

Report on  
**PERINATAL STATISTICS**  
for 1999

HIPE & NPRS Unit, ESRI

HIPE: Hospital In-Patient Enquiry

NPRS: National Perinatal Reporting System

December 2002





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# Acknowledgements

The collection and analysis of national perinatal data is a large undertaking and the compilation of an accurate and comprehensive data base on a timely basis depends on the co-operation and assistance of many people. Principal among these are the staff of the maternity hospitals and units and the many independent midwives. I would like to express my sincere appreciation to all who contribute to the accurate recording and timely notification of statistical information for all births nationally.

In addition to funding the work of the HIPE & NPRS Unit at the ESRI, the Department of Health and Children has provided ongoing support for the operation of the NPRS at the ESRI since 1999. We would like to acknowledge, in particular, the assistance provided by Hugh Magee, Tim McCarthy, Claire Grant and Bernadette Kelly.

We would like to extend our sincere appreciation to Deirdre Carey of the Eastern Regional Health Authority and Mary Heanue at the Central Statistics office for all their help in clarifying issues arising with data interpretation and analysis

The production of this report has been a team effort. In particular I would like to thank, Anne Clifton, Aisling Mulligan and Mary Walker who have all worked directly on the collection and analysis of the data presented in this report and Professor Miriam Wiley for assistance with finalising the report for publication.

Many thanks to our ESRI colleagues Deirdre Whitaker and Pat Hopkins for the assistance provided in the preparation of this report for printing.

We hope that this report will serve to highlight the richness of the resource offered by high quality, timely and accurate data for research and evaluation of perinatal events in particular and health care services at the population level.

**Gillian Cullen**

*NPRS Manager, ESRI*



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# Executive Summary

The principal aim of the National Perinatal Reporting Scheme (NPRS) is the provision of national statistics on perinatal events. Since 1999, the Economic and Social Research Institute (ESRI) has been contracted by the Department of Health and Children to oversee the collection, processing, management and reporting of data submitted to the NPRS. In this report, data on pregnancy outcomes, with particular reference to perinatal mortality and important aspects of perinatal care, are presented for 1999. In addition, descriptive social and biological characteristics of mothers giving birth and babies born in 1999 are recorded.

In 1999, 54,307 births were notified to the National Perinatal Reporting System, an increase of 2.3 per cent since 1990. Of these, 288 were stillbirths giving a Stillbirth Rate of 5.3 per 1,000 births for 1999, a decrease of 11.67 per cent since 1990. There were 157 Early Neonatal Deaths resulting in an Early Neonatal Death Rate of 2.9 per 1,000 births for the same year 1999. This compares with an Early Neonatal Death Rate of 4.0 in 1990 representing a decrease of 27.5 per cent over that period. The Perinatal Mortality Rate was 8.2 per 1,000 births in 1999, a decrease of 18 per cent since 1990.

The average birthweight for babies born in 1999 is estimated at 3,477g, a small reduction on the 1990 estimate of 3,488g. Average gestational age at delivery has declined marginally from 39.6 weeks in 1990 to 39.5 weeks in 1999. Low birthweight babies (weighing less than 2,500g) represented 4.9 per cent of all births in 1999 compared with an estimated 4.2 per cent in 1990. The Twining Rate for 1999 is estimated at 13.0 per 1,000 maternities, as there were 696 twin births and 28 triplet births.

In 1999, single mothers accounted for close to 30 per cent of all women giving birth, a substantial increase on the 1990 estimate of 14 per cent. The average age of all mothers has also increased from 29 years in 1990 to just over 30 years in 1999. A contrary trend is in evidence for average maternal parity, which has declined from the 1990 level of 1.5 to 1.1 in 1999. A small increase in the breastfeeding rate is in evidence as just 36 per cent of women breastfed in 1999 compared with 32 per cent in 1990.

1999 saw a rise in the number of home births attended by independent domiciliary midwives. In 1990 there were 155 such births, rising to 246 in 1999 representing a 59 per cent increase over the period.

Delivery by Caesarean Section now accounts for over 20 per cent of all births, which is almost double the estimate of 11 per cent of all births being delivered by caesarean section in 1990. While the rates are different for singleton and multiple births, the magnitude of the change is similar over the decade with 20 per cent of singleton and 47 per cent of multiple births being delivered by caesarean section in 1999 compared with 10 per cent and 25 per cent, respectively, for singleton and multiple births, in 1990.

For both mothers and infants, average length of stay has been generally declining over the decade. The average length of stay for infants has fallen from the 1990 level of 4.6 days to 4.3 days in 1999 while mothers, on average, were confined to hospital for 4.7 days in 1999 compared to an estimated 5.5 days in 1990. One area where a sharp decline is in evidence is for post-mortems for early neonatal deaths, which have declined by over one third from the level of 66 per cent in 1990 to just over 44 per cent in 1999.



A young child with dark hair, wearing a white lab coat, is holding a magnifying glass over an open book. The child's face is partially visible in the upper right, looking down at the book. The background is a soft, out-of-focus green and white. A teal horizontal band is overlaid across the middle of the image, containing the section header text.

## Section 1 Introduction

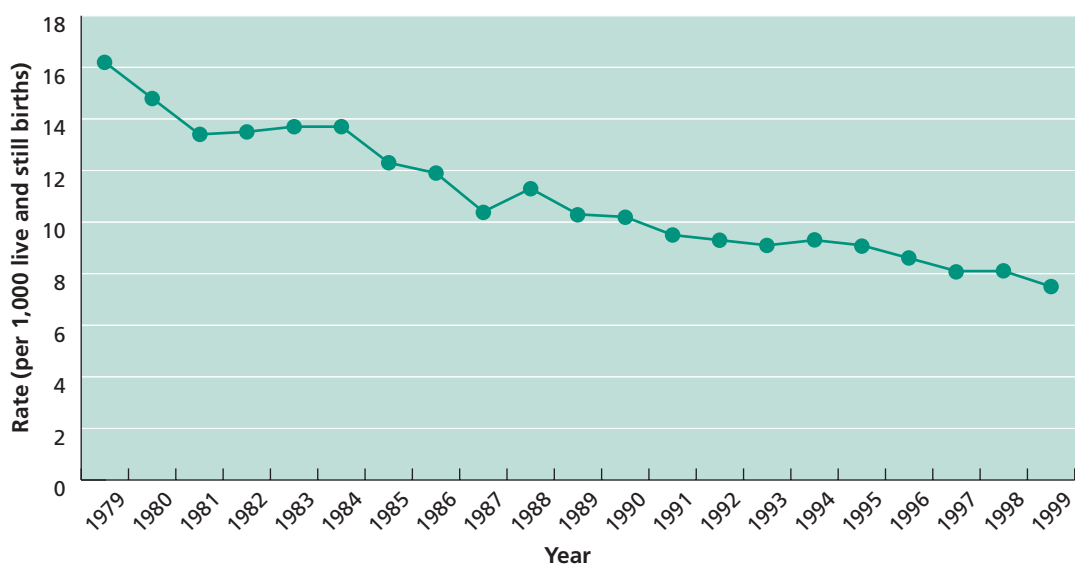


# Section 1 Introduction

## Aims

This report of the National Perinatal Reporting System (NPRS) has as its principal aim the provision of national statistics on perinatal events. More specifically, the purposes of the report are to describe the fundamental social and biological characteristics of mothers and their babies, to report on pregnancy outcomes with particular reference to perinatal mortality, and to highlight important aspects of perinatal care. Although great strides have been made in reducing infant and perinatal mortality during the past twenty years (see Figure 1.1) the perinatal period continues to be a time of relatively high mortality. Set in this context the importance of monitoring variables related to perinatal health becomes evident. The present report refers to the year 1999 and has 100 per cent coverage of all live and still births. As the last published report in 1997 reported Perinatal Statistics for 1993<sup>1</sup> comparisons presented in this report must refer to 1993. Comparative data for 1999 are provided in this report but there are additional tables based on the new variables mother's occupation and father's date of birth.

**Figures 1.1**  
**Perinatal Mortality Rate, Ireland: 1979-1999**



Note: In 1995 a broader definition of stillbirths was employed. The new definition includes stillbirths at or over 500g or at a gestational age of 24 weeks or more. Figures given here are based on the old definition of a stillbirth (at or over 28 weeks) to facilitate comparisons.

Source: Reports on Vital Statistics, 1981 – 1999, Central Statistics Office.

The report contains what might be considered a minimum national data set and is intended to serve as a foundation for the development of basic time series and to allow for the possible addition of further variables and more extensive analysis in future years. It is hoped that the publication of this data will stimulate a wider interest in research in the area of perinatal epidemiology and promote a general recognition of the importance of having an accurate and complete perinatal reporting system.

<sup>1</sup> *Perinatal Statistics*, 1993, Department of Health, Stationery Office, 1997

## Development of the Perinatal Reporting Systems

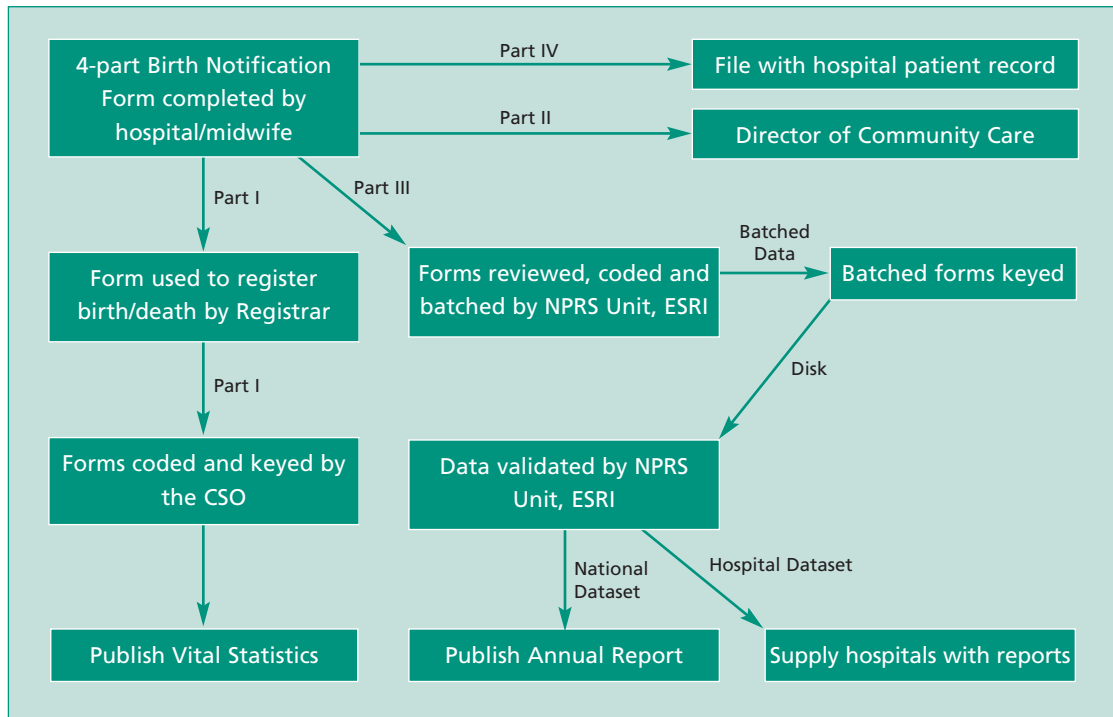
The need to rationalise data collection systems on childbirth became increasingly evident during the 1970s. Prior to the current system, hospitals used a standard form for the registration of live births; a second form completed by the hospital provided statistical information on those births to the Central Statistics Office (CSO); a third form was employed to notify stillbirths to Health Board(s) and to the CSO; and a variety of non-standard forms were in use to provide for the notification of births to the appropriate Health Board authorities as soon as possible after the birth. The decision was taken to devise an integrated system to provide on one form for the registration and notification of births and for the informational requirements of all those involved in perinatal care including the provision of basic perinatal statistics for research and planning purposes. A four-part form was designed and printed on self-copying paper, and pilot tests were carried out to ascertain the feasibility of the scheme. The next step involved the gradual extension of the scheme across the country and the parallel development of systems for data collection, computerisation and reporting. In March 1981, a Steering Committee was set up to supervise the extension of the scheme into a comprehensive national system. On the committee were representatives from the Institute of Obstetricians and Gynaecologists, the Irish Perinatal Society, the Health Boards, the Medico-Social Research Board, maternity hospitals, the Central Statistics Office, the Central Computing Service, and the Department of Health. By 1982, the Perinatal Reporting System covered approximately 64 per cent of all births; the first report, which referred to 1984, had 94 per cent coverage; and national coverage has been complete since 1985. In June 1999, The Economic and Social Research Institute was contracted by the Department of Health and Children to oversee the collection and processing of data required by the Perinatal Reporting System. See Appendix A for a copy of part III of the four-part form. The ESRI has primary responsibility for the collection, processing and reporting of data for 1999.

## Data Collection

Births are registered and notified on a standard four-part form. The top copy of the form is sent by the hospital to the Registrar of Births and serves as the official document of registration. This copy is subsequently forwarded to the Central Statistics Office for use in the production of Quarterly and Annual Reports on Vital Statistics. The second part of the form containing additional information on the health of the mother and the infant and on the care received goes to the Director of Community Care and Medical Officer of Health of the area of residence of the mother. It serves the dual purpose of notifying the local medical and nursing services which have responsibility for the postnatal care of the mother and child and of providing the basis for health records used by the Health Boards. The third part of the form has all identifying information deleted and is sent to the NPRS Unit at The Economic and Social Research institute (ESRI). The fourth and final copy is retained by the hospital. Figure 1.2 gives a diagrammatic view of the information system. In January 1998, the four-part form replaced the two-part Domiciliary Notification Form for the notification of domiciliary births. Just as with hospital births, Part 1 is sent to the registrar of births and subsequently to the CSO; Part 2 is sent to the Director of Community Care and Medical Officer of Health of the area of residence of the mother; the third copy is sent to the NPRS Unit at the ESRI; and the fourth copy is retained by the midwife. All the tables in the present report are based on data contained in the third copy of the standard form, as are the reports that are sent to participating hospitals.



**Figure 1.2**  
**National Perinatal Reporting System, Diagrammatic View**



The data collected by the National Perinatal Reporting System can be logically grouped into demographic, clinical and administrative data. The data collected by the NPRS for 1999 include:

- Demographic Data**  
 Date of infant's birth; sex of infant; multiple birth indicator;  
 Date of father's birth; father's county of residence; father's occupation;  
 Date of mother's birth; mother's county of residence; mother's occupation;  
 Marital status of mother and date of present marriage.
- Clinical Data**  
 Infant's birthweight and period of gestation; Mother's obstetric history;  
 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.
- Administrative Data**  
 Hospital number; Case number (unique to hospital of birth);  
 Type of birth indicator; place of birth;  
 Date of last birth (live or still);  
 Type of death indicator; place of death;  
 Type of antenatal care received; Date of first visit to hospital and doctor during pregnancy  
 Type of feeding; Pre-booked admission indicator; Dates of mother's admission and discharge;  
 date of infant's discharge;  
 Infant transfer indicator; hospital number for hospital to which infant was transferred.

## Data Processing

Coding of the forms takes place in the NPRS Unit at the ESRI. Occupations are coded according to the Central Statistics Office system of socio-economic group classification (see Appendix B). Diseases are coded using the ninth revision of the International Classification of Diseases (ICD) and according to the guidelines set out by the World Health Organisation (see Appendix C). The data are entered onto computer by a private company and the file is then transferred to the NPRS Unit at the ESRI for validation, processing and the production of reports (see Figure 1.2). Checks are also carried out to ensure the completeness of returns from each hospital. Validation, reports and analyses are carried out using the Statistical Analysis System (SAS) software.

## Format and Contents

This report presents a basic set of national tabulations for perinatal events for 1999 indicating frequencies, stillbirth rates, early neonatal death rates, and perinatal mortality rates set out for a number of the most important social, biological and health care variables. The data are set out in four main sections: 2 Selected Trends, 3 General Characteristics, 4 Perinatal Care and 5 Perinatal Outcomes. Section 2 (Selected Trends) documents significant trends in the principal variables for the years 1990-1993 and 1999. Section 3 contains tables relating to the following variables: maternal age; parity; marital status; socio-economic group of mother; socio-economic group of father; distribution of previous stillbirths; birthweight (by sex); twinning rate; gestational age; interval since last birth; and month of birth. Section 4 deals with variables which fall more naturally into the category of use of health care facilities and type of antenatal care received and deals with the following distributions: gestational age at first antenatal contact of mother with the health services; type of antenatal care received; number of antenatal days stay by the mother; number of postnatal days stay by the mother; mother's immunity to rubella; method of delivery; whether hospital admission was booked or not; type of feeding; transfer of infants between hospitals and classification of outcome according to size of maternity unit. In Section 5 causes of perinatal deaths and other factors closely related to the outcome of pregnancy are considered. In this section tables are presented on the following variables: numbers of antepartum and intrapartum stillbirths by birthweight groups; numbers and rates for cause of death and cause of death by birthweight; age at death for early neonatal deaths; numbers and percentages of stillbirths and early neonatal deaths undergoing post-mortem examinations; and the length of infant's stay in hospital. It should be noted that Sections 3, 4 and 5 are each divided into two parts: Part 1 dealing with singleton births and Part 2 dealing with multiple births. A number of cross-tabulations of selected variables of importance are contained in Appendix E, and many of the graphs in the report are based on data abstracted from these tables. Finally an Appendix is included giving an analysis of perinatal deaths for 1999 according to the classification system suggested by Dr. J. S. Wigglesworth. This system sets out five general and mutually exclusive cause of death categories designed to provide for relatively straightforward classification and to identify problem areas with implications for the clinical management of patients. The classification criteria as well as the results are set out in Appendix F.

# Definitions

## Outcomes and rates

**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 World Health Organisation (WHO) guidelines, live births weighing less than 500 grams are not included in the national statistics.

**Stillbirth (SB) 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:

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

**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:

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

**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.

**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.

Note: In this report, where rates are based on very small numbers, they should be interpreted with caution and should not be used as estimates of the true population rates.

## Other Items

The definitions given below relate to the principal classification variables contained in the main section of the report and refer only to those terms where explanation is considered necessary. The definitions are grouped according to the section in which they first appear.

### General Characteristics

**Born Before Arrival:** Born before arrival indicates that an infant was delivered before arrival at hospital.

**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 1999, hospital administered home birth schemes were introduced and three such home births occurred. For the purposes of this report these three births are treated as hospital births due to the very small numbers. It is anticipated that the number of births under such schemes will rise in coming years.

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

**Marital Status:** Five categories are recognised as detailed below:

- i. Married
- ii. Single: including women with civil annulments and women who have been widowed for more than ten months.
- iii. Widowed: including all women who have been widowed for 10 months or less.
- iv. Separated: covers the following categories:
  - Deserted
  - Legally separated
  - Church decree of nullity
  - Otherwise separated
- v. Divorced

**Father's Occupation:** Occupations are coded and grouped, with minor modifications, according to the CSO system of socio-economic groupings as used in the 1991 Census of Population, Volume 6. Details are given in Appendix B.

**Mother's Occupation:** Occupations are coded and grouped, with minor modifications, according to the CSO system of socio-economic groupings as used in the 1991 Census of Population, Volume 6. Details are given in Appendix B.

**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, infants weighing under 500 grams are not included in the national statistics.

**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.

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

### Perinatal Care

**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.

**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.

**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.

**Method of Delivery:** Six categories are used:

- i. Spontaneous cephalic delivery, without any of the following:
- ii. Breech delivery, spontaneous, with or without forceps to after-coming head, breech extraction
- iii. Forceps delivery
- iv. Vacuum extraction
- v. Caesarean section
- vi. Other specified and Combined

**Hospital Admission Booked or Unbooked:** Domiciliary births are not included in the tables relating to this variable.

**Type of Feeding:** Indicates whether artificial, breastfeeding or a combination of both was being used at the time of discharge.

**Transfer of Infants:** This identifies infants who were transferred to another hospital for medical reasons prior to completing the seventh day of life.

**Size of Maternity Unit:** Size in this context refers to the number of perinatal events occurring during the year.

### Perinatal Outcomes

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

**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 causes the guidelines recommended by the World Health Organisation have been followed. A summary of these guidelines together with a list of the International Classification of Disease codes grouped into each category is provided in Appendix C.

**Age at Death:** The age of early neonatal deaths is given in completed hours if the infant survived less than 1 day and in completed days otherwise.

**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.

**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 prior to the completion of the seventh day of life, 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.

Note: Where a particular value of a variable does not occur in a table the row corresponding to that value is not included. This arises most frequently in relation to multiple births. For example, in Table 3.7 the values "Widowed" and "Divorced" are not included as there are no occurrences of these values for multiple births.

# Completeness and Reliability

## Coverage

The National Perinatal Reporting System has complete national coverage. However, there are differences in the Vital Statistics published by the CSO and the data presented in this report. The reasons for this are outlined further below.

## Missing Values

No attempt has been made to assign values to missing data, and they are included as a separate category in each table. Certain variables show high proportions of cases with the value 'Not Stated', and efforts are continually being made to improve this aspect of the system.

In January 1998 two new variables were introduced to the four-part birth notification form: father's date of birth and mother's occupation. Analysis of father's date of birth is included in this report although father's date of birth is missing for 52 per cent of births. Mother's occupation is missing for 11 per cent of births and analysis of this variable is also included in this report. Efforts are being made to reduce the number of missing values particularly for these new variables since the levels of missing data are far greater than for many of the other variables in the data set.

In 1999 there were changes in the completeness of recording of first visit to doctor and first visit to hospital during pregnancy. There was a 2.8 per cent reduction in missing values for date of first visit to hospital. However, there was a significant rise (13.3 per cent) in the number of missing values for date of first visit to doctor. This increase in missing values should be kept in mind when comparing data from 1993 and 1999.

In 1999 the percentage of infants whose birthweight was unknown rose slightly relative to 1993. This increase was largely the result of one hospital that did not record birthweight during the nurses strike in 1999. When these cases are excluded, the percentage of infants whose birthweight was unknown fell to 0.04 per cent.

In previous years where method of delivery was unknown these were placed in the category 'Other, Unspecified and Not Stated'. In this report that category has been sub-divided into the categories 'Other specified & Combined' and 'Not Stated'. The introduction of this category will allow more accurate monitoring of the recording of this variable. In 1999, the percentage of infants whose method of delivery was unknown was 0.04 per cent.

## Accuracy

While computer validation can identify illogical or unacceptable data, it cannot detect information, which, though valid, is inaccurate. For example, during the initial stages of the notification scheme, it was found that a question on the smoking habits of the mother yielded very unreliable information and was subsequently dropped from the notification form. Information on the county of residence of mother can also be inaccurate since in safeguarding confidentiality the copy of the notification form received by the NPRS Unit at the ESRI does not contain the mother's full address but only the county designation (see Appendix A). It is possible that data entered in this space may refer to the county in which the birth occurred. Consequently, mother's area of residence has been analysed at health board level in this report. Efforts are currently in progress to improve this and other aspects of data quality (see Future Reports below).

## Discrepancies with CSO Data

Differences between the vital statistics tables compiled by the CSO and the present results arise for a variety of reasons. In the first place, information is not always obtained from the same sources. This is particularly evident in the tabulations regarding cause of death. The CSO does not obtain information on maternal diseases or conditions affecting the foetus or infant while the NPRS Unit at the ESRI does not have access to coroner's certificates relating to neonatal deaths. The CSO also uses a separate notification form (Form 103) for collecting information on stillbirths. In the past this has allowed the CSO to identify approximately 5 per cent more stillbirths than those notified through NPRS alone.

Secondly, the differences in the stillbirths numbers and rates and the perinatal rate reported in this publication and that reported by the CSO may be accounted for by the differing definitions of stillbirth that are used by the CSO and the NPRS. A broader definition of a stillbirth has been employed by the CSO since 1995 and as previously indicated the WHO definition is used by the NPRS.<sup>2</sup>

Finally, differences in coding procedures can be reflected in the published statistics. The ICD coding procedures are recognised to be particularly difficult and subjective in the area of causes of perinatal mortality and the current separate coding arrangements can therefore lead to significant discrepancies. Ideally, the data sources and data coding should be harmonised between the two systems, and it is felt that the best way of attaining this goal is through the computerisation of the birth registration system and the consequent elimination of duplicate paperwork, coding and validation. The General Registrars Office is currently establishing a pilot project for the computerisation of birth notification. It is hoped that this system will be piloted in 2003. However, this scheme will still produce paper copies for Parts 2, 3 and 4 of the Birth Notification Form which will be forwarded to the relevant recipients.

In previous years there was also a discrepancy in the twinning rate calculated by the CSO and that calculated by the Department of Health and Children. For 1999 that gap has been narrowed: the CSO have calculated a twinning rate of 13.7 per 1,000 births and the ESRI a twinning rate of 13.0 per 1,000 births. There is a single field on the Birth Notification Form that identifies a multiple birth. If this is not recorded then the ESRI has no way of identifying multiple births. However, the additional identifying data available to the CSO assures a more comprehensive estimate of the number of multiple births by this agency.

## Future Reports and Improvements

The minimum perinatal data set contained in this report is intended to serve as a foundation for the monitoring of perinatal health. In order to do this effectively the data must be accurate, comprehensive and up-to-date. While the present report can point to further progress in the reduction of levels of 'Not Stated' data, it is only through the implementation of the projected computerised registration and notification system that optimum data quality and timelines will be achieved.

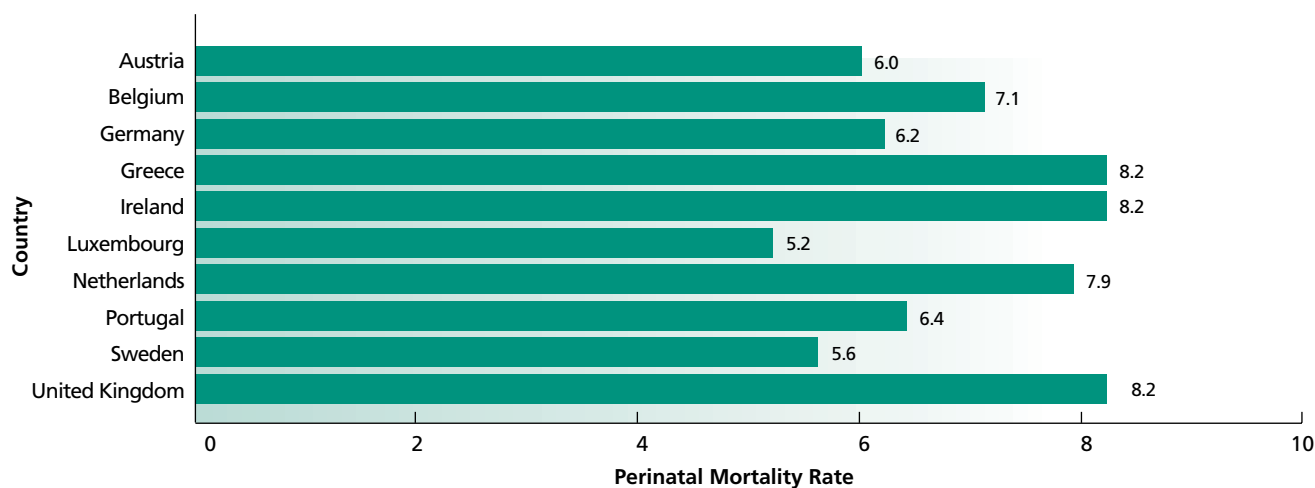
<sup>2</sup> The CSO defines a stillbirth as weighing 500 grams or more or having a gestational age of 24 weeks or more. This definition applies to stillbirth figures from 1995 onwards.

# General Trends and International Comparisons<sup>3</sup>

## Perinatal Mortality

Recent decades have witnessed a quite dramatic decline in infant, neonatal and perinatal mortality in Ireland. Between 1965 and 1981 the perinatal mortality rate fell by more than half from 30 deaths per 1,000 live and stillbirths to 13.4 per 1,000 live and stillbirths. From 1981 until 1984 the rate remained almost static but since then it resumed its decline to 10.4 in 1987 before rising slightly to 11.3 in 1988. From 1989 the rate began to decline again to 9.1 in 1993 before rising in 1994 and 1995 to 10.6, higher than the rate for 1987. Since 1996 the perinatal mortality rate has been declining and the figure reported by the CSO for 1999 indicates a further decline to 7.5 per 1,000 live and stillbirths<sup>4</sup>, the lowest rate recorded to date (Figure 1.1) and representing a reduction of 54 per cent since 1979. The factors that determine the level of perinatal mortality are complex and encompass a wide range of environmental and biological variables. Birthweight, parity, mother's age, social status and type of antenatal care as well as many other variables have a bearing on perinatal risk. Data in this report indicate levels of perinatal mortality for the principal variables associated with risk. Ireland's standing in relation to other countries in the European Union (EU) is shown in Figure 1.3. Eurostat have reported that Ireland together with Greece and the UK had the highest perinatal mortality rate (8.2 per 1,000) of the 10 countries for which data are available in 1999. Luxembourg and Sweden had the lowest perinatal mortality rate (5.2 per 1,000 and 5.6 per 1,000 respectively) of the 10 countries for which data are available in 1999. In comparisons between countries it should be remembered that rates can be affected by national policies on abortion, by differences in the comprehensiveness and accuracy of registration and notification systems, and by differences in definitions employed (for example, for stillbirth).

**Figure 1.3**  
Perinatal Mortality Rate, 1999 for Selected EU Countries



Source: *Eurostat Yearbook 1999*

Data for Denmark, Finland, France, Italy and Spain are not sufficiently current to be included.

<sup>3</sup> National figures presented in this section are based on official registration data as compiled by the Central Statistics Office. These figures may differ somewhat from numbers and rates appearing in the tables of this report for reasons given in the previous section.

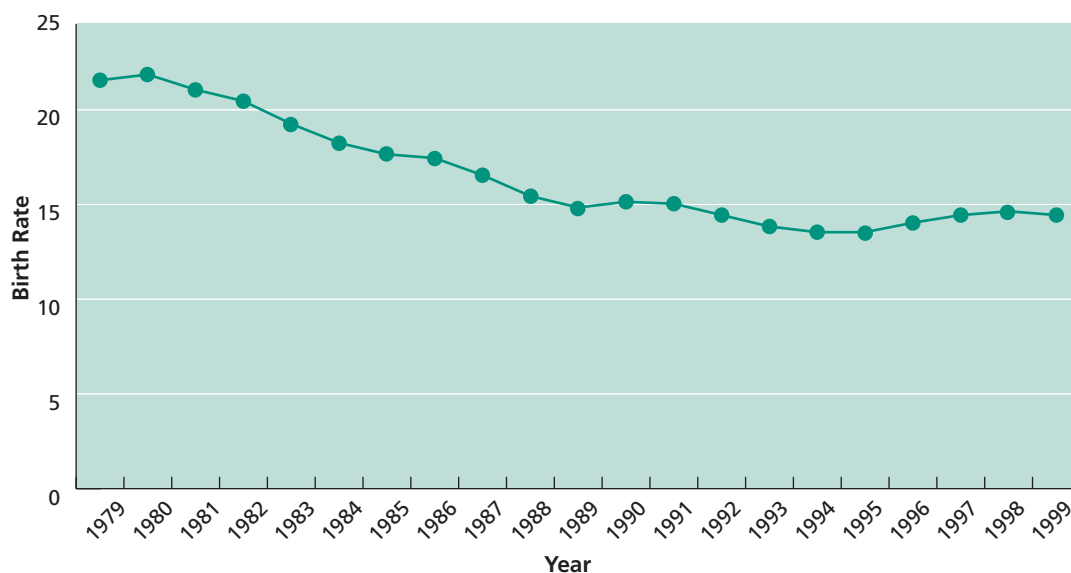
<sup>4</sup> These CSO data are based on the 28-week definition of a stillbirth.



## Birth Rate

The birth rate for 1989 at 14.8 per 1,000 population was at the time the lowest ever recorded in Ireland having progressively fallen from a figure of 21.8 in 1980. However in 1990 the rate rose, for the first time in ten years, to 15.1. In subsequent years the rate began to decline again to 13.5 in 1995 before rising again to 14.6 in 1998 (Figure 1.4). The birth rate reported by the CSO for 1999 (14.4 per 1,000 population) indicates that the birth rate was once again in decline, even if only slightly.

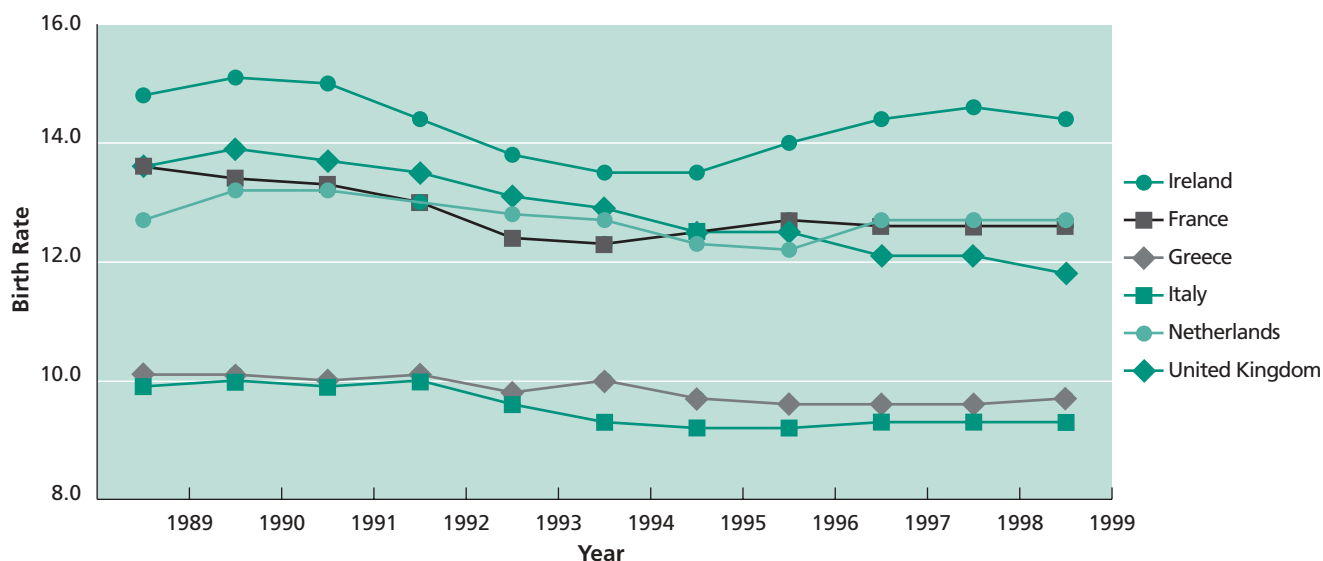
**Figure 1.4**  
Birth Rate per 1,000 Population Ireland: 1979-1999



Source: Reports on *Vital Statistics, 1979-1999*, Central Statistics Office

Figure 1.5 shows trends in birth rates of selected EU countries over the last decade which indicate that while Ireland closed the gap with other EU countries during the first 5 years of the period, the last 5 years have witnessed crude birth rates returning to levels experienced in the 1980s. For this reason, Ireland still has the highest birth rate of any EU country for which estimates are available (Figure 1.6). Germany and Italy (birth rate of 9.3) together with Spain (birth rate of 9.5) have the lowest birth rates of any EU country for which estimates are available (Figure 1.6).

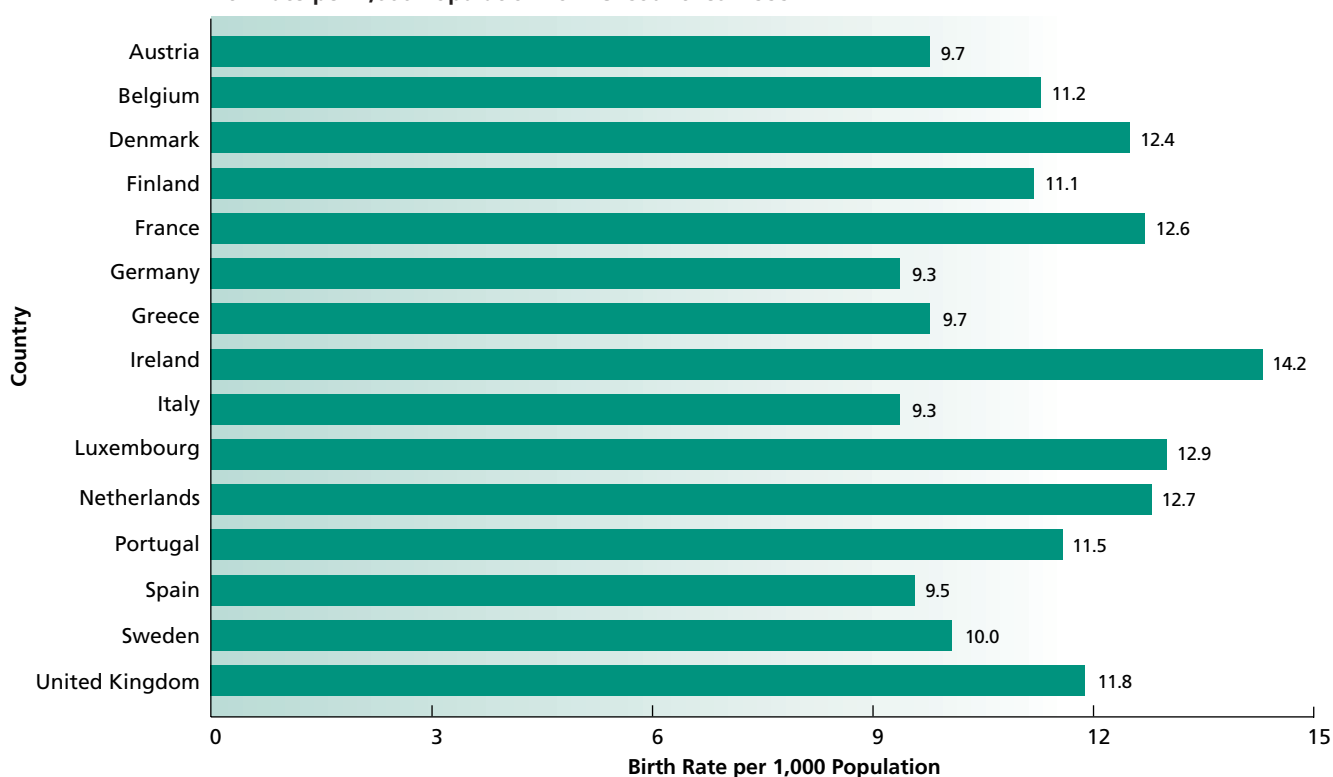
**Table 1.5**  
Trends in Birth Rates for Selected EU Countries: 1989-1999



Source: *European Social Statistics, Demography, 2000 Edition*, Eurostat.  
*European Population and Social Conditions, Demography, Crude Birth Rate 1979-2000*, Eurostat.  
*Report on Vital Statistics, 1999*, Central Statistics Office

It should be noted that the crude birth rate does not take account of the underlying age structure of the female population and can, therefore, mask long-term underlying trends in births. Total fertility provides a better measure of births taking into account age-specific rates and is presented in the next section.

**Figure 1.6**  
**Birth Rate per 1,000 Population for EU Countries: 1999**

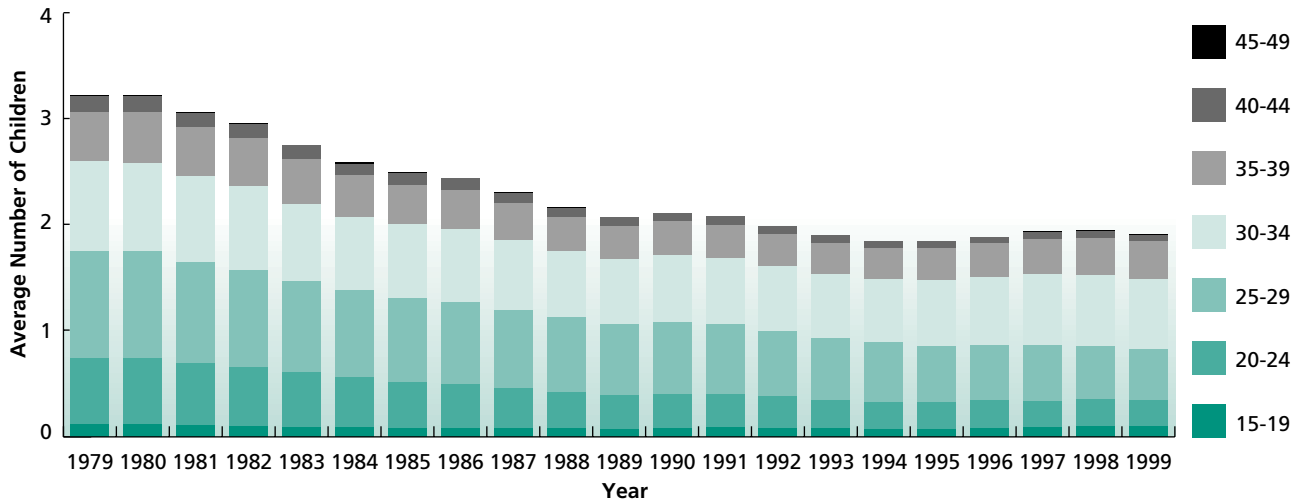


Source: *European Social Statistics, Demography 2000 Edition*, Eurostat

## Fertility

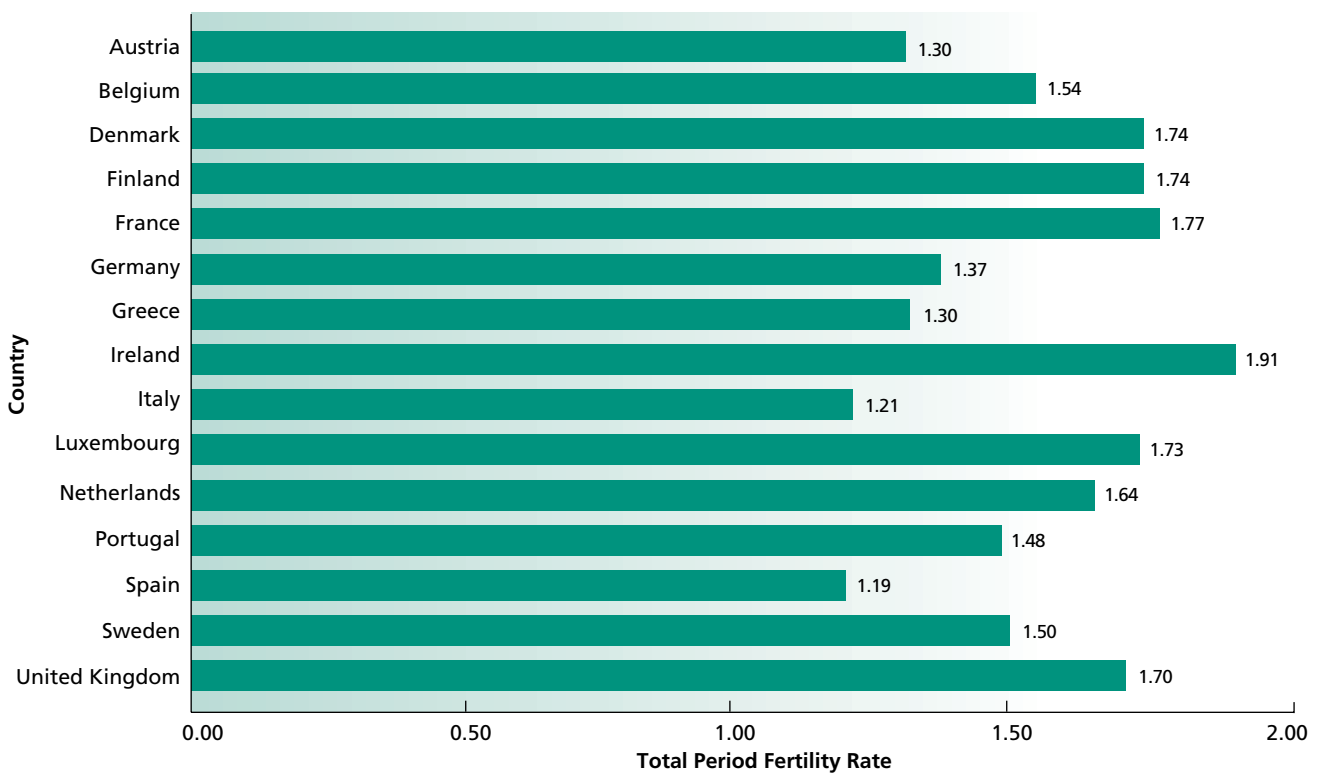
Figure 1.7 shows the trend in the Total Period Fertility Rate (TPFR) in Ireland over the past 20 years. The TPFR for a given year indicates the number of children a woman could expect to have if the age specific fertility rates for that year applied throughout her fertile years. The TPFR has declined from an average of 3.23 in 1979 to 1.91 in 1999 representing a 41 per cent decrease over 20 years. The TPFR had also been in decline for a number of decades prior to 1979. During the latter half of the 1990s the TPFR remained relatively stable with the rise in crude birth rate being largely accounted for by the increasing numbers of women in the childbearing age groups. As in all EU countries, the TPFR for Ireland remains below the level required for the long-term replacement of the population (TPFR of 2.1) in the absence of any net inward migration. Again while Ireland has experienced a fairly rapid fall in TPFR over recent years, Ireland nonetheless continues to have the highest TPFR in the EU (Figure 1.8). Spain (1.19 TPFR) and Italy (1.21 TPFR) have the lowest total period fertility within the EU.

**Figure 1.7**  
**Total Period Fertility Rate Subdivided by Age Groups, Ireland: 1979-1999**



Source: Report on Vital Statistics, 1999, Central Statistics Office.

**Figure 1.8**  
**Total Period Fertility Rates, 1999 for EU Countries**



Source: European Social Statistics, Demography, 2000 Edition, Eurostat.





Section 2  
Selected Trends



## Section 2 Selected Trends

**Table 2.1**  
**Trends in Vital Events**

Singleton and Multiple Births, Numbers and Rates for  
Live Births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths, 1990-1993 and 1999

Vital Events		1990		1991		Year 1992		1993		1999	
		Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Live Births:	Singleton	51,543	-	51,242	-	49,686	-	48,030	-	52,556	-
	Multiple	1,250	-	1,200	-	1,182	-	1,001	-	1,463	-
	Total	52,793	-	52,442	-	50,868	-	49,031	-	54,019	-
Stillbirths:	Singleton	305	5.9	284	5.5	285	5.7	272	5.6	274	5.2
	Multiple	11	8.7	18	14.8	16	31.4	11	10.9	14	9.5
	Total	316	6.0	302	5.7	301	5.9	283	5.7	288	5.3
Early Neonatal : Deaths	Singleton	191	3.7	195	3.8	173	3.5	131	2.7	130	2.5
	Multiple	22	17.6	24	20.0	19	16.1	16	16.0	27	18.5
	Total	213	4.0	219	4.2	192	3.8	147	3.0	157	2.9
Perinatal : Deaths	Singleton	496	9.6	479	9.3	458	9.2	403	8.3	404	7.6
	Multiple	33	26.2	42	34.5	35	29.2	27	26.7	41	27.8
	Total	529	10.0	521	9.9	493	9.6	430	8.7	445	8.2
Adjusted : Perinatal Deaths	Singleton	376	7.3	320	6.2	318	6.4	294	6.1	301	5.7
	Multiple	29	23.1	39	32.1	32	26.8	18	17.9	37	25.1
	Total	405	7.6	359	6.8	350	6.9	312	6.3	338	6.2

**Table 2.2**  
Trends in Selected Statistics, 1990-1993 and 1999

Selected Statistics	1990	1991	1992	1993	1999
<b>General Characteristics</b>					
Average Age of Mother in years	29.11	29.11	29.18	29.30	30.06
Average Maternal Parity	1.48	1.43	1.37	1.33	1.10
Single Mothers (%)	13.56	15.54	16.50	18.14	29.71
Average Number of Previous Stillbirths per 1,000 confinements	19.44	17.22	19.82	23.18	14.03
Average weight in grams - Singleton Births	3,509.88	3,548.02	3,525.01	3,520.02	3,505.35
- Multiple Births	2,584.04	2,653.17	2,549.84	2,535.38	2,467.24
- Total Births	3,488.10	3,527.54	3,502.37	3,499.98	3,477.19
Low birthweight <2500 grams (%)					
- Singleton Births	3.35	3.43	3.24	3.39	3.80
- Multiple Births	38.70	38.38	41.38	42.23	47.71
- Total Births	4.18	4.23	4.13	4.18	4.99
Average Gestational Age at delivery in weeks	39.60	39.59	40.23	40.08	39.48
Average interval since last birth in years	3.68	3.68	3.69	3.75	3.82
<b>Perinatal Care</b>					
Hospital & GP combined antenatal care (%)	60.80	58.97	61.97	63.94	72.30
Average gestational age at time of first visit to doctor in weeks	11.46	11.80	11.63	11.58	15.54
Mother's average length of stay in days	5.47	5.24	5.12	5.15	4.71
Immunity to Rubella (%)	88.77	89.40	89.02	89.36	89.63
Method of Delivery (%) <sup>5</sup> <i>Singleton Births</i>					
- Spontaneous	74.33	73.64	73.72	72.95	65.35
- Caesarean	10.39	11.30	11.78	12.57	19.69
- Forceps <sup>6</sup>	9.78	9.58	8.30	7.79	4.27
<i>Multiple Births</i>					
- Spontaneous	43.06	39.36	40.78	37.99	32.33
- Caesarean	24.84	30.70	29.69	34.95	47.23
- Forceps <sup>6</sup>	7.18	8.07	6.40	6.48	3.08
<i>Total Births</i>					
- Spontaneous	74.07	72.85	72.96	72.24	64.46
- Caesarean	10.55	11.75	12.19	13.03	20.43
- Forceps <sup>6</sup>	9.75	9.54	8.25	7.77	4.24
Booked Hospital Admissions (%)	98.70	98.94	98.99	98.46	96.49
Mother's breastfeeding (%)	31.66	31.85	33.85	33.89	36.16
<b>Perinatal Outcomes</b>					
Wigglesworth Classes (Rate) <sup>7</sup>					
- Macerated Stillbirths	3.46	2.96	3.48	3.10	3.46
- Congenital Anomalies	2.22	2.88	2.74	2.37	1.94
- Immaturity	1.73	1.44	1.48	1.20	1.39
- Asphyxia	2.32	2.39	1.74	1.91	1.93
- Specific Conditions	0.47	0.38	0.47	0.43	0.49
- Total	10.20	10.05	9.91	9.00	9.11
Infant's average length of stay in days					
- Singleton Births	4.54	4.41	4.44	4.52	4.17
- Multiple Births	7.42	7.83	9.56	11.27	10.68
- Total Births	4.60	4.47	4.54	4.59	4.34
Post-mortems for Early Neonatal Deaths (%)	66.09	66.12	73.78	66.67	44.37

<sup>5</sup> These figures are not based on total confinements as in previous years but on total births to give a more accurate picture as each infant of a multiple pregnancy can have a different method of delivery.

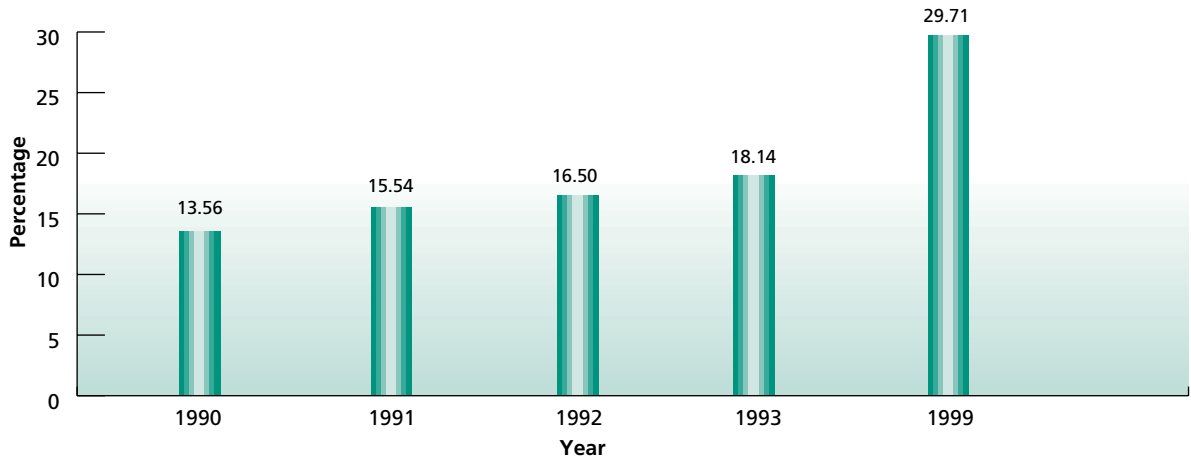
<sup>6</sup> Excludes breech deliveries.

<sup>7</sup> See Appendix F for details of method.

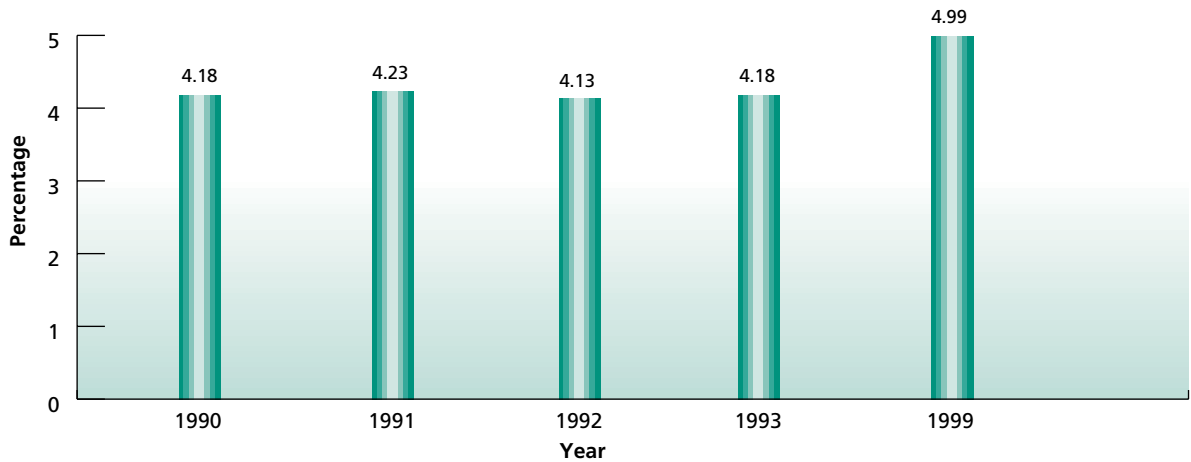
Note: These selected statistics are set out according to the order in which they appear in subsequent sections of this report. Further details for each statistic, including mortality rates, are given in these sections. Statistics relating to maternal characteristics are based on total confinements. Missing values are not included in the calculation of percentages. Figures 2.1 to 2.6 are based on data presented in table 2.



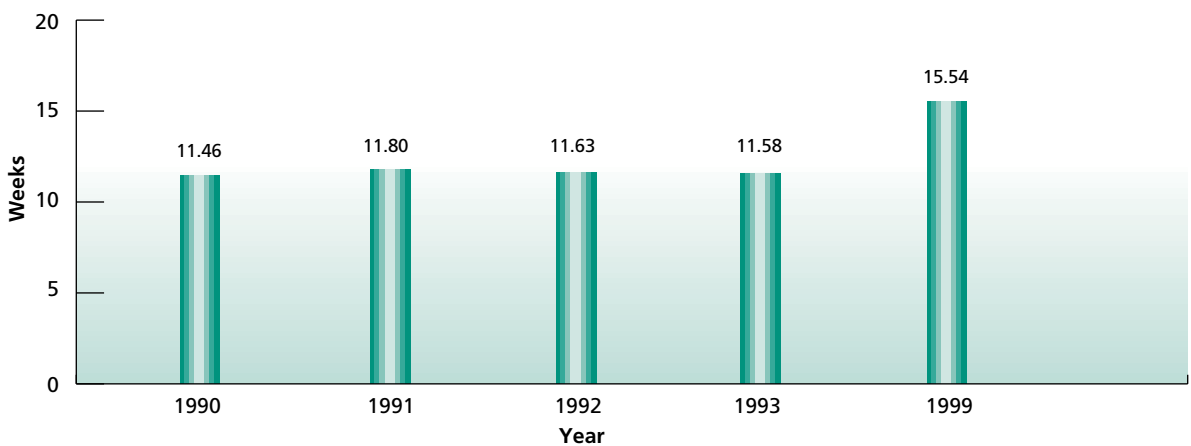
**Figure 2.1**  
Percentage of Single Mothers, 1990 - 1993 and 1999



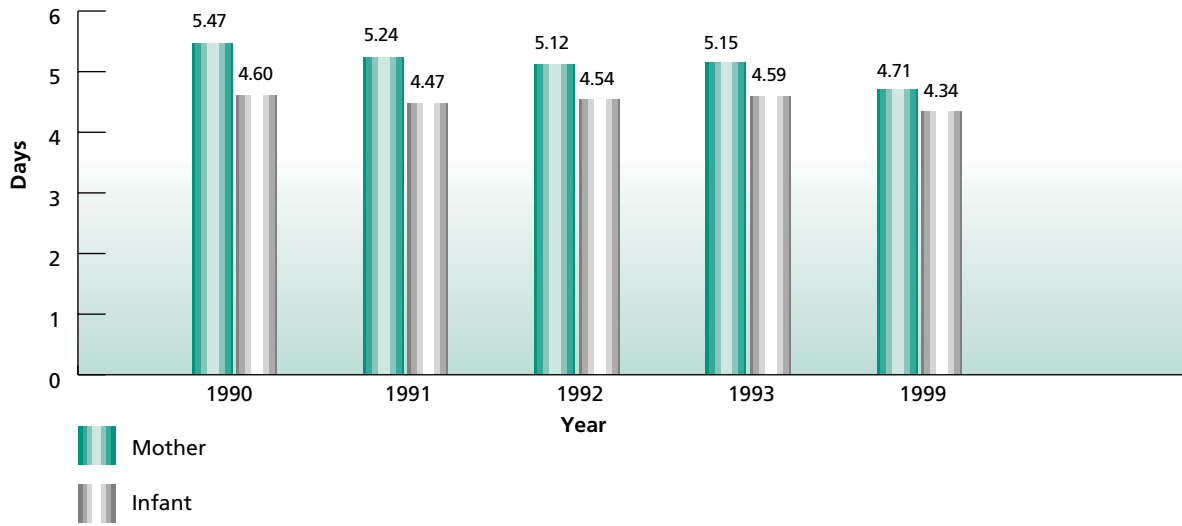
**Figure 2.2**  
Percentage of Low Birth Weight Babies, 1990-1993 and 1999



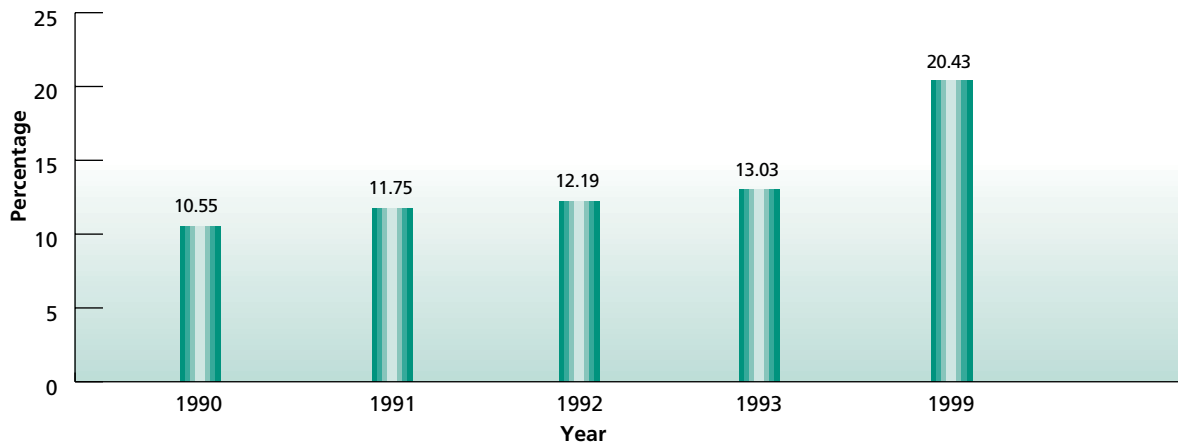
**Figure 2.3**  
Average Gestational Age at Time of First Visit to Doctor in Weeks, 1990-1993 and 1999



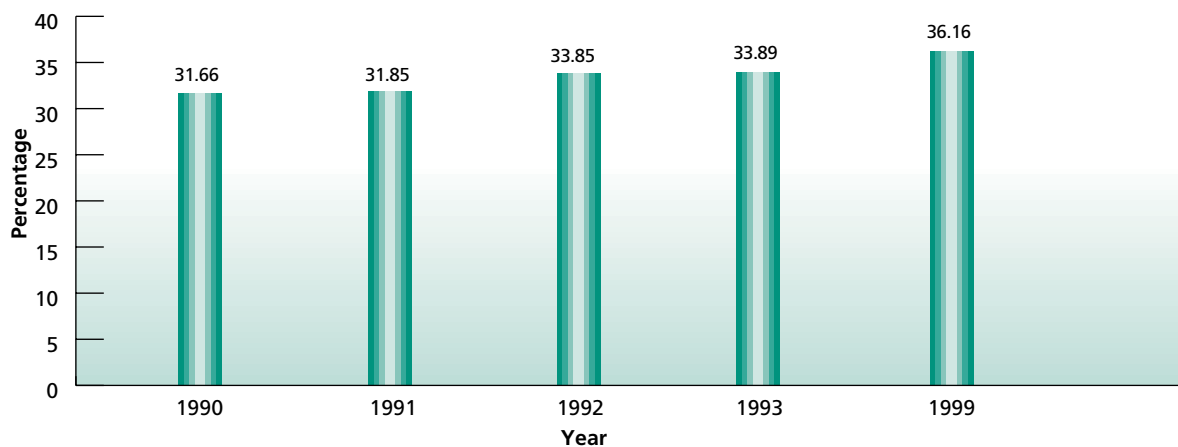
**Figure 2.4**  
Average Length of Stay in Days for Mothers and Infants, 1990-1993 and 1999



**Figure 2.5**  
Caesarean Births as a Percentage of Total Births, 1990-1993 and 1999



**Figure 2.6**  
Percentage of Mother's Breastfeeding, 1990-1993 and 1999





Section 3

## General Characteristics

### Part 1 Singleton Births



**Table 3.1**  
**Age of Mother**

Live Births, Stillbirths, Early Neonatal Deaths and Mortality Rates, 1999  
Singleton Births

Age of Mother	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR*
Under 15	10	0.0	0	0.0	0	0.0	0.0	0.0
15-19	3,300	6.3	24	7.2	13	3.9	11.1	8.1
20-24	7,572	14.4	41	5.4	22	2.9	8.3	6.7
25-29	13,483	25.7	60	4.4	27	2.0	6.4	4.6
30-34	17,265	32.9	73	4.2	33	1.9	6.1	4.6
35-39	9,112	17.3	60	6.5	26	2.9	9.4	7.3
40-44	1,619	3.1	14	8.6	8	4.9	13.5	8.6
45 and over	80	0.2	0	0.0	0	0.0	0.0	0.0
Not Stated	115	0.2	2	17.1	1	8.7	25.6	8.7
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

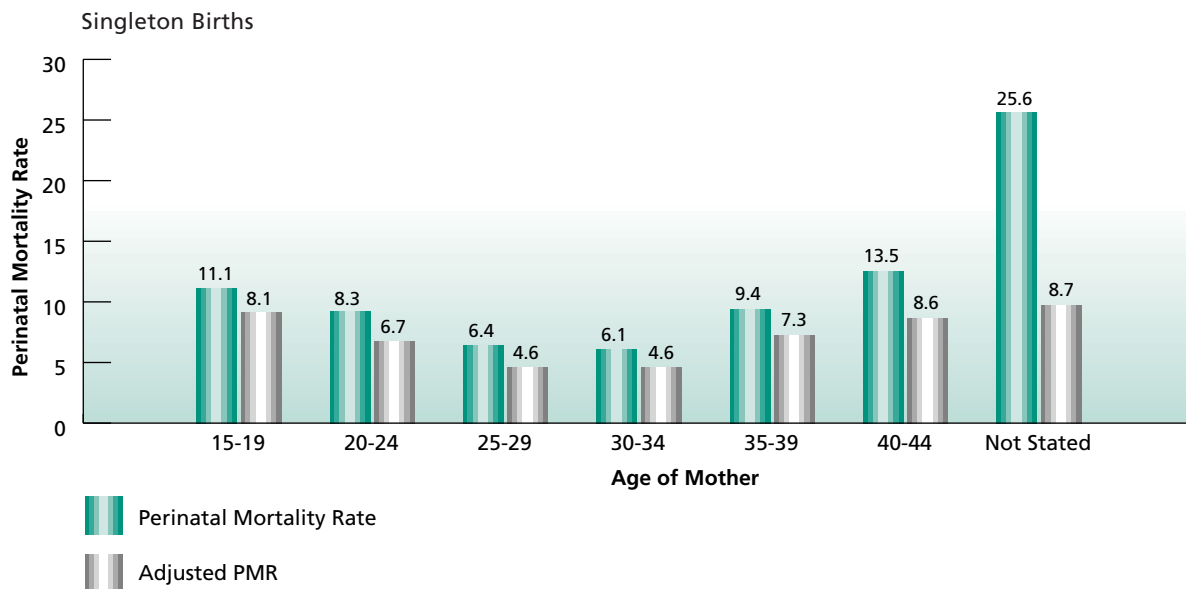
\* In this and subsequent tables, 'Adjusted PMR' gives a recalculated perinatal mortality rate which excludes all deaths due to congenital anomalies.

**Table 3.2**  
**Maternal Parity**

Live Births, Stillbirths, Early Neonatal Deaths and Mortality Rates, 1999  
Singleton Births

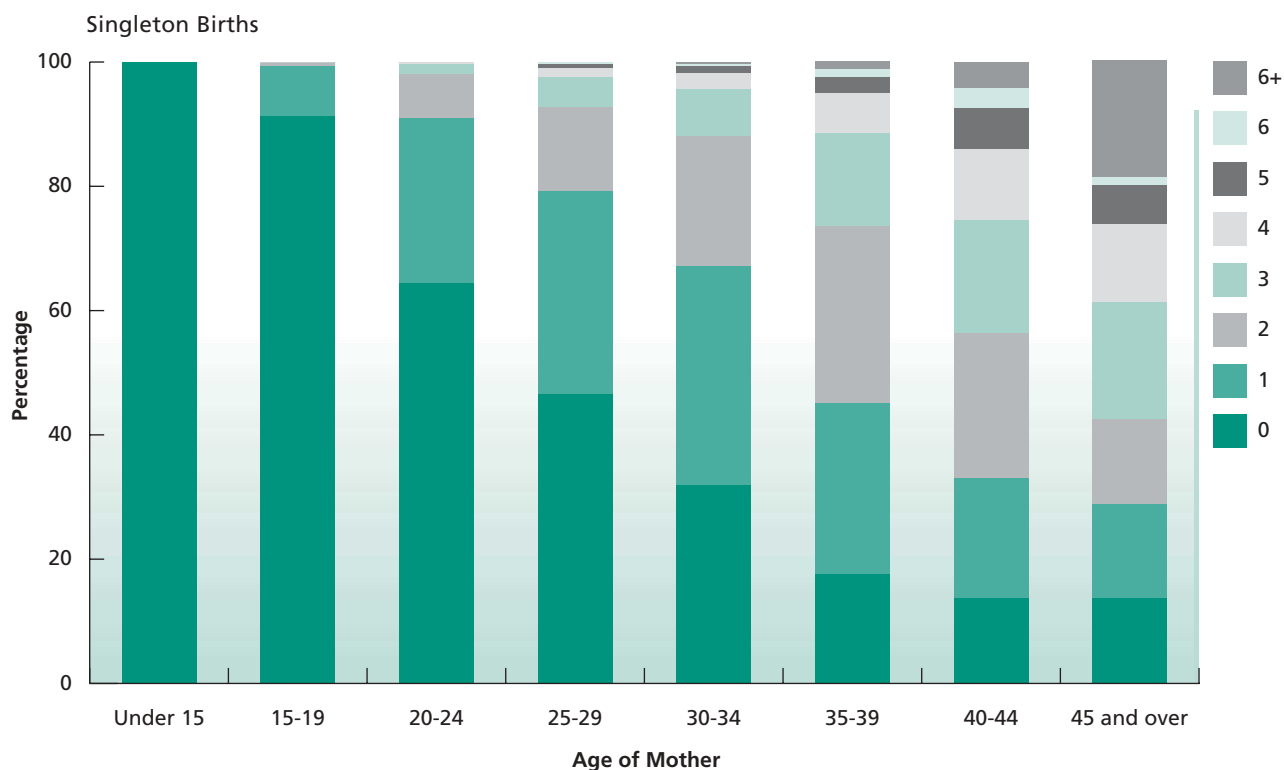
Maternal Parity	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0	21,556	41.0	122	5.6	61	2.8	8.4	6.3
1	15,615	29.7	62	4.0	22	1.4	5.4	4.0
2	9,000	17.1	29	3.2	22	2.4	5.6	4.2
3	3,764	7.2	31	8.2	13	3.5	11.6	9.0
4	1,461	2.8	14	9.5	7	4.8	14.2	8.9
5	603	1.1	9	14.7	1	1.7	16.3	14.7
6	275	0.5	1	3.6	3	10.9	14.5	7.3
More than 6	259	0.5	5	18.9	1	3.9	22.7	19.0
Not Stated	23	0.0	1	41.7	0	0.0	41.7	41.7
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Figure 3.1**  
Perinatal Mortality Rates by Age of Mother, 1999



Note: See Table 3.1 for data. The adjusted rate excludes all deaths due to congenital anomalies.

**Figure 3.2**  
Percentage Distribution of Parity by Age of Mother, 1999



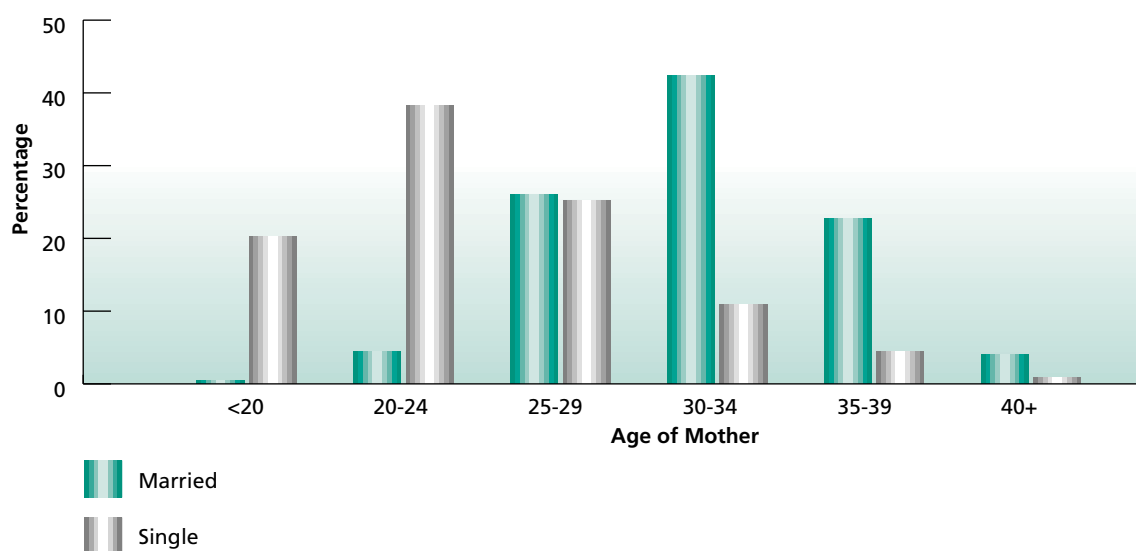
Note: See Appendix E, Table E1 for data. 'Not Stated' data are not included in the calculation of the percentages.

**Table 3.3**  
**Marital Status**

Live Births, Stillbirths, Early Neonatal Deaths and Mortality Deaths, 1999  
Singleton Births

Marital Status	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Married	35,898	68.3	170	4.7	83	2.3	7.0	5.1
Single	15,654	29.8	95	6.0	44	2.8	8.8	6.8
Widowed	69	0.1	0	0.0	0	0.0	0.0	0.0
Separated	798	1.5	5	6.2	2	2.5	8.7	8.7
Divorced	87	0.2	4	44.0	1	11.5	54.9	44.4
Not Stated	50	0.1	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Figure 3.3**  
**Mother's Age: Percentage Distribution of Singleton Births for Married and Single Status, 1999**



Note: See Appendix E, Table E3 for data. 'Not Stated' data are not included in the calculation of the percentages.

**Table 3.4**  
**Father's Occupation**

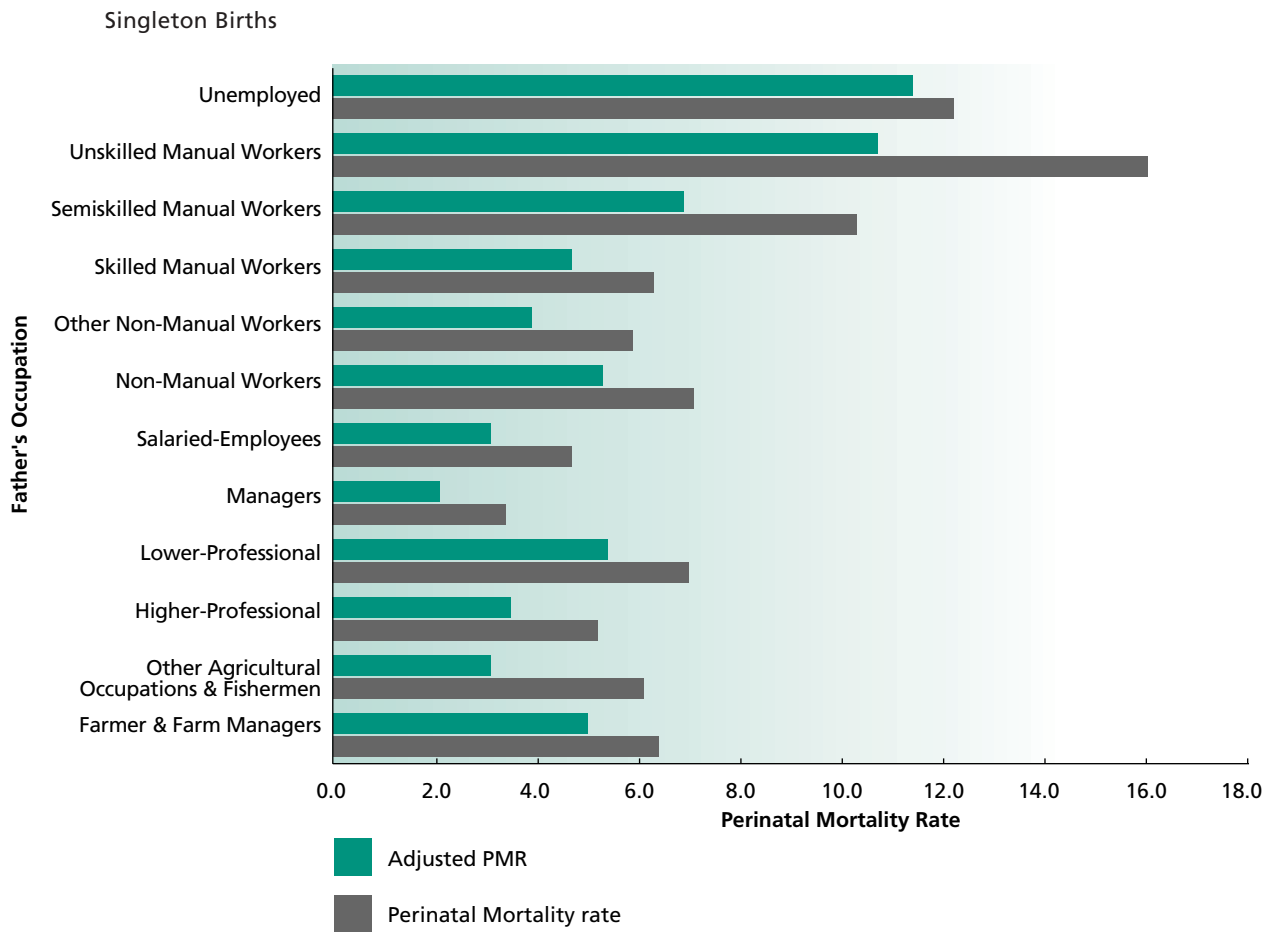
Live Births, Stillbirths, Early Neonatal Deaths and Mortality Deaths, 1999  
Singleton Births

Father's Occupation	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Farmers & Farm Managers	2,961	5.6	15	5.0	4	1.4	6.4	5.0
Other Agricultural Occupations & Fishermen	651	1.2	2	3.1	2	3.1	6.1	3.1
Higher-Professional	2,878	5.5	10	3.5	5	1.7	5.2	3.5
Lower-Professional	1,849	3.5	9	4.8	4	2.2	7.0	5.4
Managers	4,351	8.3	8	1.8	7	1.6	3.4	2.1
Salaried-Employees	1,283	2.4	2	1.6	4	3.1	4.7	3.1
Non-Manual Workers	3,929	7.5	19	4.8	9	2.3	7.1	5.3
Other Non-Manual Workers	4,051	7.7	13	3.2	11	2.7	5.9	3.9
Skilled Manual Workers	9,782	18.6	42	4.3	20	2.0	6.3	4.7
Semiskilled Manual Workers	2,889	5.5	19	6.5	11	3.8	10.3	6.9
Unskilled Manual Workers	743	1.4	8	10.7	4	5.4	16.0	10.7
Unemployed	1,298	2.5	14	10.7	2	1.5	12.2	11.4
Not Classifiable	335	0.6	1	3.0	1	3.0	6.0	6.0
Not Applicable	14,877	28.3	97	6.5	42	2.8	9.3	7.2
Not Stated	679	1.3	15	21.6	4	5.9	27.4	21.7
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

Note: In this table 'Unemployed' includes 38 fathers whose occupation was recorded as 'Home Duties'. See Appendix B for a description of the classification system for occupations.



**Figure 3.4**  
**Perinatal Mortality Rates by Father's Occupation, 1999**



Note: See Table 3.4 for data. The adjusted rate excludes all deaths due to congenital anomalies.

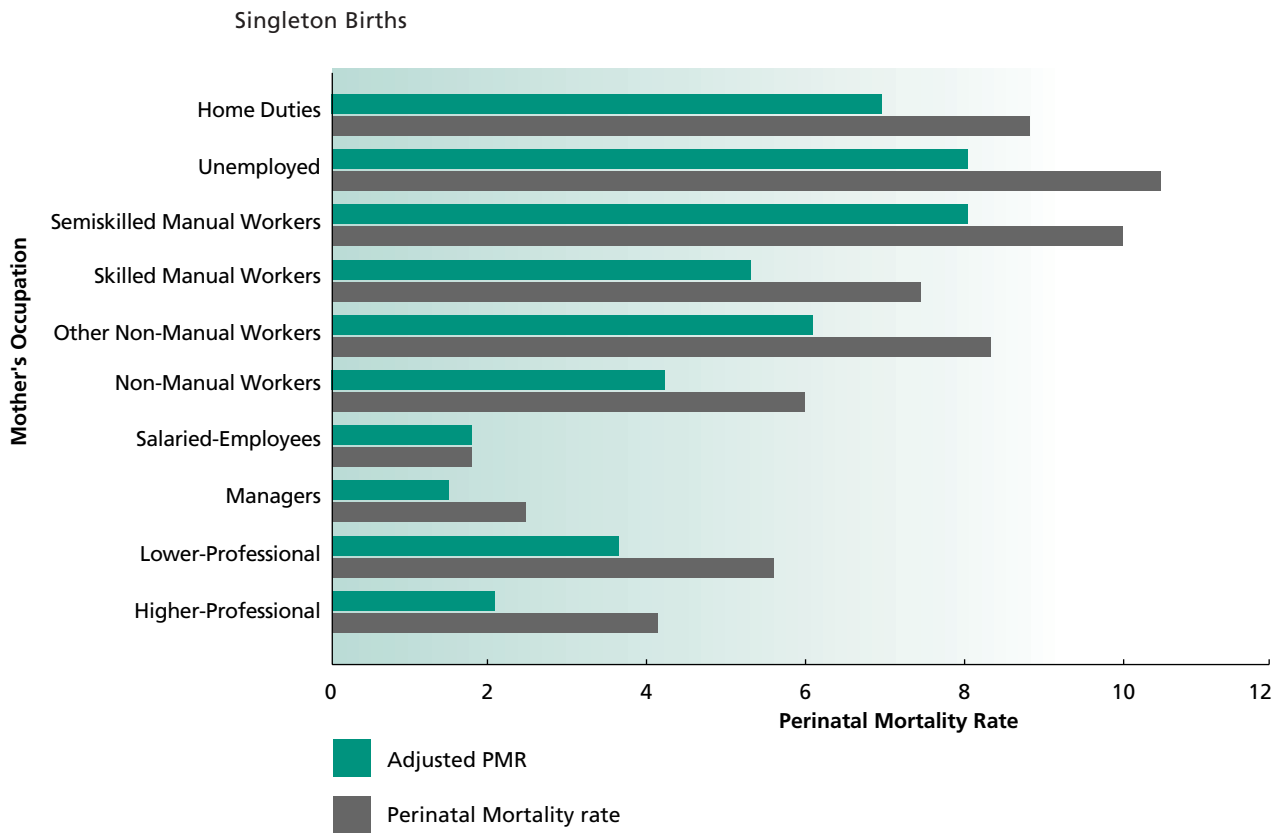
**Table 3.5**  
**Mother's Occupation**

Live Births, Stillbirths, Early Neonatal Deaths and Mortality Deaths, 1999  
Singleton Births

Mother's Occupation	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Farmers & Farm Managers	110	0.2	0	0.0	0	0.0	0.0	0.0
Other Agricultural Occupations & Fishermen	81	0.2	0	0.0	0	0.0	0.0	0.0
Higher-Professional	1,433	2.7	3	2.1	3	2.1	4.2	2.1
Lower-Professional	5,402	10.3	20	3.7	11	2.0	5.7	3.7
Managers	1,998	3.8	2	1.0	3	1.5	2.5	1.5
Salaried-Employees	554	1.1	1	1.8	0	0.0	1.8	1.8
Non-Manual Workers	11,485	21.9	51	4.4	19	1.7	6.1	4.3
Other Non-Manual Workers	4,698	8.9	25	5.3	15	3.2	8.5	6.2
Skilled Manual Workers	922	1.8	4	4.3	3	3.3	7.6	5.4
Semiskilled Manual Workers	3,418	6.5	24	7.0	11	3.2	10.2	8.2
Unskilled Manual Workers	4	0.0	0	0.0	0	0.0	0.0	0.0
Unemployed	1,579	3.0	11	6.9	6	3.8	10.7	8.2
Not Classifiable	1,492	2.8	11	7.3	3	2.0	9.3	7.3
Home Duties	13,638	25.9	84	6.1	40	2.9	9.0	7.1
Not Stated	5,742	10.9	38	6.6	16	2.8	9.3	7.1
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

Note: 'Not Applicable' is not used in the classification of maternal occupation. See Appendix B for a description of the classification system for occupations.

**Figure 3.5**  
**Perinatal Mortality Rates by Mother's Occupation, 1999**



Note: See Table 3.5 for data. The adjusted rate excludes all deaths due to congenital anomalies.

**Table 3.6****Number of Previous Stillbirths**

(for women having second and subsequent births)

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

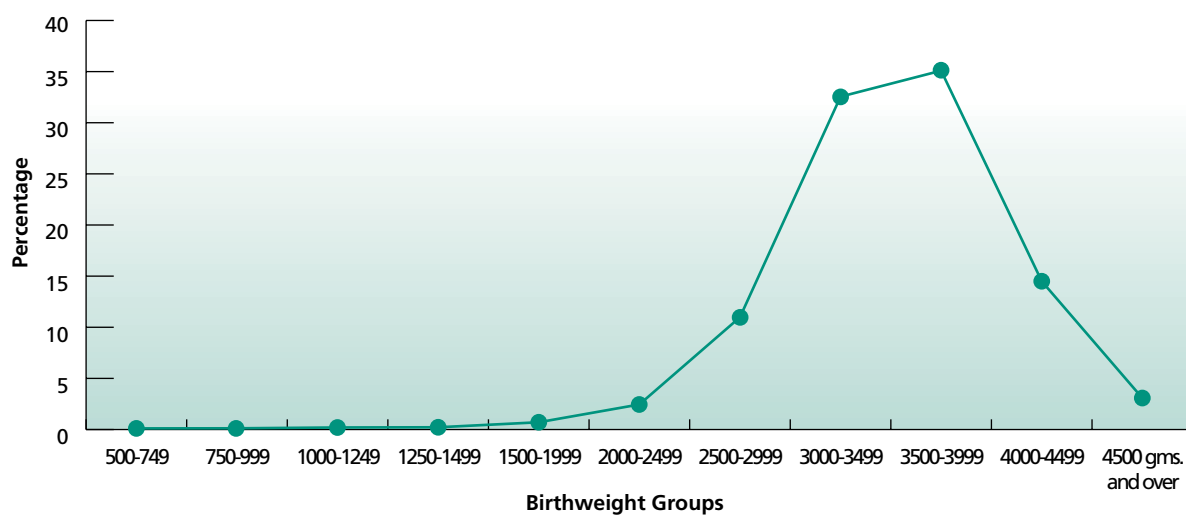
Previous Stillbirths	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0	30,340	97.9	140	4.6	65	2.1	6.7	5.0
1	583	1.9	10	16.9	4	6.9	23.6	18.6
2	42	0.1	0	0.0	0	0.0	0.0	0.0
3 and over	18	0.1	1	52.6	0	0.0	52.6	52.6
Not Stated	17	0.1	1	55.6	0	0.0	55.6	55.6
<b>Total</b>	<b>31,000</b>	<b>100</b>	<b>152</b>	<b>4.9</b>	<b>69</b>	<b>2.2</b>	<b>7.1</b>	<b>5.3</b>

Note: Primiparas (i.e. women with no previous live or still births) are not included in this table.

**Table 3.7****Birthweight – All Singleton Births**Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Birthweight (grams)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	57	0.1	40	412.4	24	421.1	659.8	659.8
750-999	62	0.1	25	287.4	13	209.7	436.8	395.1
1000-1249	104	0.2	18	147.5	13	125.0	254.1	165.1
1250-1499	116	0.2	22	159.4	8	69.0	217.4	136.0
1500-1999	370	0.7	29	72.7	10	27.0	97.7	72.2
2000-2499	1,286	2.4	32	24.3	14	10.9	34.9	21.5
2500-2999	5,761	11.0	44	7.6	16	2.8	10.3	7.4
3000-3499	17,084	32.5	39	2.3	12	0.7	3.0	2.3
3500-3999	18,415	35.0	17	0.9	14	0.8	1.7	1.2
4000-4499	7,607	14.5	5	0.7	3	0.4	1.1	0.7
4500 and over	1,616	3.1	2	1.2	2	1.2	2.5	1.2
Not Stated	78	0.1	1	12.7	1	12.8	25.3	25.3
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Figure 3.6**  
**Percentage Distribution of Live Births across Birthweight Groups, 1999**



Note: See Table 3.7 for data. Unknown data are not included in the calculation of percentages.

**Table 3.8**  
**Birthweight – Males**

Live Births, Stillbirths, Early Neonatal Deaths  
 and Mortality Rates, 1999

Singleton Births

Birthweight (grams)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	23	0.1	23	500.0	7	304.3	652.2	652.2
750-999	27	0.1	15	357.1	8	296.3	547.6	512.8
1000-1249	57	0.2	13	185.7	7	122.8	285.7	206.3
1250-1499	53	0.2	13	197.0	3	56.6	242.4	137.9
1500-1999	191	0.7	14	68.3	7	36.6	102.4	75.4
2000-2499	600	2.2	22	35.4	7	11.7	46.6	32.6
2500-2999	2,503	9.2	26	10.3	9	3.6	13.8	9.5
3000-3499	7,891	29.1	12	1.5	9	1.1	2.7	1.8
3500-3999	9,948	36.7	8	0.8	9	0.9	1.7	0.9
4000-4499	4,661	17.2	3	0.6	2	0.4	1.1	0.9
4500 and over	1,081	4.0	1	0.9	2	1.9	2.8	0.9
Not Stated	39	0.1	1	25.0	0	0.0	25.0	25.0
<b>Total</b>	<b>27,074</b>	<b>100.0</b>	<b>151</b>	<b>5.5</b>	<b>70</b>	<b>2.6</b>	<b>8.1</b>	<b>5.9</b>

Note: This table does not include 18 births for which the sex was recorded as 'indeterminate' or 'unknown'.

**Table 3.9**  
**Birthweight – Females**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

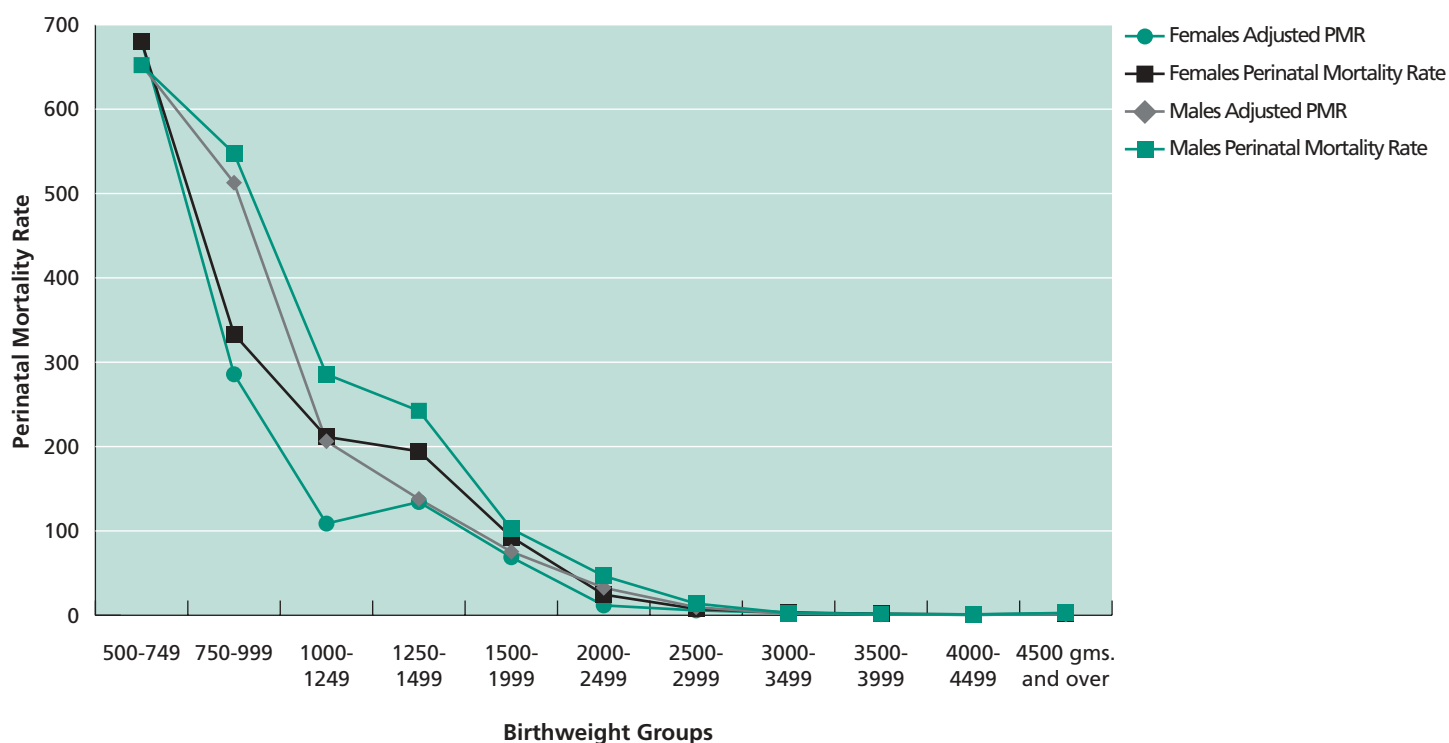
Singleton Births

Birthweight (grams)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	33	0.1	17	340.0	17	515.2	680.0	680.0
750-999	35	0.1	10	222.2	5	142.9	333.3	285.7
1000-1249	47	0.2	5	96.2	6	127.7	211.5	108.7
1250-1499	63	0.2	9	125.0	5	79.4	194.4	134.3
1500-1999	179	0.7	15	77.3	3	16.8	92.8	68.8
2000-2499	685	2.7	10	14.4	7	10.2	24.5	11.7
2500-2999	3,258	12.8	18	5.5	7	2.1	7.6	5.8
3000-3499	9,191	36.1	27	2.9	3	0.3	3.3	2.8
3500-3999	8,465	33.2	9	1.1	5	0.6	1.7	1.5
4000-4499	2,945	11.6	2	0.7	1	0.3	1.0	0.3
4500 and over	535	2.1	1	1.9	0	0.0	1.9	1.9
Not Stated	28	0.1	0	0.0	1	35.7	35.7	35.7
<b>Total</b>	<b>25,464</b>	<b>100.0</b>	<b>123</b>	<b>4.8</b>	<b>60</b>	<b>2.4</b>	<b>7.2</b>	<b>5.6</b>

Note: This table does not include 18 births for which the sex was recorded as 'indeterminate' or 'unknown'.

**Figure 3.7**  
**Perinatal Mortality Rates for Males and Females by Birthweight, 1999**

Singleton Births



Note: Infants whose sex was recorded as 'Indeterminate' or 'Unknown' or whose birthweight is unknown are not included. See Tables 3.8 and 3.9 for data.

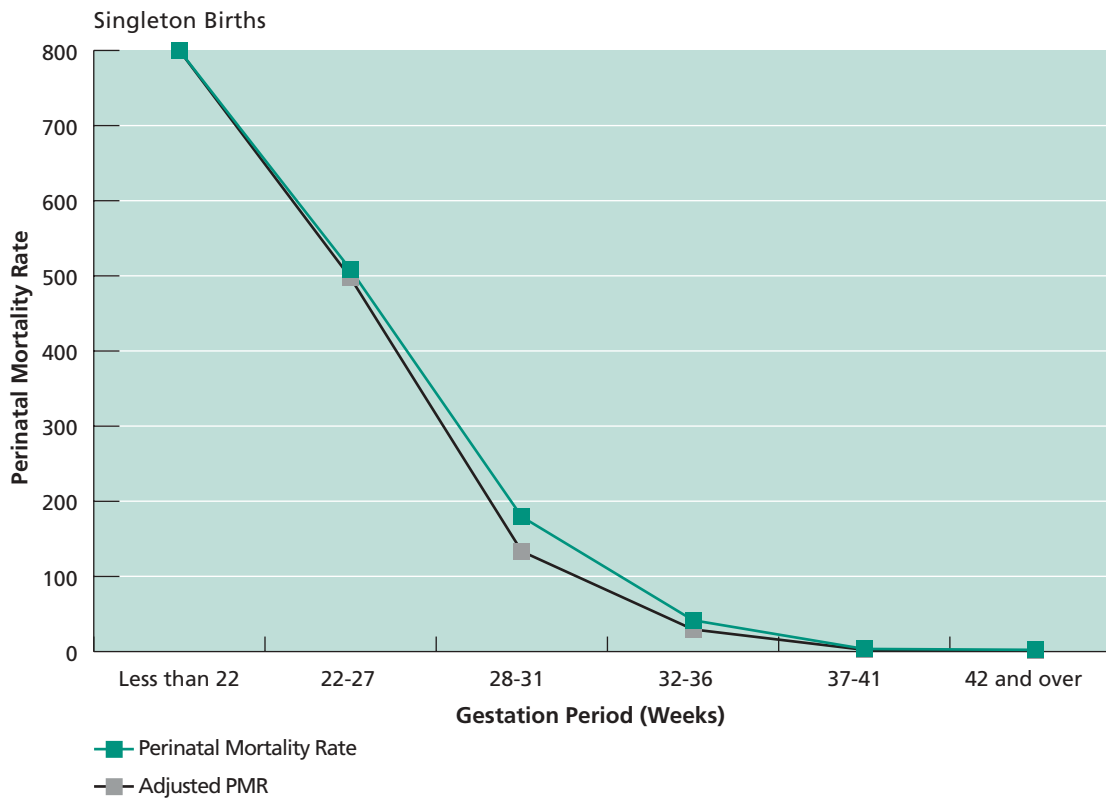
**Table 3.10**  
**Gestation Period at Delivery**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Gestation Period (weeks)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Less than 22	2	0.0	3	600.0	1	500.0	800.0	800.0
22-27	126	0.2	55	303.9	37	293.7	508.3	497.2
28-31	263	0.5	38	126.2	16	60.8	179.4	133.3
32-36	1,930	3.7	62	31.1	21	10.9	41.7	29.5
37-41	46,610	88.7	112	2.4	51	1.1	3.5	2.3
42 and over	3,513	6.7	4	1.1	4	1.1	2.3	1.1
Not Stated	112	0.2	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Figure 3.8**  
**Perinatal Mortality Rates by Gestation Period, 1999**



Note: See Table 3.10 for data.

**Table 3.11**  
**Interval in Years since Last Birth**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Time since last birth	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
No Previous Births	21,556	41	122	5.6	61	2.8	8.4	6.3
1 year or less	494	0.9	4	8.0	5	10.1	18.1	14.1
>1 year to 2 years	7,204	13.7	35	4.8	20	2.8	7.6	5.3
>2 years to 3 years	7,865	15	31	3.9	14	1.8	5.7	3.9
>3 years to 4 years	5,055	9.6	27	5.3	11	2.2	7.5	5.3
>4 years to 5 years	3,098	5.9	12	3.9	5	1.6	5.5	4.8
>5 years to 6 years	1,968	3.7	8	4.0	5	2.5	6.6	4.6
More than 6 years	4,804	9.1	25	5.2	4	0.8	6.0	5.4
Not Stated	512	1.0	10	19.2	5	9.8	28.7	23.1
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Table 3.12**  
**Month of Birth**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Month of Birth	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
January	4,377	8.3	26	5.9	13	3.0	8.9	5.5
February	3,993	7.6	20	5.0	9	2.3	7.2	5.7
March	4,475	8.5	19	4.2	11	2.5	6.7	5.1
April	4,371	8.3	23	5.2	17	3.9	9.1	6.6
May	4,435	8.4	14	3.1	12	2.7	5.8	4.1
June	4,520	8.6	25	5.5	8	1.8	7.3	5.7
July	4,503	8.6	23	5.1	9	2.0	7.1	5.8
August	4,403	8.4	28	6.3	13	3.0	9.3	6.8
September	4,494	8.6	34	7.5	8	1.8	9.3	7.3
October	4,316	8.2	16	3.7	8	1.9	5.5	3.7
November	4,175	7.9	18	4.3	14	3.4	7.6	5.3
December	4,494	8.6	28	6.2	8	1.8	8.0	6.9
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>



**Table 3.13**  
**Mother's Health Board of Residence**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Mother's Health Board of Residence	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Eastern	20,105	38.3	108	5.3	47	2.3	7.7	5.6
Midland	3,058	5.8	27	8.8	10	3.3	12.0	10.1
Mid-Western	4,401	8.4	9	2.0	8	1.8	3.9	3.0
North-Eastern	4,580	8.7	26	5.6	9	2.0	7.6	5.0
North-Western	2,829	5.4	14	4.9	6	2.1	7.0	5.6
South-Eastern	5,764	11.0	28	4.8	19	3.3	8.1	5.5
Southern	7,230	13.8	41	5.6	20	2.8	8.4	6.5
Western	4,442	8.5	19	4.3	11	2.5	6.7	5.4
Other	37	0.1	1	26.3	0	0.0	26.3	26.3
Unknown	110	0.2	1	9.0	0	0.0	9.0	9.0
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

Note: See Appendix D for the classification system employed for county of residence.





Section 3

## General Characteristics

### Part 2 Multiple Births



**Table 3.14**  
Maternities, Twins, Triplets and Twinning Rate for 1999

Births*	Maternities	Sets of Twins	Sets of Triplets	Twinning Rate
54,307	53,555	696	28	13.0

\*Includes stillbirths.

**Table 3.15**  
Age of Mother

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Age of Mother	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Under 15	2	0.1	0	0.0	1	500.0	500.0	500.0
15-19	18	1.2	1	52.6	1	55.6	105.3	105.3
20-24	146	10.0	2	13.5	6	41.1	54.1	47.6
25-29	362	24.7	2	5.5	8	22.1	27.5	19.4
30-34	557	38.1	7	12.4	6	10.8	23.0	23.0
35-39	338	23.1	2	5.9	5	14.8	20.6	20.6
40-44	37	2.5	0	0.0	0	0.0	0.0	0.0
Not Stated	3	0.2	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.16**  
**Maternal Parity**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Maternal Parity	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0	591	40.4	10	16.6	14	23.7	39.9	36.7
1	468	32.0	2	4.3	8	17.1	21.3	17.1
2	222	15.2	1	4.5	3	13.5	17.9	17.9
3	120	8.2	0	0.0	0	0.0	0.0	0.0
4	34	2.3	1	28.6	1	29.4	57.1	57.1
5	17	1.2	0	0.0	1	58.8	58.8	58.8
6	9	0.6	0	0.0	0	0.0	0.0	0.0
More than 6	2	0.1	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.17**  
**Marital Status**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Marital Status	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Married	1,103	75.4	7	6.3	15	13.6	19.8	18.1
Single	314	21.5	7	21.8	12	38.2	59.2	53.3
Separated	44	3.0	0	0.0	0	0.0	0.0	0.0
Not Stated	2	0.1	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.18**  
**Father's Occupation**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Father's Occupation	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Farmers & Farm Managers	89	6.1	0	0.0	1	11.2	11.2	11.2
Other Agricultural Occupations & Fishermen	31	2.1	0	0.0	1	32.3	32.3	0.0
Higher-Professional	80	5.5	1	12.3	1	12.5	24.7	24.7
Lower-Professional Managers	52	3.6	0	0.0	2	38.5	38.5	0.0
Salaried-Employees	153	10.5	0	0.0	1	6.5	6.5	6.5
Non-Manual Workers	44	3.0	0	0.0	0	0.0	0.0	0.0
Other Non-Manual Workers	129	8.8	0	0.0	3	23.3	23.3	23.3
Skilled Manual Workers	127	8.7	1	7.8	2	15.7	23.4	15.7
Semiskilled Manual Workers	288	19.7	4	13.7	3	10.4	24.0	24.0
Unskilled Manual Workers	84	5.7	1	11.8	3	35.7	47.1	47.1
Unemployed	17	1.2	0	0.0	2	117.6	117.6	117.6
Not Classifiable	24	1.6	0	0.0	0	0.0	0.0	0.0
Not Applicable	4	0.3	0	0.0	0	0.0	0.0	0.0
Not Stated	324	22.1	7	21.1	8	24.7	45.3	45.3
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

Note: In this table 'Unemployed' includes 2 fathers whose occupation was recorded as 'Home Duties'. See Appendix B for a description of the classification system for occupations.

**Table 3.19**  
**Mother's Occupation**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Mother's Occupation	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Other Agricultural Occupations & Fishermen	2	0.1	0	0.0	0	0.0	0.0	0.0
Higher-Professional	45	3.1	2	42.6	1	22.2	63.8	63.8
Lower-Professional	180	12.3	1	5.5	1	5.6	11.0	11.0
Managers	60	4.1	1	16.4	5	83.3	98.4	67.8
Salaried-Employees	22	1.5	0	0.0	0	0.0	0.0	0.0
Non-Manual Workers	314	21.5	1	3.2	9	28.7	31.7	28.7
Other Non-Manual Workers	122	8.3	2	16.1	2	16.4	32.3	32.3
Skilled Manual Workers	16	1.1	0	0.0	0	0.0	0.0	0.0
Semiskilled Manual Workers	69	4.7	2	28.2	1	14.5	42.3	42.3
Unemployed	34	2.3	2	55.6	1	29.4	83.3	83.3
Not Classifiable	18	1.2	0	0.0	0	0.0	0.0	0.0
Home Duties	389	26.6	3	7.7	4	10.3	17.9	17.9
Not Stated	192	13.1	0	0.0	3	15.6	15.6	10.5
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

Note: 'Not Applicable' is not used in the classification of maternal occupation. See Appendix B for a description of the classification system for occupations.



**Table 3.20**  
**Number of Previous Stillbirths**  
**(for women having second and subsequent births)**

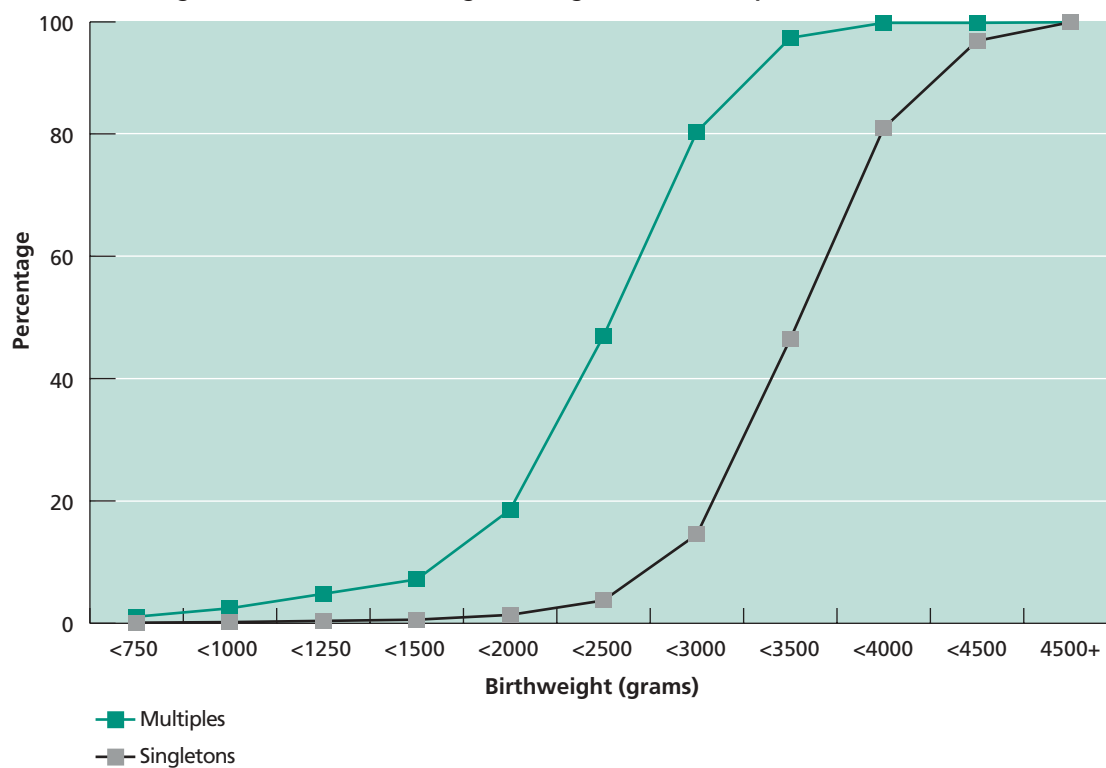
Live Births, Stillbirths, Early Neonatal Deaths  
 and Mortality Rates, 1999

Multiple Births

Previous Stillbirths	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Rate Mortality	Adjusted PMR
0	862	98.9	4	4.6	13	15.1	19.6	17.4
1	10	1.1	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>872</b>	<b>100.0</b>	<b>4</b>	<b>4.6</b>	<b>13</b>	<b>14.9</b>	<b>19.4</b>	<b>17.2</b>

Note: Primiparas (i.e. women with no previous live or still births) are not included in this table.

**Figure 3.9**  
**Birthweights: Cumulative Percentages of Singleton and Multiple Live Births, 1999**



Note: Data are compiled from tables 3.7 and 3.21.

**Table 3.21**  
**Birthweight – All Multiple Births**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Birthweight (grams)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	16	1.1	1	58.8	11	687.5	705.9	705.9
750-999	20	1.4	2	90.9	8	400.0	454.5	428.6
1000-1249	35	2.4	1	27.8	3	85.7	111.1	85.7
1250-1499	35	2.4	2	54.1	2	57.1	108.1	108.1
1500-1999	169	11.6	2	11.7	0	0.0	11.7	11.7
2000-2499	423	28.9	5	11.7	2	4.7	16.4	11.7
2500-2999	498	34.0	1	2.0	0	0.0	2.0	2.0
3000-3499	228	15.6	0	0.0	1	4.4	4.4	4.4
3500-3999	37	2.5	0	0.0	0	0.0	0.0	0.0
4500 and over	2	0.1	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.22**  
**Birthweight – Males**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Birthweight (grams)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	9	1.2	1	100.0	6	666.7	700.0	700.0
750-999	13	1.7	1	71.4	6	461.5	500.0	461.5
1000-1249	18	2.4	1	52.6	3	166.7	210.5	166.7
1250-1499	17	2.3	2	105.3	0	0.0	105.3	105.3
1500-1999	69	9.3	1	14.3	0	0.0	14.3	14.3
2000-2499	215	28.9	3	13.8	0	0.0	13.8	13.8
2500-2999	240	32.3	1	4.1	0	0.0	4.1	4.1
3000-3499	135	18.1	0	0.0	1	7.4	7.4	7.4
3500-3999	28	3.8	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>744</b>	<b>100.0</b>	<b>10</b>	<b>13.3</b>	<b>16</b>	<b>21.5</b>	<b>34.5</b>	<b>31.9</b>

**Table 3.23**  
**Birthweight – Females**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Birthweight (grams)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	7	1.0	0	0.0	5	714.3	714.3	714.3
750-999	7	1.0	1	125.0	2	285.7	375.0	375.0
1000-1249	17	2.4	0	0.0	0	0.0	0.0	0.0
1250-1499	18	2.5	0	0.0	2	111.1	111.1	111.1
1500-1999	100	13.9	1	9.9	0	0.0	9.9	9.9
2000-2499	208	28.9	2	9.5	2	9.6	19.0	9.6
2500-2999	258	35.9	0	0.0	0	0.0	0.0	0.0
3000-3499	93	12.9	0	0.0	0	0.0	0.0	0.0
3500-3999	9	1.3	0	0.0	0	0.0	0.0	0.0
4500 and over	2	0.3	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>719</b>	<b>100.0</b>	<b>4</b>	<b>5.5</b>	<b>11</b>	<b>15.3</b>	<b>20.7</b>	<b>18.0</b>

**Table 3.24**  
**Gestation Period at Delivery**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Gestation Period (weeks)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
22-27	38	2.6	3	73.2	20	526.3	561.0	550.0
28-31	80	5.5	1	12.3	3	37.5	49.4	37.5
32-36	499	34.1	7	13.8	3	6.0	19.8	15.9
37-41	846	57.8	3	3.5	1	1.2	4.7	4.7
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.25**  
**Interval in Years since Last Birth**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Time since last birth	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
No Previous Births	591	40.4	10	16.6	14	23.7	39.9	36.7
1 year or less	21	1.4	0	0.0	2	95.2	95.2	95.2
>1 year to 2 years	165	11.3	0	0.0	2	12.1	12.1	6.1
>2 years to 3 years	216	14.8	3	13.7	1	4.6	18.3	18.3
>3 years to 4 years	141	9.6	0	0.0	1	7.1	7.1	0.0
>4 years to 5 years	117	8.0	0	0.0	0	0.0	0.0	0.0
>5 years to 6 years	46	3.1	0	0.0	1	21.7	21.7	21.7
More than 6 years	152	10.4	1	6.5	6	39.5	45.8	45.8
Not Stated	14	1.0	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.26**  
**Month of Birth**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Month of Birth	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
January	99	6.8	0	0.0	0	0.0	0.0	0.0
February	87	5.9	0	0.0	5	57.5	57.5	46.5
March	101	6.9	0	0.0	0	0.0	0.0	0.0
April	125	8.5	0	0.0	2	16.0	16.0	16.0
May	147	10.0	0	0.0	3	20.4	20.4	13.7
June	133	9.1	2	14.8	2	15.0	29.6	29.6
July	137	9.4	2	14.4	1	7.3	21.6	21.6
August	100	6.8	4	38.5	1	10.0	48.1	48.1
September	151	10.3	1	6.6	0	0.0	6.6	6.6
October	129	8.8	3	22.7	7	54.3	75.8	75.8
November	142	9.7	0	0.0	5	35.2	35.2	21.4
December	112	7.7	2	17.5	1	8.9	26.3	26.3
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 3.27**  
**Mother's Health Board of Residence**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Mother's Health Board of Residence	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Eastern	558	38.1	5	8.9	6	10.8	19.5	19.5
Midland	96	6.6	1	10.3	2	20.8	30.9	30.9
Mid-Western	135	9.2	0	0.0	2	14.8	14.8	14.8
North-Eastern	112	7.7	1	8.8	2	17.9	26.5	26.5
North-Western	84	5.7	0	0.0	1	11.9	11.9	0.0
South-Eastern	139	9.5	1	7.1	2	14.4	21.4	14.4
Southern	184	12.6	4	21.3	4	21.7	42.6	42.6
Western	151	10.3	2	13.1	8	53.0	65.4	53.0
Unknown	4	0.3	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

Note: See Appendix D for the classification system employed for county of residence.





Section 4  
Perinatal Care

Part 1 Singleton Births





## Section 4

## Perinatal Care

## Part 1 Singleton Births

**Table 4.1**  
**Type of Antenatal Care**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Type of Antenatal Care	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Hospital/Obstetrician General Practitioner Only	13,917 77	26.5 0.1	64 2	4.6 25.3	42 2	3.0 26.0	7.6 50.6	5.1 26.0
Hospital and G.P. Combined	38,078	72.5	193	5.0	79	2.1	7.1	5.4
Midwife Only	79	0.2	0	0.0	1	12.7	12.7	12.7
None	243	0.5	12	47.1	5	20.6	66.7	63.0
Not Stated	162	0.3	3	18.2	1	6.2	24.2	24.2
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

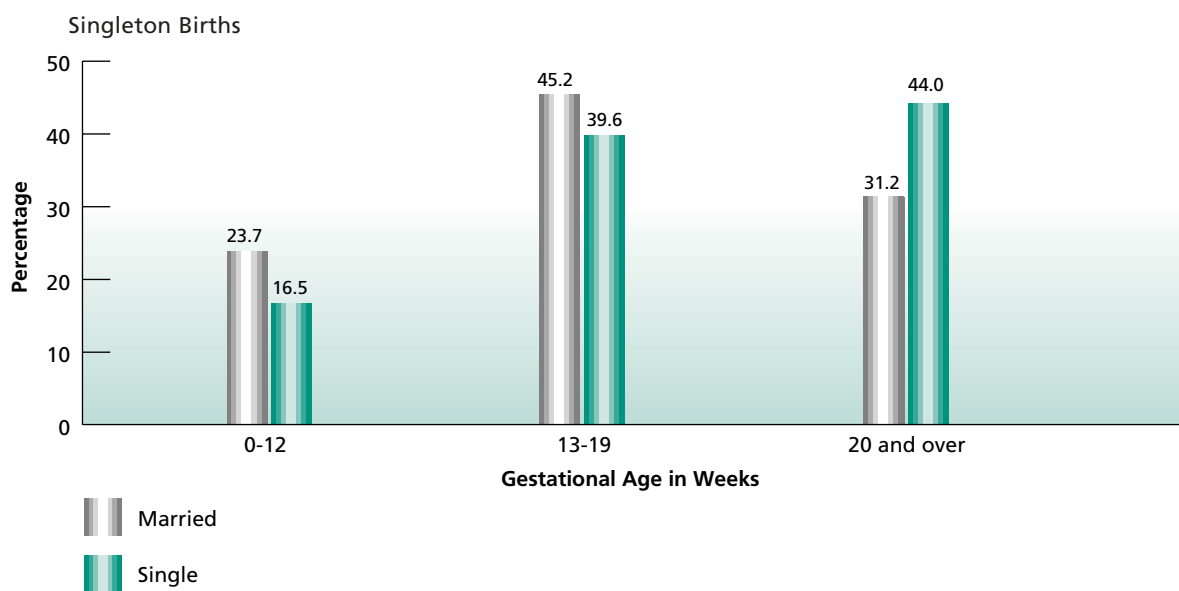
**Table 4.2**  
**Time of First visit to Hospital or Doctor during Pregnancy**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Time of First Visit (Weeks)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0-12	10,656	20.3	43	4.0	27	2.5	6.5	4.9
13-19	21,671	41.2	113	5.2	42	1.9	7.1	5.2
20 and over	17,547	33.4	97	5.5	50	2.8	8.3	6.0
Not Stated	2,682	5.1	21	7.8	11	4.1	11.8	10.7
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Figure 4.1**  
**Percentage Distribution of Time of First Visit to Doctor or Hospital by Marital Status, 1999**



Note: See Appendix E, Table E11 for data. 'Not Stated' data are not included in the calculation of percentages.

**Table 4.3**  
**Mother's Length of Stay in Hospital Prior to Delivery**

Live Births, Stillbirths, Early Neonatal Deaths  
 and Mortality Rates, 1999

Singleton Births

Antenatal Length of Stay (Days)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0-1	46,281	88.5	208	4.5	97	2.1	6.6	5.0
2	2,755	5.3	37	13.3	8	2.9	16.1	11.5
3-5	1,800	3.4	20	11.0	11	6.1	17.0	10.5
6-8	491	0.9	4	8.1	1	2.0	10.1	10.1
9-11	214	0.4	2	9.3	3	14.0	23.1	14.0
12-14	134	0.3	1	7.4	1	7.5	14.8	7.5
2 weeks or more	469	0.9	2	4.2	7	14.9	19.1	10.7
Not Stated*	166	0.3	0	0.0	1	6.0	6.0	6.0
<b>Total</b>	<b>52,310</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>129</b>	<b>2.5</b>	<b>7.7</b>	<b>5.7</b>

\* 'Not Stated' includes 7 births who were BBAs (Born Before Arrival) or who were transferred after birth to a maternity hospital/unit after birth.

Note: Domiciliary births, of which there were 246, are excluded from this table.

**Table 4.4**  
**Mother's Length of Stay in Hospital after Delivery**

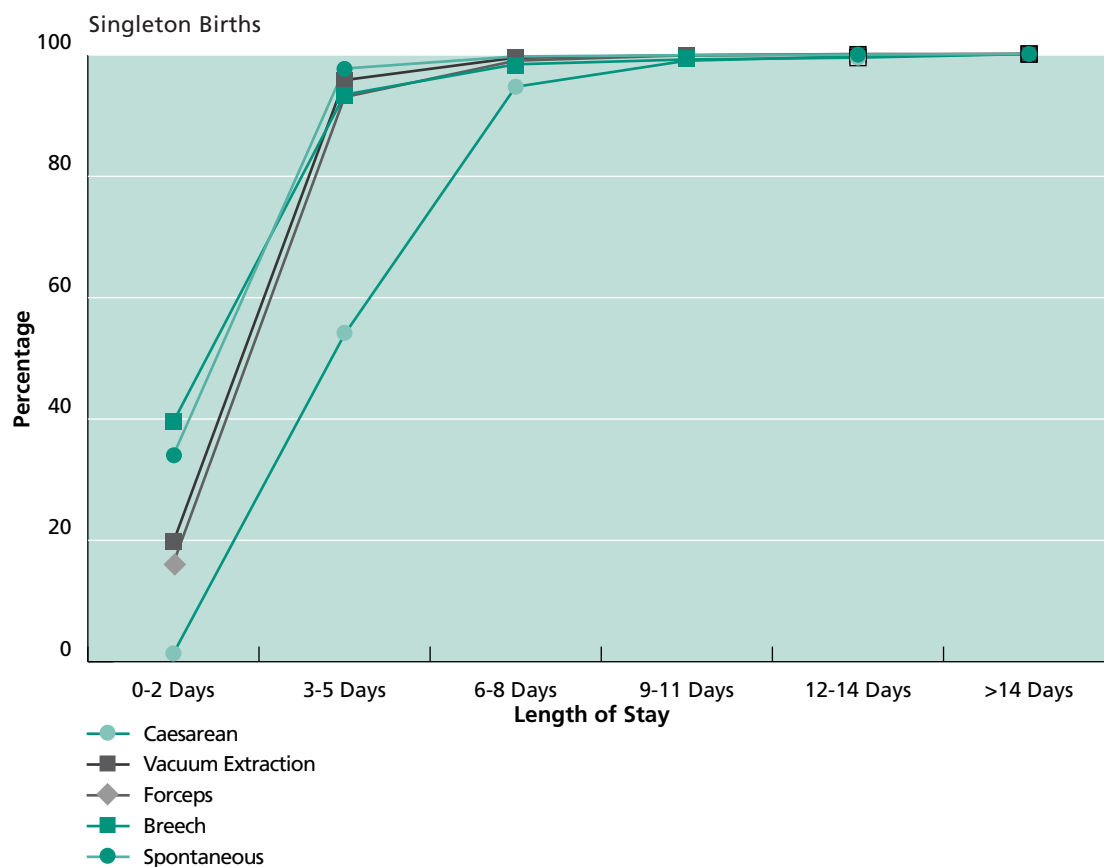
Live Births, Stillbirths, Early Neonatal Deaths  
 and Mortality Rates, 1999

Singleton Births

Postnatal Length of Stay (Days)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0-1	2,556	4.9	125	46.6	35	13.7	59.7	45.8
2	10,536	20.1	81	7.6	33	3.1	10.7	8.4
3-5	33,164	63.4	56	1.7	43	1.3	3.0	2.1
6-8	5,255	10.0	6	1.1	13	2.5	3.6	2.1
9-11	564	1.1	4	7.0	3	5.3	12.3	10.6
12-14	97	0.2	0	0.0	1	10.3	10.3	10.3
2 weeks or more	96	0.2	1	10.3	1	10.4	20.6	10.4
Not Stated	42	0.1	1	23.3	0	0.0	23.3	23.3
<b>Total</b>	<b>52,310</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>129</b>	<b>2.5</b>	<b>7.7</b>	<b>5.7</b>

Note: Domiciliary births, of which there were 246, are excluded from this table.

**Figure 4.2**  
**Postnatal Length of Stay: Cumulative Percentages by Method of Delivery, 1999**



Note: Data are compiled from Table E9, Appendix E. 'Not Stated' data are not included in the calculation of percentages.

**Table 4.5**  
**Method of Delivery**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Method of Delivery	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Spontaneous	34,335	65.3	191	5.5	61	1.8	7.3	5.6
Breech/Forceps	294	0.6	51	147.8	14	47.6	188.4	156.6
Forceps	2,243	4.3	3	1.3	3	1.3	2.7	1.8
Vacuum Extraction	5,254	10.0	5	1.0	6	1.1	2.1	1.3
Caesarean	10,342	19.7	21	2.0	46	4.4	6.5	4.0
Other specified & Combined	69	0.1	2	28.2	0	0.0	28.2	28.2
Not Stated	19	0.0	1	50.0	0	0.0	50.0	50.0
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Table 4.6**  
**Advance Hospital Bookings**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Advance Hospital Bookings	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Booked	50,561	96.7	245	4.8	119	2.4	7.2	5.3
Not Booked	1,719	3.3	27	15.5	8	4.7	20.0	17.2
Not Stated	30	0.1	2	62.5	2	66.7	125.0	96.8
<b>Total</b>	<b>52,310</b>	<b>100.0</b>	<b>274</b>	<b>5.2</b>	<b>129</b>	<b>2.5</b>	<b>7.7</b>	<b>5.7</b>

Note: Domiciliary births, of which there were 246, are excluded from this table.

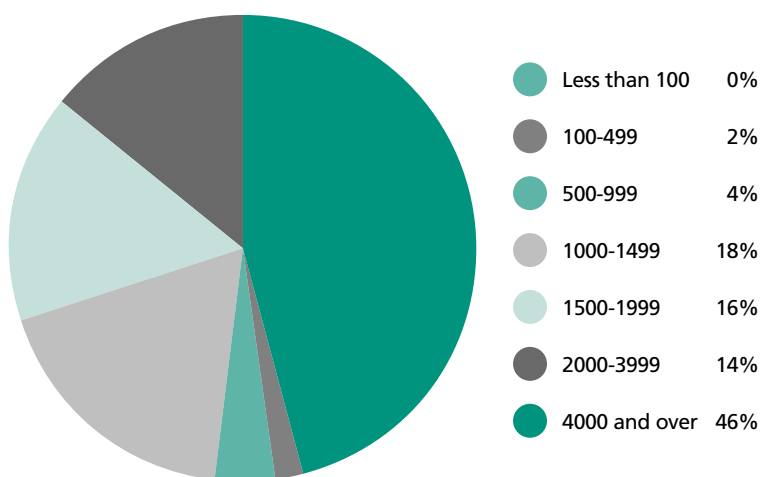
**Table 4.7**  
**Size of Maternity Unit (number of live and stillbirths annually)**

Live Births, Stillbirths, Early Neonatal Deaths  
 and Mortality Rates, 1999

Size of Maternity Unit	Number of Hospitals	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Less than 100	9	13	0.0	0	0.0	0	0.0	0.0	0.0
100-499	2	836	1.6	6	7.1	3	3.6	10.7	4.8
500-999	2	1,900	3.5	13	6.8	5	2.6	9.4	7.3
1000-1499	8	9,809	18.2	50	5.1	26	2.7	7.7	6.1
1500-1999	5	8,635	16.1	48	5.5	26	3.0	8.5	6.3
2000-3999	3	7,630	14.2	49	6.4	30	3.9	10.3	8.2
4000 and over	4	24,950	46.4	122	4.9	66	2.6	7.5	5.6
<b>Total</b>	<b>33</b>	<b>53,773</b>	<b>100.0</b>	<b>288</b>	<b>5.3</b>	<b>156</b>	<b>2.9</b>	<b>8.2</b>	<b>6.2</b>

Note: This table includes multiple births but excludes domiciliary births of which there were 246.

**Figure 4.3**  
**Percentage of Live Births by Size of Maternity Unit, 1999**



Note: See Table 4.7 for data. The size of unit refers to the number of live and still births occurring annually.

**Table 4.8**  
**Inter-Hospital Transfer of Infants**

Live Births, Early Neonatal Deaths  
and Mortality Rates, 1999

Singleton Births

Infant Transfers	Live Births	Per Cent (%) Live Births	Early Neonatal Deaths	Early Neonatal Rate
Transferred	313	0.6	10	31.9
Not Transferred	51,928	99.3	119	2.3
Not Stated	69	0.1	0	0.0
<b>Total</b>	<b>52,310</b>	<b>100.0</b>	<b>129</b>	<b>2.5</b>

Note: Domiciliary births, of which there were 246, are excluded from this table.

**Table 4.9**  
**Rubella: Immune Status of Mother**

Numbers and Percentages, 1999

Singleton Births

Rubella	Frequency	Per Cent (%)
Immune	47,369	89.7
Not Immune	1,292	2.5
Unknown	4,158	7.9
Not Stated	11	0.0
<b>Total</b>	<b>52,830</b>	<b>100.0</b>

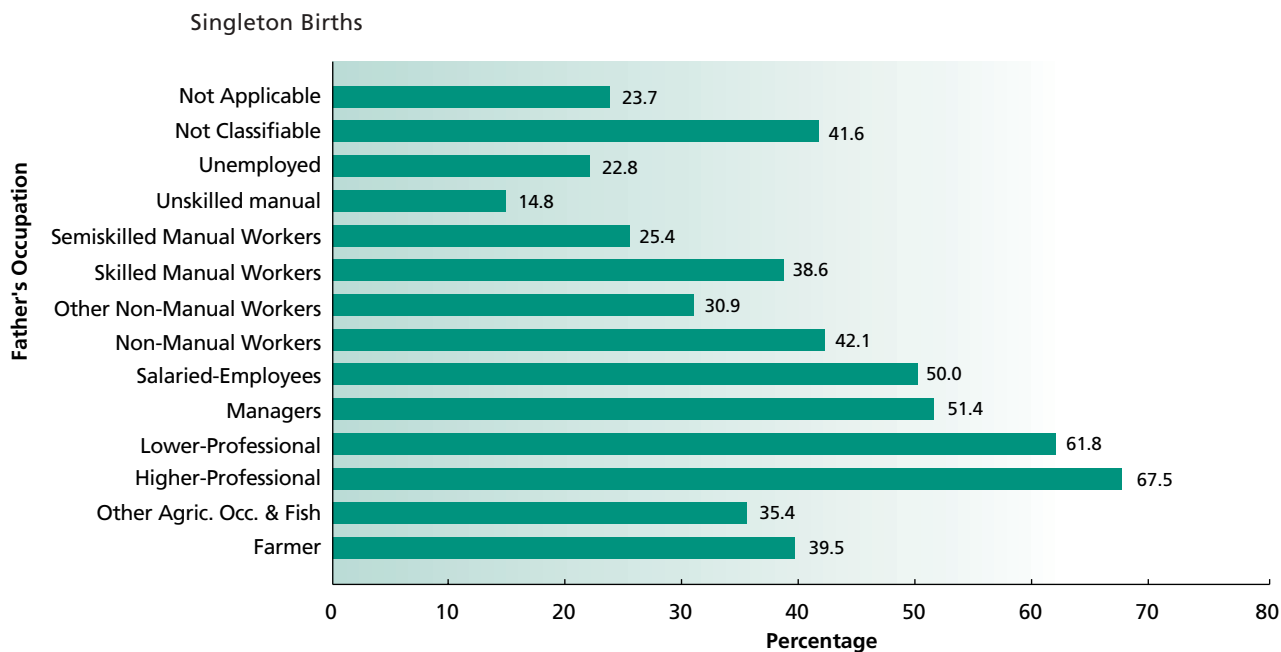
**Table 4.10**  
**Age of Mother by Infant's Type of Feeding, 1999**

Singleton Births

Age of Mother	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
Frequency Row Per Cent Col. Per Cent					
Under 15	9 90.00 0.03	1 10.00 0.01	0 0.00 0.00	0 0.00 0.00	10 0.02
15-19	2,793 84.64 8.46	485 14.70 2.55	12 0.36 3.00	10 0.30 7.81	3,300 6.28
20-24	5,750 75.94 17.43	1,753 23.15 9.21	47 0.62 11.75	22 0.29 17.19	7,572 14.41
25-29	8,928 66.22 27.06	4,416 32.75 23.21	115 0.85 28.75	24 0.18 18.75	13,483 25.65
30-34	9,735 56.39 29.50	7,383 42.76 38.80	118 0.68 29.50	29 0.17 22.66	17,265 32.85
35-39	4,780 52.46 14.49	4,211 46.21 22.13	96 1.05 24.00	25 0.27 19.53	9,112 17.34
40-44	900 55.59 2.73	702 43.36 3.69	12 0.74 3.00	5 0.31 3.91	1,619 3.08
45 and over	53 66.25 0.16	27 33.75 0.14	0 0.00 0.00	0 0.00 0.00	80 0.15
Not Stated	50 43.48 0.15	52 45.22 0.27	0 0.00 0.00	13 11.30 10.16	115 0.22
<b>Total</b>	<b>32,998</b> <b>62.79</b>	<b>19,030</b> <b>36.21</b>	<b>400</b> <b>0.76</b>	<b>128</b> <b>0.24</b>	<b>52,556</b> <b>100.00</b>

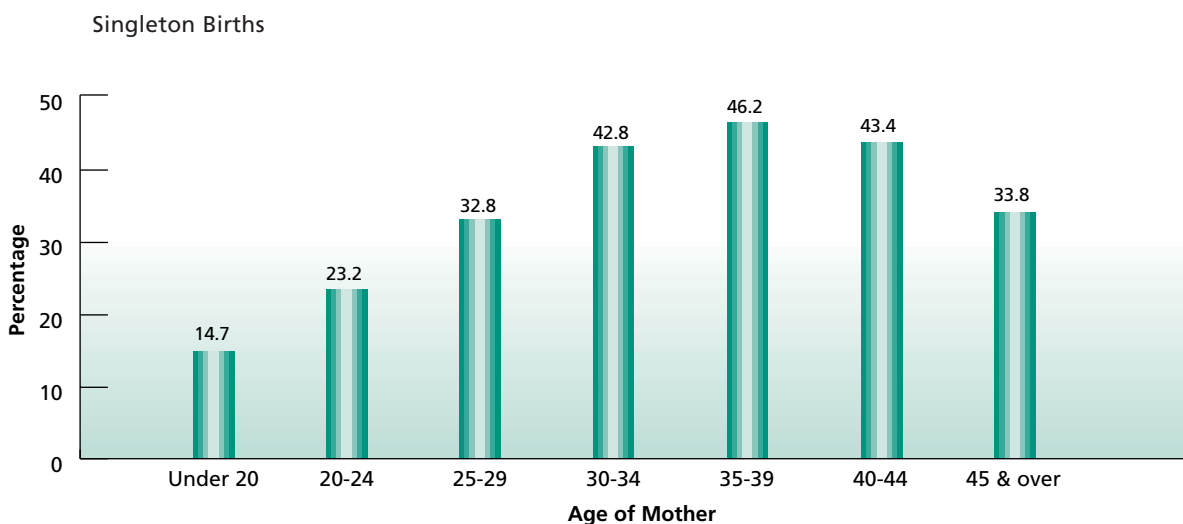
Note: See Appendix E for an explanation of the table format.

**Figure 4.4**  
**Percentage of Mothers Breastfeeding by Father's Occupation, 1999**



Note: Data are compiled from Table E15, Appendix E. 'Not Stated' data are not included in the calculation of percentages.

**Figure 4.5**  
**Percentage of Mothers Breastfeeding by Age of Mother, 1999**



Note: See Table 4.10 for data. 'Not Stated' data are not included in the calculation of percentages.





Section 4  
Perinatal Care

Part 2 Multiple Births



**Table 4.11**  
**Type of Antenatal Care**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Type of Antenatal Care	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Hospital/Obstetrician General Practitioner Only	535	36.6	4	7.4	9	16.8	24.1	24.1
Hospital and G.P. Combined	3	0.2	0	0.0	0	0.0	0.0	0.0
None	906	61.9	10	10.9	16	17.7	28.4	24.1
Not Stated	9	0.6	0	0.0	2	222.2	222.2	222.2
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 4.12**  
**Time of First Visit to Doctor or Hospital during Pregnancy**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Time of First Visit (Weeks)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0-12	348	23.8	1	2.9	2	5.7	8.6	5.7
13-19	592	40.5	8	13.3	10	16.9	30.0	30.0
20 and over	429	29.3	5	11.5	12	28.0	39.2	32.5
Not Stated	94	6.4	0	0.0	3	31.9	31.9	31.9
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 4.13**  
**Mother's Length of Stay in Hospital Prior to Delivery**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Antenatal Length of Stay (Days)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0-1	1,109	75.8	9	8.1	22	19.8	27.7	26.0
2	89	6.1	3	32.6	2	22.5	54.3	33.3
3-5	82	5.6	0	0.0	0	0.0	0.0	0.0
6-8	64	4.4	0	0.0	2	31.3	31.3	31.3
9-11	26	1.8	1	37.0	1	38.5	74.1	74.1
12-14	24	1.6	0	0.0	0	0.0	0.0	0.0
2 weeks or more	63	4.3	1	15.6	0	0.0	15.6	15.6
Not Stated	6	0.4	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

Note: There were no domiciliary multiple births.

**Table 4.14**  
**Mother's Length of Stay in Hospital after Delivery**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

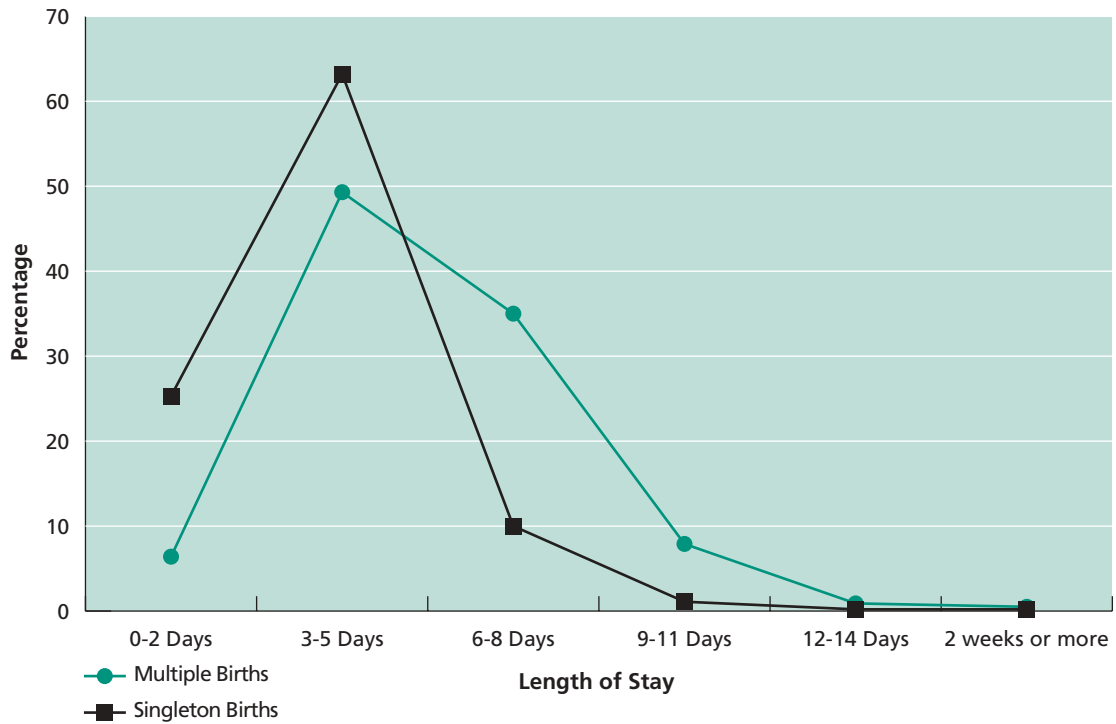
Multiple Births

Postnatal Length of Stay (Days)	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
0-1	29	2.0	4	121.2	6	206.9	303.0	281.3
2	59	4.0	2	32.8	7	118.6	147.5	147.5
3-5	723	49.4	4	5.5	8	11.1	16.5	13.8
6-8	513	35.1	3	5.8	6	11.7	17.4	15.5
9-11	116	7.9	1	8.5	0	0.0	8.5	8.5
12-14	14	1.0	0	0.0	0	0.0	0.0	0.0
2 weeks or more	8	0.5	0	0.0	0	0.0	0.0	0.0
Not Stated	1	0.1	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

Note: There were no domiciliary multiple births.

**Figure 4.6**

**Percentage Distribution of Births by Mother's Postnatal Length of Stay, 1999.**



Note: Includes stillbirths. See Tables 4.4 and 4.14 for data. 'Not Stated' data are not included in the calculation of percentages.

**Table 4.15**

**Method of Delivery**

Live Births, Stillbirths, Early Neonatal Deaths and Mortality Rates, 1999

Multiple Births

Method of Delivery	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Spontaneous	473	32.3	4	8.4	14	29.6	37.7	37.7
Breech/Forceps	110	7.5	3	26.5	2	18.2	44.2	44.2
Forceps	45	3.1	0	0.0	1	22.2	22.2	0.0
Vacuum Extraction	132	9.0	0	0.0	0	0.0	0.0	0.0
Caesarean	691	47.2	7	10.0	10	14.5	24.4	20.1
Other specified & Combined	12	0.8	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 4.16**  
**Advance Hospital Bookings**

Live Births, Stillbirths, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Advance Hospital Bookings	Live Births	Per Cent (%) Live Births	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
Booked	1,410	96.4	14	9.8	24	17.0	26.7	23.9
Not Booked	53	3.6	0	0.0	3	56.6	56.6	56.6
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>14</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

Note: There were no domiciliary multiple births.

**Table 4.17**  
**Inter Hospital Transfer of Infants**

Live Births, Early Neonatal Deaths  
and Mortality Rates, 1999

Multiple Births

Infant Transfers	Live Births	Per Cent (%) Live Births	Early Neonatal Deaths	Early Neonatal Rate
Not Stated	1	0.1	0	0.0
Transferred	29	2.0	1	34.5
Not Transferred	1,433	97.9	26	18.1
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>27</b>	<b>18.5</b>

Note: There were no domiciliary multiple births.

**Table 4.18**  
**Rubella: Immune Status of Mother**  
**Numbers and Percentages, 1999**

Multiple Births

Rubella	Frequency	Per Cent (%)
Immune	1,264	85.6
Not Immune	40	2.7
Unknown	173	11.7
<b>Total</b>	<b>1,477</b>	<b>100.0</b>

**Table 4.19**  
**Age of Mother by Infant's Type of Feeding**  
**Numbers and Percentages, 1999**

Multiple Births

Age of Mother	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
<b>Frequency</b>					
<b>Row Per Cent</b>					
<b>Col. Per Cent</b>					
Under 15	2	0	0	0	2
	100.00	0.00	0.00	0.00	
	0.19	0.00	0.00	0.00	0.14
15-19	15	2	0	1	18
	83.33	11.11	0.00	5.56	
	1.42	0.54	0.00	8.33	1.23
20-24	121	19	2	4	146
	82.88	13.01	1.37	2.74	
	11.48	5.18	6.67	33.33	9.98
25-29	269	84	7	2	362
	74.31	23.20	1.93	0.55	
	25.52	22.89	23.33	16.67	24.74
30-34	409	135	10	3	557
	73.43	24.24	1.80	0.54	
	38.80	36.78	33.33	25.00	38.07
35-39	216	111	9	2	338
	63.91	32.84	2.66	0.59	
	20.49	30.25	30.00	16.67	23.10
40-44	21	14	2	0	37
	56.76	37.84	5.41	0.00	
	1.99	3.81	6.67	0.00	2.53
Not Stated	1	2	0	0	3
	33.33	66.67	0.00	0.00	
	0.09	0.54	0.00	0.00	0.21
<b>Total</b>	<b>1,054</b>	<b>367</b>	<b>30</b>	<b>12</b>	<b>1,463</b>
	<b>72.04</b>	<b>25.09</b>	<b>2.05</b>	<b>0.82</b>	<b>100.00</b>

Note: See Appendix E for an explanation of the table format.







Section 5  
Perinatal Outcomes

Part 1 Singleton Births



# Section 5 Perinatal Outcomes

## Part 1 Singleton Births

**Table 5.1**  
**Live Births, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths**  
**and Mortality Rates by Birthweight, 1999**

Singleton Births

Birthweight	Live Births	Per Cent (%) Live Births	Ante- partum Still Births	Intra- partum Still Births	Not Stated	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	57	0.1	31	3	6	412.4	24	421.1	659.8	659.8
750-999	62	0.1	19	4	2	287.4	13	209.7	436.8	395.1
1000-1249	104	0.2	17	1	0	147.5	13	125.0	254.1	165.1
1250-1499	116	0.2	17	1	4	159.4	8	69.0	217.4	136.0
1500-1999	370	0.7	24	2	3	72.7	10	27.0	97.7	72.2
2000-2499	1,286	2.4	26	1	5	24.3	14	10.9	34.9	21.5
2500-2999	5,761	11.0	30	12	2	7.6	16	2.8	10.3	7.4
3000-3499	17,084	32.5	26	8	5	2.3	12	0.7	3.0	2.3
3500-3999	18,415	35.0	9	4	4	0.9	14	0.8	1.7	1.2
4000-4499	7,607	14.5	3	2	0	0.7	3	0.4	1.1	0.7
4500 gms. and over	1,616	3.1	1	1	0	1.2	2	1.2	2.5	1.2
Not Stated	78	0.1	1	0	0	12.7	1	12.8	25.3	25.3
<b>Total</b>	<b>52,556</b>	<b>100.0</b>	<b>204</b>	<b>39</b>	<b>31</b>	<b>5.2</b>	<b>130</b>	<b>2.5</b>	<b>7.6</b>	<b>5.7</b>

**Table 5.2**  
**Stillbirths, Early Neonatal Deaths**  
**and Mortality Rates by Cause of Death, 1999**

Singleton Births

ICD Codes	Cause of Death	Still Births	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Total Deaths	Perinatal Mortality Rate
<b>Congenital Anomalies</b>							
740	Anencephalus	13	0.25	10	0.19	23	0.44
741	Spina Bifida	5	0.09	3	0.06	8	0.15
742	Other Central Nervous System Anomalies	2	0.04	2	0.04	4	0.08
743	Other Congenital Anomalies	4	0.08	5	0.10	9	0.17
745	Bulbus Cordis and Septal Closure	1	0.02	0	0.00	1	0.02
746	Other Congenital Anomalies of the Heart	3	0.06	13	0.25	16	0.30
747	Congenital Anomalies of Circulatory System	1	0.02	1	0.02	2	0.04
748	Congenital Anomalies of Respiratory System	0	0.00	5	0.10	5	0.09
7490-7519	Cleft Palate & Lip, Other Digestive Anomalies	1	0.02	1	0.02	2	0.04
753	Congenital Anomalies of Urinary System	3	0.06	5	0.10	8	0.15
7540-7569	Musculoskeletal System	0	0.00	11	0.21	11	0.21
758	Chromosomal Anomalies including Down's Syndrome	4	0.08	10	0.19	14	0.27
<b>Maternal Conditions and Complications in Pregnancy</b>							
760	Maternal Hypertensive Disorders	1	0.02	2	0.04	3	0.06
760.1-761.9	Other Maternal Complications	7	0.13	1	0.02	8	0.15
7620	Placenta Praevia	1	0.02	0	0.00	1	0.02
7621.1	Other Placental Separation and Haemorrhage	48	0.91	5	0.10	53	1.00
762.2	Other Morphological and Functional Abnormalities of Placenta	23	0.44	1	0.02	24	0.45
762.4	Prolapsed Cord	2	0.04	0	0.00	2	0.04
762.5	Other Compression of Umbilical Cord	12	0.23	0	0.00	12	0.23
762.6-762.9	Other Complications of Placenta, Cord & Membranes	10	0.19	2	0.04	12	0.23
763.2-763.9	Other Complications of Labour/Delivery	1	0.02	0	0.00	1	0.02
<b>Slow Foetal Growth, Malnutrition &amp; Immaturity</b>							
764	Slow Foetal Growth & Malnutrition	2	0.04	0	0.00	2	0.04
765	Short Gestation and Low Birthweight	11	0.21	26	0.49	37	0.70
<b>Birth Trauma</b>							
767	Birth Trauma	1	0.02	0	0.00	1	0.02
768	Intrauterine Hypoxia/Anoxia	32	0.61	7	0.13	39	0.74
769	Respiratory Distress Syndrome	0	0.00	1	0.02	1	0.02
770	Respiratory Conditions of Foetus/Newborn	3	0.06	6	0.11	9	0.17
<b>Other Foetal and Neonatal Conditions</b>							
771	Perinatal Infections	3	0.06	1	0.02	4	0.08
772	Neonatal/Foetal Haemorrhage	0	0.00	3	0.06	3	0.06
773	Haemolytic Diseases	2	0.04	1	0.02	3	0.06
775	Metabolic and Endocrine Disorders	1	0.02	0	0.00	1	0.02
778	Integument and Temperature Regulation	5	0.09	1	0.02	6	0.11
<b>Maceration, Ill-Defined Conditions and All Other Causes</b>							
779.9	Maceration	24	0.45	0	0.00	24	0.45
780-796, 799	Symptoms, Signs, and Ill-Defined Conditions	38	0.72	3	0.06	41	0.78
	All Other Causes	10	0.19	4	0.08	14	0.27
<b>Total</b>		<b>274</b>	<b>5.19</b>	<b>130</b>	<b>2.47</b>	<b>404</b>	<b>7.65</b>

**Table 5.3**  
**Perinatal Mortality, Numbers and Rates, by Birthweight and Cause, 1999**

Singleton Births

Birthweight (grams)	Ancephalus		Spina Bifida		Other Central Nervous System Abnormalities		Congenital Anomalies of the Heart		Chromosomal Anomalies		Other Congenital Anomalies	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
500-749	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
750-999	3	34.5	0	0.0	0	0.0	0	0.0	1	11.5	2	23.0
1000-1249	2	16.4	2	16.4	0	0.0	2	16.4	2	16.4	5	41.0
1250-1499	3	21.7	0	0.0	1	7.2	2	14.5	3	21.7	4	29.0
1500-1999	2	5.0	0	0.0	0	0.0	0	0.0	4	10.0	5	12.5
2000-2499	5	3.8	2	1.5	2	1.5	2	1.5	4	3.0	3	2.3
2500-2999	5	0.9	1	0.2	0	0.0	4	0.7	0	0.0	7	1.2
3000-3499	1	0.1	2	0.1	0	0.0	2	0.1	0	0.0	6	0.4
3500-3999	1	0.1	0	0.0	1	0.1	4	0.2	0	0.0	3	0.2
4000-4499	0	0.0	1	0.1	0	0.0	2	0.3	0	0.0	0	0.0
4500 and over	1	0.6	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0
Not Stated	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>23</b>	<b>0.4</b>	<b>8</b>	<b>0.2</b>	<b>4</b>	<b>0.1</b>	<b>19</b>	<b>0.4</b>	<b>14</b>	<b>0.3</b>	<b>35</b>	<b>0.7</b>

**Table 5.3 Continued**  
**Perinatal Mortality, Numbers and Rates, by Birthweight and Cause, 1999**

Singleton Births

Birthweight (grams)	Maternal Complications		Placenta, Cord Membranes		Other Complications of Labour		Slow Foetal Growth		Birth Trauma		Hypoxia/Anoxia	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
500-749	3	30.9	16	164.9	0	0.0	22	226.8	0	0.0	9	92.8
750-999	1	11.5	8	92.0	0	0.0	8	92.0	0	0.0	4	46.0
1000-1249	0	0.0	6	49.2	0	0.0	4	32.8	0	0.0	3	24.6
1250-1499	0	0.0	8	58.0	0	0.0	0	0.0	0	0.0	3	21.7
1500-1999	2	5.0	9	22.6	0	0.0	3	7.5	0	0.0	3	7.5
2000-2499	0	0.0	16	12.1	0	0.0	1	0.8	0	0.0	3	2.3
2500-2999	1	0.2	16	2.8	0	0.0	0	0.0	1	0.2	10	1.7
3000-3499	2	0.1	20	1.2	0	0.0	0	0.0	0	0.0	7	0.4
3500-3999	1	0.1	4	0.2	0	0.0	1	0.1	0	0.0	6	0.3
4000-4499	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
4500 and over	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0
Not Stated	1	12.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>11</b>	<b>0.21</b>	<b>104</b>	<b>2.0</b>	<b>1</b>	<b>0.0</b>	<b>39</b>	<b>0.7</b>	<b>1</b>	<b>0.0</b>	<b>49</b>	<b>0.9</b>

**Table 5.3 Continued**  
**Perinatal Mortality, Numbers and Rates, by Birthweight and Cause, 1999**

Singleton Births

Birthweight (grams)	Perinatal Infections		Fetal/Neonatal Haemorrhage		Haemolytic Disease		Metabolic, Endocrine Disturbances		Integument, Temperature Regulations		Maceration	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
500-749	2	20.6	1	10.3	0	0.0	0	0.0	0	0.0	1	10.3
750-999	0	0.0	1	11.5	0	0.0	1	11.5	1	11.5	1	11.5
1000-1249	0	0.0	0	0.0	0	0.0	0	0.0	1	8.2	1	8.2
1250-1499	0	0.0	0	0.0	1	7.2	0	0.0	1	7.2	2	14.5
1500-1999	0	0.0	0	0.0	1	2.5	0	0.0	1	2.5	3	7.5
2000-2499	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0	3	2.3
2500-2999	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	4	0.7
3000-3499	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	5	0.3
3500-3999	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	2	0.1
4000-4499	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
4500 and over	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.6
Not Stated	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>4</b>	<b>0.1</b>	<b>3</b>	<b>0.1</b>	<b>3</b>	<b>0.1</b>	<b>1</b>	<b>0.0</b>	<b>6</b>	<b>0.1</b>	<b>24</b>	<b>0.5</b>

**Table 5.3 Continued**  
**Perinatal Mortality, Numbers and Rates, by Birthweight and Cause, 1999**

Singleton Births

Birthweight (grams)	Symptoms, Signs and Ill-Defined Conditions		All Other Causes		Not Stated		All Causes of Perinatal Mortality	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
500-749	6	61.9	4	41.2	0	0.0	64	659.8
750-999	4	46.0	3	34.5	0	0.0	38	436.8
1000-1249	3	24.6	0	0.0	0	0.0	31	254.1
1250-1499	1	7.2	1	7.2	0	0.0	30	217.4
1500-1999	4	10.0	2	5.0	0	0.0	39	97.7
2000-2499	4	3.0	0	0.0	0	0.0	46	34.9
2500-2999	8	1.4	1	0.2	0	0.0	60	10.3
3000-3499	5	0.3	0	0.0	0	0.0	51	3.0
3500-3999	3	0.2	3	0.2	0	0.0	31	1.7
4000-4499	2	0.3	0	0.0	0	0.0	8	1.1
4500 and over	0	0.0	0	0.0	0	0.0	4	2.5
Not Stated	1	12.7	0	0.0	0	0.0	2	25.3
<b>Total</b>	<b>41</b>	<b>0.8</b>	<b>14</b>	<b>0.3</b>	<b>0</b>	<b>0.0</b>	<b>404</b>	<b>7.6</b>

Note: See Appendix C for a list of the International Classification of Diseases codes corresponding to each cause of death.

**Table 5.4**  
**Age at Death**  
**Early Neonatal Deaths, 1999**

Singleton Births

Time		Frequency	Per Cent
Completed Hours	<1	24	18.5
	1	22	16.9
	2	9	6.9
	3	7	5.4
	4	3	2.3
	5	4	3.1
	6	1	0.8
	7	2	1.5
	8	1	0.8
	9	3	2.3
	10	1	0.8
	11	2	1.5
	12	1	0.8
	14	1	0.8
	16	2	1.5
	<b>Total under 1 day</b>		<b>83</b>
Days	1	8	6.2
	2	17	13.1
	3	10	7.7
	4	6	4.6
	5	3	2.3
	6	1	0.8
<b>Total Under 1 week</b>		<b>45</b>	<b>34.6</b>
<b>Unknown</b>		<b>2</b>	<b>1.5</b>
<b>Total</b>		<b>130</b>	<b>100.0</b>

**Table 5.5**  
**Percentage Distribution of Live Births**  
**By Infant's Length of Stay in Hospital, 1999**

Singleton Births

Infant's Length of Stay (Days)	Live Births	Per Cent (%) Live Births
0-2	12,770	24.5
3-5	32,195	61.7
6-10	5,794	11.1
11-28	841	1.6
29 or more	367	0.7
Not Stated	214	0.4
<b>Total</b>	<b>52,181</b>	<b>100.0</b>

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

**Table 5.6**  
**Percentage of Stillbirths and Early Neonatal Deaths**  
**Undergoing Post-mortems, 1999**

Singleton Births

Autopsy	Type of Death		
Frequency Row Per Cent Col. Per Cent	Early Neonatal Deaths	Stillbirths	Total
Post-mortem	55	165	220
	25.00	75.00	
	42.31	60.22	54.46
No Post-mortem	71	104	175
	40.57	59.43	
	54.62	37.96	43.32
Not Stated	4	5	9
	44.44	55.56	
	3.08	1.82	2.23
<b>Total</b>	<b>130</b>	<b>274</b>	<b>404</b>
	<b>32.18</b>	<b>67.82</b>	<b>100.00</b>

Note: See Appendix E for an explanation of the table format





Section 5  
Perinatal Outcomes

Part 2 Multiple Births



# Section 5 Perinatal Outcomes

## Part 2 Multiple Births

**Table 5.7**  
**Live Births, Ante and Intrapartum Stillbirths, Early Neonatal Deaths**  
**and Mortality Rates by Birthweight, 1999**

Multiple Births

Birthweight	Live Births	Per Cent (%) Live Births	Ante-partum Still Births	Intra-partum Still Births	Not Stated	Still Birth Rate	Early Neonatal Deaths	Early Neonatal Rate	Perinatal Mortality Rate	Adjusted PMR
500-749	16	1.1	0	1	0	58.8	11	687.5	705.9	705.9
750-999	20	1.4	2	0	0	90.9	8	400.0	454.5	428.6
1000-1249	35	2.4	0	0	1	27.8	3	85.7	111.1	85.7
1250-1499	35	2.4	2	0	0	54.1	2	57.1	108.1	108.1
1500-1999	169	11.6	1	0	1	11.7	0	0.0	11.7	11.7
2000-2499	423	28.9	5	0	0	11.7	2	4.7	16.4	11.7
2500-2999	498	34.0	1	0	0	2.0	0	0.0	2.0	2.0
3000-3499	228	15.6	0	0	0	0.0	1	4.4	4.4	4.4
3500-3999	37	2.5	0	0	0	0.0	0	0.0	0.0	0.0
4500 and over	2	0.1	0	0	0	0.0	0	0.0	0.0	0.0
<b>Total</b>	<b>1,463</b>	<b>100.0</b>	<b>11</b>	<b>1</b>	<b>2</b>	<b>9.5</b>	<b>27</b>	<b>18.5</b>	<b>27.8</b>	<b>25.1</b>

**Table 5.8**  
**Cause of Death**  
**Stillbirths, Early Neonatal Deaths and Mortality Rates by Cause of Death, 1999**

Multiple Births

Cause of Death	Still Births	Still Birth Rate	Early Neonatal	Early Neonatal Deaths	Total Deaths Rate	Perinatal Mortality Rate
Other Congenital Anomalies	0	0.00	2	1.37	2	1.35
Musculoskeletal System	0	0.00	1	0.68	1	0.68
Chromosomal Anomalies including Down's Syndrome	0	0.00	1	0.68	1	0.68
Other Maternal Complications	1	0.68	2	1.37	3	2.03
Other Morphological and Functional Abnormalities of Placenta	1	0.68	0	0.00	1	0.68
Other Complications of Placenta/Cord/Membrane	1	0.68	0	0.00	1	0.68
Slow Foetal Growth & Malnutrition	1	0.68	0	0.00	1	0.68
Short Gestation and Low Birthweight	1	0.68	10	6.84	11	7.45
Intrauterine Hypoxia/Anoxia	3	2.03	2	1.37	5	3.39
Respiratory Distress Syndrome	0	0.00	1	0.68	1	0.68
Respiratory Conditions of Foetus/Newborn	0	0.00	3	2.05	3	2.03
Neonatal/Foetal Haemorrhage	0	0.00	4	2.73	4	2.71
Maceration	4	2.71	0	0.00	4	2.71
Symptoms, Signs, and Ill-defined Conditions	1	0.68	0	0.00	1	0.68
All Other Causes	1	0.68	1	0.68	2	1.35
<b>Total</b>	<b>14</b>	<b>9.48</b>	<b>27</b>	<b>18.46</b>	<b>41</b>	<b>27.76</b>

Note: See Appendix C for a list of the International Classification of Diseases codes corresponding to each cause of death.

**Table 5.9**  
**Number of Perinatal Deaths by Birthweight and Cause, 1999**

Multiple Births

Birthweight (grams)	500-749	750-999	1000-1249	1250-1499	1500-1999	2000-2499	2500-2999	3000-3499	Total
Other Congenital Anomalies	0	0	1	0	0	2	0	0	3
Chromosomal Anomalies inc. Down's Syndrome	0	1	0	0	0	0	0	0	1
Maternal Complications	2	0	0	1	0	0	0	0	3
Placenta, Cord, Membrane	1	0	1	0	0	0	0	0	2
Slow Foetal Growth	5	4	1	0	1	1	0	0	12
Hypoxia/Anoxia	1	4	0	1	0	1	1	1	9
Neonatal/Foetal Haemorrhage	2	0	1	1	0	0	0	0	4
Maceration	0	0	0	1	1	2	0	0	4
Symptoms, Signs, and Ill-defined Conditions	0	1	0	0	0	0	0	0	1
All other Causes	1	0	0	0	0	1	0	0	2
<b>Total</b>	<b>12</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>41</b>

Note: See Appendix C for a list of the International Classification of Diseases codes corresponding to each cause of death.

**Table 5.10**  
**Age at Death**  
**Early Neonatal Deaths, 1999**

Multiple Births

Time		Frequency	Per Cent
Completed Hours	<1	6	22.2
	1	2	7.4
	2	1	3.7
	4	1	3.7
	9	1	3.7
	17	1	3.7
<b>Total under 1 day</b>		<b>12</b>	<b>44.4</b>
Days	1	6	22.2
	2	2	7.4
	3	2	7.4
	5	2	7.4
	6	1	3.7
<b>Total under 1 week</b>		<b>13</b>	<b>48.1</b>
<b>Unknown</b>		<b>2</b>	<b>7.4</b>
<b>Total</b>		<b>27</b>	<b>100.0</b>

**Table 5.11**  
**Percentage Distribution of Live Births by Infant's Length of Stay in Hospital, 1999**

Multiple Births

Length of Stay (Days)	Live Births	Per Cent (%) Live Births
0-2	46	3.2
3-5	523	36.4
6-10	493	34.3
11-28	249	17.3
29 or more	92	6.4
Not Stated	33	2.3
<b>Total</b>	<b>1,436</b>	<b>100.0</b>

Note: There are no domiciliary multiple births. Early Neonatal Deaths are not included in this table.

**Table 5.12**  
**Percentage of Stillbirths and Early Neonatal Deaths undergoing Post-mortems, 1999**

Multiple Births

Post-mortem	Type of Death		
	Early Neonatal Deaths	Stillbirths	Total
Frequency			
Row Per Cent			
Col. Per Cent			
Post-mortem	12	9	21
	57.14	42.86	
	44.44	64.29	51.22
No Post-mortem	13	4	17
	76.47	23.53	
	48.15	28.57	41.46
Not Stated	2	1	3
	66.67	33.33	
	7.41	7.14	7.32
<b>Total</b>	<b>27</b>	<b>14</b>	<b>41</b>
	<b>65.85</b>	<b>34.15</b>	<b>100.00</b>

Note: See Appendix E for an explanation of the table format.







# Appendices



# Appendix A

## Copy of Part 3 of the Birth Notification Form

<b>NOTIFICATION OF BIRTH -</b>	
<b>To: The National Perinatal Reporting System, Economic and Social Research Institute, 4 Burlington Road, Dublin 4</b>	
TYPE OF BIRTH (Live = 1, Still = 2) <input type="checkbox"/> 2 <input type="checkbox"/>	PLACE OF BIRTH (Hospital = 1, BBA = 2, Domiciliary = 3) <input type="checkbox"/> 3 <input type="checkbox"/>
NAME AND _____	
ADDRESS OF _____	
HOSPITAL NO. <input type="checkbox"/> 4 _____	CASE NO. <input type="checkbox"/> 7 _____
HOSPITAL _____	
<b>INFANT</b>	<b>MOTHER'S HEALTH</b>
DATE OF BIRTH <input type="checkbox"/> 15 _____	ANTE-NATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4) <input type="checkbox"/> 100 _____
IF MULTIPLE BIRTH ORDER OF BIRTH No. <input type="checkbox"/> 23 of <input type="checkbox"/> 24	DATE OF FIRST VISIT TO DOCTOR DURING PREGNANCY <input type="checkbox"/> 101 _____
TIME OF BIRTH _____	DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY <input type="checkbox"/> 109 _____
SEX (Male = 1, Female = 2, Indeterminate = 3) <input type="checkbox"/> 25 _____	WAS MOTHER IMMUNE TO RUBELLA (Yes = 1, No = 2, Not Known = 3) <input type="checkbox"/> 117 _____
BIRTHWEIGHT <input type="checkbox"/> 26 _____ GRAMMES	METHOD OF DELIVERY (Spontaneous = 1, Breech ± Forceps = 2, Forceps = 3, Vac. Extraction = 4, Caesarean Sec. = 5, Other = 6) <input type="checkbox"/> 118 _____
PERIOD OF GESTATION <input type="checkbox"/> 30 _____ WEEKS	MAIN MATERNAL DISEASE OR CONDITION AFFECTING FETUS OR INFANT _____
<b>FATHER</b>	_____ <input type="checkbox"/> 119 _____
COUNTY _____ <input type="checkbox"/> 32 _____	OTHER MATERNAL DISEASE OR CONDITION AFFECTING FETUS OR INFANT _____
OCCUPATION _____ <input type="checkbox"/> 35 _____	_____ <input type="checkbox"/> 123 _____
DATE OF BIRTH <input type="checkbox"/> 37 _____	<b>INFANT'S HEALTH</b>
<b>MOTHER</b>	TYPE OF FEEDING (Artificial = 1, Breast = 2, Combined = 3) <input type="checkbox"/> 127 _____
COUNTY _____ <input type="checkbox"/> 45 _____	WAS BCG ADMINISTERED (Yes = 1, No = 2) <input type="checkbox"/> 128 _____
OCCUPATION _____ <input type="checkbox"/> 46 _____	MAIN DISEASE OR CONGENITAL MALFORMATION AFFECTING INFANT _____
DATE OF BIRTH <input type="checkbox"/> 50 _____	_____ <input type="checkbox"/> 129 _____
MARITAL STATUS (Married = 1, Single = 2, Widowed = 3, Separated = 4, Divorced = 5) <input type="checkbox"/> 58 _____	OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT _____
DATE OF PRESENT MARRIAGE <input type="checkbox"/> 59 _____	_____ <input type="checkbox"/> 133 _____
DATE OF LAST BIRTH (live or still) <input type="checkbox"/> 67 _____	<b>HOSPITAL</b>
NO. OF PREVIOUS LIVE BIRTHS <input type="checkbox"/> 75 _____	WAS ADMISSION BOOKED (Yes = 1, No = 2) <input type="checkbox"/> 137 _____
CHILDREN STILL LIVING <input type="checkbox"/> 77 _____	DATE OF MOTHER'S ADMISSION <input type="checkbox"/> 138 _____
STILL BIRTHS <input type="checkbox"/> 79 _____	DATE OF MOTHER'S DISCHARGE <input type="checkbox"/> 146 _____
SPONTANEOUS ABORTIONS <input type="checkbox"/> 81 _____	DATE OF INFANT'S DISCHARGE <input type="checkbox"/> 154 _____
<b>PERINATAL DEATH</b>	WAS INFANT TRANSFERRED TO OTHER HOSPITAL FOR MEDICAL REASONS (Yes = 1, No = 2) <input type="checkbox"/> 162 _____
TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2) <input type="checkbox"/> 83 _____	IF 'YES', NAME OF HOSPITAL _____
WAS AUTOPSY PERFORMED (Yes = 1, No = 2) <input type="checkbox"/> 84 _____	_____ <input type="checkbox"/> 163 _____
AGE OF DEATH <input type="checkbox"/> 85 _____ DAYS <input type="checkbox"/> 86 _____ HOURS	<b>GENERAL PRACTITIONER ATTENDED BY MOTHER</b>
PLACE OF DEATH _____ <input type="checkbox"/> 88 _____	_____
IF STILLBIRTH, DID DEATH OCCUR BEFORE LABOUR (1) DURING LABOUR (2) NOT KNOWN (3) <input type="checkbox"/> 91 _____	_____
<b>CAUSE OF DEATH</b>	_____
MAIN DISEASE OR CONDITION IN FETUS OR INFANT _____	_____
_____ <input type="checkbox"/> 92 _____	_____
OTHER DISEASES OR CONDITIONS IN FETUS OR INFANT _____	_____
_____ <input type="checkbox"/> 96 _____	_____
SIGNATURE _____	DATE _____



# Appendix B

## Classification of Occupation

Occupations have been coded and classified into a set of socio-economic groups according to a system devised by the Central Statistics Office. The final CSO Category of 'Unknown' has been differentiated into 5 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. 'Not Applicable' applies to father's occupation only and is entered when the marital status of the mother has been given as single, widowed, separated or divorced and where father's occupation has been left blank. If an occupation is given for the father then the appropriate occupational code has been used. '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. '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. The full list of socio-economic groups used in this report is given below:

- Farmers and Farm Managers
- Other agricultural occupations and Fishermen
- Higher professional
- Lower professional
- Employers and 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 C

## Cause of Death Classification

The main cause of death has been determined according to the guidelines set out by the World Health Organisation in the ninth revision of the International Classification of Diseases (ICD). Briefly, the principal coding criteria are as follows:

1. The main cause of death as far as possible should indicate the pathological condition of the infant or foetus which in the opinion of the certifier made the greatest contribution towards the death.
2. If heart or cardiac failure, asphyxia or anoxia (any condition in 768) or prematurity (any condition in 764) is entered as the main cause and other conditions of the infant or foetus are entered as secondary causes, then the first-mentioned of these other conditions is entered as the main cause of death.
3. If two or more conditions are entered as the main cause of death then the first mentioned condition is coded as if it had been mentioned alone and the second-mentioned cause is coded as the secondary condition.
4. If there is no entry for a main cause, then any secondary condition of the infant is coded as the main cause.
5. If a maternal condition is entered in the section reserved for the infant's condition or if an infant's condition is entered in the section provided for maternal conditions then the conditions are coded as if they had been entered in the respective correct section.
6. If the foetus died before the onset of labour, then obstetrical complications that could not have affected the outcome are ignored as causes of death.

For the purpose of the cause of death tables included in this report, one further criterion has been applied. This is to the effect that where heart failure, asphyxia or anoxia (any condition in 768) or prematurity (any condition in 764) is coded as the main cause of death or where no infant's condition is given then, where a specific maternal condition is given the main cause of death is classified under the maternal condition.

In Table 5.1, which contains a detailed classification of cause of death, the corresponding ICD numbers are listed in the left hand column of that table. For the less detailed tables (i.e. Tables 5.2, 5.8 and 5.9), the ICD codes relating to each cause of death category are given below:

ICD Codes	Cause of Death
740	Ancephalus and similar anomalies
741	Spina Bifida
742	Other congenital anomalies of the nervous system
745-747	Congenital anomalies of the heart
758	Chromosomal anomalies (including Down's Syndrome)
743-744, 748-757, 759	Other congenital anomalies
760	Maternal conditions and complications
762	Complications of the placenta, cord and membranes
763	Other complications of labour and delivery
764-765	Slow foetal growth, foetal malnutrition, and immaturity
766	Disorders relating to long gestation and high birthweight
767	Birth trauma
768-770	Intrauterine hypoxia and birth asphyxia and other respiratory conditions of foetus or newborn
771	Infections specific to the perinatal period
772	Foetal and neonatal haemorrhage
773	Haemolytic disease of foetus or newborn, due to iso-immunisation
775	Endocrine and metabolic disturbances specific to the foetus and newborn
778	Conditions involving the integument and temperature regulation of foetus and newborn
779.9	Maceration
780-799	Symptoms, signs and ill-defined conditions

All other codes have been classified to the category 'all other causes'. Where no cause has been given, perinatal deaths are categorised as 'cause not stated'.



# Appendix D

## Classification of County of Residence

The following codes are applied to mother 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 county of residence is recorded as Tipperary and North or South Riding is not specified, then the assignment of the code is based on the Health Board in which the birth occurred. For births occurring in the South-Eastern or Southern Health Boards where Tipperary is recorded as county of residence then a code of 62, Tipperary South Riding is applied. For births occurring in other Health Boards where Tipperary is recorded as county of residence then a code of 32, Tipperary North Riding is applied. Where a mother 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 county
11	Dublin city
12	Kildare
13	Wicklow
20	Laois
21	Offaly
22	Longford
23	Westmeath
30	Clare
31	Limerick
32	Tipperary North Riding
40	Meath
41	Cavan
42	Monaghan
50	Donegal
51	Sligo
52	Leitrim
60	Carlow
61	Kilkenny
62	Tipperary South Riding
63	Waterford
64	Wexford
70	Cork
71	Kerry
80	Galway
81	Mayo
82	Roscommon
90	Other
99	Not Stated



# Appendix E

## Cross-Tabulations of Selected Variables: 1999

This Appendix contains a range of cross-tabulations relating to live and still singleton births. A full list of these tables is given in the Table of Contents. The format of each cross-tabulation is identical. The values of the two variables are given along the top and left. The top number in each cell indicates the number of observations relating to that combination of variable values. The second number indicates the percentage contribution of that cell to the total for the whole row. The last number indicates the percentage contribution of that cell to the total for the whole column. The figures at the end of each row or column give the overall total for that row or column, and the associated percentages express each of these figures as a percentage of the grand total.

**Table E1**  
**Age of Mother by Maternal Parity, 1999**

Singleton Births

Age of Mother	Parity									
	0	1	2	3	4	5	6	More than 6	Not Stated	Total
Under 15	10	0	0	0	0	0	0	0	0	10
	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
15-19	3,035	267	21	1	0	0	0	0	0	3,324
	91.31	8.03	0.63	0.03	0.00	0.00	0.00	0.00	0.00	
	14.00	1.70	0.23	0.03	0.00	0.00	0.00	0.00	0.00	6.29
20-24	4,909	2,011	540	126	23	3	0	0	1	7,613
	64.48	26.42	7.09	1.66	0.30	0.04	0.00	0.00	0.01	
	22.65	12.83	5.98	3.32	1.56	0.49	0.00	0.00	4.17	14.41
25-29	6,301	4,423	1,823	656	221	75	27	15	2	13,543
	46.53	32.66	13.46	4.84	1.63	0.55	0.20	0.11	0.01	
	29.07	28.21	20.19	17.29	14.98	12.25	9.78	5.68	8.33	25.64
30-34	5,523	6,098	3,640	1,304	458	185	70	55	5	17,338
	31.85	35.17	20.99	7.52	2.64	1.07	0.40	0.32	0.03	
	25.48	38.90	40.31	34.36	31.05	30.23	25.36	20.83	20.83	32.82
35-39	1,618	2,520	2,602	1,383	574	235	126	111	3	9,172
	17.64	27.47	28.37	15.08	6.26	2.56	1.37	1.21	0.03	
	7.46	16.07	28.82	36.44	38.92	38.40	45.65	42.05	12.50	17.36
40-44	226	314	381	298	188	108	50	68	0	1,633
	13.84	19.23	23.33	18.25	11.51	6.61	3.06	4.16	0.00	
	1.04	2.00	4.22	7.85	12.75	17.65	18.12	25.76	0.00	3.09
45 and over	11	12	11	15	10	5	1	15	0	80
	13.75	15.00	13.75	18.75	12.50	6.25	1.25	18.75	0.00	
	0.05	0.08	0.12	0.40	0.68	0.82	0.36	5.68	0.00	0.15
Not Stated	45	32	11	12	1	1	2	0	13	117
	38.46	27.35	9.40	10.26	0.85	0.85	1.71	0.00	11.11	
	0.21	0.20	0.12	0.32	0.07	0.16	0.72	0.00	54.17	0.22
<b>Total</b>	<b>21,678</b>	<b>15,677</b>	<b>9,029</b>	<b>3,795</b>	<b>1,475</b>	<b>612</b>	<b>276</b>	<b>264</b>	<b>24</b>	<b>52,830</b>
	<b>41.03</b>	<b>29.67</b>	<b>17.09</b>	<b>7.18</b>	<b>2.79</b>	<b>1.16</b>	<b>0.52</b>	<b>0.50</b>	<b>0.05</b>	<b>100.00</b>

**Table E2**  
**Method of Delivery by Maternal Parity, 1999**

Singleton Births

Method of Delivery	Maternal Parity									
	0	1	2	3	4	5	6	More than 6	Not Stated	Total
Spontaneous	11,078	11,267	7,011	3,049	1,181	490	224	217	9	34,526
	32.09	32.63	20.31	8.83	3.42	1.42	0.65	0.63	0.03	
	51.10	71.87	77.65	80.34	80.07	80.07	81.16	82.20	37.50	65.35
Breech/Forceps	172	71	44	38	13	4	1	2	0	345
	49.86	20.58	12.75	11.01	3.77	1.16	0.29	0.58	0.00	
	0.79	0.45	0.49	1.00	0.88	0.65	0.36	0.76	0.00	0.65
Forceps	1,758	349	106	22	6	2	2	1	0	2,246
	78.27	15.54	4.72	0.98	0.27	0.09	0.09	0.04	0.00	
	8.11	2.23	1.17	0.58	0.41	0.33	0.72	0.38	0.00	4.25
Vacuum Extraction	3,699	1,020	365	113	36	15	7	3	1	5,259
	70.34	19.40	6.94	2.15	0.68	0.29	0.13	0.06	0.02	
	17.06	6.51	4.04	2.98	2.44	2.45	2.54	1.14	4.17	9.95
Caesarean	4,932	2,955	1,493	564	237	99	41	41	1	10,363
	47.59	28.51	14.41	5.44	2.29	0.96	0.40	0.40	0.01	
	22.75	18.85	16.54	14.86	16.07	16.18	14.86	15.53	4.17	19.62
Other specified & Combined	37	13	9	8	1	2	1	0	0	71
	52.11	18.31	12.68	11.27	1.41	2.82	1.41	0.00	0.00	
	0.17	0.08	0.10	0.21	0.07	0.33	0.36	0.00	0.00	0.13
Not Stated	2	2	1	1	1	0	0	0	13	20
	10.00	10.00	5.00	5.00	5.00	0.00	0.00	0.00	65.00	
	0.01	0.01	0.01	0.03	0.07	0.00	0.00	0.00	54.17	0.04
<b>Total</b>	<b>21,678</b>	<b>15,677</b>	<b>9,029</b>	<b>3,795</b>	<b>1,475</b>	<b>612</b>	<b>276</b>	<b>264</b>	<b>24</b>	<b>52,830</b>
	<b>41.03</b>	<b>29.67</b>	<b>17.09</b>	<b>7.18</b>	<b>2.79</b>	<b>1.16</b>	<b>0.52</b>	<b>0.50</b>	<b>0.05</b>	<b>100.00</b>

**Table E3**  
**Marital Status by Age of Mother, 1999**

Singleton Births

Marital Status	Age of Mother									
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	Not Stated	Total
Married	0	133	1,580	9,407	15,266	8,160	1,400	65	57	36,068
	0.00	0.37	4.38	26.08	42.33	22.62	3.88	0.18	0.16	
	0.00	4.00	20.75	69.46	88.05	88.97	85.73	81.25	48.72	68.27
Single	10	3,185	6,002	3,968	1,718	699	127	9	31	15,749
	0.06	20.22	38.11	25.20	10.91	4.44	0.81	0.06	0.20	
	100.00	95.82	78.84	29.30	9.91	7.62	7.78	11.25	26.5	29.81
Widowed	0	0	4	9	20	24	11	1	0	69
	0.00	0.00	5.80	13.04	28.99	34.78	15.94	1.45	0.00	
	0.00	0.00	0.05	0.07	0.12	0.26	0.67	1.25	0.00	0.13
Separated	0	1	24	143	298	250	85	2	0	803
	0.00	0.12	2.99	17.81	37.11	31.13	10.59	0.25	0.00	
	0.00	0.03	0.32	1.06	1.72	2.73	5.21	2.50	0.00	1.52
Divorced	0	0	2	8	35	34	9	3	0	91
	0.00	0.00	2.20	8.79	38.46	37.36	9.89	3.30	0.00	
	0.00	0.00	0.03	0.06	0.20	0.37	0.55	3.75	0.00	0.17
Not Stated	0	5	1	8	1	5	1	0	29	50
	0.00	10.00	2.00	16.00	2.00	10.00	2.00	0.00	58.00	
	0.00	0.15	0.01	0.06	0.01	0.05	0.06	0.00	24.79	0.09
<b>Total</b>	<b>10</b>	<b>3,324</b>	<b>7,613</b>	<b>13,543</b>	<b>17,338</b>	<b>9,172</b>	<b>1,633</b>	<b>80</b>	<b>117</b>	<b>52,830</b>
	<b>0.02</b>	<b>6.29</b>	<b>14.41</b>	<b>25.64</b>	<b>32.82</b>	<b>17.36</b>	<b>3.09</b>	<b>0.15</b>	<b>0.22</b>	<b>100.00</b>

**Table E4**  
**Marital Status by Age of Father, 1999**

Singleton Births

Marital Status	Father's Age in Years								
	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	Not Stated	Total
Married	33	428	4,021	9,549	6,951	2,271	655	12,160	36,068
	0.09	1.19	11.15	26.47	19.27	6.30	1.82	33.71	
	21.29	46.42	88.43	96.43	97.42	96.56	93.17	44.85	68.27
Single	122	487	501	318	152	68	36	14,065	15,749
	0.77	3.09	3.18	2.02	0.97	0.43	0.23	89.31	
	78.71	52.82	11.02	3.21	2.13	2.89	5.12	51.88	29.81
Widowed	0	1	4	3	3	4	1	53	69
	0.00	1.45	5.80	4.35	4.35	5.80	1.45	76.81	
	0.00	0.11	0.09	0.03	0.04	0.17	0.14	0.20	0.13
Separated	0	6	20	29	24	7	10	707	803
	0.00	0.75	2.49	3.61	2.99	0.87	1.25	88.04	
	0.00	0.65	0.44	0.29	0.34	0.30	1.42	2.61	1.52
Divorced	0	0	1	3	3	2	1	81	91
	0.00	0.00	1.10	3.30	3.30	2.20	1.10	89.01	
	0.00	0.00	0.02	0.03	0.04	0.09	0.14	0.30	0.17
Not Stated	0	0	0	1	2	0	0	47	50
	0.00	0.00	0.00	2.00	4.00	0.00	0.00	94.00	
	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.17	0.09
Total	155	922	4,547	9,903	7,135	2,352	703	27,113	52,830
	0.29	1.75	8.61	18.75	13.51	4.45	1.33	51.32	100.00

**Table E5**  
**Gestation Period at Delivery by Maternal Parity, 1999**

Singleton Births

Gestation Period (weeks)	Maternal Parity									Total
	0	1	2	3	4	5	6	More than 6	Not Stated	
Less than 22	1	0	2	0	1	0	0	0	1	5
	20.00	0.00	40.00	0.00	20.00	0.00	0.00	0.00	20.00	
	0.00	0.00	0.02	0.00	0.07	0.00	0.00	0.00	4.17	0.01
22-27	94	33	27	16	5	2	1	3	0	181
	51.93	18.23	14.92	8.84	2.76	1.10	0.55	1.66	0.00	
	0.43	0.21	0.30	0.42	0.34	0.33	0.36	1.14	0.00	0.34
28-31	152	80	28	19	9	7	2	3	1	301
	50.50	26.58	9.30	6.31	2.99	2.33	0.66	1.00	0.33	
	0.70	0.51	0.31	0.50	0.61	1.14	0.72	1.14	4.17	0.57
32-36	925	525	290	132	64	33	13	10	0	1,992
	46.44	26.36	14.56	6.63	3.21	1.66	0.65	0.50	0.00	
	4.27	3.35	3.21	3.48	4.34	5.39	4.71	3.79	0.00	3.77
37-41	18,639	14,116	8,214	3,428	1,316	530	233	235	11	46,722
	39.89	30.21	17.58	7.34	2.82	1.13	0.50	0.50	0.02	
	85.98	90.04	90.97	90.33	89.22	86.60	84.42	89.02	45.83	88.44
42 and over	1,829	893	454	187	77	38	26	13	0	3,517
	52.00	25.39	12.91	5.32	2.19	1.08	0.74	0.37	0.00	
	8.44	5.70	5.03	4.93	5.22	6.21	9.42	4.92	0.00	6.66
Not Stated	38	30	14	13	3	2	1	0	11	112
	33.93	26.79	12.50	11.61	2.68	1.79	0.89	0.00	9.82	
	0.18	0.19	0.16	0.34	0.20	0.33	0.36	0.00	45.83	0.21
Total	21,678	15,677	9,029	3,795	1,475	612	276	264	24	52,830
	41.03	29.67	17.09	7.18	2.79	1.16	0.52	0.50	0.05	100.00



**Table E6**  
**Age of Mother by Gestation Period at Delivery, 1999**

Singleton Births

Age of Mother	Gestation Period (weeks)							Total
	Less than 22	22-27	28-31	32-36	37-41	42 and over	Not Stated	
<b>Frequency</b>								
<b>Row Per Cent</b>								
<b>Col. Per Cent</b>								
Under 15	0	0	0	1	7	2	0	10
	0.00	0.00	0.00	10.00	70.00	20.00	0.00	
	0.00	0.00	0.00	0.05	0.01	0.06	0.00	0.02
15-19	1	26	24	194	2,797	270	12	3,324
	0.03	0.78	0.72	5.84	84.15	8.12	0.36	
	20.00	14.36	7.97	9.74	5.99	7.68	10.71	6.29
20-24	0	36	43	329	6,567	618	20	7,613
	0.00	0.47	0.56	4.32	86.26	8.12	0.26	
	0.00	19.89	14.29	16.52	14.06	17.57	17.86	14.41
25-29	0	39	73	485	11,918	1,001	27	13,543
	0.00	0.29	0.54	3.58	88.00	7.39	0.20	
	0.00	21.55	24.25	24.35	25.51	28.46	24.11	25.64
30-34	2	40	94	555	15,548	1,078	21	17,338
	0.01	0.23	0.54	3.20	89.68	6.22	0.12	
	40.00	22.10	31.23	27.86	33.28	30.65	18.75	32.82
35-39	1	33	58	339	8,251	476	14	9,172
	0.01	0.36	0.63	3.70	89.96	5.19	0.15	
	20.00	18.23	19.27	17.02	17.66	13.53	12.50	17.36
40-44	1	7	6	82	1,469	62	6	1,633
	0.06	0.43	0.37	5.02	89.96	3.80	0.37	
	20.00	3.87	1.99	4.12	3.14	1.76	5.36	3.09
45 and over	0	0	1	4	73	1	1	80
	0.00	0.00	1.25	5.00	91.25	1.25	1.25	
	0.00	0.00	0.33	0.20	0.16	0.03	0.89	0.15
Not Stated	0	0	2	3	92	9	11	117
	0.00	0.00	1.71	2.56	78.63	7.69	9.40	
	0.00	0.00	0.66	0.15	0.20	0.26	9.82	0.22
<b>Total</b>	<b>5</b>	<b>181</b>	<b>301</b>	<b>1,992</b>	<b>46,722</b>	<b>3,517</b>	<b>112</b>	<b>52,830</b>
	<b>0.01</b>	<b>0.34</b>	<b>0.57</b>	<b>3.77</b>	<b>88.44</b>	<b>6.66</b>	<b>0.21</b>	<b>100.00</b>

**Table E7**  
**Method of Delivery by Age of Mother, 1999**

Singleton Births

Method of Delivery	Age of Mother									
	Under 15	15-19	20-24	25-29	30-34	35-39	40-44	45 and over	Not Stated	Total
Spontaneous	5	2,350	5,295	8,764	11,031	5,972	988	45	76	34,526
	0.01	6.81	15.34	25.38	31.95	17.30	2.86	0.13	0.22	
	50.00	70.70	69.55	64.71	63.62	65.11	60.50	56.25	64.96	65.35
Breech/Forceps	0	31	43	80	111	60	20	0	0	345
	0.00	8.99	12.46	23.19	32.17	17.39	5.80	0.00	0.00	
	0.00	0.93	0.56	0.59	0.64	0.65	1.22	0.00	0.00	0.65
Forceps	1	150	338	640	767	297	48	2	3	2,246
	0.04	6.68	15.05	28.50	34.15	13.22	2.14	0.09	0.13	
	10.00	4.51	4.44	4.73	4.42	3.24	2.94	2.50	2.56	4.25
Vacuum Extraction	3	374	808	1,547	1,717	683	110	9	8	5,259
	0.06	7.11	15.36	29.42	32.65	12.99	2.09	0.17	0.15	
	30.00	11.25	10.61	11.42	9.90	7.45	6.74	11.25	6.84	9.95
Caesarean	1	416	1,099	2,494	3,696	2,149	467	24	17	10,363
	0.01	4.01	10.61	24.07	35.67	20.74	4.51	0.23	0.16	
	10.00	12.52	14.44	18.42	21.32	23.43	28.60	30.00	14.53	19.62
Other specified & Combined	0	3	27	16	15	10	0	0	0	71
	0.00	4.23	38.03	22.54	21.13	14.08	0.00	0.00	0.00	
	0.00	0.09	0.35	0.12	0.09	0.11	0.00	0.00	0.00	0.13
Not Stated	0	0	3	2	1	1	0	0	13	20
	0.00	0.00	15.00	10.00	5.00	5.00	0.00	0.00	65.00	
	0.00	0.00	0.04	0.01	0.01	0.01	0.00	0.00	11.11	0.04
Total	10	3,324	7,613	13,543	17,338	9,172	1,633	80	117	52,830
	0.02	6.29	14.41	25.64	32.82	17.36	3.09	0.15	0.22	100.00

**Table E8**  
**Birthweight by Gestation Period at Delivery, 1999**

Singleton Births

Birthweight (grams)	Gestation Period (weeks)							Total
	Less than 22	22-27	28-31	32-36	37-41	42 and over	Not Stated	
500-749	4	83	10	0	0	0	0	97
	4.12	85.57	10.31	0.00	0.00	0.00	0.00	
	80.00	45.86	3.32	0.00	0.00	0.00	0.00	0.18
750-999	1	60	22	4	0	0	0	87
	1.15	68.97	25.29	4.60	0.00	0.00	0.00	
	20.00	33.15	7.31	0.20	0.00	0.00	0.00	0.16
1000-1249	0	25	65	27	5	0	0	122
	0.00	20.49	53.28	22.13	4.10	0.00	0.00	
	0.00	13.81	21.59	1.36	0.01	0.00	0.00	0.23
1250-1499	0	6	72	47	11	2	0	138
	0.00	4.35	52.17	34.06	7.97	1.45	0.00	
	0.00	3.31	23.92	2.36	0.02	0.06	0.00	0.26
1500-1999	0	4	93	233	69	0	0	399
	0.00	1.00	23.31	58.40	17.29	0.00	0.00	
	0.00	2.21	30.90	11.70	0.15	0.00	0.00	0.76
2000-2499	0	1	17	590	699	10	1	1,318
	0.00	0.08	1.29	44.76	53.03	0.76	0.08	
	0.00	0.55	5.65	29.62	1.50	0.28	0.89	2.49
2500-2999	0	0	11	653	4,990	136	15	5,805
	0.00	0.00	0.19	11.25	85.96	2.34	0.26	
	0.00	0.00	3.65	32.78	10.68	3.87	13.39	10.99
3000-3499	0	0	7	313	15,920	847	36	17,123
	0.00	0.00	0.04	1.83	92.97	4.95	0.21	
	0.00	0.00	2.33	15.71	34.07	24.08	32.14	32.41
3500-3999	0	0	3	90	16,861	1,444	34	18,432
	0.00	0.00	0.02	0.49	91.48	7.83	0.18	
	0.00	0.00	1.00	4.52	36.09	41.06	30.36	34.89
4000-4499	0	0	1	26	6,741	832	12	7,612
	0.00	0.00	0.01	0.34	88.56	10.93	0.16	
	0.00	0.00	0.33	1.31	14.43	23.66	10.71	14.41
4500 and over	0	0	0	5	1,365	246	2	1,618
	0.00	0.00	0.00	0.31	84.36	15.20	0.12	
	0.00	0.00	0.00	0.25	2.92	6.99	1.79	3.06
Not Stated	0	2	0	4	61	0	12	79
	0.00	2.53	0.00	5.06	77.22	0.00	15.19	
	0.00	1.10	0.00	0.20	0.13	0.00	10.71	0.15
<b>Total</b>	<b>5</b>	<b>181</b>	<b>301</b>	<b>1,992</b>	<b>46,722</b>	<b>3,517</b>	<b>112</b>	<b>52,830</b>
	<b>0.01</b>	<b>0.34</b>	<b>0.57</b>	<b>3.77</b>	<b>88.44</b>	<b>6.66</b>	<b>0.21</b>	<b>100.00</b>

**Table E9**  
**Method of Delivery by Mother's Length of Stay in Hospital after Delivery, 1999**

Singleton Births

Method of Delivery	Postnatal Length of Stay							Total
	0-2 Days	3-5 Days	6-8 Days	9-11 Days	12-14 Days	2 weeks or more	Not Stated	
Spontaneous	11,630	21,814	682	82	17	49	20	34,294
	33.91	63.61	1.99	0.24	0.05	0.14	0.06	
	87.46	65.68	12.96	14.44	17.53	47.57	46.51	65.22
Breech/Forceps	136	186	17	3	1	2	0	345
	39.42	53.91	4.93	0.87	0.29	0.58	0.00	
	1.02	0.56	0.32	0.53	1.03	1.94	0.00	0.66
Forceps	362	1,723	135	20	4	1	1	2,246
	16.12	76.71	6.01	0.89	0.18	0.04	0.04	
	2.72	5.19	2.57	3.52	4.12	0.97	2.33	4.27
Vac. Extraction	1,031	3,998	197	20	5	5	3	5,259
	19.60	76.02	3.75	0.38	0.10	0.10	0.06	
	7.75	12.04	3.74	3.52	5.15	4.85	6.98	10.00
Caesarean	120	5,444	4,225	440	70	46	18	10,363
	1.16	52.53	40.77	4.25	0.68	0.44	0.17	
	0.90	16.39	80.31	77.46	72.16	44.66	41.86	19.71
Other specified & Combined	17	47	5	2	0	0	0	71
	23.94	66.20	7.04	2.82	0.00	0.00	0.00	
	0.13	0.14	0.10	0.35	0.00	0.00	0.00	0.14
Not Stated	2	2	0	1	0	0	1	6
	33.33	33.33	0.00	16.67	0.00	0.00	16.67	
	0.02	0.01	0.00	0.18	0.00	0.00	2.33	0.01
<b>Total</b>	<b>13,298</b>	<b>33,214</b>	<b>5,261</b>	<b>568</b>	<b>97</b>	<b>103</b>	<b>43</b>	<b>52,584</b>
	<b>25.29</b>	<b>63.16</b>	<b>10.00</b>	<b>1.08</b>	<b>0.18</b>	<b>0.20</b>	<b>0.08</b>	<b>100.00</b>

Note: Domiciliary births of which there were 246 are excluded from this table.

**Table E10**  
**Maternal Parity by Mother's Length of Stay in Hospital after Delivery, 1999**

Singleton Births

Maternal Parity	Postnatal Length of Stay							
	0-2 Days	3-5 Days	6-8 Days	9-11 Days	12-14 Days	2 weeks or more	Not Stated	Total
0	2,758	15,578	2,864	306	54	47	22	21,629
	12.75	72.02	13.24	1.41	0.25	0.22	0.10	
	20.74	46.90	54.44	53.87	55.67	45.63	51.16	41.13
1	4,971	9,155	1,274	137	23	23	11	15,594
	31.88	58.71	8.17	0.88	0.15	0.15	0.07	
	37.38	27.56	24.22	24.12	23.71	22.33	25.58	29.66
2	3,190	5,011	667	72	8	17	6	8,971
	35.56	55.86	7.44	0.80	0.09	0.19	0.07	
	23.99	15.09	12.68	12.68	8.25	16.50	13.95	17.06
3	1,392	2,046	280	31	8	8	3	3,768
	36.94	54.30	7.43	0.82	0.21	0.21	0.08	
	10.47	6.16	5.32	5.46	8.25	7.77	6.98	7.17
4	538	809	99	15	2	4	0	1,467
	36.67	55.15	6.75	1.02	0.14	0.27	0.00	
	4.05	2.44	1.88	2.64	2.06	3.88	0.00	2.79
5	224	327	45	5	2	3	0	606
	36.96	53.96	7.43	0.83	0.33	0.50	0.00	
	1.68	0.98	0.86	0.88	2.06	2.91	0.00	1.15
6	109	151	14	1	0	0	0	275
	39.64	54.91	5.09	0.36	0.00	0.00	0.00	
	0.82	0.45	0.27	0.18	0.00	0.00	0.00	0.52
More than 6	111	133	17	1	0	1	0	263
	42.21	50.57	6.46	0.38	0.00	0.38	0.00	
	0.83	0.40	0.32	0.18	0.00	0.97	0.00	0.50
Not Stated	5	4	1	0	0	0	1	11
	45.45	36.36	9.09	0.00	0.00	0.00	9.09	
	0.04	0.01	0.02	0.00	0.00	0.00	2.33	0.02
Total	13,298	33,214	5,261	568	97	103	43	52,584
	25.29	63.16	10.00	1.08	0.18	0.20	0.08	100.00

Note: Domiciliary births of which there were 246 are excluded from this table.

**Table E11**

**Marital Status by Gestation Period at Time of First Visit to Doctor or Hospital during Pregnancy, 1999**

Singleton Births

Marital Status	Time of First Visit (weeks)				
	0-12	13-19	20 and over	Not Stated	Total
<b>Frequency</b>					
<b>Row Per Cent</b>					
<b>Col. Per Cent</b>					
Married	8,022	15,311	10,578	2,157	36,068
	22.24	42.45	29.33	5.98	
	74.98	70.29	59.65	82.55	68.27
Single	2,527	6,075	6,752	395	15,749
	16.05	38.57	42.87	2.51	
	23.62	27.89	38.07	15.12	29.81
Widowed	8	28	30	3	69
	11.59	40.58	43.48	4.35	
	0.07	0.13	0.17	0.11	0.13
Separated	122	327	333	21	803
	15.19	40.72	41.47	2.62	
	1.14	1.50	1.88	0.80	1.52
Divorced	19	38	32	2	91
	20.88	41.76	35.16	2.20	
	0.18	0.17	0.18	0.08	0.17
Not Stated	1	5	9	35	50
	2.00	10.00	18.00	70.00	
	0.01	0.02	0.05	1.34	0.09
<b>Total</b>	<b>10,699</b>	<b>21,784</b>	<b>17,734</b>	<b>2,613</b>	<b>52,830</b>
	<b>20.25</b>	<b>41.23</b>	<b>33.57</b>	<b>4.95</b>	<b>100.00</b>

Table E12

Interval in Years since Last Birth by Gestation Period at Time of First Visit to Doctor or Hospital during Pregnancy, 1999

Singleton Births

Interval	Gestational Age at First Visit				
	Not Stated	0-12	13-19	20 and over	Total
<b>Frequency</b>					
<b>Row Per Cent</b>					
<b>Col. Per Cent</b>					
Not Stated *	134	58	137	193	522
	25.67	11.11	26.25	36.97	
	5.13	0.54	0.63	1.09	0.99
No Previous Births	953	4,908	9,000	6,817	21,678
	4.40	22.64	41.52	31.45	
	36.47	45.87	41.31	38.44	41.03
1 year or less	51	78	131	238	498
	10.24	15.66	26.31	47.79	
	1.95	0.73	0.60	1.34	0.94
>1 year to 2 years	421	1,136	2,792	2,890	7,239
	5.82	15.69	38.57	39.92	
	16.11	10.62	12.82	16.30	13.70
>2 years to 3 years	425	1,500	3,343	2,628	7,896
	5.38	19.00	42.34	33.28	
	16.26	14.02	15.35	14.82	14.95
>3 years to 4 years	242	1,002	2,145	1,693	5,082
	4.76	19.72	42.21	33.31	
	9.26	9.37	9.85	9.55	9.62
>4 years to 5 years	139	661	1,306	1,004	3,110
	4.47	21.25	41.99	32.28	
	5.32	6.18	6.00	5.66	5.89
>5 years to 6 years	74	413	809	680	1,976
	3.74	20.90	40.94	34.41	
	2.83	3.86	3.71	3.83	3.74
More than 6 years	174	943	2,121	1,591	4,829
	3.60	19.53	43.92	32.95	
	6.66	8.81	9.74	8.97	9.14
<b>Total</b>	<b>2,613</b>	<b>10,699</b>	<b>21,784</b>	<b>17,734</b>	<b>52,830</b>
	<b>4.95</b>	<b>20.25</b>	<b>41.23</b>	<b>33.57</b>	<b>100.00</b>

\*'Not Stated' includes 18 cases where the number of previous children is unknown.

**Table E13**  
**Father's Occupation by Interval in Years since Last Birth, 1999**

Singleton Births

Father's Occupation	Interval in years since last birth									
	Frequency Row Per Cent Col. Per Cent	Not Stated*	No Previous Births	1 year > or less	1 year > to 2 years	2 years > to 3 years	3 years > to 4 years	4 years > to 5 years	5 years to 6 years	More than 6 years
Farmers and Farm Managers	42 1.41 8.05	834 28.02 3.85	38 1.28 7.63	634 21.30 8.76	588 19.76 7.45	350 11.76 6.89	186 6.25 5.98	102 3.43 5.16	202 6.79 4.18	2,976 5.63
Other Agricultural Occupations & Fishermen	5 0.77 0.96	192 29.40 0.89	4 0.61 0.80	116 17.76 1.60	111 17.00 1.41	71 10.87 1.40	50 7.66 1.61	31 4.75 1.57	73 11.18 1.51	653 1.24
Higher- Professional	18 0.62 3.45	1,089 37.71 5.02	19 0.66 3.82	520 18.01 7.18	605 20.95 7.66	288 9.97 5.67	156 5.40 5.02	66 2.29 3.34	127 4.40 2.63	2,888 5.47
Lower- Professional	20 1.08 3.83	676 36.38 3.12	16 0.86 3.21	311 16.74 4.30	327 17.60 4.14	201 10.82 3.96	119 6.40 3.83	59 3.18 2.99	129 6.94 2.67	1,858 3.52
Employers & Managers	32 0.73 6.13	1,489 34.16 6.87	27 0.62 5.42	697 15.99 9.63	816 18.72 10.33	514 11.79 10.11	283 6.49 9.10	176 4.04 8.91	325 7.46 6.73	4,359 8.25
Salaried- Employees	6 0.47 1.15	474 36.89 2.19	8 0.62 1.61	191 14.86 2.64	255 19.84 3.23	134 10.43 2.64	89 6.93 2.86	41 3.19 2.07	87 6.77 1.80	1,285 2.43
Intermediate Non-Manual Workers	45 1.14 8.62	1,386 35.11 6.39	37 0.94 7.43	589 14.92 8.14	637 16.13 8.07	441 11.17 8.68	228 5.78 7.33	192 4.86 9.72	393 9.95 8.14	3,948 7.47
Other Non- Manual Workers	28 0.69 5.36	1,252 30.81 5.78	31 0.76 6.22	573 14.10 7.92	694 17.08 8.79	475 11.69 9.35	321 7.90 10.32	195 4.80 9.87	495 12.18 10.25	4,064 7.69
Skilled Manual Workers	77 0.78 14.75	3,237 32.95 14.93	94 0.96 18.88	1,379 14.04 19.05	1,788 18.20 22.64	1,129 11.49 22.22	700 7.13 22.51	440 4.48 22.27	980 9.98 20.29	9,824 18.60
Semi-skilled Manual Workers	28 0.96 5.36	1,028 35.35 4.74	32 1.10 6.43	389 13.38 5.37	458 15.75 5.80	326 11.21 6.41	200 6.88 6.43	126 4.33 6.38	321 11.04 6.65	2,908 5.50
Unskilled Manual Workers	7 0.93 1.34	176 23.44 0.81	12 1.60 2.41	118 15.71 1.63	136 18.11 1.72	75 9.99 1.48	75 9.99 2.41	42 5.59 2.13	110 14.65 2.28	751 1.42
Unemployed <sup>1</sup>	29 2.21 5.56	309 23.55 1.43	28 2.13 5.62	302 23.02 4.17	235 17.91 2.98	143 10.90 2.81	77 5.87 2.48	59 4.50 2.99	130 9.91 2.69	1,312 2.48
Not Classifiable	4 1.19 0.77	141 41.96 0.65	3 0.89 0.60	47 13.99 0.65	50 14.88 0.63	23 6.85 0.45	21 6.25 0.68	6 1.79 0.30	41 12.20 0.85	336 0.64
Not Applicable	121 0.81 23.18	9,179 61.30 42.34	138 0.92 27.71	1,266 8.45 17.49	1,088 7.27 13.78	843 5.63 16.59	568 3.79 18.26	417 2.78 21.10	1,354 9.04 28.04	14,974 28.34
Not Stated	60 8.65 11.49	216 31.12 1.00	11 1.59 2.21	107 15.42 1.48	108 15.56 1.37	69 9.94 1.36	37 5.33 1.19	24 3.46 1.21	62 8.93 1.28	694 1.31
<b>Total</b>	<b>522 0.99</b>	<b>21,678 41.03</b>	<b>498 0.94</b>	<b>7,239 13.70</b>	<b>7,896 14.95</b>	<b>5,082 9.62</b>	<b>3,110 5.89</b>	<b>1,976 3.74</b>	<b>4,829 9.14</b>	<b>52,830 100.00</b>

\* 'Not Stated' includes 18 cases where the number of previous children is unknown.

<sup>1</sup> In this table 'Unemployed' includes 38 fathers whose occupation was reported as 'Home Duties'.



**Table E14**  
**Mother's Occupation by Interval in Years Since Last Birth, 1999**

Singleton Births

Mother's Occupation	Interval in years since last birth										
	Frequency	Not Stated*	No Previous Births	1 year > or less	1 year > to 2 years	2 years > to 3 years	3 years > to 4 years	4 years > to 5 years	5 years to 6 years	More than 6 years	Total
Row Per Cent	Col. Per Cent										
Farmers & Farm Managers	0	39	3	21	20	7	14	3	3	110	
	0.00	35.45	2.73	19.09	18.18	6.36	12.73	2.73	2.73		
	0.00	0.18	0.60	0.29	0.25	0.14	0.45	0.15	0.06	0.21	
Other Agricultural Occupations & Fishermen	0	45	3	6	5	6	6	3	7	81	
	0.00	55.56	3.70	7.41	6.17	7.41	7.41	3.70	8.64		
	0.00	0.21	0.60	0.08	0.06	0.12	0.19	0.15	0.14	0.15	
Higher-Professional	8	716	8	217	238	107	61	26	55	1,436	
	0.56	49.86	0.56	15.11	16.57	7.45	4.25	1.81	3.83		
	1.53	3.30	1.61	3.00	3.01	2.11	1.96	1.32	1.14	2.72	
Lower-Professional	45	2,094	33	968	978	557	270	143	334	5,422	
	0.83	38.62	0.61	17.85	18.04	10.27	4.98	2.64	6.16		
	8.62	9.66	6.63	13.37	12.39	10.96	8.68	7.24	6.92	10.26	
Managers	10	1,066	11	229	258	157	85	55	129	2,000	
	0.50	53.30	0.55	11.45	12.90	7.85	4.25	2.75	6.45		
	1.92	4.92	2.21	3.16	3.27	3.09	2.73	2.78	2.67	3.79	
Salaried-Employees	1	304	3	58	82	42	23	11	31	555	
	0.18	54.77	0.54	10.45	14.77	7.57	4.14	1.98	5.59		
	0.19	1.40	0.60	0.80	1.04	0.83	0.74	0.56	0.64	1.05	
Non-Manual Workers	79	5,839	75	1,225	1,536	1,016	577	363	826	11,536	
	0.68	50.62	0.65	10.62	13.31	8.81	5.00	3.15	7.16		
	15.13	26.94	15.06	16.92	19.45	19.99	18.55	18.37	17.10	21.84	
Other Non-Manual Workers	30	2,477	39	448	494	368	228	171	468	4,723	
	0.64	52.45	0.83	9.49	10.46	7.79	4.83	3.62	9.91		
	5.75	11.43	7.83	6.19	6.26	7.24	7.33	8.65	9.69	8.94	
Skilled Manual Workers	4	514	4	92	106	73	38	18	77	926	
	0.43	55.51	0.43	9.94	11.45	7.88	4.10	1.94	8.32		
	0.77	2.37	0.80	1.27	1.34	1.44	1.22	0.91	1.59	1.75	
Semi-skilled Manual Workers	23	1,865	18	289	342	276	165	117	347	3,442	
	0.67	54.18	0.52	8.40	9.94	8.02	4.79	3.40	10.08		
	4.41	8.60	3.61	3.99	4.33	5.43	5.31	5.92	7.19	6.52	
Unskilled Manual Workers	0	1	0	1	1	1	0	0	0	4	
	0.00	25.00	0.00	25.00	25.00	25.00	0.00	0.00	0.00		
	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.01	
Unemployed	27	855	17	186	164	121	61	58	101	1,590	
	1.70	53.77	1.07	11.70	10.31	7.61	3.84	3.65	6.35		
	5.17	3.94	3.41	2.57	2.08	2.38	1.96	2.94	2.09	3.01	
Not Classifiable	4	1,228	3	53	61	43	26	18	67	1,503	
	0.27	81.70	0.20	3.53	4.06	2.86	1.73	1.20	4.46		
	0.77	5.66	0.60	0.73	0.77	0.85	0.84	0.91	1.39	2.84	
Home Duties	179	2,226	224	2,655	2,768	1,797	1,237	783	1,853	13,722	
	1.30	16.22	1.63	19.35	20.17	13.10	9.01	5.71	13.50		
	34.29	10.27	44.98	36.68	35.06	35.36	39.77	39.63	38.37	25.97	
Not Stated	112	2,409	57	791	843	511	319	207	531	5,780	
	1.94	41.68	0.99	13.69	14.58	8.84	5.52	3.58	9.19		
	21.46	11.11	11.45	10.93	10.68	10.06	10.26	10.48	11.00	10.94	
<b>Total</b>	<b>522</b>	<b>21,678</b>	<b>498</b>	<b>7,239</b>	<b>7,896</b>	<b>5,082</b>	<b>3,110</b>	<b>1,976</b>	<b>4,829</b>	<b>52,830</b>	
	<b>0.99</b>	<b>41.03</b>	<b>0.94</b>	<b>13.70</b>	<b>14.95</b>	<b>9.62</b>	<b>5.89</b>	<b>3.74</b>	<b>9.14</b>	<b>100.00</b>	

\* 'Not Stated' includes 18 cases where the number of previous children is unknown.

**Table E15**  
**Father's Occupation by Infant's Type of Feeding, 1999**

Singleton Births

Father's Occupation	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
<b>Frequency</b>					
<b>Row Per Cent</b>					
<b>Col. Per Cent</b>					
Farmers and Farm Managers	1,755	1,168	33	5	2,961
	59.27	39.45	1.11	0.17	
	5.32	6.14	8.25	3.91	5.63
Other agricultural Occupations & Fishermen	416	230	3	2	651
	63.90	35.33	0.46	0.31	
	1.26	1.21	0.75	1.56	1.24
Higher-Professional	912	1,938	23	5	2,878
	31.69	67.34	0.80	0.17	
	2.76	10.18	5.75	3.91	5.48
Lower-Professional	687	1,140	19	3	1,849
	37.16	61.65	1.03	0.16	
	2.08	5.99	4.75	2.34	3.52
Employers & Managers	2,068	2,230	42	11	4,351
	47.53	51.25	0.97	0.25	
	6.27	11.72	10.50	8.59	8.28
Salaried-Employees	623	639	17	4	1,283
	48.56	49.81	1.33	0.31	
	1.89	3.36	4.25	3.13	2.44
Intermediate Non-Manual Workers	2,243	1,651	26	9	3,929
	57.09	42.02	0.66	0.23	
	6.80	8.68	6.50	7.03	7.48
Other Non-Manual Workers	2,762	1,250	29	10	4,051
	68.18	30.86	0.72	0.25	
	8.37	6.57	7.25	7.81	7.71
Skilled Manual Workers	5,929	3,765	72	16	9,782
	60.61	38.49	0.74	0.16	
	17.97	19.78	18.00	12.50	18.61
Semi-skilled Manual Workers	2,136	733	13	7	2,889
	73.94	25.37	0.45	0.24	
	6.47	3.85	3.25	5.47	5.50
Unskilled Manual Workers	627	110	4	2	743
	84.39	14.80	0.54	0.27	
	1.90	0.58	1.00	1.56	1.41
Unemployed	989	295	12	2	1,298
	76.19	22.73	0.92	0.15	
	3.00	1.55	3.00	1.56	2.47
Not Classifiable	193	139	2	1	335
	57.61	41.49	0.60	0.30	
	0.58	0.73	0.50	0.78	0.64
Not Applicable	11,234	3,518	87	38	14,877
	75.51	23.65	0.58	0.26	
	34.04	18.49	21.75	29.69	28.31
Not Stated	424	224	18	13	679
	62.44	32.99	2.65	1.91	
	1.28	1.18	4.50	10.16	1.29
<b>Total</b>	<b>32,998</b>	<b>19,030</b>	<b>400</b>	<b>128</b>	<b>52,556</b>
	<b>62.79</b>	<b>36.21</b>	<b>0.76</b>	<b>0.24</b>	<b>100.00</b>

Note: In this table 'Unemployed' includes 38 fathers whose occupation was recorded as 'Home Duties'. See Appendix B for a description of the classification system for occupations.

**Table E16**  
**Mother's Occupation by Infant's Type of Feeding, 1999**

Singleton Births

Mother's Occupation	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
<b>Frequency</b>					
<b>Row Per Cent</b>					
<b>Col. Per Cent</b>					
Farmers & Farm Managers	61	48	1	0	110
	55.45	43.64	0.91	0.00	
	0.18	0.25	0.25	0.00	0.21
Other Agricultural Occupations & Fishermen	42	39	0	0	81
	51.85	48.15	0.00	0.00	
	0.13	0.20	0.00	0.00	0.15
Higher-Professionals	412	1,001	18	2	1,433
	28.75	69.85	1.26	0.14	
	1.25	5.26	4.50	1.56	2.73
Lower-Professionals	1,814	3,520	62	6	5,402
	33.58	65.16	1.15	0.11	
	5.50	18.50	15.50	4.69	10.28
Managers	948	1,029	17	4	1,998
	47.45	51.50	0.85	0.20	
	2.87	5.41	4.25	3.13	3.80
Salaried-Employees	245	302	7	0	554
	44.22	54.51	1.26	0.00	
	0.74	1.59	1.75	0.00	1.05
Non-Manual Workers	7,188	4,191	86	20	11,485
	62.59	36.49	0.75	0.17	
	21.78	22.02	21.50	15.63	21.90
Other Non-Manual Workers	3,216	1,431	39	12	4,698
	68.45	30.46	0.83	0.26	
	9.75	7.52	9.75	9.38	8.94
Skilled Manual Workers	498	415	7	2	922
	54.01	45.01	0.76	0.22	
	1.51	2.18	1.75	1.56	1.75
Semi-skilled Manual Workers	2,767	626	19	6	3,418
	80.95	18.31	0.56	0.18	
	8.39	3.29	4.75	4.69	6.50
Unskilled Manual Workers	3	1	0	0	4
	75.00	25.00	0.00	0.00	
	0.01	0.01	0.00	0.00	0.01
Unemployed	1,290	275	7	7	1,579
	81.70	17.42	0.44	0.44	
	3.91	1.45	1.75	5.47	3.00
Not Classifiable	1,067	412	11	2	1,492
	71.51	27.61	0.74	0.13	
	3.23	2.17	2.75	1.56	2.84
Home Duties	9,696	3,798	110	34	13,638
	71.10	27.85	0.81	0.25	
	29.38	19.96	27.50	26.56	25.95
Not Stated	3,751	1,942	16	33	5,742
	65.33	33.82	0.28	0.57	
	11.37	10.20	4.00	25.78	10.93
<b>Total</b>	<b>32,998</b>	<b>19,030</b>	<b>400</b>	<b>128</b>	<b>52,556</b>
	<b>62.79</b>	<b>36.21</b>	<b>0.76</b>	<b>0.24</b>	<b>100.00</b>

**Table E17**  
**Infant's Type of Feeding by Maternal Parity, 1999**

Singleton Births

Type of Feeding	Maternal Parity									
	0	1	2	3	4	5	6	More than 6	Not Stated	Total
Artificial	13,012	9,913	5,683	2,500	1,021	439	210	214	6	32,998
	39.43	30.04	17.22	7.58	3.09	1.33	0.64	0.65	0.02	
	60.36	63.48	63.14	66.42	69.88	72.80	76.36	82.63	26.09	62.79
Breast	8,300	5,578	3,240	1,216	426	160	62	44	4	19,030
	43.62	29.31	17.03	6.39	2.24	0.84	0.33	0.23	0.02	
	38.50	35.72	36.00	32.31	29.16	26.53	22.55	16.99	17.39	36.21
Combined	192	103	57	31	9	4	3	1	0	400
	48.00	25.75	14.25	7.75	2.25	1.00	0.75	0.25	0.00	
	0.89	0.66	0.63	0.82	0.62	0.66	1.09	0.39	0.00	0.76
Not Stated	52	21	20	17	5	0	0	0	13	128
	40.63	16.41	15.63	13.28	3.91	0.00	0.00	0.00	10.16	
	0.24	0.13	0.22	0.45	0.34	0.00	0.00	0.00	56.52	0.24
Total	21,556	15,615	9,000	3,764	1,461	603	275	259	23	52,556
	41.02	29.71	17.12	7.16	2.78	1.15	0.52	0.49	0.04	100.00

# Appendix F

## Wigglesworth Classification, 1999

### Basis of System

In this section perinatal deaths are classified according to the system devised by Dr. J. S. Wigglesworth. The system is designed to be relatively straightforward and to overcome some of the inherent difficulties of subjectivity and lack of uniformity in the assignment of causes of perinatal death.<sup>8</sup> With the aim of identifying areas with implications for perinatal care, five mutually exclusive and clinically relevant categories are suggested. Cross-classification of these categories by birthweight can then be used to highlight areas of particular concern.<sup>9</sup>

### Method of Classification

The five broad pathological subgroups employed in the Wigglesworth classification are as follows:

1. Normally formed macerated stillbirth.
2. Congenital malformations (stillbirth or early neonatal death).
3. Conditions associated with immaturity (early neonatal death).
4. Asphyxial conditions developing in labour (stillbirth or early neonatal death).
5. Specific conditions other than the above.

The assignment of a unique Wigglesworth class to each perinatal death presents a number of difficulties. The first and most general of these results from the fact that no standard system has yet been devised for the translation of the ICD codes relating to main cause of death into the corresponding categories suggested by Wigglesworth. In most cases the assignment is straightforward, but in certain instances (for example, preterm births where asphyxia is indicated or stillbirths where antepartum haemorrhage is recorded), the appropriate classification is not immediately obvious and additional variables require consideration. For these reasons, gestational age and type of stillbirth (i.e. antepartum or intrapartum) are taken into account in the classification system described below. In adopting this system, note has also been taken of a number of pilot schemes carried out in Britain as well as the guidelines set out by Dr. Wigglesworth.<sup>10</sup>

<sup>8</sup> Wigglesworth, J. S., 1980, "Monitoring Perinatal Mortality", *The Lancet*, 2, pp. 684-686.

<sup>9</sup> The analysis by Wigglesworth's categories, unlike the main report, includes 51 live births that weighed less than 500 grams. The outcomes of these births were 50 early neonatal deaths and 1 neonatal death.

<sup>10</sup> a) South East Thames Perinatal Monitoring Group, *Confidential Enquiry into Perinatal Deaths*, 1986.  
b) Unpublished report, Scottish Stillbirth and Neonatal Death Enquiry, based on 1985 data.

Wigglesworth Classes	Assignment Criteria	ICD Codes (where appropriate)
Macerated stillbirth	<ul style="list-style-type: none"> <li>All intrapartum deaths where maceration is indicated as main cause of death.</li> <li>Antepartum deaths not due to antepartum haemorrhage and not assigned to any other category.</li> </ul>	–
Congenital malformations (stillbirth and early neonatal death)	<ul style="list-style-type: none"> <li>All major congenital anomalies (stillbirth and early neonatal deaths)</li> </ul>	740-742, 745-748, 750.3, 750.6, 751.1-751.8, 753, 756.0, 756.6, 756.7, 758-759
Immaturity (early neonatal death)	<ul style="list-style-type: none"> <li>All first week deaths due to structural lung immaturity and Hyaline Membrane Disease.</li> <li>First week deaths of less than 37 weeks gestation period where cause of death is not stated or does not fall into any other category.</li> </ul>	765, 769.0, 770.4, 772.1, 777.5
Asphyxia	<ul style="list-style-type: none"> <li>All first week deaths due to birth trauma and birth asphyxia.</li> <li>First week deaths of 37 or more weeks gestation or gestation unknown where cause is not stated or does not fall into any other category.</li> <li>Antepartum deaths due to antepartum haemorrhage .</li> <li>All intrapartum stillbirths except those due to specific conditions or congenital malformations.</li> </ul>	762.0, 762.1, 762.4, 762.5, 767-768
Specific conditions (stillbirth and early neonatal death)	<ul style="list-style-type: none"> <li>Infection, isoimmunisation or other haemorrhage in the newborn.</li> </ul>	760.1-760.5, 762.3, 770.0, 771, 773, 775, 777.0, 778.0

## Results

Tabulations based on the Wigglesworth classification are presented in the following pages. Table F1 indicates the percentage of perinatal deaths attributable to each cause for 1999. Table F2 provides a classification of cause of death by birthweight and indicates cause and weight specific perinatal mortality rates for 1999. It is this table that shows the practical clinical implications of the Wigglesworth coding. Figure F1 is derived from the data contained in Table F2 and shows how the percentage contribution to perinatal mortality of each cause changes with birthweight group. Table F3 provides the same cross tabulations as Table F2 but uses a different definition of stillbirth based on 28 weeks gestation period. This is provided to facilitate possible local or international comparisons.

**Table F1**

Wigglesworth Classification for all Perinatal Deaths, 1999

Class	Frequency	Per Cent	Cumulative Frequency	Cumulative Per Cent
Macerated Stillbirths	188	37.98	188	37.98
Congenital Malformations	105	21.21	293	59.19
Immaturity	71	14.34	364	73.54
Asphyxial Conditions	105	21.21	469	94.75
Specific Conditions	26	5.25	495	100.00

**Table F2**

Birthweight Specific Perinatal Mortality Rates, 1999  
Wigglesworth Classification

Birthweight	Macerated Stillbirths		Congenital Anomalies		Immaturity		Asphyxia		Specific Conditions		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Under 1000	65	237.23	10	36.50	58	211.68	30	109.49	11	40.15	174	635.04
1000-1499	20	60.06	24	72.07	9	27.03	12	36.04	4	12.01	69	207.21
1500-1999	20	35.09	10	17.54	1	1.75	7	12.28	3	5.26	41	71.93
2000-2499	26	14.89	20	11.45	0	0.00	5	2.86	2	1.15	53	30.36
2500 and over	56	1.09	41	0.80	2	0.04	51	0.99	6	0.12	156	3.04
Not Stated	1	12.66	0	0.00	1	12.66	0	0.00	0	0.00	2	25.32
<b>Total</b>	<b>188</b>	<b>3.46</b>	<b>105</b>	<b>1.93</b>	<b>71</b>	<b>1.31</b>	<b>105</b>	<b>1.93</b>	<b>26</b>	<b>0.48</b>	<b>495</b>	<b>9.11</b>

**Table F3**

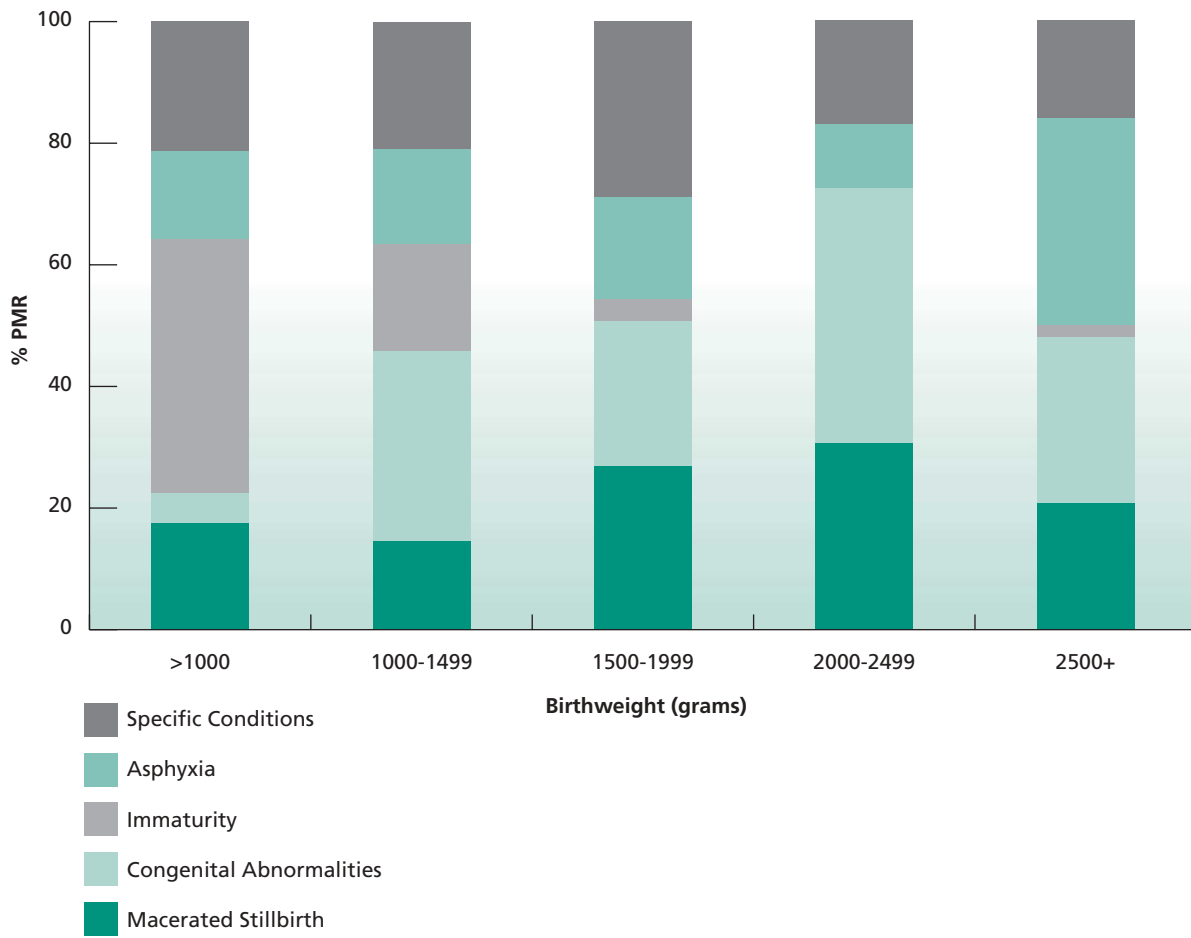
**Numbers of Perinatal Deaths and Mortality Rates  
by Cause and Birthweight, 1999**

Wigglesworth Classification  
using the  $\geq 28$  weeks definition of a Stillbirth

Birthweight	Macerated Stillbirths		Congenital Anomalies		Immaturity		Asphyxia		Specific Conditions		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Under 1000	19	95.00	5	25.00	58	290.00	13	65.00	5	25.00	100	500.00
1000-1499	16	49.08	23	70.55	9	27.61	11	33.74	3	9.20	62	190.18
1500-1999	20	35.09	10	17.54	1	1.75	7	12.28	3	5.26	41	71.93
2000-2499	25	14.33	19	10.89	0	0.00	5	2.87	2	1.15	51	29.24
2500 and over	56	1.09	41	0.80	2	0.04	51	0.99	6	0.12	156	3.04
Not Stated	1	12.66	0	0.00	1	12.66	0	0.00	0	0.00	2	25.32
<b>Total</b>	<b>137</b>	<b>3.46</b>	<b>98</b>	<b>1.93</b>	<b>71</b>	<b>1.31</b>	<b>87</b>	<b>1.93</b>	<b>19</b>	<b>0.48</b>	<b>412</b>	<b>9.11</b>

**Figure F1**

**Wigglesworth Classification: Percent Distribution of Perinatal Deaths by Cause of Death, 1999**



Source: See Appendix F, Table F2.





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