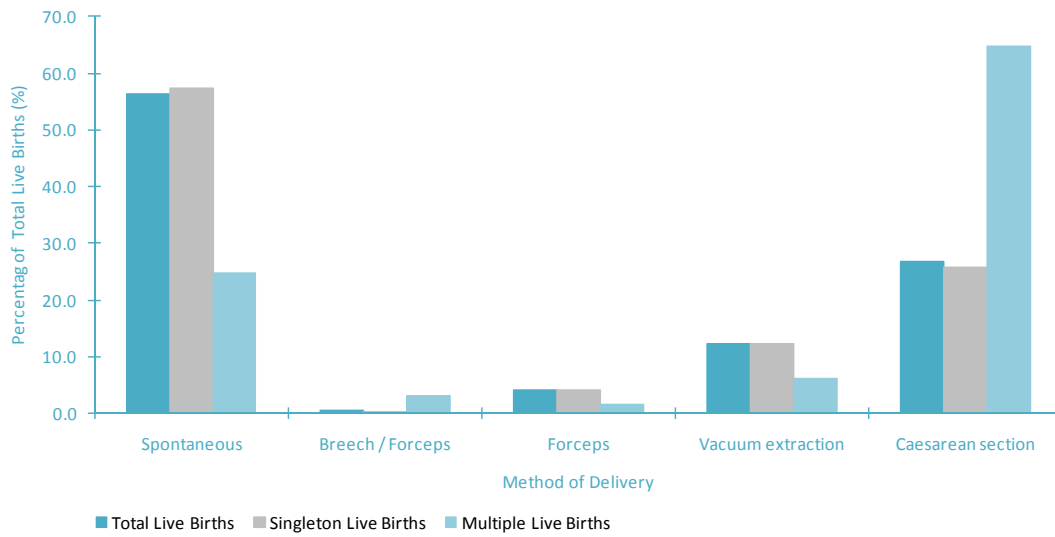
- there were 20,334 live births delivered by caesarean section, representing 26.9 per cent for total live births, 25.6 per cent for singletons and 64.8 per cent for multiples (see Figure 4.4)
- over 16 per cent of total live births were born by instrumental delivery (either forceps or vacuum extraction) with percentages differing for live singleton births (16.5 per cent) and live multiple births (7.5 per cent).

TABLE 4.8a: METHOD OF DELIVERY, TOTAL BIRTHS

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

Method of Delivery	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Spontaneous	42,935	56.5	42,657	278	6.5	83	1.9	8.4	6.1	42,674
Breech / Forceps	376	0.5	343	33	87.8	16	46.6	130.3	111.4	305
Forceps	3,084	4.1	3,079	5	1.6	0	0.0	1.6	1.3	3,074
Vacuum extraction	9,201	12.1	9,195	6	0.7	7	0.8	1.4	1.0	9,128
Caesarean section	20,381	26.8	20,334	47	2.3	47	2.3	4.6	2.9	19,586
Other specified & combined	43	0.1	40	3	69.8	1	25.0	93.0	71.4	42
Not stated	1	0.0	1	0	0.0	0	0.0	0.0	0.0	1
Total	76,021	100	75,649	372	4.9	154	2.0	6.9	5.0	74,810
Singleton Births										
Spontaneous	42,340	57.5	42,066	274	6.5	80	1.9	8.4	6.1	42,340
Breech / Forceps	302	0.4	271	31	102.6	15	55.4	152.3	129.3	302
Forceps	3,048	4.1	3,043	5	1.6	0	0.0	1.6	1.3	3,048
Vacuum extraction	9,056	12.3	9,050	6	0.7	6	0.7	1.3	0.9	9,056
Caesarean section	18,817	25.6	18,780	37	2.0	39	2.1	4.0	2.6	18,817
Other specified & combined	41	0.1	38	3	73.2	1	26.3	97.6	75.0	41
Not stated	1	0.0	1	0	0.0	0	0.0	0.0	0.0	1
Total	73,605	100	73,249	356	4.8	141	1.9	6.8	4.9	73,605
Multiple Births										
Spontaneous	595	24.6	591	4	6.7	3	5.1	11.8	10.1	334
Breech / Forceps	74	3.1	72	2	27.0	1	13.9	40.5	40.5	3
Forceps	36	1.5	36	0	0.0	0	0.0	0.0	0.0	26
Vacuum extraction	145	6.0	145	0	0.0	1	6.9	6.9	6.9	72
Caesarean section	1,564	64.7	1,554	10	6.4	8	5.1	11.5	7.7	769
Other specified & combined	2	0.1	2	0	0.0	0	0.0	0.0	0.0	1
Not stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	2,416	100	2,400	16	6.6	13	5.4	12.0	9.1	1,205

FIGURE 4.4
PERCENTAGE OF TOTAL LIVE BIRTHS BY METHOD OF DELIVERY



Note: See Table 4.8a for data. 'Not Stated' values are not included in the calculation of percentages.

METHOD OF DELIVERY BY MATERNAL AGE

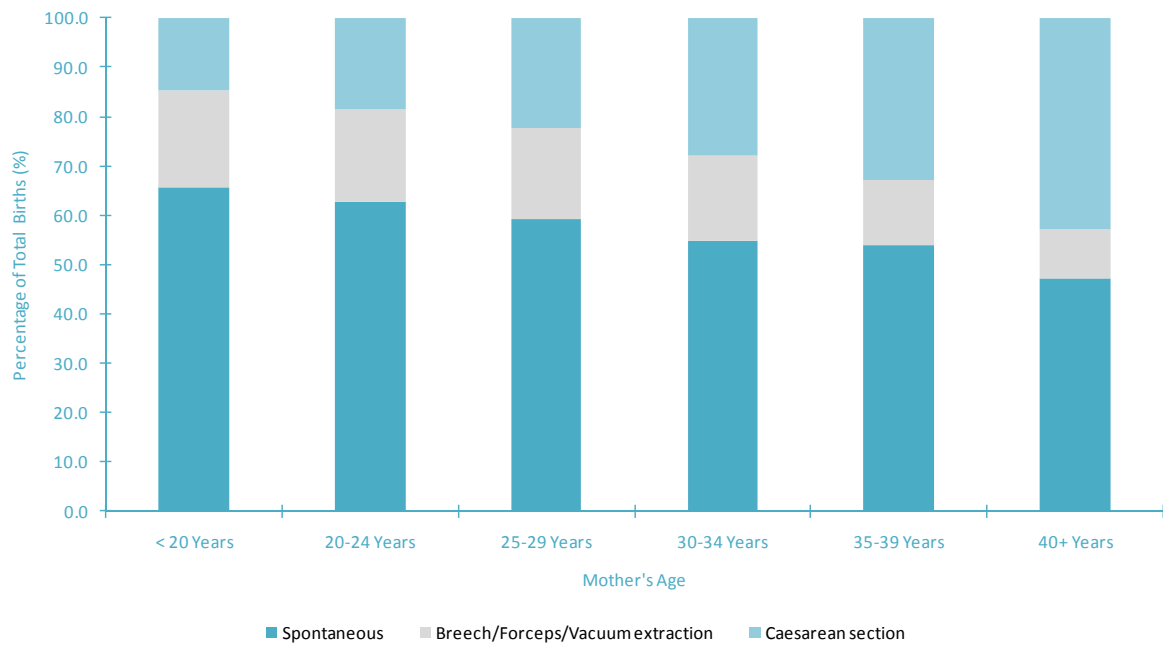
Method of delivery also varied with maternal age with the data in Table 4.8b showing that in 2009

- caesarean section rates ranged from 14.8 per cent for mothers aged less than 20 years to 43.0 per cent for mothers aged 40 years and over (see Figure 4.5)
- the percentage of babies delivered by spontaneous delivery was 65.5 per cent for mothers aged less than 20 years compared to 47.1 per cent to mothers aged 40 years and older.

TABLE 4.8b: METHOD OF DELIVERY BY MATERNAL AGE

Method of Delivery Frequency Col. Per Cent	Mother's Age							Total
	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 Years and Over	Not Stated	
Spontaneous	1,486 65.5	5,607 62.8	10,808 59.1	13,964 54.7	9,409 53.9	1,646 47.1	15 71.4	42,935 56.5
Breech / Forceps	9 0.4	47 0.5	99 0.5	133 0.5	71 0.4	17 0.5	0 0.0	376 0.5
Forceps	97 4.3	407 4.6	841 4.6	1,144 4.5	515 2.9	79 2.3	1 4.8	3,084 4.1
Vacuum extraction	340 15.0	1,213 13.6	2,475 13.5	3,195 12.5	1,725 9.9	252 7.2	1 4.8	9,201 12.1
Caesarean section	336 14.8	1,655 18.5	4,060 22.2	7,093 27.8	5,731 32.8	1,502 43.0	4 19.0	20,381 26.8
Other specified & combined	1 0.0	6 0.1	13 0.1	13 0.1	9 0.1	1 0.0	0 0.0	43 0.1
Not stated	0 0.0	0 0.0	0 0.0	1 0.0	0 0.0	0 0.0	0 0.0	1 0.0
Total	2,269 100	8,935 100	18,296 100	25,543 100	17,460 100	3,497 100	21 100	76,021 100

FIGURE 4.5
PERCENTAGE OF TOTAL BIRTHS BY METHOD OF DELIVERY AND MOTHER'S AGE



Notes: See Table 4.8b for data. 'Not Stated' values are not included in the calculation of percentages.

DISTRIBUTION OF BIRTHS BY SIZE OF MATERNITY UNIT

Data relating to the size of the maternity unit in Table 4.9 show that

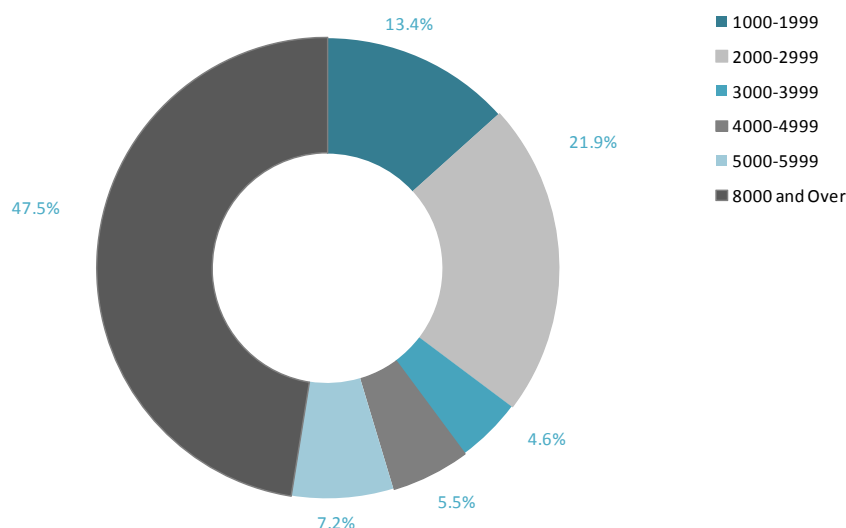
- four maternity units each accommodated 8,000 and more births accounting for over 47 per cent of total births (see Figure 4.6)
- just under 40 per cent of total births take place in maternity units accommodating less than 4,000 births each annually (see Table 4.9).

TABLE 4.9: SIZE OF MATERNITY UNIT (NUMBER OF LIVE BIRTHS AND STILLBIRTHS ANNUALLY)
Number of Units, Total Births, Live Births, Stillbirths, Early Neonatal Deaths and Mortality Rates

Size of Maternity Unit	Number of Units	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR
1000-1999	6	10,130	13.4	10,079	51	5.0	19	1.9	6.9	5.2
2000-2999	7	16,600	21.9	16,519	81	4.9	38	2.3	7.2	5.0
3000-3999	1	3,520	4.6	3,504	16	4.5	12	3.4	8.0	4.8
4000-4999	1	4,154	5.5	4,129	25	6.0	3	0.7	6.7	5.8
5000-5999	1	5,451	7.2	5,428	23	4.2	13	2.4	6.6	4.4
8000 and Over	4	36,018	47.5	35,842	176	4.9	69	1.9	6.8	5.0
Total	20	75,873	100	75,501	372	4.9	154	2.0	6.9	5.0

Note: This table includes singleton and multiple births but excludes domiciliary births, of which there were 148 singleton births. There were 20 maternity units in Ireland in 2009, each of which delivered over 1,000 births per annum. No unit delivered between 6,000 and 7,999 births.

FIGURE 4.6
PERCENTAGE DISTRIBUTION OF BIRTHS BY SIZE OF MATERNITY UNIT, TOTAL BIRTHS



Note: See Table 4.9 for data. The size of the unit refers to the number of live births and stillbirths occurring in 2009.

INTER-HOSPITAL TRANSFER OF INFANTS

Of all live births in 2009

- over 99 per cent remained in the hospital in which they were born with just less than 1 per cent of live births being transferred to another hospital for medical reasons (see Table 4.10)
- less than one per cent of singleton births were transferred compared to the slightly higher rate of 2.6 per cent of multiple births being transferred for medical reasons.

TABLE 4.10: INTER-HOSPITAL TRANSFER OF INFANTS

Infant Transfer	Live Births	Per Cent Live Births	Early Neonatal Deaths	Early Neonatal Mortality Rate
Total Births				
Transferred	426	0.6	9	21.1
Not Transferred	75,058	99.4	145	1.9
Not Stated	17	0.0	0	0.0
Total	75,501	100	154	2.0
Singleton Births				
Transferred	364	0.5	9	24.7
Not Transferred	72,720	99.5	132	1.8
Not Stated	17	0.0	0	0.0
Total	73,101	100	141	1.9
Multiple Births				
Transferred	62	2.6	0	0.0
Not Transferred	2,338	97.4	13	5.6
Not Stated	0	0.0	0	0.0
Total	2,400	100	13	5.4

Notes: 'Not Stated' includes 17 births where place of birth was recorded as domiciliary but birth was registered by a hospital. For these cases, the baby was not admitted under a planned community midwife scheme. Therefore, transfer details were not applicable. Domiciliary births, of which there were 148 singleton live births, are excluded from this table. See Section Six for detailed analysis.

INFANT'S LENGTH OF STAY

Data relating to infant's length of stay in 2009 showed that

- over 52 per cent of singleton live births were discharged from hospital within 2 days, compared to just 8.3 per cent of multiple births
- approximately 95 per cent of both total and singleton live births were discharged from hospital within 5 days of birth, compared to 65.6 per cent of multiple live births (see Table 4.11 and Figure 4.7)
- 5.5 per cent of total live births had a length of stay of 6 or more days.

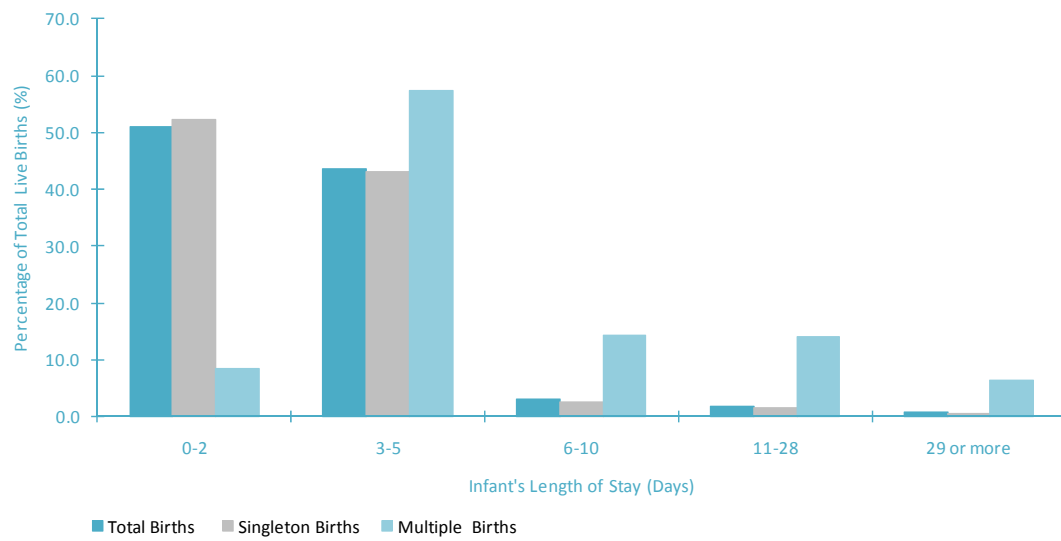
TABLE 4.11: PERCENTAGE DISTRIBUTION OF LIVE BIRTHS BY INFANT'S LENGTH OF STAY IN HOSPITAL

Infant's Length of Stay (Days)	Live Births	Per Cent Live Births
Total Births		
0-2	38,392	51.0
3-5	32,769	43.5
6-10	2,223	3.0
11-28	1,364	1.8
29 or more	581	0.8
Not Stated	18	0.0
Total	75,347	100
Singleton Births		
0-2	38,194	52.3
3-5	31,402	43.0
6-10	1,883	2.6
11-28	1032	1.4
29 or more	431	0.6
Not Stated	18	0.0
Total	72,960	100
Multiple Births		
0-2	198	8.3
3-5	1,367	57.3
6-10	340	14.2
11-28	332	13.9
29 or more	150	6.3
Not Stated	0	0.0
Total	2,387	100

Notes: These tables do not include domiciliary births and early neonatal deaths.

'Not Stated' includes 17 births where place of birth was recorded as domiciliary but birth was registered by a hospital. In these cases, the infant was not admitted under a planned community midwife scheme. Therefore, infant's length of stay was not applicable.

FIGURE 4.7
PERCENTAGE DISTRIBUTION OF TOTAL LIVE BIRTHS BY INFANT'S LENGTH OF STAY



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

INFANT'S TYPE OF FEEDING

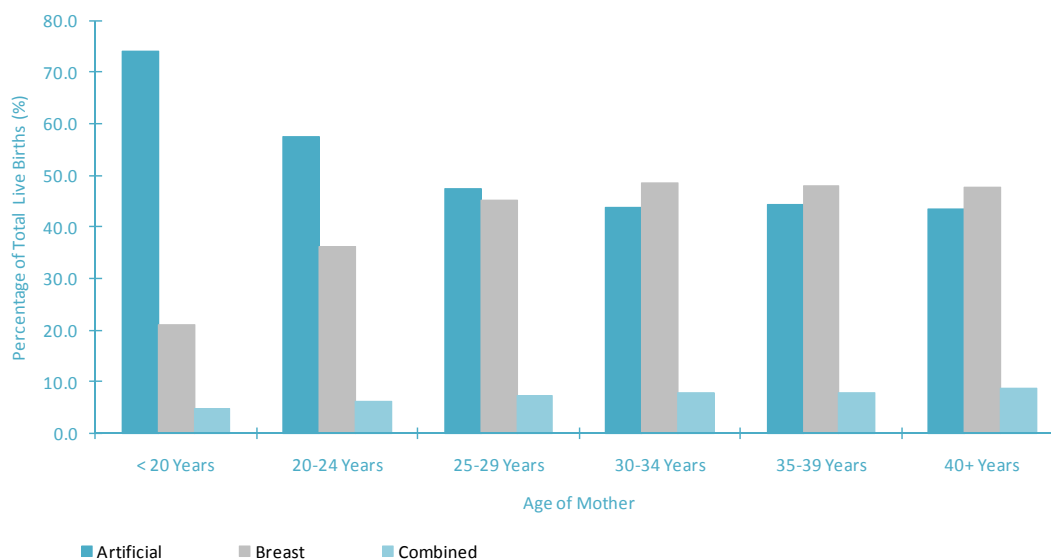
Type of feeding is recorded at the time of discharge from hospital.²¹ The presentation of type of feeding in this report is based on live births only and excludes early neonatal deaths.

The analysis of 'type of feeding' by age of mother in Table 4.12 show that in 2009

- artificial feeding is the more common type of feeding reported accounting for 47.3 per cent of total births (47.1 per cent for singleton births and 53.1 per cent multiple births)
- just over 45 per cent of babies were breastfed with breastfeeding more common than artificial feeding where mothers are aged 30 years and older (see Figure 4.8)
- infants born to older mothers are more likely to be breastfed as almost half the babies born to mothers aged 40 years and older were exclusively breastfed compared with just over one-fifth of infants born to mothers under 20.

²¹ Following an audit of the data, one hospital has been found to be underreporting data for breastfeeding on discharge. Data quality initiatives are underway to assist the hospital in addressing the problems identified to ensure that all NPRS data reported meet the required standards for validity and accuracy.

FIGURE 4.8
INFANT'S TYPE OF FEEDING BY AGE OF MOTHER, TOTAL LIVE BIRTHS

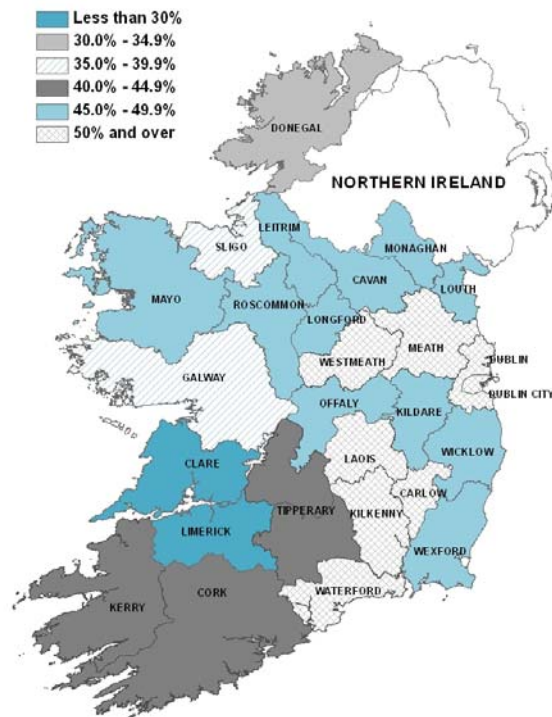


Note: See Table 4.12 for data. Not Stated' values are not included in the calculation of percentages.

The prevalence of exclusive breastfeeding at time of discharge also varies by geographic location with Figure 4.9 showing

- infants born to mothers resident in Dublin County recorded the highest rate of breastfeeding at 55.7 per cent, closely followed by Kilkenny and Westmeath (54.9 per cent and 53.4 per cent respectively)
- Other counties reporting exclusive breastfeeding rates of over 50 per cent include Meath, Dublin City, Meath, Laois, Carlow and Waterford.

FIGURE 4.9
PERCENTAGE DISTRIBUTION OF BREASTFED INFANTS BY MOTHER'S COUNTY OF RESIDENCE, TOTAL LIVE BIRTHS



Notes: See Appendix G, Table G16 for data. 'Not Stated' values are not included in the calculation of percentages.
 Example: Of all live births to mothers resident in Galway, 36.1 per cent were breastfed.

Type of feeding was also found to vary according to mother's occupation. Table 4.13 and Figure 4.10 show that

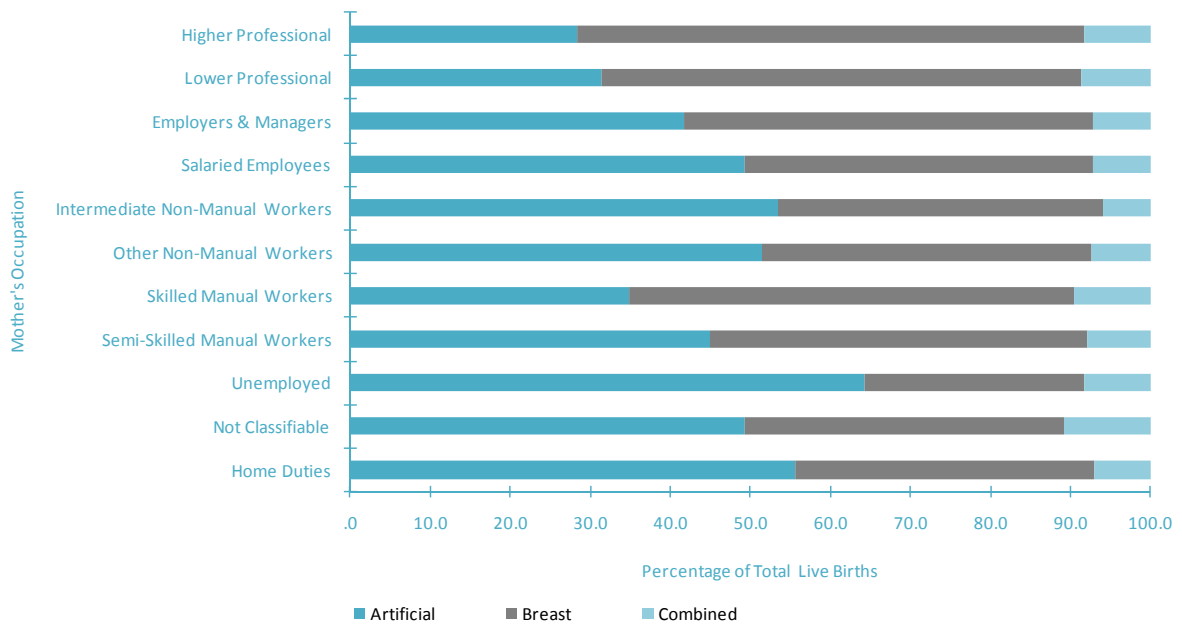
- mothers in a higher professional occupation recorded breastfeeding rates of over 63.3 per cent compared to the lowest rate for unemployed mothers of whom only 27.4 per cent breastfed
- amongst the unemployed group, artificial feeding was most common with rates of 64.4 per cent whilst the lowest rate was recorded amongst higher professionals at 28.4 per cent
- mothers recording occupation as home duties record low breastfeeding rates of 37.5 per cent.

TABLE 4.13: MOTHER'S OCCUPATION BY INFANT'S TYPE OF FEEDING, TOTAL LIVE BIRTHS

Mother's Occupation Frequency Row Per Cent Col. Per Cent	Type of Feeding				Total
	Artificial	Breast	Combined	Not Stated	
Farmers & Farm Managers	33 39.8 0.1	46 55.4 0.1	4 4.8 0.1	0 0.0 0.0	83 100 0.1
Other Agricultural Occupations & Fishermen	25 29.4 0.1	53 62.4 0.2	7 8.2 0.1	0 0.0 0.0	85 100 0.1
Higher Professional	1,354 28.4 3.8	3,017 63.3 8.8	393 8.2 7.0	0 0.0 0.0	4,764 100 6.3
Lower Professional	3,501 31.4 9.8	6,671 59.9 19.5	969 8.7 17.3	0 0.0 0.0	11,141 100 14.8
Employers & Managers	2,393 41.7 6.7	2,934 51.1 8.6	414 7.2 7.4	1 0.0 25.0	5,742 100 7.6
Salaried Employees	596 49.3 1.7	528 43.6 1.5	86 7.1 1.5	0 0.0 0.0	1,210 100 1.6
Intermediate Non-Manual Workers	8,915 53.4 24.9	6,767 40.6 19.8	997 6.0 17.8	1 0.0 25.0	16,680 100 22.1
Other Non-Manual Workers	5,158 51.4 14.4	4,126 41.2 12.1	742 7.4 13.2	0 0.0 0.0	10,026 100 13.3
Skilled Manual Workers	465 34.9 1.3	741 55.6 2.2	126 9.5 2.2	0 0.0 0.0	1,332 100 1.8
Semi-Skilled Manual Workers	1,141 45.0 3.2	1,194 47.1 3.5	200 7.9 3.6	0 0.0 0.0	2,535 100 3.4
Unskilled Manual Workers	0 0.0 0.0	3 100.0 0.0	0 0.0 0.0	0 0.0 0.0	3 100 0.0
Unemployed	1,371 64.4 3.8	583 27.4 1.7	176 8.3 3.1	0 0.0 0.0	2,130 100 2.8
Not Classifiable	1,447 49.3 4.0	1,171 39.9 3.4	316 10.8 5.6	0 0.0 0.0	2,934 100 3.9
Home Duties	9,267 55.5 25.9	6,251 37.5 18.3	1,164 7.0 20.7	2 0.0 50.0	16,684 100 22.1
Not Stated	67 45.9 0.2	61 41.8 0.2	18 12.3 0.3	0 0.0 0.0	146 100 0.2
Total	35,733 47.3 100	34,146 45.2 100	5,612 7.4 100	4 0.0 100	75,495 100 100

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

FIGURE 4.10
PERCENTAGE DISTRIBUTION OF INFANT'S TYPE OF FEEDING BY MOTHER'S OCCUPATION,
TOTAL LIVE BIRTHS



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

SECTION FIVE

PERINATAL OUTCOMES

INTRODUCTION

This section presents a detailed review of aspects of perinatal outcomes for the infant. Cause of death is examined according to the guidelines set out by the WHO in International Classification of Diseases (ICD-10).^{22,23} A detailed description of cause of death classification and coding rules applied is available in Appendix D.

Of the 76,021 births recorded by the NPRS in 2009, 372 were stillbirths and 154 were early neonatal deaths, giving a total of 526 perinatal deaths and a perinatal mortality rate of 6.9 per 1,000 live births and stillbirths.

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

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

MORTALITY BY BIRTHWEIGHT CATEGORY AND PARITY

Mortality rates by birthweight groups and parity are reported in Table 5.1 showing that

- approximately 68 per cent of total perinatal deaths weighed less than 2,500 grams (70.8 per cent for primiparous women and 66.3 per cent for multiparous women) (see Figure 5.1)²⁴
- the perinatal mortality rate for low birthweight babies was 88.0 per 1,000 live births and stillbirths (75.8 per 1,000 for primiparous women and 101.5 per 1,000 for multiparous women)
- for births weighing 2,500 grams or more the perinatal mortality rate was 2.3 per 1,000 live births and stillbirths (2.2 for primiparous women and 2.3 for multiparous women)
- the overall perinatal mortality rate for all births was 6.9 per 1,000 live births and stillbirths (6.8 for singleton live births and stillbirths and 12.0 for multiple live births and stillbirths).²⁵

²² World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Vols. 1-3*. Geneva: World Health Organization.

²³ The ninth revision of the International Classification of Diseases (ICD 9) was used prior to 2005.

²⁴ Throughout this section, 'Not Stated' values are not included in the calculation of percentages for discussion.

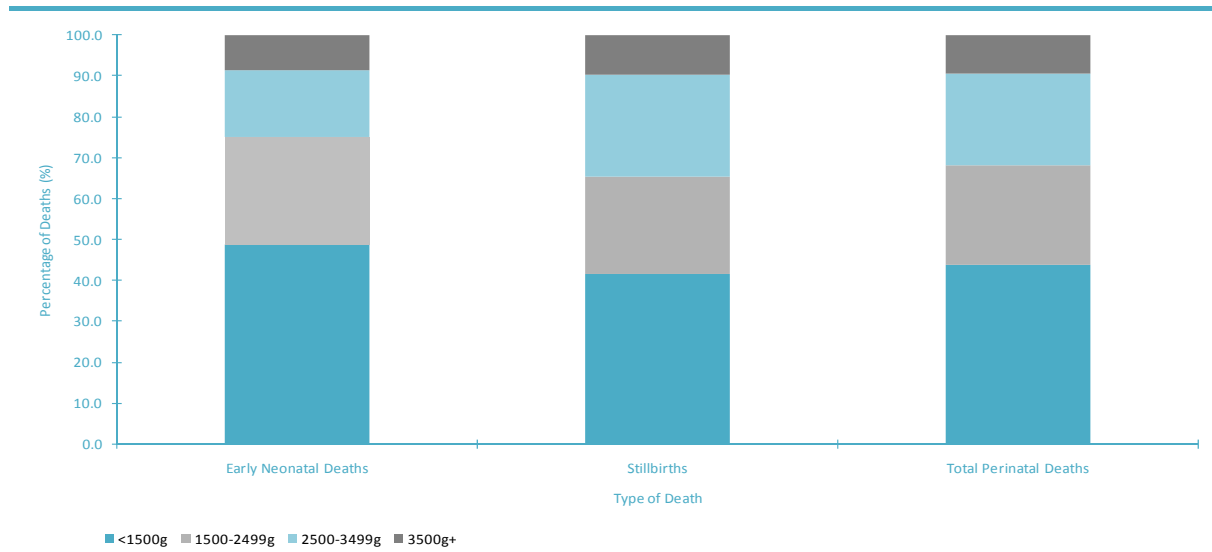
²⁵ For details of birthweight by plurality for total births, ante-partum and intra-partum stillbirths, early neonatal deaths, and associated rates see Appendix G, Table G17.

TABLE 5.1: TOTAL BIRTHS, ANTEPARTUM AND INTRAPARTUM STILLBIRTHS, EARLY NEONATAL DEATHS, AND MORTALITY RATES BY BIRTHWEIGHT AND PARITY

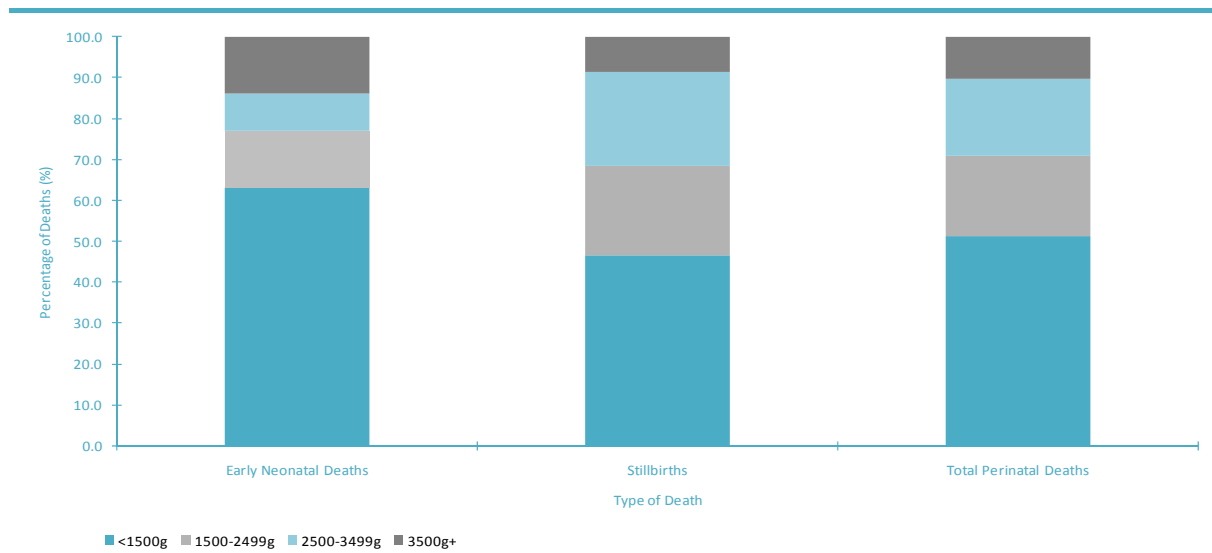
Birthweight (grams)	Total Births	Total Births %	Ante-partum Stillbirths	Intra-partum Stillbirths	Not Stated	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR
Total Births										
500-749	161	0.2	53	5	4	385.1	42	424.2	646.0	606.9
750-999	166	0.2	27	3	0	180.7	15	110.3	271.1	176.9
1000-1249	181	0.2	24	3	4	171.3	9	60.0	221.0	175.4
1250-1499	274	0.4	25	3	2	109.5	8	32.8	138.7	102.7
1500-1999	909	1.2	41	6	1	52.8	16	18.6	70.4	42.0
2000-2499	2,343	3.1	36	2	2	17.1	24	10.4	27.3	16.0
2500-2999	9,015	11.9	42	2	2	5.1	12	1.3	6.4	4.7
3000-3499	24,633	32.4	40	1	4	1.8	13	0.5	2.4	1.9
3500-3999	26,135	34.4	23	1	2	1.0	7	0.3	1.3	1.0
4000-4499	10,184	13.4	5	2	1	0.8	2	0.2	1.0	1.0
4500 and Over	2,008	2.6	2	0	0	1.0	4	2.0	3.0	3.0
Not Stated	3	0.0	2	0	0	666.7	1	1000.0	1000.0	1000.0
Total	76,012	100	320	28	22	4.9	153	2.0	6.9	5.0
Births to Primiparous Women										
500-749	94	0.3	26	3	2	329.8	25	396.8	595.7	558.1
750-999	91	0.3	15	2	0	186.8	8	108.1	274.7	214.3
1000-1249	90	0.3	9	1	1	122.2	3	38.0	155.6	116.3
1250-1499	158	0.5	13	2	1	101.3	5	35.2	132.9	98.7
1500-1999	488	1.5	20	4	1	51.2	3	6.5	57.4	41.7
2000-2499	1,191	3.7	9	1	0	8.4	6	5.1	13.4	8.4
2500-2999	4,443	13.9	21	1	1	5.2	5	1.1	6.3	5.0
3000-3499	11,149	34.9	12	1	1	1.3	1	0.1	1.3	1.3
3500-3999	10,281	32.2	8	1	1	1.0	5	0.5	1.5	1.1
4000-4499	3,394	10.6	2	0	1	0.9	2	0.6	1.5	1.5
4500 and Over	573	1.8	1	0	0	1.7	2	3.5	5.2	5.2
Not Stated	2	0.0	2	0	0	1000.0	0	0.0	1000.0	0.0
Total	31,954	100	138	16	9	5.1	65	2.0	7.1	5.5
Births to Multiparous Women										
500-749	67	0.2	27	2	2	462.7	17	472.2	716.4	678.0
750-999	75	0.2	12	1	0	173.3	7	112.9	266.7	127.0
1000-1249	91	0.2	15	2	3	219.8	6	84.5	285.7	235.3
1250-1499	116	0.3	12	1	1	120.7	3	29.4	146.6	108.1
1500-1999	421	1.0	21	2	0	54.6	13	32.7	85.5	42.3
2000-2499	1,152	2.6	27	1	2	26.0	18	16.0	41.7	23.9
2500-2999	4,572	10.4	21	1	1	5.0	7	1.5	6.6	4.4
3000-3499	13,484	30.6	28	0	3	2.3	12	0.9	3.2	2.4
3500-3999	15,854	36.0	15	0	1	1.0	2	0.1	1.1	1.0
4000-4499	6,790	15.4	3	2	0	0.7	0	0.0	0.7	0.7
4500 and Over	1,435	3.3	1	0	0	0.7	2	1.4	2.1	2.1
Not Stated	1	0.0	0	0	0	0.0	1	1000.0	1000.0	1000.0
Total	44,058	100	182	12	13	4.7	88	2.0	6.7	4.6

Note: There were 9 maternities for which parity was unknown; these were excluded from the table.

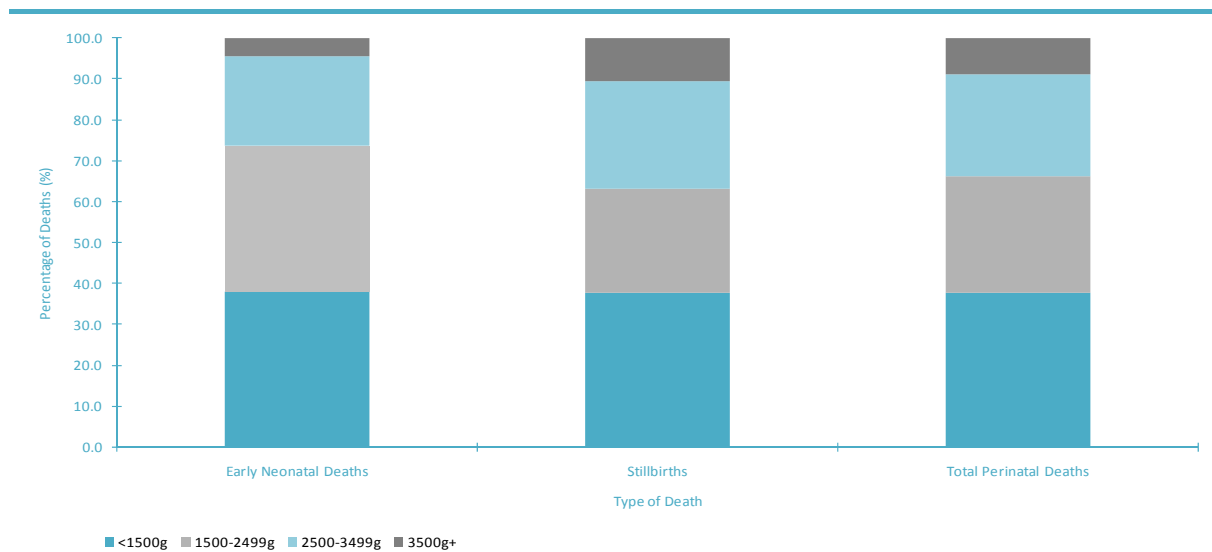
FIGURE 5.1
DEATHS BY BIRTHWEIGHT GROUPS AND PARITY
Total Births



Births to Primiparous Women

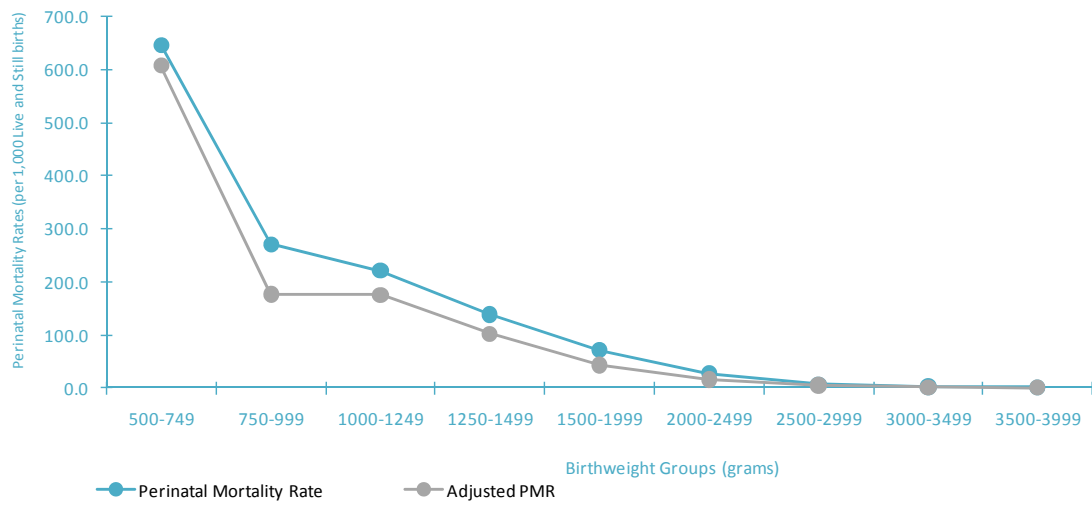


Births to Multiparous Women



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

FIGURE 5.2
PERINATAL MORTALITY RATES BY BIRTHWEIGHT GROUPS, TOTAL BIRTHS



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

CAUSE OF DEATH²⁶ BY BIRTHWEIGHT

Cause of death by birthweight group is given in Table 5.2 for total, singleton and multiple births showing that

- over two thirds of total perinatal deaths weighed <2,500 grams, and of these 31.1 per cent were due to congenital malformations, followed by immaturity (21.0 per cent) and maternal factors (19.0 per cent) (see Figure 5.3)
- almost one third of total perinatal deaths weighed \geq 2,500 grams, and of these 25.9 per cent recorded cause of death as unexplained, 24.1 per cent were due to maternal factors, and 22.3 per cent were due to respiratory/cardiovascular disorders (see Figure 5.4).

²⁶ See Appendix D for Cause of Death Classification.

**TABLE 5.2: TOTAL BIRTHS
PERINATAL MORTALITY: NUMBERS AND RATES BY BIRTHWEIGHT AND CAUSE OF DEATH**

Cause of Death	ICD-10 Code	Birthweight (grams)											Not Stated	Total
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and Over		
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	18	6	3	9	17	15	14	18	5	1	2	0	108
		111.8	36.1	16.6	32.7	18.7	6.4	1.6	0.7	0.2	0.1	1.0	0.0	1.4
Disorders related to length of gestation and foetal growth	P05-P08	47												75
		291.9	10	10	3	4	1	0	0	0	0	0	0	1.0
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	9	4	7	5	4	6	10	12	9	3	3	0	72
		55.9	24.1	38.7	18.2	4.4	2.6	1.1	0.5	0.3	0.3	1.5	0.0	0.9
Infections specific to the perinatal period	P35-P39	1	0	1	1	0	1	1	0	0	1	0	0	6
		6.2	0.0	5.5	3.6	0.0	0.4	0.1	0.0	0.0	0.1	0.0	0.0	0.1
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	0	1	1	0	1	1	1	2	0	0	0	0	7
		0.0	6.0	5.5	0.0	1.1	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	2	0	0	0	0	0	2	0	0	0	0	0	4
		12.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Digestive system disorders of foetus and newborn	P75-P78	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	1	1	0	2	0	1	1	0	0	0	0	0	6
		6.2	6.0	0.0	7.3	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	1	0	0	0	0	1	2	0	1	1	0	0	6
		6.2	0.0	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.1	0.0	0.0	0.1
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	9	4	8	6	12	11	12	15	12	3	1	1	94
		55.9	24.1	44.2	21.8	13.2	4.7	1.3	0.6	0.5	0.3	0.5	333.3	1.2
Congenital malformations of the nervous system	Q00-Q07	3	4	1	5	6	5	3	2	2	0	0	1	32
		18.6	24.1	5.5	18.2	6.6	2.1	0.3	0.1	0.1	0.0	0.0	333.3	0.4
Congenital malformations of the circulatory system	Q20-Q28	2	1	2	1	0	4	2	4	0	0	0	0	16
		12.4	6.0	11.0	3.6	0.0	1.7	0.2	0.2	0.0	0.0	0.0	0.0	0.2
Congenital malformations of the respiratory system	Q30-Q34	0	0	0	0	1	2	1	1	1	0	0	0	6
		0.0	0.0	0.0	0.0	1.1	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Other congenital malformations of the digestive system	Q38-Q45	0	0	0	0	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Congenital malformations of the urinary system	Q60-Q64	1	0	0	2	7	3	1	0	0	0	0	0	14
		6.2	0.0	0.0	7.3	7.7	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	0	0	1	1	2	1	2	1	0	0	0	0	8
		0.0	0.0	5.5	3.6	2.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Other congenital malformations	Q80-Q89	3	4	1	0	1	2	3	1	1	0	0	0	16
		18.6	24.1	5.5	0.0	1.1	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.2
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	7	10	5	2	10	11	3	2	2	0	0	1	53
		43.5	60.2	27.6	7.3	11.0	4.7	0.3	0.1	0.1	0.0	0.0	333.3	0.7
All other causes	A00.0-O99.9	0	0	0	1	0	0	0	0	0	0	0	0	1
	R00.0-Z99.9	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		104	45	40	38	65	65	59	58	33	10	6	3	526
		646.0	271.1	221.0	138.2	71.4	27.7	6.5	2.4	1.3	1.0	3.0	1000.0	6.9

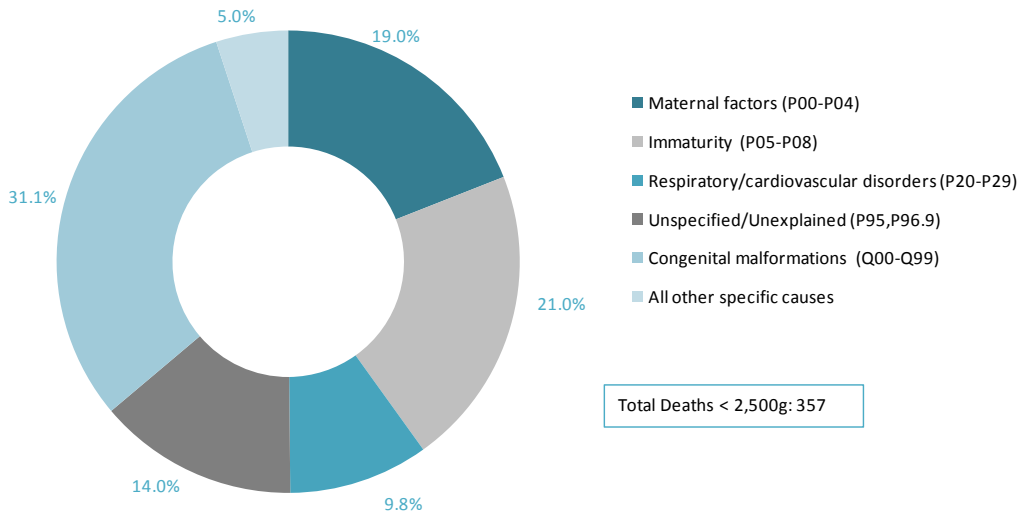
**TABLE 5.2: SINGLETON BIRTHS
PERINATAL MORTALITY: NUMBERS AND RATES BY BIRTHWEIGHT AND CAUSE OF DEATH**

Cause of Death	ICD-10 Code	Birthweight (grams)											Not Stated	Total
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and Over		
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	14	5	2	8	17	15	14	18	5	1	2	0	101
		100.0	37.3	14.5	41.7	28.4	8.7	1.7	0.7	0.2	0.1	1.0	0.0	1.4
Disorders related to length of gestation and foetal growth	P05-P08	44	8	8	3	3	1	0	0	0	0	0	0	67
		314.3	59.7	58.0	15.6	5.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	7	4	6	4	4	6	9	12	9	3	3	0	67
		50.0	29.9	43.5	20.8	6.7	3.5	1.1	0.5	0.3	0.3	1.5	0.0	0.9
Infections specific to the perinatal period	P35-P39	1	0	1	1	0	1	1	0	0	1	0	0	6
		7.1	0.0	7.2	5.2	0.0	0.6	0.1	0.0	0.0	0.1	0.0	0.0	0.1
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	0	1	1	0	1	1	1	2	0	0	0	0	7
		0.0	7.5	7.2	0.0	1.7	0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.1
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	2	0	0	0	0	0	2	0	0	0	0	0	4
		14.3	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Digestive system disorders of foetus and newborn	P75-P78	0	0	0	0	0	0	0	0	0	1	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	1	1	0	2	0	1	1	0	0	0	0	0	6
		7.1	7.5	0.0	10.4	0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Other disorders originating in the perinatal period	P90.0-P94.9, P96.0-P96.8	1	0	0	0	0	1	2	0	1	1	0	0	6
		7.1	0.0	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.1	0.0	0.0	0.1
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	9	4	8	5	12	11	12	14	12	3	1	1	92
		64.3	29.9	58.0	26.0	20.0	6.4	1.5	0.6	0.5	0.3	0.5	500.0	1.2
Congenital malformations of the nervous system	Q00-Q07	2	3	0	5	6	4	3	2	2	0	0	0	27
		14.3	22.4	0.0	26.0	10.0	2.3	0.4	0.1	0.1	0.0	0.0	0.0	0.4
Congenital malformations of the circulatory system	Q20-Q28	2	1	2	1	0	4	2	4	0	0	0	0	16
		14.3	7.5	14.5	5.2	0.0	2.3	0.2	0.2	0.0	0.0	0.0	0.0	0.2
Congenital malformations of the respiratory system	Q30-Q34	0	0	0	0	1	2	1	1	1	0	0	0	6
		0.0	0.0	0.0	0.0	1.7	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Other congenital malformations of the digestive system	Q38-Q45	0	0	0	0	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Congenital malformations of the urinary system	Q60-Q64	1	0	0	2	6	3	1	0	0	0	0	0	13
		7.1	0.0	0.0	10.4	10.0	1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	0	0	1	1	2	1	2	1	0	0	0	0	8
		0.0	0.0	7.2	5.2	3.3	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.1
Other congenital malformations	Q80-Q89	3	4	0	0	1	2	3	1	1	0	0	0	15
		21.4	29.9	0.0	0.0	1.7	1.2	0.4	0.0	0.0	0.0	0.0	0.0	0.2
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	7	10	5	2	10	11	3	2	2	0	0	1	53
		50.0	74.6	36.2	10.4	16.7	6.4	0.4	0.1	0.1	0.0	0.0	500.0	0.7
All other causes	A00.0-Q99.9	0	0	0	1	0	0	0	0	0	0	0	0	1
	R00.0-Z99.9	0	0	0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		94	41	34	35	63	64	58	57	33	10	6	2	497
		671.4	306.0	246.4	182.3	105.2	37.0	7.2	2.3	1.3	1.0	3.0	1000.0	6.8

**TABLE 5.2: MULTIPLE BIRTHS
PERINATAL MORTALITY: NUMBERS AND RATES BY BIRTHWEIGHT AND CAUSE OF DEATH**

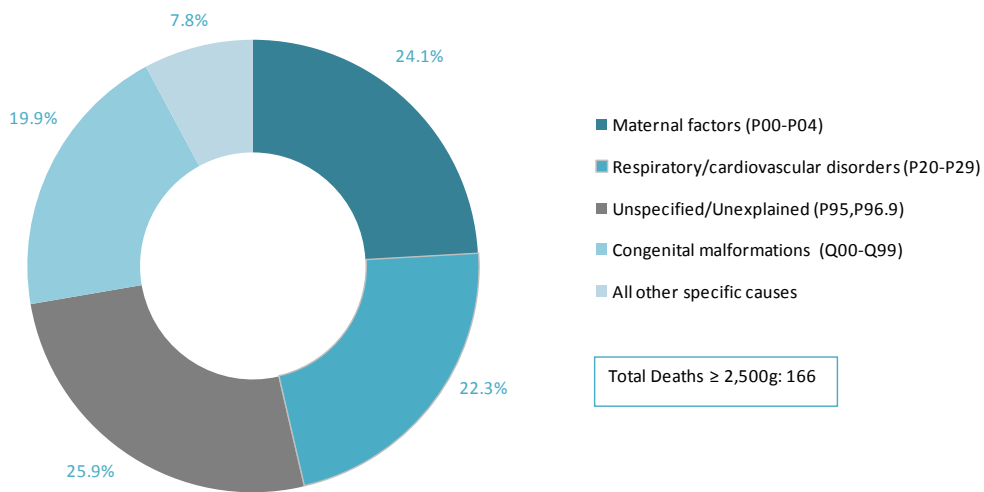
Cause of Death	ICD-10 Code	Birthweight (grams)											Total		
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and Over		Not Stated	
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	4 190.5	1 31.3	1 23.3	1 12.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	7 2.9
Disorders related to length of gestation and foetal growth	P05-P08	3 142.9	2 62.5	2 46.5	0 0.0	1 3.2	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	8 3.3
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	2 95.2	0 0.0	1 23.3	1 12.0	0 0.0	0 0.0	1 1.1	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	5 2.1
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P90.0-P94.9, P96.0-P96.8	0 0.0	0 0.0	0 0.0	1 12.0	0 0.0	0 0.0	0 0.0	1 3.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	2 0.8
Congenital malformations of the nervous system	Q00-Q07	1 47.6	1 31.3	1 23.3	0 0.0	0 0.0	1 1.6	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 1000.0	5 2.1
Congenital malformations of the urinary system	Q60-Q64	0 0.0	0 0.0	0 0.0	0 0.0	1 3.2	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 0.4
Other congenital malformations	Q80-Q89	0 0.0	0 0.0	1 23.3	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	1 0.4
Total		10 476.2	4 125.0	6 139.5	3 36.1	2 6.4	1 1.6	1 1.1	1 3.0	0 0.0	0 0.0	0 0.0	0 0.0	1 1000.0	29 12.0

FIGURE 5.3
TOTAL DEATHS WITH BIRTHWEIGHT < 2,500 GRAMS BY CAUSE OF DEATH



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

FIGURE 5.4
TOTAL DEATHS WITH BIRTHWEIGHT ≥ 2,500 GRAMS BY CAUSE OF DEATH



Note: See note to Figure 5.3.

MORTALITY BY GESTATIONAL AGE

Mortality by gestational age presented in Table 5.3 show that

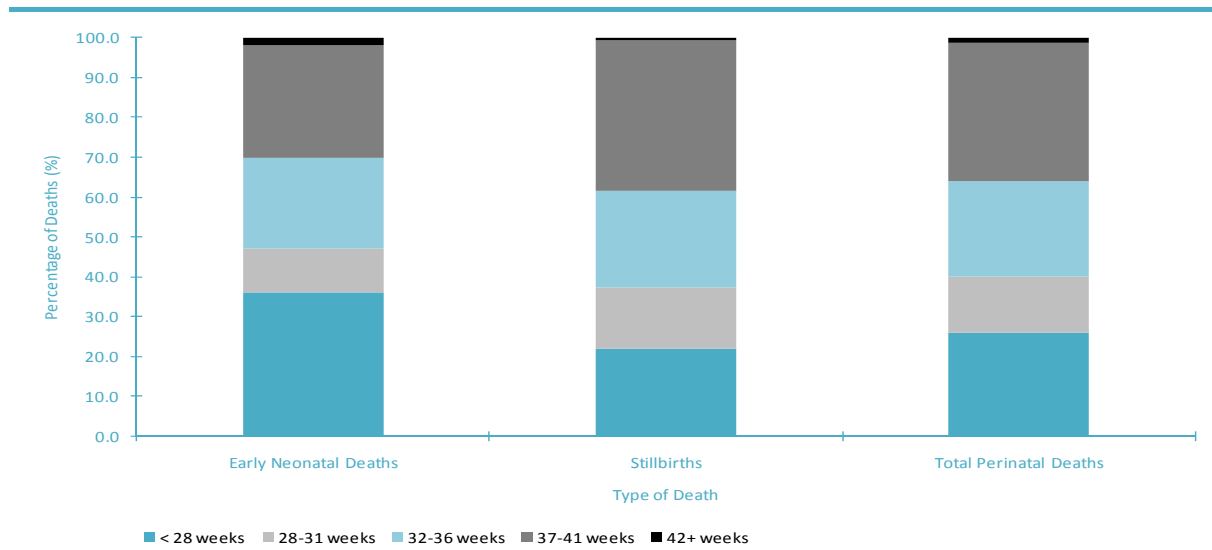
- prematurity²⁷ has a significant impact on stillbirth and early neonatal mortality rates with almost two-thirds of total perinatal deaths born preterm
- 62.8 per cent of singleton perinatal deaths and 86.2 per cent of multiple perinatal deaths were preterm (see Figure 5.5)
- the perinatal mortality rates for babies born before 37 completed weeks of gestation were 73.8 per 1,000 live births and stillbirths (90.9 per 1,000 singleton births and 22.2 per 1,000 multiple births)
- for babies born at 37 or more completed weeks of gestation, perinatal mortality rates were 2.6 per 1,000 live births and stillbirths (2.6 for singleton births and 3.1 per 1,000 multiple births).

TABLE 5.3: TOTAL BIRTHS, ANTEPARTUM AND INTRAPARTUM STILLBIRTHS, EARLY NEONATAL DEATHS, AND MORTALITY RATES BY GESTATIONAL AGE

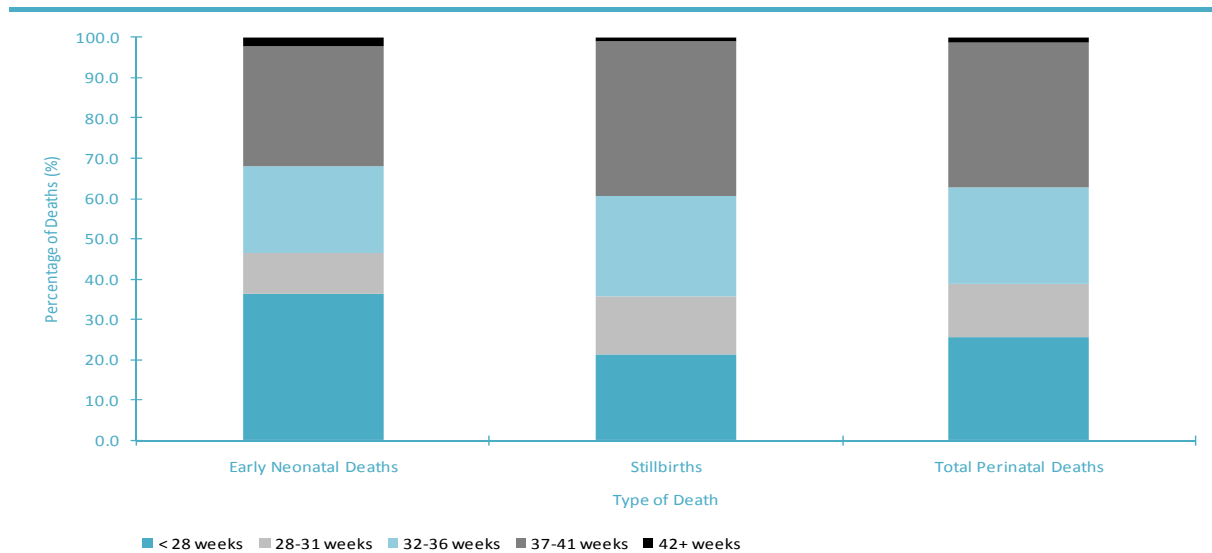
Gestational Age at Delivery (weeks)	Total Births	Total Births %	Ante-partum Stillbirths	Intra-partum Stillbirths	Not Stated	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR
Total Births										
Less than 28	305	0.4	68	8	5	265.6	55	245.5	445.9	394.3
28-31	514	0.7	47	5	5	110.9	17	37.2	144.0	103.9
32-36	3,721	4.9	81	6	3	24.2	35	9.6	33.6	21.5
37-41	68,854	90.6	120	8	11	2.0	43	0.6	2.6	1.9
42 and Over	2,621	3.4	3	0	0	1.1	3	1.1	2.3	1.1
Not Stated	6	0.0	1	1	0	333.3	1	250.0	500.0	500.0
Total	76,021	100	320	28	24	4.9	154	2.0	6.9	5.0
Singleton Births										
Less than 28	258	0.4	64	7	4	290.7	51	278.7	488.4	433.5
28-31	377	0.5	43	4	5	137.9	14	43.1	175.1	123.9
32-36	2,777	3.8	79	6	3	31.7	30	11.2	42.5	27.4
37-41	67,566	91.8	117	8	11	2.0	42	0.6	2.6	2.0
42 and Over	2,621	3.6	3	0	0	1.1	3	1.1	2.3	1.1
Not Stated	6	0.0	1	1	0	333.3	1	250.0	500.0	500.0
Total	73,605	100	307	26	23	4.8	141	1.9	6.8	4.9
Multiple Births										
Less than 28	47	1.9	4	1	1	127.7	4	97.6	212.8	195.7
28-31	137	5.7	4	1	0	36.5	3	22.7	58.4	51.5
32-36	944	39.1	2	0	0	2.1	5	5.3	7.4	4.3
37-41	1,288	53.3	3	0	0	2.3	1	0.8	3.1	1.6
42 and Over	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Not Stated	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Total	2,416	100	13	2	1	6.6	13	5.4	12.0	9.1

²⁷ Defined as less than 37 completed weeks of gestation

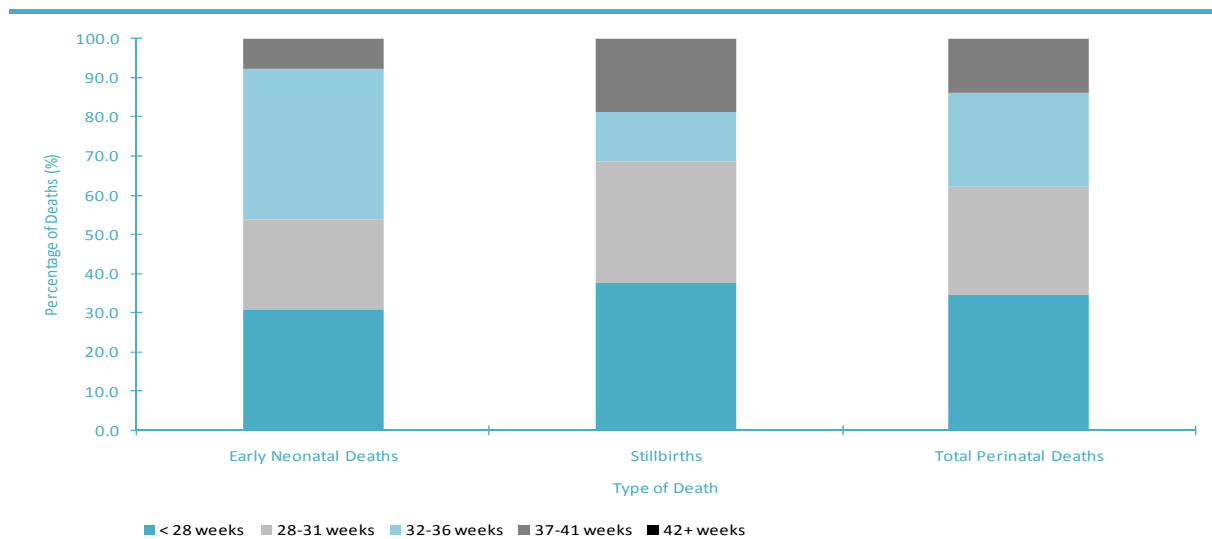
FIGURE 5.5
DEATHS BY GESTATIONAL AGE GROUPS, TOTAL, SINGLETON AND MULTIPLE BIRTHS
Total Births



Singleton Births



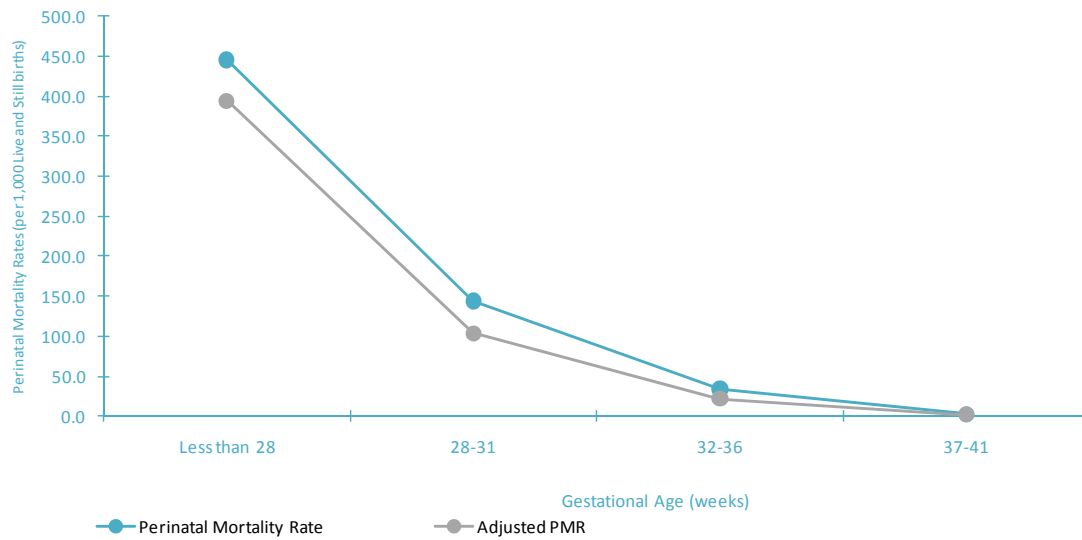
Multiple Births



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

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

FIGURE 5.6
PERINATAL MORTALITY RATES BY GESTATIONAL AGE AT DELIVERY, TOTAL BIRTHS



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

CAUSE OF DEATH

Cause of death data presented in Table 5.4 have been coded using the WHO ICD-10 classification.²⁸ 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.²⁹ Each year around 20 per cent of all perinatal deaths are classified as 'unspecified/unexplained'. The fact that over half of all perinatal deaths in Ireland do not undergo post mortem may be a contributing factor to the numbers assigned to this category. This finding is not unique to Ireland, however, as many countries report high percentages of unexplained deaths in the perinatal period.

²⁸ World Health Organisation, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1-3. Geneva: World Health Organisation.

²⁹ See Appendix D for more detail.

TABLE 5.4: STILLBIRTHS, EARLY NEONATAL DEATHS AND MORTALITY RATES BY CAUSE OF DEATH BY ICD-10 CHAPTER AND SUBCATEGORIES

Cause of Death	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	104	1.4	4	0.1	108	1.4	97	1.3	4	0.1	101	1.4	7	2.9	0	0.0	7	2.9
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	P000 - P009	9	0.1	0	0.0	9	0.1	9	0.1	0	0.0	9	0.1	0	0.0	0	0.0	0	0.0
Foetus and newborn affected by maternal complications of pregnancy	P010 - P019	3	0.0	0	0.0	3	0.0	3	0.0	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Foetus and newborn affected by complications of placenta, cord and membranes	P020 - P029	91	1.2	4	0.1	95	1.2	84	1.1	4	0.1	88	1.2	7	2.9	0	0.0	7	2.9
Foetus and newborn affected by other complications of labour and delivery	P030 - P039	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Disorders related to length of gestation and foetal growth	P05-P08	35	0.5	40	0.5	75	1.0	29	0.4	38	0.5	67	0.9	6	2.5	2	0.8	8	3.3
Slow foetal growth and foetal malnutrition	P050 - P059	17	0.2	0	0.0	17	0.2	12	0.2	0	0.0	12	0.2	5	2.1	0	0.0	5	2.1
Disorders related to short gestation and low birth weight, not elsewhere classified	P070 - P073	18	0.2	40	0.5	58	0.8	17	0.2	38	0.5	55	0.7	1	0.4	2	0.8	3	1.2
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	48	0.6	24	0.3	72	0.9	48	0.7	19	0.3	67	0.9	0	0.0	5	2.1	5	2.1
Intrauterine hypoxia	P200 - P209	36	0.5	2	0.0	38	0.5	36	0.5	1	0.0	37	0.5	0	0.0	1	0.4	1	0.4
Birth asphyxia	P210 - P219	0	0.0	3	0.0	3	0.0	0	0.0	2	0.0	2	0.0	0	0.0	1	0.4	1	0.4
Respiratory distress of newborn	P220 - P229	0	0.0	5	0.1	5	0.1	0	0.0	3	0.0	3	0.0	0	0.0	2	0.8	2	0.8
Congenital pneumonia	P230 - P239	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Neonatal aspiration syndromes	P240 - P249	1	0.0	1	0.0	2	0.0	1	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Pulmonary haemorrhage originating in the perinatal period	P260 - P269	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other respiratory conditions originating in the perinatal period	P280 - P289	1	0.0	8	0.1	9	0.1	1	0.0	7	0.1	8	0.1	0	0.0	1	0.4	1	0.4
Cardiovascular disorders originating in the perinatal period	P290 - P299	10	0.1	2	0.0	12	0.2	10	0.1	2	0.0	12	0.2	0	0.0	0	0.0	0	0.0

TABLE 5.4: STILLBIRTHS, EARLY NEONATAL DEATHS AND MORTALITY RATES BY CAUSE OF DEATH BY ICD-10 CHAPTER AND SUBCATEGORIES (CONT.)

Cause of Death	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	Total	Rate
Infections specific to the perinatal period	P35-P39	5	0.1	1	0.0	6	0.1	5	0.1	1	0.0	6	0.1	0	0.0	0	0.0	0	0.0
Bacterial sepsis of newborn	P360 - P369	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other infections specific to the perinatal period	P390 - P399	4	0.1	1	0.0	5	0.1	4	0.1	1	0.0	5	0.1	0	0.0	0	0.0	0	0.0
Haemorrhagic and haematological disorders of foetus and newborn	P50-P61	5	0.1	2	0.0	7	0.1	5	0.1	2	0.0	7	0.1	0	0.0	0	0.0	0	0.0
Foetal blood loss	P500 - P509	4	0.1	0	0.0	4	0.1	4	0.1	0	0.0	4	0.1	0	0.0	0	0.0	0	0.0
Intracranial nontraumatic haemorrhage of foetus and newborn	P520 - P529	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Haemolytic disease of foetus and newborn	P550 - P559	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Transitory endocrine and metabolic disorders specific to foetus and newborn	P70-P74	3	0.0	1	0.0	4	0.1	3	0.0	1	0.0	4	0.1	0	0.0	0	0.0	0	0.0
Transitory disorders of carbohydrate metabolism specific to foetus and newborn	P700 - P709	3	0.0	1	0.0	4	0.1	3	0.0	1	0.0	4	0.1	0	0.0	0	0.0	0	0.0
Digestive system disorders of foetus and newborn	P75-P78	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other perinatal digestive system disorders	P780 - P789	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Conditions involving the integument and temperature regulation of foetus and newborn	P80-P83	6	0.1	0	0.0	6	0.1	6	0.1	0	0.0	6	0.1	0	0.0	0	0.0	0	0.0
Other conditions of integument specific to foetus and newborn	P830 - P839	6	0.1	0	0.0	6	0.1	6	0.1	0	0.0	6	0.1	0	0.0	0	0.0	0	0.0

TABLE 5.4: STILLBIRTHS, EARLY NEONATAL DEATHS AND MORTALITY RATES BY CAUSE OF DEATH BY ICD-10 CHAPTER AND SUBCATEGORIES (CONT.)

Cause of Death	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Other disorders originating in the perinatal period	P90-P96	89	1.2	11	0.1	100	1.3	87	1.2	11	0.2	98	1.3	2	0.8	0	0.0	2	0.8
Other disturbances of cerebral status of newborn	P910 - P919	0	0.0	3	0.0	3	0.0	0	0.0	3	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Disorders of muscle tone of newborn	P940 - P949	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other conditions originating in the perinatal period	P960 - P968	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P969	88	1.2	6	0.1	94	1.2	86	1.2	6	0.1	92	1.2	2	0.8	0	0.0	2	0.8
Congenital malformations of the nervous system	Q00-Q07	11	0.1	21	0.3	32	0.4	10	0.1	17	0.2	27	0.4	1	0.4	4	1.7	5	2.1
Anencephaly and similar malformations	Q000 - Q002	8	0.1	16	0.2	24	0.3	7	0.1	13	0.2	20	0.3	1	0.4	3	1.3	4	1.7
Congenital hydrocephalus	Q030 - Q039	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of the brain	Q040 - Q049	3	0.0	4	0.1	7	0.1	3	0.0	3	0.0	6	0.1	0	0.0	1	0.4	1	0.4
Congenital malformations of the circulatory system	Q20-Q28	11	0.1	5	0.1	16	0.2	11	0.1	5	0.1	16	0.2	0	0.0	0	0.0	0	0.0
Congenital malformations of cardiac septa	Q210 - Q219	3	0.0	0	0.0	3	0.0	3	0.0	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of aortic and mitral valves	Q230 - Q239	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of heart	Q240 - Q249	4	0.1	5	0.1	9	0.1	4	0.1	5	0.1	9	0.1	0	0.0	0	0.0	0	0.0
Other congenital malformations of peripheral vascular system	Q270 - Q279	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	0	0.0	0	0.0	0	0.0

TABLE 5.4: STILLBIRTHS, EARLY NEONATAL DEATHS AND MORTALITY RATES BY CAUSE OF DEATH BY ICD-10 CHAPTER AND SUBCATEGORIES (CONT.)

Cause of Death	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Congenital malformations of the respiratory system	Q30-Q34	1	0.0	5	0.1	6	0.1	1	0.0	5	0.1	6	0.1	0	0.0	0	0.0	0	0.0
Congenital malformations of lung	Q330 - Q339	0	0.0	5	0.1	5	0.1	0	0.0	5	0.1	5	0.1	0	0.0	0	0.0	0	0.0
Other congenital malformations of respiratory system	Q340 - Q349	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations of the digestive system	Q38-Q45	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of gallbladder, bile ducts and liver	Q440 - Q447	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of the urinary system	Q60-Q64	7	0.1	7	0.1	14	0.2	7	0.1	6	0.1	13	0.2	0	0.0	1	0.4	1	0.4
Renal agenesis and other reduction defects of kidney	Q600 - Q606	6	0.1	6	0.1	12	0.2	6	0.1	5	0.1	11	0.1	0	0.0	1	0.4	1	0.4
Other congenital malformations of kidney	Q630 - Q639	1	0.0	1	0.0	2	0.0	1	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	3	0.0	5	0.1	8	0.1	3	0.0	5	0.1	8	0.1	0	0.0	0	0.0	0	0.0
Osteochondrodysplasia with defects of growth of tubular bones and spine	Q770 - Q779	2	0.0	3	0.0	5	0.1	2	0.0	3	0.0	5	0.1	0	0.0	0	0.0	0	0.0
Other osteochondrodysplasias	Q780 - Q789	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Congenital malformations of musculoskeletal system, not elsewhere classified	Q790 - Q799	1	0.0	1	0.0	2	0.0	1	0.0	1	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations	Q80-Q89	8	0.1	8	0.1	16	0.2	8	0.1	7	0.1	15	0.2	0	0.0	1	0.4	1	0.4
Other specified congenital malformation syndromes affecting multiple systems	Q870 - Q878	0	0.0	2	0.0	2	0.0	0	0.0	2	0.0	2	0.0	0	0.0	0	0.0	0	0.0
Other congenital malformations, not elsewhere classified	Q890 - Q899	8	0.1	6	0.1	14	0.2	8	0.1	5	0.1	13	0.2	0	0.0	1	0.4	1	0.4

TABLE 5.4: STILLBIRTHS, EARLY NEONATAL DEATHS AND MORTALITY RATES BY CAUSE OF DEATH BY ICD-10 CHAPTER AND SUBCATEGORIES (CONT.)

Cause of Death	ICD-10 Code	Total Deaths						Singleton Deaths						Multiple Deaths					
		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths		Stillbirths		Early Neonatal Deaths		Total Perinatal Deaths	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	34	0.4	19	0.3	53	0.7	34	0.5	19	0.3	53	0.7	0	0.0	0	0.0	0	0.0
Downs syndrome	Q900 - Q909	8	0.1	0	0.0	8	0.1	8	0.1	0	0.0	8	0.1	0	0.0	0	0.0	0	0.0
Edwards syndrome and Patau syndrome	Q910 - Q917	18	0.2	17	0.2	35	0.5	18	0.2	17	0.2	35	0.5	0	0.0	0	0.0	0	0.0
Other trisomies and partial trisomies of the autosomes, not elsewhere classified	Q920 - Q929	2	0.0	1	0.0	3	0.0	2	0.0	1	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Turners syndrome	Q960 - Q969	3	0.0	0	0.0	3	0.0	3	0.0	0	0.0	3	0.0	0	0.0	0	0.0	0	0.0
Other sex chromosome abnormalities, female phenotype, not elsewhere classified	Q970 - Q979	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Other chromosome abnormalities, not elsewhere classified	Q990 - Q999	2	0.0	1	0.0	3	0.0	2	0.0	1	0.0	3	0.0	0	0.0	0	0.0	0	0.0
All other causes	A00.0-099.9, R00.0-Z99.9	1	0.0	0	0.0	1	0.0	1	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0
Total		372	4.9	154	2.0	526	6.9	356	4.8	141	1.9	497	6.8	16	6.6	13	5.4	29	12.0

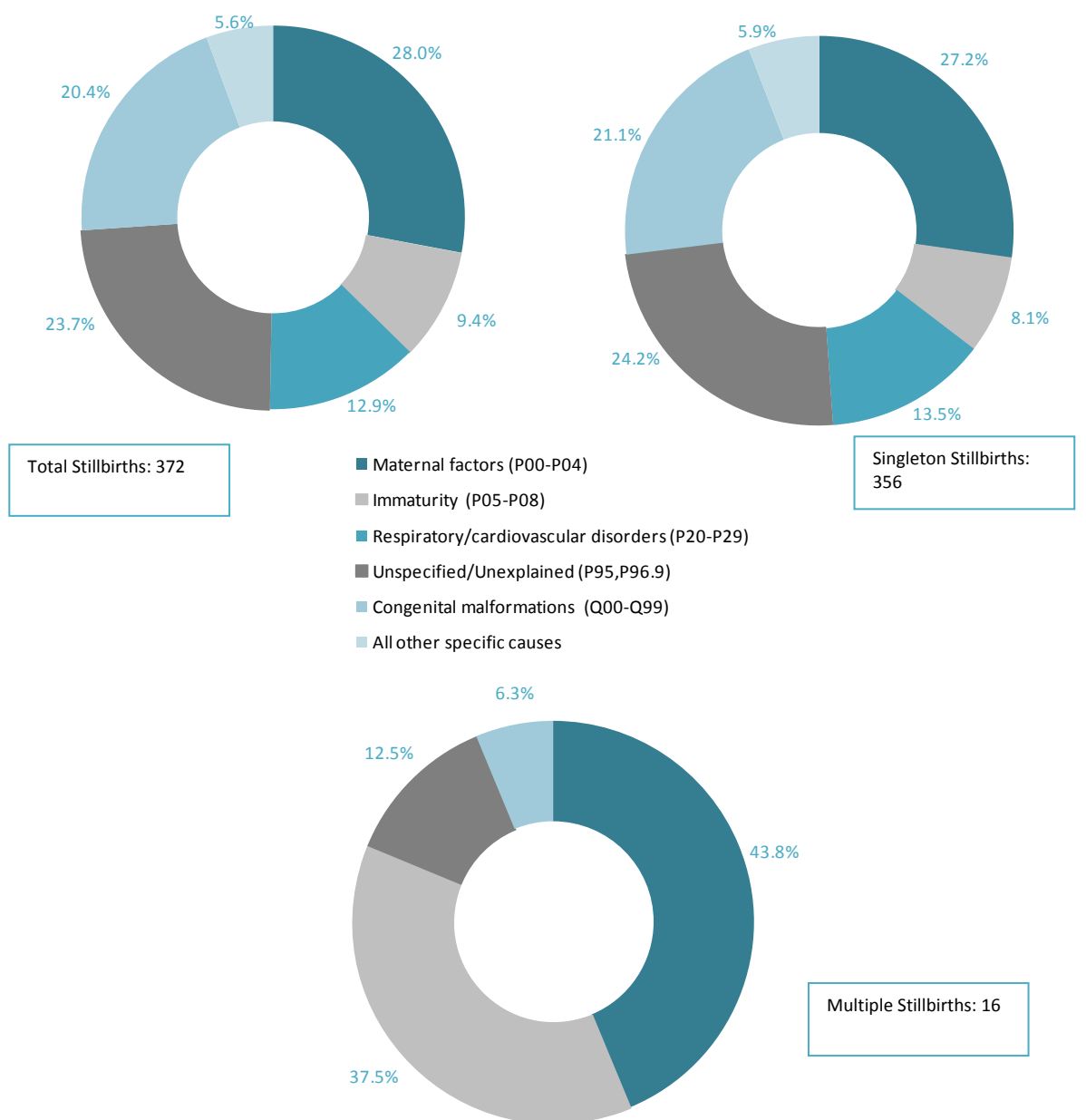
Note: N equals number of deaths.

STILLBIRTHS

The main cause of death for stillbirths show that

- maternal factors (P00-P04) were the leading cause of death for stillbirths (see Figure 5.7)
- the cause of death was unexplained for almost 24 per cent of total stillbirths
- while congenital malformations (Q00-Q99) contributed to 20.4 per cent of total stillbirths, this cause accounted for 21.1 per cent of singleton stillbirths and 6.3 per cent of multiple stillbirths
- 37.5 per cent of multiple stillbirths was due to immaturity (P05-P08).

FIGURE 5.7
STILLBIRTHS BY CAUSE OF DEATH, TOTAL, SINGLETON AND MULTIPLE BIRTHS



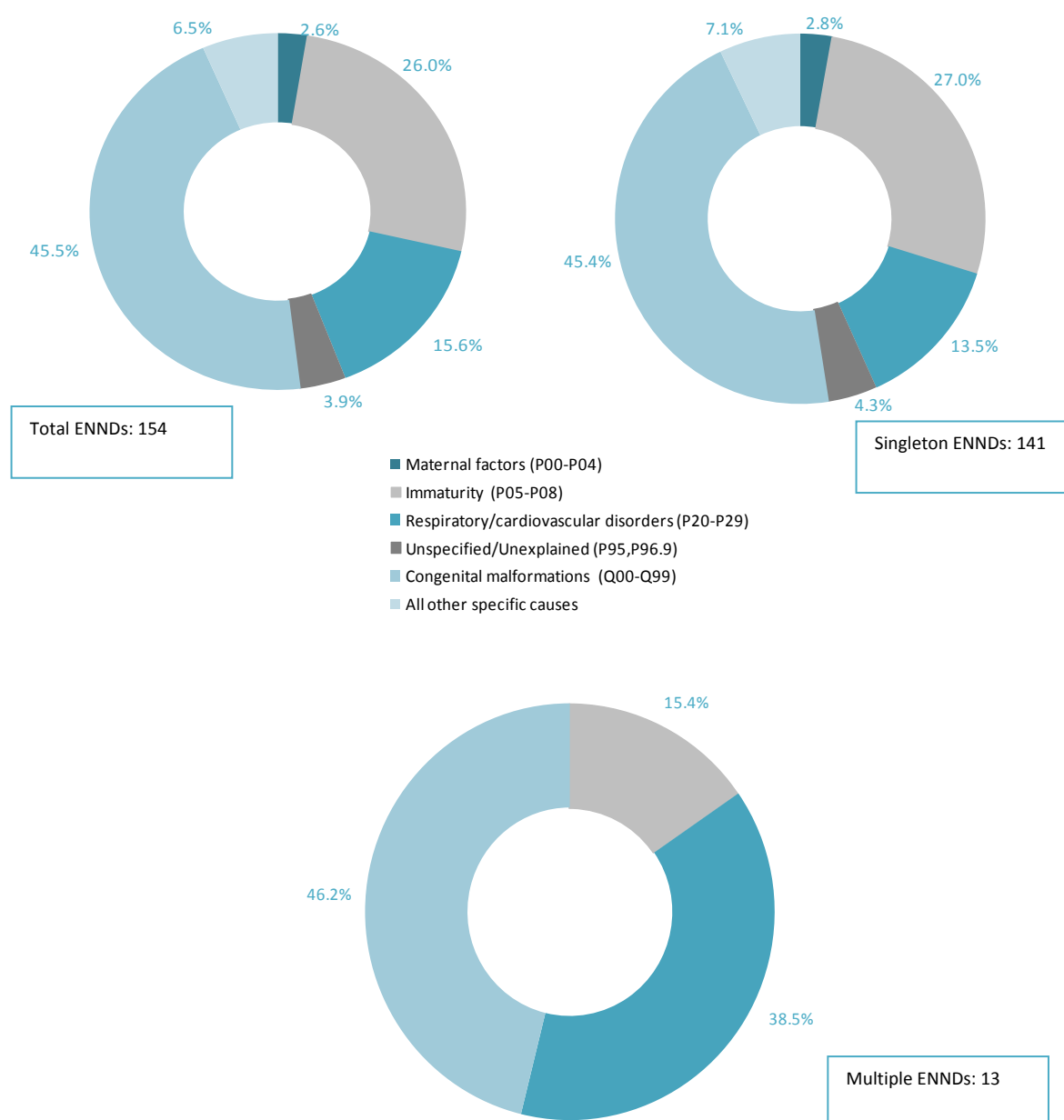
Note: See Table 5.4 for data.

EARLY NEONATAL DEATHS (ENND)

The main cause of death for early neonatal deaths show that

- over 45 per cent of total, singleton and multiple early neonatal deaths were due to congenital malformations (Q00-Q99)
- immaturity (P05-P08) was the second leading cause of death among total and singleton early neonatal deaths accounting for over a quarter of all deaths, whilst the second most common cause for multiple early neonatal deaths was respiratory/cardiovascular disorders (38.5 per cent) (see Figure 5.8).

FIGURE 5.8
EARLY NEONATAL DEATHS BY CAUSE OF DEATH, TOTAL, SINGLETON AND MULTIPLE BIRTHS



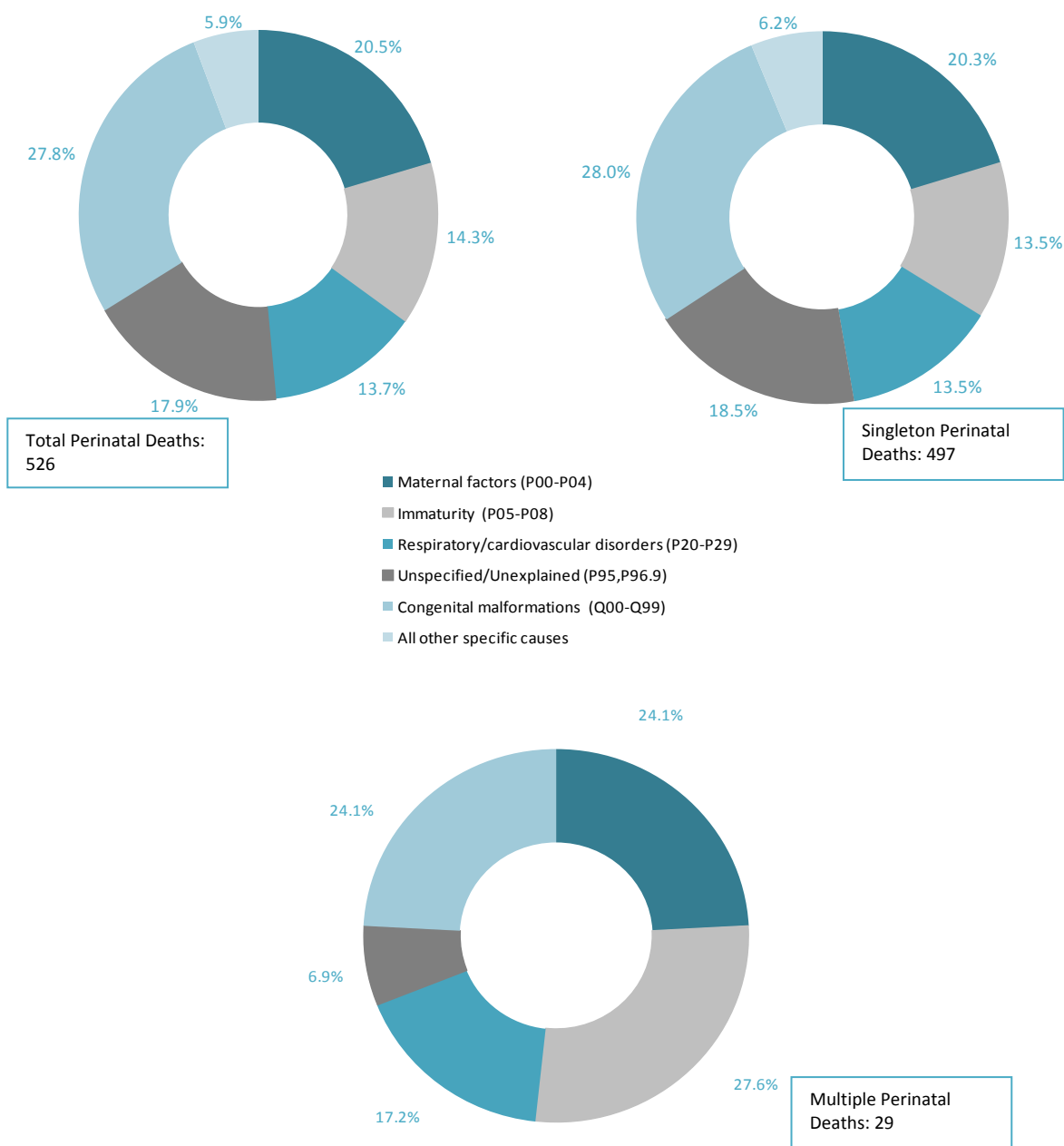
Note: See Table 5.4 for data.

TOTAL PERINATAL DEATHS

Data on all perinatal deaths show

- the leading cause of death for total perinatal deaths was congenital malformations (27.8 per cent) followed by maternal factors (20.5 per cent) (see Figure 5.9)
- for singleton births, congenital malformations were the most frequently reported cause of death, accounting for 28.0 per cent of total singleton perinatal deaths
- for multiple births, the largest contributor was immaturity (27.6 per cent), closely followed by maternal factors at 24.1 per cent.

FIGURE 5.9
PERINATAL DEATHS BY CAUSE OF DEATH, TOTAL, SINGLETON AND MULTIPLE BIRTHS



Note: See Table 5.4 for data.

AGE AT DEATH

Age at death is recorded for early neonatal deaths and is shown in Table 5.5.

TABLE 5.5: AGE AT DEATH, EARLY NEONATAL DEATHS

Time	Total Births		Singleton Births		Multiple Births	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Completed Hours						
<1	34	22.1	32	22.7	2	15.4
1	24	15.6	22	15.6	2	15.4
2	16	10.4	16	11.3	0	0.0
3	6	3.9	5	3.5	1	7.7
4	7	4.5	6	4.3	1	7.7
5	4	2.6	4	2.8	0	0.0
6	7	4.5	6	4.3	1	7.7
7-10	6	3.9	5	3.5	1	7.7
11-15	6	3.9	5	3.5	1	7.7
16-23	6	3.9	6	4.3	0	0.0
Total under 1 day	116	75.3	107	75.9	9	69.2
Completed Days						
1	15	9.7	12	8.5	3	23.1
2	10	6.5	10	7.1	0	0.0
3	3	1.9	3	2.1	0	0.0
4	2	1.3	2	1.4	0	0.0
5	4	2.6	4	2.8	0	0.0
6	3	1.9	2	1.4	1	7.7
Total under 1 Week	37	24.0	33	23.4	4	30.8
Unknown	1	0.6	1	0.7	0	0.0
Total	154	100	141	100	13	100

POST-MORTEM EXAMINATIONS

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

- the percentage of early neonatal deaths undergoing post-mortem examinations was 34.0 per cent compared to 47.6 per cent for stillbirths
- a post-mortem examination was undertaken for 43.6 per cent of total perinatal deaths in 2009.

TABLE 5.6: STILLBIRTHS AND EARLY NEONATAL DEATHS UNDERGOING POST-MORTEM EXAMINATIONS

Post-Mortem Frequency Row Per Cent Col. Per Cent	Type of Death		
	Early Neonatal Deaths	Stillbirths	Total
Total Births			
Post-Mortem	52	177	229
	22.7	77.3	100
	33.8	47.6	43.5
No Post-Mortem	101	195	296
	34.1	65.9	100
	65.6	52.4	56.3
Not Stated	1	0	1
	100	0	100
	0.6	0.0	0.2
Total	154	372	526
	29.3	70.7	100.0
	100	100	100
Singleton Births			
Post-Mortem	46	171	217
	21.2	78.8	100
	32.6	48.0	43.7
No Post-Mortem	94	185	279
	33.7	66.3	100
	66.7	52.0	56.1
Not Stated	1	0	1
	100.0	0.0	100
	0.7	0.0	0.2
Total	141	356	497
	28.4	71.6	100
	100	100	100
Multiple Births			
Post-Mortem	6	6	12
	50.0	50.0	100
	46.2	37.5	41.4
No Post-Mortem	7	10	17
	41.2	58.8	100
	53.8	62.5	58.6
Not Stated	0	0	0
	0.0	0.0	0
	0.0	0.0	0.0
Total	13	16	29
	44.8	55.2	100
	100	100	100

SECTION SIX

DOMICILIARY BIRTHS

INTRODUCTION

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

DOMICILIARY BIRTHS, 2000–2009

Table 6.1 presents selected statistics for domiciliary births for the period 2000 to 2009 showing that

- there were 148 domiciliary births in 2009 representing just 0.2 per cent of all births
- the number of domiciliary births has declined by 31.5 per cent between 2000 and 2009 with the lowest number of domiciliary births over the 10-year period reported for 2009 (148) and the highest number reported in 2002 (288) (see Figure 6.1)
- the average age of mothers having domiciliary births over this period was 34.0 years; this has remained stable, ranging from 33.2 years in 2001 to 35.0 years in 2009
- women choosing a domiciliary delivery had an average maternal parity of 1.7 previous births
- for all domiciliary births in 2009 22.3 per cent were to single mothers compared to 29.6 per cent in 2000
- the average birthweight for domiciliary births in 2009 was 3,765 grams
- exclusively breastfeeding was reported for over 97 per cent of domiciliary births
- there were no stillbirths or early neonatal deaths reported in 2009.

More detailed analysis of domiciliary births for 2009 is presented in Tables 6.2 to 6.7, including the maternal characteristics of maternal age, parity and marital status, as well as details of the perinatal characteristics and care including gestational age, birthweight and type of feeding.

TABLE 6.1: TRENDS IN DOMICILIARY BIRTHS—SELECTED STATISTICS, 2000–2009

Selected Statistics	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Change 2000-2009
General Characteristics											
Total Births	216	245	288	236	202	183	170	186	158	148	-31.5
Average Age of Mother in years ¹	33.3	33.2	34.1	34.0	34.3	33.4	34.3	34.1	34.3	35.0	5.0
Average Maternal Parity ¹	1.6	1.4	2.1	1.6	1.6	1.7	1.7	1.6	1.5	1.7	5.1
Single Mothers (%) ^{1,2,3}	29.6	31.6	22.7	28.0	29.2	23.5	20.0	16.1	25.3	22.3	-24.7
Average Weight in grams ⁴	3726.7	3686.8	3730.1	3754.3	3738.4	3760.1	3742.2	3699.2	3667.1	3765.0	1.0
Low Birthweight <2,500 grams (%) ⁴	1.9	0.0	0.4	0.0	1.0	0.6	0.6	1.1	0.6	0.0	-100.0
Average Gestational Age at delivery in weeks ¹	39.9	40.0	40.1	40.1	40.0	40.0	40.1	40.0	40.1	40.0	0.3
Average Interval since last birth in years ⁵	3.4	3.8	3.7	3.7	3.5	3.3	3.4	3.4	3.6	3.7	8.0
Perinatal Care											
Combined Antenatal Care - Midwife and G.P./Hospital(%) ^{6,7}	59.5	55.6	57.7	66.1	64.4	71.6	76.5	60.8	77.9	99.3	66.9
Immunity to Rubella (%) ¹	90.7	93.4	91.6	94.1	97.0	95.1	96.5	100.0	96.2	98.0	8.0
Mothers Exclusively Breastfeeding (%) ⁸	96.6	95.0	94.0	94.1	97.5	94.0	97.1	95.7	95.6	97.3	0.7

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

There was one set of domiciliary twin births in 2001.

There were no domiciliary multiple births in 2000 or in the years 2002 -2009.

¹ Based on maternities.

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

³ Data for 2002 has been revised from those presented in previous Annual Reports. Percentage calculations have been revised as the marital status 'unknown' was incorrectly included in the denominator.

⁴ Based on live births. There were no Stillbirths or Early Neonatal deaths reported for Domiciliary Births in 2009.

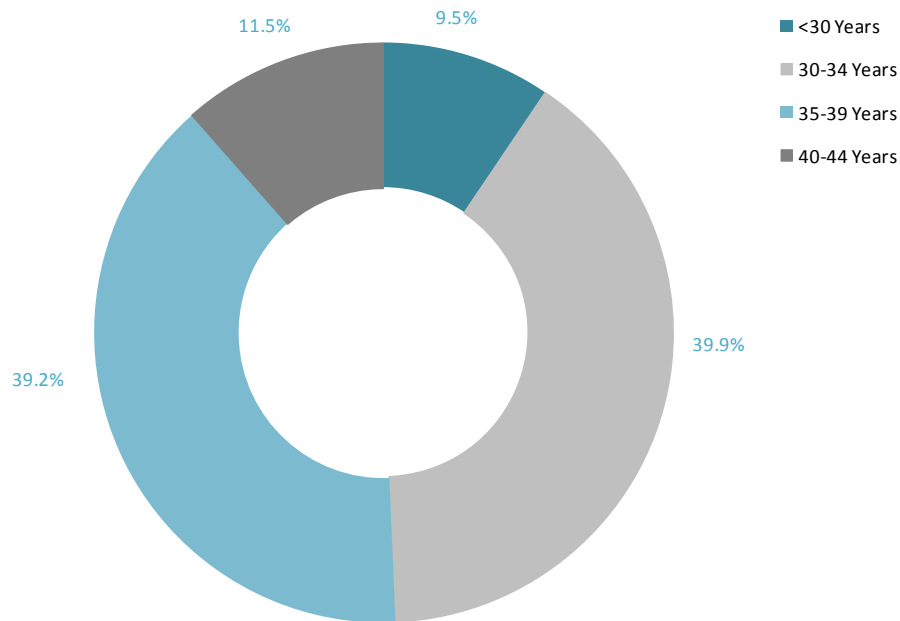
⁵ Based on multiparous maternities.

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

⁷ Data for 2000 to 2002 have been revised from those presented in previous Annual Reports. Percentage calculations have been revised as the antenatal 'unknown' was incorrectly included in the denominator.

⁸ Based on maternities with live births. Excludes early neonatal deaths.

FIGURE 6.2:
AGE OF MOTHER



Note: See Table 6.2 for data.

MARITAL STATUS

Domiciliary births by marital status show that

- 77.0 per cent of domiciliary births were to mothers who were married
- close to 80 per cent of domiciliary births were to mothers aged between 30 and 39 years (see Table 6.3).

TABLE 6.3: MOTHER'S MARITAL STATUS BY AGE OF MOTHER

Mother's Marital Status	Age of Mother					Total
	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40-44 Years	
Married	0	6	44	50	14	114
	0.0	5.3	38.6	43.9	12.3	100
	0.0	46.2	74.6	86.2	82.4	77.0
Never Married	1	7	14	8	3	33
	3.0	21.2	42.4	24.2	9.1	100
	100.0	53.8	23.7	13.8	17.6	22.3
Other*	0	0	1	0	0	1
	0.0	0.0	100.0	0.0	0.0	100
	0.0	0.0	1.7	0.0	0.0	0.7
Total	1	13	59	58	17	148
	0.7	8.8	39.9	39.2	11.5	100
	100	100	100	100	100	100

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

GESTATIONAL AGE

Gestational age by mother's age in Table 6.4 show that the majority of domiciliary births (90.5 per cent) were born between 37 and 41 weeks gestation.

TABLE 6.4: AGE OF MOTHER BY GESTATIONAL AGE AT DELIVERY

Age of Mother Frequency Row Per Cent Col. Per Cent	Gestational Age (weeks)				Total Maternities
	32-36	37-41	42 and Over	Total	
20-24 Years	0	1	0	1	1
	0.0	100.0	0.0	100	100
	0.0	0.7	0.0	0.7	0.7
25-29 Years	0	13	0	13	13
	0.0	100.0	0.0	100	100
	0.0	9.7	0.0	8.8	8.8
30-34 Year	1	54	4	59	59
	1.7	91.5	6.8	100	100
	50.0	40.3	33.3	39.9	39.9
35-39 Years	1	51	6	58	58
	1.7	87.9	10.3	100	100
	50.0	38.1	50.0	39.2	39.2
40-44 Years	0	15	2	17	17
	0.0	88.2	11.8	100	100
	0.0	11.2	16.7	11.5	11.5
Total	2	134	12	148	148
	1.4	90.5	8.1	100	100
	100	100	100	100	100

BIRTHWEIGHT

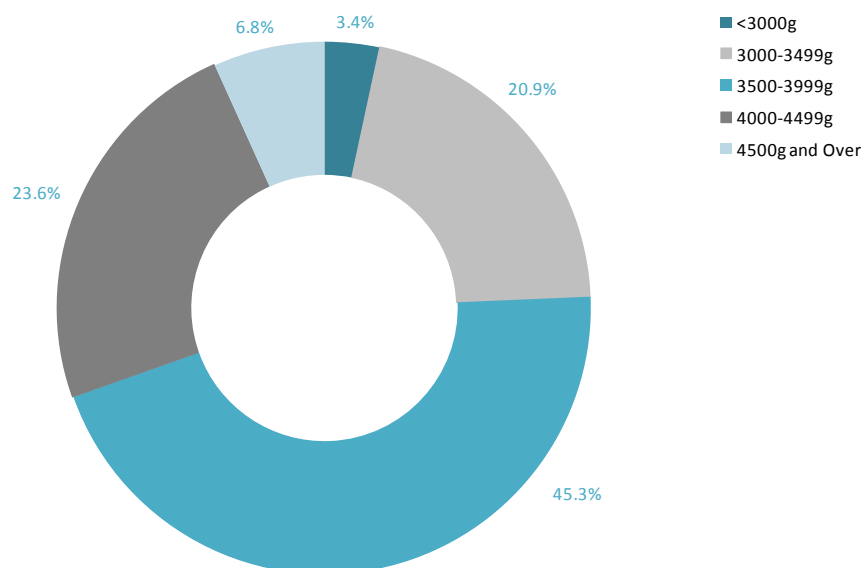
Birthweight by gestational age in Table 6.5 show that

- over 45 per cent of domiciliary births weighed between 3,500–3,999 grams (see Figure 6.3) and, of these, almost 90 per cent occurred within 37–41 weeks gestation
- the average birthweight for domiciliary births was 3,765 grams.

TABLE 6.5: BIRTHWEIGHT BY GESTATIONAL AGE AT DELIVERY

Birthweight (grams) Frequency Row Per Cent Col. Per Cent	Gestational Age (weeks)			
	32-36	37-41	42 and Over	Total
2500-2999	0	5	0	5
	0	100.0	0.0	100
	0	3.7	0.0	3.4
3000-3499	2	27	2	31
	6.5	87.1	6.5	100.0
	100	20.1	16.7	20.9
3500-3999	0	60	7	67
	0	89.6	10.4	100
	0	44.8	58.3	45.3
4000-4499	0	33	2	35
	0	94.3	5.7	100
	0	24.6	16.7	23.6
4500 and Over	0	9	1	10
	0	90.0	10.0	100
	0	6.7	8.3	6.8
Total	2	134	12	148
	1.4	90.5	8.1	100
	100	100	100	100

**FIGURE 6.3:
BIRTHWEIGHT GROUPS**



Note: See Table 6.5 for data.

OCCUPATION

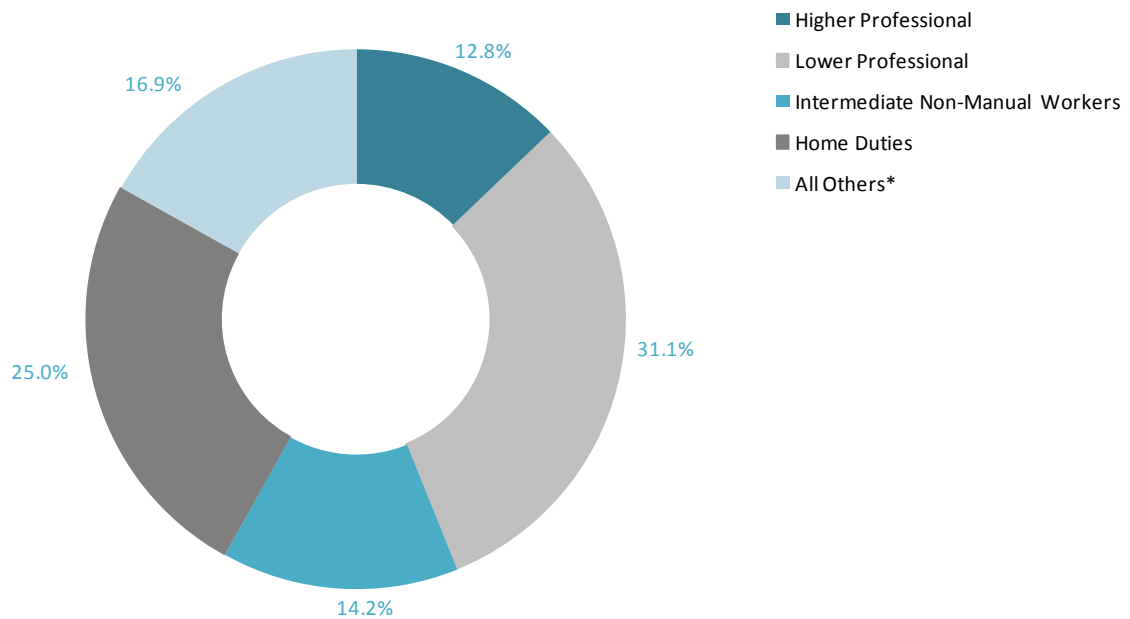
Table 6.6 and Figure 6.4 show that the highest proportion of domiciliary births were to mothers whose occupation was classified as 'lower professional' (31.1 per cent), followed by 'home duties' (25.0 per cent).

TABLE 6.6: MOTHER'S OCCUPATION BY BIRTHWEIGHT

Mother's Occupation	Birthweight (grams)					Total
	2500-2999	3000-3499	3500-3999	4000-4499	4500 and Over	
Frequency						
Row Per Cent						
Col. Per Cent						
Farmers & Farm Managers	0	1	0	0	0	1
	0.0	100.0	0.0	0.0	0.0	100
	0.0	3.2	0.0	0.0	0.0	0.7
Higher Professional	0	5	8	5	1	19
	0.0	26.3	42.1	26.3	5.3	100
	0.0	16.1	11.9	14.3	10.0	12.8
Lower Professional	2	8	20	10	6	46
	4.3	17.4	43.5	21.7	13.0	100
	40.0	25.8	29.9	28.6	60.0	31.1
Employers & Managers	0	3	0	3	1	7
	0.0	42.9	0.0	42.9	14.3	100
	0.0	9.7	0.0	8.6	10.0	4.7
Salaried Employees	0	0	0	1	0	1
	0.0	0.0	0.0	100.0	0.0	100
	0.0	0.0	0.0	2.9	0.0	0.7
Intermediate Non-Manual Workers	0	6	14	1	0	21
	0.0	28.6	66.7	4.8	0.0	100
	0.0	19.4	20.9	2.9	0.0	14.2
Other Non-Manual Workers	1	0	3	2	0	6
	16.7	0.0	50.0	33.3	0.0	100
	20.0	0.0	4.5	5.7	0.0	4.1
Skilled Manual Workers	0	0	0	2	0	2
	0.0	0.0	0.0	100.0	0.0	100
	0.0	0.0	0.0	5.7	0.0	1.4
Semi-Skilled Manual Workers	0	0	1	0	0	1
	0.0	0.0	100.0	0.0	0.0	100
	0.0	0.0	1.5	0.0	0.0	0.7
Not Classifiable	1	0	5	1	0	7
	14.3	0.0	71.4	14.3	0.0	100
	20.0	0.0	7.5	2.9	0.0	4.7
Home Duties	1	8	16	10	2	37
	2.7	21.6	43.2	27.0	5.4	100
	20.0	25.8	23.9	28.6	20.0	25.0
Total	5	31	67	35	10	148
	3.4	20.9	45.3	23.6	6.8	100
	100	100	100	100	100	100

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

FIGURE 6.4:
DISTRIBUTION OF DOMICILIARY BIRTHS BY MOTHER'S OCCUPATION



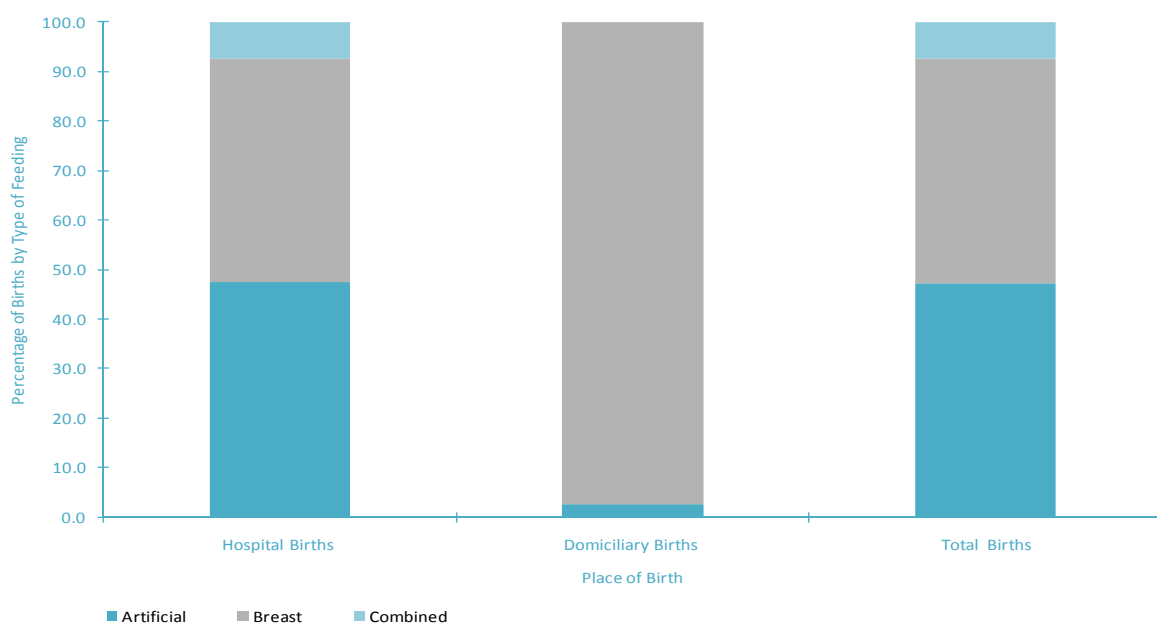
Notes: See Table 6.6 for Data.

* Includes Farmers & Farm Managers, Employers & Managers, Salaried Employees, Other Non-Manual Workers, Skilled and Semi-Skilled Manual Works and Not Classifiable.

INFANT'S TYPE OF FEEDING

Figure 6.5 compares infant's type of feeding by place of birth; twice as many domiciliary births were breastfed compared with hospital births (97.3 per cent and 45.1 per cent respectively).

FIGURE 6.5:
INFANT'S TYPE OF FEEDING BY PLACE OF BIRTH, TOTAL LIVE BIRTHS



Notes: See Appendix G, Table G18 for data. Excludes type of feeding 'unknown' and early neonatal deaths.

MOTHER'S COUNTY OF RESIDENCE

Table 6.7 and Figure 6.6 present the distribution of domiciliary births by mother's county of residence which show that

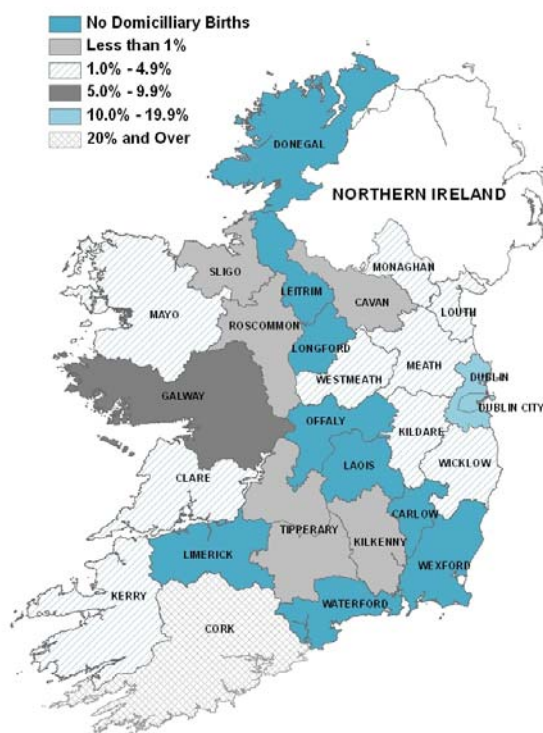
- together, Cork, Dublin County, Dublin City, and Galway accounted for 69 per cent of the total domiciliary births that occurred in 2009
- Cork had the highest number of domiciliary births at 47 followed by Dublin County at 23.

TABLE 6.7: DOMICILIARY BIRTHS BY MOTHER'S COUNTY OF RESIDENCE

Mother's County of Residence	Number	Per Cent
Cork	47	31.8
Dublin County	23	15.5
Dublin City	18	12.2
Galway	14	9.5
Kerry	7	4.7
Kildare	7	4.7
Clare	6	4.1
Mayo	6	4.1
Other Counties	20	13.5
Total	148	100

Note: The following counties reported between 1 and 5 domiciliary births in 2009: Meath, Wicklow, Louth, Monaghan, Westmeath, Roscommon, Kilkenny, Sligo, Tipperary, and Cavan.

**FIGURE 6.6:
DISTRIBUTION OF DOMICILIARY BIRTHS BY MOTHER'S COUNTY OF RESIDENCE**



Note: See Table 6.7 for data.

APPENDICES

APPENDIX A

DEFINITIONS

This section collates the definitions of the terms used in the analyses for this report.

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. The Tenth Revision of the ICD (ICD-10) came into effect for coding Irish births from 1 January 2005 onwards.

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 2009, there were 52 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.

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 live 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:

1. Spontaneous cephalic delivery
2. Breech delivery, spontaneous, with or without forceps to after-coming head, breech extraction
3. Forceps delivery
4. Vacuum extraction³⁰
5. Caesarean section
6. Other Specified and Combined (for example, combination of spontaneous delivery followed by a vacuum extraction or caesarean section).

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

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

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

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

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

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

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

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

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

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

³⁰ Also known as Ventouse Deliveries (Source: World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vol. 1. Geneva: World Health Organization).

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

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

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

Size of Maternity Unit: Size in this context refers to the number of live births and stillbirths occurring during the year.

Stillbirth and Stillbirth Rate: Foetal death is defined as death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy. A foetal death is indicated by the fact that, after such separation, the foetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Following WHO guidelines, a stillbirth in this report refers to the death of a foetus weighing at least 500 grams. The **stillbirth rate** is given as follows:

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

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

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

Twinning Rate: This is given by:

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

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

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

Type of Feeding: This indicates whether artificial feeding, breastfeeding, or a combination of both was being used at the time of discharge. Type of feeding is based on live births only (excluding early neonatal deaths).

APPENDIX B

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

The following format was used for births in 2009.

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

TYPE OF BIRTH (Live = 1, Still = 2) 1 PLACE OF BIRTH (Hospital = 1, SBA = 2, Domiciliary = 3) 2 NAME AND ADDRESS OF _____
 HOSPITAL NO. 3 _____ CASE NO. 6 _____ Y Y Y Y ADDRESS OF _____
 HOSPITAL _____

INFANT'S DETAILS

DATE OF BIRTH (DDMMYYYY) 14 _____

TIME OF BIRTH _____

IF MULTIPLE BIRTH ORDER OF BIRTH No. _____ of _____

SEX (Male = 1, Female = 2, Indeterminate = 3) 24

BIRTHWEIGHT 25 _____ GRAMMES

PERIOD OF GESTATION 29 _____ WEEKS

FATHER'S DETAILS

COUNTRY _____ 31 _____

COUNTRY _____ 34 _____

NATIONALITY _____ 38 _____

OCCUPATION _____ 42 _____

DATE OF BIRTH (DDMMYYYY) 44 _____

MOTHER'S DETAILS

COUNTRY _____ 52 _____

COUNTRY _____ 55 _____

NATIONALITY _____ 59 _____

OCCUPATION _____ 63 _____

DATE OF BIRTH (DDMMYYYY) 65 _____

MARITAL STATUS (Married = 1, Never Married = 2, Widowed = 3, Marital Status Separated = 4, Divorced = 5) 73

DATE OF PRESENT MARRIAGE (DDMMYYYY) 74 _____

DATE OF LAST BIRTH (live or still) (DDMMYYYY) 82 _____

NO. OF PREVIOUS LIVE BIRTHS 90 _____

CHILDREN STILL LIVING 92 _____

STILLBIRTHS 94 _____

SPONTANEOUS ABORTIONS 96 _____

PERINATAL DEATH

TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2) 98

WAS AUTOPSY PERFORMED (Yes = 1, No = 2) 99

AGE AT DEATH 100 _____ DAYS 101 _____ HOURS

PLACE OF DEATH 103 _____

IF STILLBIRTH DID DEATH OCCUR BEFORE LABOUR (1) DURING LABOUR (2) NOT KNOWN (3) 106 _____

CAUSE OF DEATH

MAIN DISEASE OR CONDITION IN FETUS OR INFANT _____ 107 _____

OTHER DISEASES OR CONDITIONS IN FETUS OR INFANT _____ 112 _____

MOTHER'S HEALTH

ANTENATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4, Misc. 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 FETUS OR INFANT _____ 136 _____

OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FETUS OR INFANT _____ 141 _____

INFANT'S HEALTH

TYPE OF FEEDING (Artificial = 1, Breast = 2, Combined = 3) 146

WAS BCG ADMINISTERED (Yes = 1, No = 2) 147

MAIN DISEASE OR CONGENITAL MALFORMATION AFFECTING INFANT _____ 148 _____

OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT _____ 153 _____

HOSPITAL

WAS ADMISSION BOOKED (Yes = 1, No = 2) 158

DATE OF MOTHER'S ADMISSION (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

Signature _____ Date _____

BNF01/2003

APPENDIX C

CLASSIFICATION OF OCCUPATION

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

Under Father's occupation, the following applies:

'Not Applicable' is entered when the marital status of the mother has been given as never married, widowed, separated or divorced, and where father's occupation has been left blank. 'Not Stated' applies to those cases where the marital status of the mother is recorded as either married or not stated, and where father's occupation has been left blank or has been recorded as 'unknown'. In either case, if an occupation is given for the father then the appropriate occupational code has been used.

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

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

APPENDIX D

CAUSE OF DEATH CLASSIFICATION

The main cause of death has been determined according to the guidelines set out by the WHO in the Tenth Revision of the ICD.³¹ 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).

³¹ World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1- 3. Geneva: World Health Organization

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

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

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

Rule P4. Conditions entered in wrong section

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

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

Table D1 summarises these rules.

TABLE D1
Cause of Death Coding Rules

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

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

TABLE D2

ICD 10, Cause of Death Codes

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

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

APPENDIX E

CLASSIFICATION OF COUNTY OF RESIDENCE

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

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

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

APPENDIX F

CLASSIFICATION OF NATIONALITY

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

Nationalities have been coded and classified into a set of groups according to a system devised by the CSO.

Country groupings are 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 accession states includes the following:

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

Rest of Europe includes the following:

Andorra	Jersey
Armenia	Liechtenstein
Azerbaijan	Macedonia, The Former Yugoslav Republic of,
Belarus	Moldova, Republic of
Bosnia and Herzegovina	Monaco
Croatia	Norway
Faroe Islands	Russian Federation
Georgia	San Marino
Gibraltar	Switzerland
Guernsey	Turkey
Iceland	Ukraine
Isle of Man	Vatican City
	Yugoslavia, Federal Republic of.

Africa includes the following:

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

Asia includes the following:

Afghanistan	Macao
Bahrain	Malaysia
Bangladesh	Maldives
Bhutan	Mongolia
British Indian Ocean Territory	Myanmar
Brunei Darussalam	Nepal
Cambodia	Oman
China	Pakistan
East Timor	Palestinian Territory, Occupied
Hong Kong	Philippines
India	Qatar
Indonesia	Saudi Arabia
Iran, Islamic Republic of	Singapore
Iraq	Sri Lanka
Israel	Syrian Arab Republic
Japan	Taiwan, Province of China
Jordan	Tajikistan
Kazakhstan	Thailand
Korea, Democratic People's Republic of	Turkmenistan
Korea, Republic of	United Arab Emirates
Kuwait	Uzbekistan
Kyrgyzstan	Vietnam
Lao People's Democratic Republic	Yemen.
Lebanon	

America includes the following:

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

Australia includes the following:

Australia.

New Zealand and Other Oceania includes the following:

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

Multi-Nationality includes the following:

Mixed/Multi-Nationality (stated as so).

No Nationality:

Stated as so.

Not Stated:

Where nationality is not provided.

Not Applicable:

This applies to father's nationality only. Where mother's marital status is stated as 'never married', 'widowed', 'separated' or 'divorced' the General Register Office does not require father's details to register the birth, and as such this information is generally not provided.

All Other Nationalities:

Where nationality is not recorded to any category listed above.

APPENDIX G

SOURCE DATA FOR FIGURES

- G1 Percentage Distribution of Total Births by Mother's Marital Status, 2005–2009
- G2 Mother's County of Residence by Mother's Marital Status, Total Births
- G3 Percentage Distribution of Total Births by Mother's Nationality, 2005–2009
- G4 Mother's Average Age by Mother's Nationality, Total Births
- G5 Percentage Distribution of Total Births to Primiparous Women by Maternal Age, 2005 and 2009
- G6 Percentage Distribution of Total Births to Multiparous Women by Maternal Age, 2005 and 2009
- G7 Age of Mother by Maternal Parity, Total Maternities
- G8 Birthweight Groups for Primiparous Women
- G9 Birthweight Groups for Multiparous Women
- G10 Birthweight Groups, Numbers and Percentages, Total Live Births
- G11 Birthweight Groups by Sex, Total Live Births
- G12 Gestational Age at Delivery, Primiparous Women
- G13 Gestational Age at Delivery, Multiparous Women
- G14 Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births
- G15 Method of Delivery by Parity, Total, Singleton and Multiple Births
- G16 Mother's County of Residence by Infant's Type of Feeding, Total Live Births
- G17 Total Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Birthweight
- G18 Type of Feeding by Place of Birth, Total Live Births

TABLE G1: PERCENTAGE DISTRIBUTION OF TOTAL BIRTHS BY MOTHER'S MARITAL STATUS, 2005–2009

Marital Status	2005	2006	2007	2008	2009
Married	67.6	66.8	66.4	66.1	66.1
Never Married	30.5	31.4	31.7	32.3	32.2
Widowed	0.1	0.2	0.1	0.1	0.1
Separated	1.2	1.1	1.1	0.9	0.9
Divorced	0.5	0.6	0.6	0.6	0.6

TABLE G2: MOTHER'S COUNTY OF RESIDENCE BY MOTHER'S MARITAL STATUS, TOTAL BIRTHS

Mother's County of Residence	Mother's Marital Status						
	Married	Never Married	Widowed	Separated	Divorced	Not Stated	Total
	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
Row Per Cent	Row Per Cent	Row Per Cent	Row Per Cent	Row Per Cent	Row Per Cent	Row Per Cent	Row Per Cent
Col. Per Cent	Col. Per Cent	Col. Per Cent	Col. Per Cent	Col. Per Cent	Col. Per Cent	Col. Per Cent	Col. Per Cent
Carlow	599	394	1	10	3	1	1,008
	59.4	39.1	0.1	1.0	0.3	0.1	100
	1.2	1.6	1.0	1.4	0.7	1.2	1.3
Cavan	868	349	0	15	8	0	1,240
	70.0	28.1	0.0	1.2	0.6	0.0	100
	1.7	1.4	0.0	2.1	1.8	0.0	1.6
Clare	1,351	517	2	7	10	0	1,887
	71.6	27.4	0.1	0.4	0.5	0.0	100
	2.7	2.1	2.0	1.0	2.2	0.0	2.5
Cork	6,045	2,434	20	81	47	9	8,636
	70.0	28.2	0.2	0.9	0.5	0.1	100
	12.0	9.9	19.8	11.6	10.4	10.7	11.4
Donegal	1,544	753	4	30	26	0	2,357
	65.5	31.9	0.2	1.3	1.1	0.0	100
	3.1	3.1	4.0	4.3	5.7	0.0	3.1
Dublin City	9,194	6,157	18	145	93	30	15,637
	58.8	39.4	0.1	0.9	0.6	0.2	100
	18.3	25.2	17.8	20.8	20.5	35.7	20.6
Dublin County	3,881	1,565	7	50	40	19	5,562
	69.8	28.1	0.1	0.9	0.7	0.3	100
	7.7	6.4	6.9	7.2	8.8	22.6	7.3
Galway	2,907	1,034	3	38	12	0	3,994
	72.8	25.9	0.1	1.0	0.3	0.0	100
	5.8	4.2	3.0	5.4	2.6	0.0	5.3
Kerry	1,501	605	2	29	20	0	2,157
	69.6	28.0	0.1	1.3	0.9	0.0	100
	3.0	2.5	2.0	4.2	4.4	0.0	2.8
Kildare	2,756	1,220	2	35	14	1	4,028
	68.4	30.3	0.0	0.9	0.3	0.0	100
	5.5	5.0	2.0	5.0	3.1	1.2	5.3
Kilkenny	984	429	1	7	5	0	1,426
	69.0	30.1	0.1	0.5	0.4	0.0	100
	2.0	1.8	1.0	1.0	1.1	0.0	1.9
Laois	903	485	1	9	5	1	1,404
	64.3	34.5	0.1	0.6	0.4	0.1	100
	1.8	2.0	1.0	1.3	1.1	1.2	1.8
Leitrim	361	114	2	2	4	0	483
	74.7	23.6	0.4	0.4	0.8	0.0	100
	0.7	0.5	2.0	0.3	0.9	0.0	0.6
Limerick	2,068	1,121	4	17	12	0	3,222
	64.2	34.8	0.1	0.5	0.4	0.0	100
	4.1	4.6	4.0	2.4	2.6	0.0	4.2
Longford	467	226	0	17	8	0	718
	65.0	31.5	0.0	2.4	1.1	0.0	100
	0.9	0.9	0.0	2.4	1.8	0.0	0.9
Louth	1,162	690	5	27	15	0	1,899
	61.2	36.3	0.3	1.4	0.8	0.0	100
	2.3	2.8	5.0	3.9	3.3	0.0	2.5
Mayo	1,339	470	2	17	19	1	1,848
	72.5	25.4	0.1	0.9	1.0	0.1	100
	2.7	1.9	2.0	2.4	4.2	1.2	2.4

TABLE G2: MOTHER'S COUNTY OF RESIDENCE BY MOTHER'S MARITAL STATUS, TOTAL BIRTHS (CONT'D.)

Mother's County of Residence Frequency Row Per Cent Col. Per Cent	Mother's Marital Status						
	Married	Never Married	Widowed	Separated	Divorced	Not Stated	Total
Meath	2,613	942	1	24	20	2	3,602
	72.5	26.2	0.0	0.7	0.6	0.1	100
	5.2	3.8	1.0	3.4	4.4	2.4	4.7
Monaghan	594	227	1	6	2	0	830
	71.6	27.3	0.1	0.7	0.2	0.0	100
	1.2	0.9	1.0	0.9	0.4	0.0	1.1
Offaly	828	417	0	5	9	0	1,259
	65.8	33.1	0.0	0.4	0.7	0.0	100
	1.6	1.7	0.0	0.7	2.0	0.0	1.7
Roscommon	701	215	0	9	3	0	928
	75.5	23.2	0.0	1.0	0.3	0.0	100
	1.4	0.9	0.0	1.3	0.7	0.0	1.2
Sligo	669	314	1	8	4	0	996
	67.2	31.5	0.1	0.8	0.4	0.0	100
	1.3	1.3	1.0	1.1	0.9	0.0	1.3
Tipperary	1,642	901	13	17	11	0	2,584
	63.5	34.9	0.5	0.7	0.4	0.0	100
	3.3	3.7	12.9	2.4	2.4	0.0	3.4
Waterford	1,187	683	5	23	19	0	1,917
	61.9	35.6	0.3	1.2	1.0	0.0	100
	2.4	2.8	5.0	3.3	4.2	0.0	2.5
Westmeath	1,003	472	1	14	10	0	1,500
	66.9	31.5	0.1	0.9	0.7	0.0	100
	2.0	1.9	1.0	2.0	2.2	0.0	2.0
Wexford	1,427	928	3	37	25	1	2,421
	58.9	38.3	0.1	1.5	1.0	0.0	100
	2.8	3.8	3.0	5.3	5.5	1.2	3.2
Wicklow	1,600	812	2	19	9	19	2,461
	65.0	33.0	0.1	0.8	0.4	0.8	100
	3.2	3.3	2.0	2.7	2.0	22.6	3.2
Other	13	3	0	0	0	0	16
	81.3	18.8	0.0	0.0	0.0	0.0	100
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not Stated	1	0	0	0	0	0	1
	100.0	0.0	0.0	0.0	0.0	0.0	100
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	50,208	24,477	101	698	453	84	76,021
	66.0	32.2	0.1	0.9	0.6	0.1	100
	100	100	100	100	100	100	100

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

TABLE G3: PERCENTAGE DISTRIBUTION OF TOTAL BIRTHS BY MOTHER'S NATIONALITY, 2005–2009

Mother's Nationality	2005	2006	2007	2008	2009
Ireland	83.5	81.6	79.3	77.5	76.2
UK	3.4	3.3	3.0	2.7	2.6
EU Accession States*	1.9	3.9	7.2	9.3	10.3
Africa	4.4	4.0	3.6	3.4	3.4
Asia	2.9	3.1	3.6	3.7	4.0

Notes: Percentages calculated for the five most frequent nationalities in 2009. 'Not Stated' values are not included in the calculation of percentages.

*Please note that the following EU Accession States joined the EU in 2004: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia. Bulgaria and Romania joined the EU 2007.

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

TABLE G4: MOTHER'S AVERAGE AGE BY MOTHER'S NATIONALITY, TOTAL BIRTHS

Mother's Nationality	Average Age in Years
Ireland	31.8
UK	31.7
EU15 (excluding Ireland & UK)	32.8
EU15 to EU27 Accession States	28.0
Rest of Europe	30.1
Africa	30.9
Asia	30.5
America	31.5
Australia	32.5
Total	31.3

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

TABLE G5: PERCENTAGE DISTRIBUTION OF TOTAL BIRTHS TO PRIMIPAROUS WOMEN BY MATERNAL AGE, 2005 AND 2009

Maternal Age (years)	2005	2009
<20 Years	8.8	6.4
20-24 Years	19.5	18.2
25-29 Years	25.6	29.3
30-34 Years	32.4	31.1
35-39 Years	11.8	12.6
40+ Years	1.9	2.3
Total	100	100

TABLE G6: PERCENTAGE DISTRIBUTION OF TOTAL BIRTHS TO MULTIPAROUS WOMEN BY MATERNAL AGE, 2005 AND 2009

Maternal Age (years)	2005	2009
<20 Years	0.6	0.5
20-24 Years	8.1	7.1
25-29 Years	19.9	20.3
30-34 Years	37.1	35.4
35-39 Years	28.5	30.5
40+ Years	5.8	6.3
Total	100	100

TABLE G7: AGE OF MOTHER BY MATERNAL PARITY, TOTAL MATERNITIES

Age of Mother Frequency Row Percent	Maternal Parity									Total	
	0	1	2	3	4	5	6	More than 6	Not Stated		
< 20 Years	2,044 90.7	191 8.5	15 0.7	3 0.1	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	2,253 100
20-24 Years	5,774 65.2	2,347 26.5	577 6.5	135 1.5	25 0.3	1 0.0	0 0.0	0 0.0	0 0.0	1 0.0	8,860 100
25-29 Years	9,254 51.2	5,636 31.2	2,121 11.7	720 4.0	212 1.2	81 0.4	27 0.1	8 0.0	3 0.0	3 0.0	18,062 100
30-34 Years	9,764 38.8	9,073 36.1	4,157 16.5	1,420 5.6	425 1.7	176 0.7	71 0.3	47 0.2	2 0.0	2 0.0	25,135 100
35-39 Years	3,888 22.8	5,781 33.8	4,638 27.2	1,856 10.9	555 3.2	201 1.2	75 0.4	84 0.5	3 0.0	3 0.0	17,081 100
40+ Years	683 20.1	1,001 29.5	816 24.0	490 14.4	214 6.3	100 2.9	40 1.2	54 1.6	0 0.0	0 0.0	3,398 100
Not Stated	15 71.4	4 19.0	2 9.5	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	0 0.0	21 100
Total	31,422 42.0	24,033 32.1	12,326 16.5	4,624 6.2	1,431 1.9	559 0.7	213 0.3	193 0.3	9 0.0	9 0.0	74,810 100

TABLE G8: BIRTHWEIGHT GROUPS FOR PRIMIPAROUS WOMEN
 Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

Birthweight	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
500-749	94	0.3	63	31	329.8	25	396.8	595.7	558.1	85
750-999	91	0.3	74	17	186.8	8	108.1	274.7	214.3	85
1000-1249	90	0.3	79	11	122.2	3	38.0	155.6	116.3	79
1250-1499	158	0.5	142	16	101.3	5	35.2	132.9	98.7	127
1500-1999	488	1.5	463	25	51.2	3	6.5	57.4	41.7	390
2000-2499	1,191	3.7	1,181	10	8.4	6	5.1	13.4	8.4	1,040
2500-2999	4,443	13.9	4,420	23	5.2	5	1.1	6.3	5.0	4,269
3000-3499	11,149	34.9	11,135	14	1.3	1	0.1	1.3	1.3	11,104
3500-3999	10,281	32.2	10,271	10	1.0	5	0.5	1.5	1.1	10,275
4000-4499	3,394	10.6	3,391	3	0.9	2	0.6	1.5	1.5	3,394
4500 and Over	573	1.8	572	1	1.7	2	3.5	5.2	5.2	573
Not Stated	2	0.0	0	2	1,000.0	0	0.0	1,000.0	0.0	1
Total	31,954	100	31,791	163	5.1	65	2.0	7.1	5.5	31,422
Singleton Births										
500-749	79	0.3	50	29	367.1	21	420.0	632.9	597.2	79
750-999	75	0.2	61	14	186.7	8	131.1	293.3	220.6	75
1000-1249	68	0.2	59	9	132.4	2	33.9	161.8	123.1	68
1250-1499	107	0.3	92	15	140.2	4	43.5	177.6	128.7	107
1500-1999	303	1.0	279	24	79.2	2	7.2	85.8	64.2	303
2000-2499	879	2.8	869	10	11.4	6	6.9	18.2	11.5	879
2500-2999	4,094	13.3	4,071	23	5.6	4	1.0	6.6	5.1	4,094
3000-3499	11,049	35.8	11,035	14	1.3	1	0.1	1.4	1.4	11,049
3500-3999	10,270	33.2	10,260	10	1.0	5	0.5	1.5	1.1	10,270
4000-4499	3,393	11.0	3,390	3	0.9	2	0.6	1.5	1.5	3,393
4500 and Over	573	1.9	572	1	1.7	2	3.5	5.2	5.2	573
Not Stated	1	0.0	0	1	1,000.0	0	0.0	1,000.0	0.0	1
Total	30,891	100	30,738	153	5.0	57	1.9	6.8	5.3	30,891
Multiple Births										
500-749	15	1.4	13	2	133.3	4	307.7	400.0	357.1	6
750-999	16	1.5	13	3	187.5	0	0.0	187.5	187.5	10
1000-1249	22	2.1	20	2	90.9	1	50.0	136.4	95.2	11
1250-1499	51	4.8	50	1	19.6	1	20.0	39.2	39.2	20
1500-1999	185	17.4	184	1	5.4	1	5.4	10.8	5.4	87
2000-2499	312	29.4	312	0	0.0	0	0.0	0.0	0.0	161
2500-2999	349	32.8	349	0	0.0	1	2.9	2.9	2.9	175
3000-3499	100	9.4	100	0	0.0	0	0.0	0.0	0.0	55
3500-3999	11	1.0	11	0	0.0	0	0.0	0.0	0.0	5
4000-4499	1	0.1	1	0	0.0	0	0.0	0.0	0.0	1
4500 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	1	0.1	0	1	1,000.0	0	0.0	1,000.0	0.0	0
Total	1,063	100	1,053	10	9.4	8	7.6	16.9	13.2	531

Note: There were 9 maternities with parity unknown; these were excluded from this table.

TABLE G9: BIRTHWEIGHT GROUPS FOR MULTIPAROUS WOMEN

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

Birthweight	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
500-749	67	0.2	36	31	462.7	17	472.2	716.4	678.0	65
750-999	75	0.2	62	13	173.3	7	112.9	266.7	127.0	64
1000-1249	91	0.2	71	20	219.8	6	84.5	285.7	235.3	80
1250-1499	116	0.3	102	14	120.7	3	29.4	146.6	108.1	99
1500-1999	421	1.0	398	23	54.6	13	32.7	85.5	42.3	353
2000-2499	1,152	2.6	1,122	30	26.0	18	16.0	41.7	23.9	1,006
2500-2999	4,572	10.4	4,549	23	5.0	7	1.5	6.6	4.4	4,282
3000-3499	13,484	30.6	13,453	31	2.3	12	0.9	3.2	2.4	13,368
3500-3999	15,854	36.0	15,838	16	1.0	2	0.1	1.1	1.0	15,837
4000-4499	6,790	15.4	6,785	5	0.7	0	0.0	0.7	0.7	6,789
4500 and Over	1,435	3.3	1,434	1	0.7	2	1.4	2.1	2.1	1,435
Not Stated	1	0.0	1	0	0.0	1	1,000.0	1,000.0	1,000.0	1
Total	44,058	100	43,851	207	4.7	88	2.0	6.7	4.6	43,379
Singleton Births										
500-749	61	0.1	33	28	459.0	16	484.8	721.3	679.2	61
750-999	59	0.1	46	13	220.3	6	130.4	322.0	166.7	59
1000-1249	70	0.2	51	19	271.4	4	78.4	328.6	276.9	70
1250-1499	84	0.2	71	13	154.8	3	42.3	190.5	139.2	84
1500-1999	295	0.7	272	23	78.0	13	47.8	122.0	61.6	295
2000-2499	851	2.0	821	30	35.3	17	20.7	55.2	32.5	851
2500-2999	3,993	9.4	3,970	23	5.8	7	1.8	7.5	5.0	3,993
3000-3499	13,246	31.0	13,216	30	2.3	12	0.9	3.2	2.3	13,246
3500-3999	15,821	37.0	15,805	16	1.0	2	0.1	1.1	1.0	15,821
4000-4499	6,789	15.9	6,784	5	0.7	0	0.0	0.7	0.7	6,789
4500 and Over	1,435	3.4	1,434	1	0.7	2	1.4	2.1	2.1	1,435
Not Stated	1	0.0	1	0	0.0	1	1,000.0	1,000.0	1,000.0	1
Total	42,705	100	42,504	201	4.7	83	2.0	6.7	4.5	42,705
Multiple Births										
500-749	6	0.4	3	3	500.0	1	333.3	666.7	666.7	4
750-999	16	1.2	16	0	0.0	1	62.5	62.5	0.0	5
1000-1249	21	1.6	20	1	47.6	2	100.0	142.9	100.0	10
1250-1499	32	2.4	31	1	31.3	0	0.0	31.3	31.3	15
1500-1999	126	9.3	126	0	0.0	0	0.0	0.0	0.0	58
2000-2499	301	22.2	301	0	0.0	1	3.3	3.3	0.0	155
2500-2999	579	42.8	579	0	0.0	0	0.0	0.0	0.0	289
3000-3499	238	17.6	237	1	4.2	0	0.0	4.2	4.2	122
3500-3999	33	2.4	33	0	0.0	0	0.0	0.0	0.0	16
4000-4499	1	0.1	1	0	0.0	0	0.0	0.0	0.0	0
4500 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,353	100	1,347	6	4.4	5	3.7	8.1	5.9	674

Note: There were 9 maternities with parity unknown; these were excluded from this table.

TABLE G10: BIRTHWEIGHT GROUPS, NUMBERS AND PERCENTAGES, TOTAL LIVE BIRTHS

Birthweight (grams)	Number	Per Cent
Less than 1,500 grams	630	0.8
1,500 - 2,499 grams	3,165	4.2
2,500 - 4,499 grams	69,847	92.3
4,500 grams and over	2,006	2.7
Not Stated	1	0.0
Total	75,649	100

TABLE G11: BIRTHWEIGHT GROUPS BY SEX, TOTAL LIVE BIRTHS

Birthweight (grams)	Male		Female		Indeterminate		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
500-749	51	0.1	48	0.1	0	0.0	99	0.1
750-999	79	0.2	57	0.2	0	0.0	136	0.2
1000-1249	71	0.2	79	0.2	0	0.0	150	0.2
1250-1499	129	0.3	116	0.3	0	0.0	245	0.3
1500-1999	394	1.0	466	1.3	1	33.3	861	1.1
2000-2499	1,049	2.7	1,255	3.4	0	0.0	2,304	3.0
2500-2999	3,944	10.2	5,025	13.6	1	33.3	8,970	11.9
3000-3499	11,427	29.5	13,160	35.7	1	33.3	24,588	32.5
3500-3999	14,067	36.3	12,044	32.6	0	0.0	26,111	34.5
4000-4499	6,185	16.0	3,993	10.8	0	0.0	10,178	13.5
4500 and Over	1,341	3.5	665	1.8	0	0.0	2,006	2.7
Not Stated	0	0.0	1	0.0	0	0.0	1	0.0
Total	38,737	100	36,909	100	3	100	75,649	100

TABLE G12: GESTATIONAL AGE AT DELIVERY, PRIMIPAROUS WOMEN

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

Gestation (Weeks)	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Less than 28	162	0.5	124	38	234.6	33	266.1	438.3	385.1	148
28-31	264	0.8	232	32	121.2	7	30.2	147.7	103.6	229
32-36	1,771	5.5	1,734	37	20.9	9	5.2	26.0	19.3	1,534
37-41	28,250	88.4	28,198	52	1.8	13	0.5	2.3	1.9	28,004
42 and Over	1,503	4.7	1,501	2	1.3	2	1.3	2.7	1.3	1,503
Not Stated	4	0.0	2	2	500.0	1	500.0	750.0	750.0	4
Total	31,954	100	31,791	163	5.1	65	2.0	7.1	5.5	31,422
Singleton Births										
Less than 28	134	0.4	99	35	261.2	29	292.9	477.6	421.5	134
28-31	192	0.6	165	27	140.6	6	36.4	171.9	116.7	192
32-36	1,300	4.2	1,264	36	27.7	6	4.7	32.3	24.0	1,300
37-41	27,758	89.9	27,707	51	1.8	13	0.5	2.3	2.0	27,758
42 and Over	1,503	4.9	1,501	2	1.3	2	1.3	2.7	1.3	1,503
Not Stated	4	0.0	2	2	500.0	1	500.0	750.0	750.0	4
Total	30,891	100	30,738	153	5.0	57	1.9	6.8	5.3	30,891
Multiple Births										
Less than 28	28	2.6	25	3	107.1	4	160.0	250.0	222.2	14
28-31	72	6.8	67	5	69.4	1	14.9	83.3	70.4	37
32-36	471	44.3	470	1	2.1	3	6.4	8.5	6.4	234
37-41	492	46.3	491	1	2.0	0	0.0	2.0	0.0	246
42 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,063	100	1,053	10	9.4	8	7.6	16.9	13.2	531

Note: There were 9 maternities with parity unknown; these were excluded from this table.

TABLE G13: GESTATIONAL AGE AT DELIVERY, MULTIPAROUS WOMEN
 Total Births, Live Births, Stillbirths, Early Neonatal Deaths, Mortality Rates, and Maternities

Gestation (Weeks)	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR	Maternities
Total Births										
Less than 28	143	0.3	100	43	300.7	22	220.0	454.5	404.6	134
28-31	249	0.6	224	25	100.4	10	44.6	140.6	104.6	216
32-36	1,948	4.4	1,896	52	26.7	25	13.2	39.5	23.0	1,709
37-41	40,598	92.1	40,512	86	2.1	30	0.7	2.9	1.9	40,200
42 and Over	1,118	2.5	1,117	1	0.9	1	0.9	1.8	0.9	1,118
Not Stated	2	0.0	2	0	0.0	0	0.0	0.0	0.0	2
Total	44,058	100	43,851	207	4.7	88	2.0	6.7	4.6	43,379
Singleton Births										
Less than 28	124	0.3	84	40	322.6	22	261.9	500.0	446.4	124
28-31	184	0.4	159	25	135.9	8	50.3	179.3	132.2	184
32-36	1,475	3.5	1,424	51	34.6	23	16.2	50.2	29.8	1,475
37-41	39,802	93.2	39,718	84	2.1	29	0.7	2.8	1.9	39,802
42 and Over	1,118	2.6	1,117	1	0.9	1	0.9	1.8	0.9	1,118
Not Stated	2	0.0	2	0	0.0	0	0.0	0.0	0.0	2
Total	42,705	100	42,504	201	4.7	83	2.0	6.7	4.5	42,705
Multiple Births										
Less than 28	19	1.4	16	3	157.9	0	0.0	157.9	157.9	10
28-31	65	4.8	65	0	0.0	2	30.8	30.8	30.8	32
32-36	473	35.0	472	1	2.1	2	4.2	6.3	2.1	234
37-41	796	58.8	794	2	2.5	1	1.3	3.8	2.5	398
42 and Over	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Not Stated	0	0.0	0	0	0.0	0	0.0	0.0	0.0	0
Total	1,353	100	1,347	6	4.4	5	3.7	8.1	5.9	674

Note: There were 9 maternities with parity unknown; these were excluded from this table.

TABLE G14: METHOD OF DELIVERY BY MOTHER'S POSTNATAL LENGTH OF STAY, SINGLETON AND MULTIPLE BIRTHS

Method of Delivery	Postnatal Length of Stay					Total
	0-2 Days	3-5 Days	6-8 Days	9+ Days	Not Stated	
Frequency						
Row Per Cent						
Col. Per Cent						
Singleton Births						
Spontaneous	31,595	10,274	243	64	17	42,193
	74.9	24.4	0.6	0.2	0.0	100
	80.9	31.4	17.5	25.1	77.3	57.4
Breech/Forceps	178	120	3	0	1	302
	58.9	39.7	1.0	0.0	0.3	100
	0.5	0.4	0.2	0.0	4.5	0.4
Forceps	1,473	1,519	46	10	0	3,048
	48.3	49.8	1.5	0.3	0.0	100
	3.8	4.6	3.3	3.9	0.0	4.1
Vacuum extraction	5,141	3,775	124	16	0	9,056
	56.8	41.7	1.4	0.2	0.0	100
	13.2	11.5	9.0	6.3	0.0	12.3
Caesarean section	651	17,029	968	165	4	18,817
	3.5	90.5	5.1	0.9	0.0	100
	1.7	52.0	69.9	64.7	18.2	25.6
Other	33	7	1	0	0	41
	80.5	17.1	2.4	0.0	0.0	100
	0.1	0.0	0.1	0.0	0.0	0.1
Total	39,071	32,724	1,385	255	22	73,457
	53.2	44.5	1.9	0.3	0.0	100
	100	100	100	100	100	100
Multiple Births						
Spontaneous	178	391	21	5	0	595
	29.9	65.7	3.5	0.8	0.0	100
	69.3	21.4	7.2	13.2	0.0	24.6
Breech/Forceps	29	39	5	1	0	74
	39.2	52.7	6.8	1.4	0.0	100
	11.3	2.1	1.7	2.6	0.0	3.1
Forceps	4	29	3	0	0	36
	11.1	80.6	8.3	0.0	0.0	100
	1.6	1.6	1.0	0.0	0.0	1.5
Vacuum extraction	30	108	5	2	0	145
	20.7	74.5	3.4	1.4	0.0	100
	11.7	5.9	1.7	5.3	0.0	6.0
Caesarean section	16	1,260	258	30	0	1,564
	1.0	80.6	16.5	1.9	0.0	100
	6.2	68.9	88.4	78.9	0.0	64.7
Other	0	2	0	0	0	2
	0.0	100.0	0.0	0.0	0.0	100
	0.0	0.1	0.0	0.0	0.0	0.1
Total	257	1,829	292	38	0	2,416
	10.6	75.7	12.1	1.6	0.0	100
	100	100	100	100	0	100

Note: Domiciliary births, of which there were 148 singleton births, are excluded from this table. See Section Six for detailed analysis.

TABLE G15: METHOD OF DELIVERY BY PARITY, TOTAL, SINGLETON AND MULTIPLE BIRTHS

Method of Delivery	Total Births		Singleton Births		Multiple Births	
	Number	Per cent	Number	Per cent	Number	Per cent
Total Births						
Spontaneous	42,932	56.5	42,337	57.5	595	24.6
Breech/Forceps	376	0.5	302	0.4	74	3.1
Forceps	3,084	4.1	3,048	4.1	36	1.5
Vacuum extraction	9,201	12.1	9,056	12.3	145	6.0
Caesarean section	20,377	26.8	18,813	25.6	1,564	64.7
Other specified & combined	41	0.1	39	0.1	2	0.1
Not stated	1	0.0	1	0.0	0	0.0
Total	76,012	100	73,596	100	2,416	100
Births to Primiparous Women						
Spontaneous	13,494	42.2	13,361	43.3	133	12.5
Breech/Forceps	181	0.6	159	0.5	22	2.1
Forceps	2,586	8.1	2,557	8.3	29	2.7
Vacuum extraction	6,710	21.0	6,631	21.5	79	7.4
Caesarean section	8,981	28.1	8,181	26.5	800	75.3
Other specified & combined	2	0.0	2	0.0	0	0.0
Not stated	0	0.0	0	0.0	0	0.0
Total	31,954	100	30,891	100	1,063	100
Births to Multiparous Women						
Spontaneous	29,438	66.8	28,976	67.9	462	34.1
Breech/Forceps	195	0.4	143	0.3	52	3.8
Forceps	498	1.1	491	1.1	7	0.5
Vacuum extraction	2,491	5.7	2,425	5.7	66	4.9
Caesarean section	11,396	25.9	10,632	24.9	764	56.5
Other specified & combined	39	0.1	37	0.1	2	0.1
Not stated	1	0.0	1	0.0	0	0.0
Total	44,058	100	42,705	100	1,353	100

Note: There were 9 maternities with parity unknown; these were excluded from this table.

TABLE G16: MOTHER'S COUNTY OF RESIDENCE BY INFANT'S TYPE OF FEEDING, TOTAL LIVE BIRTHS

Mother's County of Residence Frequency Row Per Cent Col. Per Cent	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
Carlow	477	517	7	0	1,001
	47.7	51.6	0.7	0.0	100
	1.3	1.5	0.1	0.0	1.3
Cavan	606	589	37	0	1,232
	49.2	47.8	3.0	0.0	100
	1.7	1.7	0.7	0.0	1.6
Clare	1,396	397	82	1	1,876
	74.4	21.2	4.4	0.1	100
	3.9	1.2	1.5	25.0	2.5
Cork	3,818	3,635	1,128	0	8,581
	44.5	42.4	13.1	0.0	100
	10.7	10.6	20.1	0.0	11.4
Donegal	1,384	756	199	0	2,339
	59.2	32.3	8.5	0.0	100
	3.9	2.2	3.5	0.0	3.1
Dublin City	6,476	7,791	1,267	0	15,534
	41.7	50.2	8.2	0.0	100
	18.1	22.8	22.6	0.0	20.6
Dublin County	2,012	3,085	439	1	5,537
	36.3	55.7	7.9	0.0	100
	5.6	9.0	7.8	25.0	7.3
Galway	1,710	1,428	821	0	3,959
	43.2	36.1	20.7	0.0	100
	4.8	4.2	14.6	0.0	5.2
Kerry	1,067	954	119	0	2,140
	49.9	44.6	5.6	0.0	100
	3.0	2.8	2.1	0.0	2.8
Kildare	1,823	1,960	220	0	4,003
	45.5	49.0	5.5	0.0	100
	5.1	5.7	3.9	0.0	5.3
Kilkenny	632	775	4	0	1,411
	44.8	54.9	0.3	0.0	100
	1.8	2.3	0.1	0.0	1.9
Laois	625	728	43	1	1,397
	44.7	52.1	3.1	0.1	100
	1.7	2.1	0.8	25.0	1.9
Leitrim	210	229	40	0	479
	43.8	47.8	8.4	0.0	100
	0.6	0.7	0.7	0.0	0.6
Limerick	2,555	567	78	0	3,200
	79.8	17.7	2.4	0.0	100
	7.2	1.7	1.4	0.0	4.2
Longford	361	324	27	0	712
	50.7	45.5	3.8	0.0	100
	1.0	0.9	0.5	0.0	0.9
Louth	896	858	129	1	1,884
	47.6	45.5	6.8	0.1	100
	2.5	2.5	2.3	25.0	2.5
Mayo	836	856	143	0	1,835
	45.6	46.6	7.8	0.0	100
	2.3	2.5	2.5	0.0	2.4

TABLE G16: MOTHER'S COUNTY OF RESIDENCE BY INFANT'S TYPE OF FEEDING, TOTAL LIVE BIRTHS (CONT'D.)

Mother's County of Residence Frequency Row Per Cent Col. Per Cent	Type of Feeding				Total
	Artificial	Breast	Combined	Not Stated	
Meath	1,567 43.8 4.4	1,794 50.2 5.3	213 6.0 3.8	0 0.0 0.0	3,574 100 4.7
Monaghan	410 49.7 1.1	388 47.0 1.1	27 3.3 0.5	0 0.0 0.0	825 100 1.1
Offaly	651 52.0 1.8	568 45.4 1.7	32 2.6 0.6	0 0.0 0.0	1,251 100 1.7
Roscommon	442 48.0 1.2	419 45.5 1.2	60 6.5 1.1	0 0.0 0.0	921 100 1.2
Sligo	516 52.2 1.4	379 38.4 1.1	93 9.4 1.7	0 0.0 0.0	988 100 1.3
Tipperary	1,470 57.3 4.1	1,060 41.3 3.1	36 1.4 0.6	0 0.0 0.0	2,566 100 3.4
Waterford	843 44.3 2.4	1,006 52.8 2.9	56 2.9 1.0	0 0.0 0.0	1,905 100 2.5
Westmeath	654 43.9 1.8	795 53.4 2.3	40 2.7 0.7	0 0.0 0.0	1,489 100 2.0
Wexford	1,192 49.7 3.3	1,095 45.6 3.2	113 4.7 2.0	0 0.0 0.0	2,400 100 3.2
Wicklow	1,097 45.0 3.1	1,184 48.5 3.5	159 6.5 2.8	0 0.0 0.0	2,440 100 3.2
Other	6 40.0 0.0	9 60.0 0.0	0 0.0 0.0	0 0.0 0.0	15 100 0.0
Not Stated	1 100.0 0.0	0 0.0 0.0	0 0.0 0.0	0 0.0 0.0	1 100 0.0
Total	35,733 47.3 100	34,146 45.2 100	5,612 7.4 100	4 0.0 100	75,495 100 100

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

TABLE G17: TOTAL BIRTHS, ANTEPARTUM AND INTRAPARTUM STILLBIRTHS, EARLY NEONATAL DEATHS, AND MORTALITY RATES BY BIRTHWEIGHT

Birthweight (grams)	Total Births	Total Births %	Ante-partum Stillbirths	Intra-partum Stillbirths	Not Stated	Stillbirth Rate	Early Neonatal Deaths	Early Neonatal Mortality Rate	Perinatal Mortality Rate	Adjusted PMR
Total Births										
500-749	161	0.2	53	5	4	385.1	42	424.2	646.0	606.9
750-999	166	0.2	27	3	0	180.7	15	110.3	271.1	176.9
1000-1249	181	0.2	24	3	4	171.3	9	60.0	221.0	175.4
1250-1499	275	0.4	25	3	2	109.1	8	32.7	138.2	102.3
1500-1999	910	1.2	41	6	2	53.8	16	18.6	71.4	43.0
2000-2499	2,344	3.1	36	2	2	17.1	25	10.9	27.7	16.0
2500-2999	9,017	11.9	42	2	3	5.2	12	1.3	6.5	4.8
3000-3499	24,633	32.4	40	1	4	1.8	13	0.5	2.4	1.9
3500-3999	26,137	34.4	23	1	2	1.0	7	0.3	1.3	1.0
4000-4499	10,186	13.4	5	2	1	0.8	2	0.2	1.0	1.0
4500 and Over	2,008	2.6	2	0	0	1.0	4	2.0	3.0	3.0
Not Stated	3	0.0	2	0	0	666.7	1	1000.0	1000.0	1000.0
Total	76,021	100	320	28	24	4.9	154	2.0	6.9	5.0
Singleton Births										
500-749	140	0.2	48	5	4	407.1	37	445.8	671.4	632.0
750-999	134	0.2	25	2	0	201.5	14	130.8	306.0	198.3
1000-1249	138	0.2	22	3	3	202.9	6	54.5	246.4	200.0
1250-1499	192	0.3	24	2	2	145.8	7	42.7	182.3	132.6
1500-1999	599	0.8	40	6	2	80.1	15	27.2	105.2	64.6
2000-2499	1,731	2.4	36	2	2	23.1	24	14.2	37.0	21.7
2500-2999	8,089	11.0	42	2	3	5.8	11	1.4	7.2	5.2
3000-3499	24,295	33.0	39	1	4	1.8	13	0.5	2.3	1.9
3500-3999	26,093	35.5	23	1	2	1.0	7	0.3	1.3	1.0
4000-4499	10,184	13.8	5	2	1	0.8	2	0.2	1.0	1.0
4500 and Over	2,008	2.7	2	0	0	1.0	4	2.0	3.0	3.0
Not Stated	2	0.0	1	0	0	500.0	1	1000.0	1000.0	1000.0
Total	73,605	100	307	26	23	4.8	141	1.9	6.8	4.9
Multiple Births										
500-749	21	0.9	5	0	0	238.1	5	312.5	476.2	450.0
750-999	32	1.3	2	1	0	93.8	1	34.5	125.0	96.8
1000-1249	43	1.8	2	0	1	69.8	3	75.0	139.5	97.6
1250-1499	83	3.4	1	1	0	24.1	1	12.3	36.1	36.1
1500-1999	311	12.9	1	0	0	3.2	1	3.2	6.4	3.2
2000-2499	613	25.4	0	0	0	0.0	1	1.6	1.6	0.0
2500-2999	928	38.4	0	0	0	0.0	1	1.1	1.1	1.1
3000-3499	338	14.0	1	0	0	3.0	0	0.0	3.0	3.0
3500-3999	44	1.8	0	0	0	0.0	0	0.0	0.0	0.0
4000-4499	2	0.1	0	0	0	0.0	0	0.0	0.0	0.0
4500 and Over	0	0.0	0	0	0	0.0	0	0.0	0.0	0.0
Not Stated	1	0.0	1	0	0	1000.0	0	0.0	1000.0	0.0
Total	2,416	100	13	2	1	6.6	13	5.4	12.0	9.1

TABLE G18: TYPE OF FEEDING BY PLACE OF BIRTH, TOTAL LIVE BIRTHS

Type of Feeding	Hospital		Domiciliary		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Artificial	35,729	47.4	4	2.7	35,733	47.3
Breast	34,003	45.1	143	97.3	34,146	45.2
Combined	5,612	7.4	0	0.0	5,612	7.4
Total	75,344	100	147	100	75,491	100

Note: This table excludes type of feeding unknown and early neonatal deaths.

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