Introduction

Birthweight is one of the important indicators used to assess the health of an infant at birth and there has been an overall rise in mean birthweight in recent years. However, it is important to be able to differentiate between babies who are light because they are preterm and those who are inappropriately light after adjustment for gestational age at birth. Such babies, known as “small for gestational age” may be growth restricted and have an increased risk of other complications. Some of the babies who are large for gestational age may be macrosomic, perhaps secondary to maternal diabetes.

Birthweight that is not within normal ranges has a strong association with poor health outcomes in infancy, childhood and across the whole life course, including long term conditions such as diabetes and coronary heart disease.

The data in the accompanying tables is presented for live births and has been produced by comparing the birthweights and gestations with a set of standard tables derived from Scottish data on all births from the years 1998-2003. The details of the way in which the standards were derived are available here: [http://www.biomedcentral.com/1471-2393/8/5](http://www.biomedcentral.com/1471-2393/8/5)

Data on babies that are small for gestational age are published annually in the ISD publication Births in Scottish Hospitals. Babies are considered small for gestational age if their birthweight is less than that for the 5th centile in the standard tables. This publication also includes information on babies that are of a weight appropriate for gestational age (healthy birthweight) which are babies whose birthweight is between the 5th and 95th centiles in the standard tables. Babies considered large for gestational age (above the 95th centile) are also included in this publication.
Key points

- For the year ending March 2010 the percentage of babies with a healthy birthweight was 90.0%.

- The percentage of babies born at a healthy birthweight has remained relatively stable over the last ten years. There has, however, been a small reduction in the proportion of babies who are small for gestational age (from 4.8% in 2001 to 4.1% in 2010), largely balanced by a small increase in babies who are large for gestational age (from 5.6% in 2001 to 5.9% in 2010).

- Little variation is seen across the different NHS Boards in the percentage of babies with a healthy birthweight.
Results and Commentary

For the year ending March 2010 the percentage of babies with a healthy birthweight was 90.0%. This percentage has remained relatively stable over the last ten years.

Chart 1. Percentage of Babies of Healthy Birthweight (Appropriate Weight for Gestational Age), Scotland, 2001-2010

1 – Centiles for Birthweight Charts for Gestational Age for Scottish Singleton Births, Sandra Bonnellie et al, BMC Pregnancy and Child Birth 2008
In order to match to the birthweight standard charts cases with unknown gestation, birthweight and parity were excluded as were cases with estimated gestation outwith the range 24-43 weeks and undetermined gender
2 - Excludes home births and births at non-NHS hospitals.
3 - Scotland data includes births where NHS board of residence is unknown or outside Scotland.

Source: SMR02
ISD Scotland
Little variation is seen across the different NHS Boards in the percentage of babies with a healthy birthweight.

**Chart 2. Percentage of Babies of Healthy Birthweight (Appropriate Weight for Gestational Age), Year ending March 2010, by NHS Board, with Upper and Lower 95% Confidence Interval**

1 – Centiles for Birthweight Charts for Gestational Age for Scottish Singleton Births, Sandra Bonnellie et al, BMC Pregnancy and Child Birth 2008

In order to match to the birthweight standard charts cases with unknown gestation, birthweight and parity were excluded as were cases with estimated gestation outwith the range 24-43 weeks and undetermined gender

2 - Excludes home births and births at non-NHS hospitals.

3 - Scotland data includes births where NHS board of residence is unknown or outside Scotland.

Source: SMR02

ISD Scotland
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Full term</td>
<td>A birth is considered full-term if the delivery occurs during or after the 37th week of gestation.</td>
</tr>
<tr>
<td>Live Births</td>
<td>A live birth is defined as a birth where the baby was born breathing or showing other signs of life.</td>
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<tr>
<td>Low birthweight</td>
<td>Babies with a birthweight of less than 2,500 grams.</td>
</tr>
<tr>
<td>Macrosomic</td>
<td>Babies with an abnormally large body size.</td>
</tr>
<tr>
<td>Maternity</td>
<td>A pregnancy resulting in a live or stillbirth, with multiple births being counted only once.</td>
</tr>
<tr>
<td>Multiple birth</td>
<td>A baby from a pregnancy resulting in more than one live or stillbirth.</td>
</tr>
<tr>
<td>Parity</td>
<td>Refers to the number of previous pregnancies resulting in a live or stillbirth.</td>
</tr>
<tr>
<td>Postnatal</td>
<td>Occurring after birth</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>The period during which a woman is pregnant.</td>
</tr>
<tr>
<td>Preterm</td>
<td>A birth is considered preterm if the delivery occurs before the 37th completed week of gestation.</td>
</tr>
<tr>
<td>Singleton birth</td>
<td>A baby from a pregnancy resulting in only one live or stillbirth.</td>
</tr>
<tr>
<td>Stillbirths</td>
<td>The Registration of Births, Deaths and Marriages (Scotland) Act 1965 defines a stillbirth as a child which was born after the 24th week of pregnancy and which did not breathe or show any other sign of life.</td>
</tr>
<tr>
<td>Very low birthweight</td>
<td>Babies with a birthweight of less than 1,500 grams.</td>
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### List of Tables

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Name</th>
<th>Time period</th>
<th>File &amp; size</th>
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<td>1</td>
<td>Healthy Birthweight, 2001-2010, by NHS Board</td>
<td>2001-2010</td>
<td>Excel [342kb]</td>
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<td>2</td>
<td>Small for Gestational Age, 2001-2010, by NHS Board</td>
<td>2001-2010</td>
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<td>Appropriate for Gestational Age, 2001-2010, by NHS Board</td>
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<td>Large for Gestational Age, 2001-2010, by NHS Board</td>
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### List of Charts

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<td>2</td>
<td>Healthy Birthweight, by NHS Board, 2010</td>
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</table>


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Further Information
Further information can be found on the ISD website

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Appendix

A1 – Background Information

The data in the accompanying tables have been produced by comparing the birthweights and gestations of singleton and multiple live births with a set of standard tables derived from Scottish data on all births from the years 1998-2003. The details of the way in which the standards were derived are available here: http://www.biomedcentral.com/1471-2393/8/5

The birthweights of both live and stillborn babies were included during the production of the standard tables. Only babies with lethal congenital anomalies and obvious outliers, such as those with recorded birthweights less than 250 grams, were excluded. As the analysis provided in this report includes only live births, this means there are some issues with comparability to the standard tables. Stillborn babies on average have lower birthweight than live born babies of comparable gestation. This means that the proportion of babies who are small for gestational age (under the 5th centile) will be slightly lower than 5% when only live born babies are considered. As the proportion of births that are stillborn is highest at the lowest gestations, this effect will be most pronounced for severely or extremely preterm babies (specifically gestational age 24-31 weeks in this report). However, because such a small proportion of babies are so preterm (less than 1%), there is very little effect on the overall healthy birthweight figure and comparison of trends in the data over time is not affected.
# A2 – Publication Metadata (including revisions details)

<table>
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<td>Publication title</td>
<td>Births in Scottish Hospitals – Healthy Birthweight, year ending March 2010</td>
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<tr>
<td>Description</td>
<td>An extract from the existing ISD publication 'Births in Scottish Hospitals' this release includes information on the percentage of babies of healthy birthweight from April 2001 to March 2010 by NHS Board. A baby is considered to be of healthy birthweight (a weight appropriate for its gestational age) when it lies between the 5th and 95th centile (of a reference standard) for weight at its gestational age.</td>
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<td>Topic</td>
<td>Maternity and pregnancy services.</td>
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<td>Format</td>
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<tr>
<td>Data source(s)</td>
<td>SMR02 (maternity hospital discharge summary)</td>
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<td>Date that data is acquired</td>
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<td>Release date</td>
<td>28 August 2012</td>
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<tr>
<td>Frequency</td>
<td>These data will be updated in November 2012 and thereafter the frequency will be annual.</td>
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<td>Timeframe of data and timeliness</td>
<td>Data for financial year 31 March 2010. The delay between data timeframe and date of publication timeliness is mainly due to delays in data submission from some NHS boards. Publication of data is generally delayed until SMR02 submission is estimated to be around 97-98% complete.</td>
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<tr>
<td>Continuity of data</td>
<td>Reports data from 2001.</td>
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<tr>
<td>Revisions statement</td>
<td>The data are revised at next year's update.</td>
</tr>
<tr>
<td>Revisions relevant to this publication</td>
<td>A number of exclusions have been applied to this publication which differs from previously published data. Cases have been excluded where gestation, birthweight and parity were unknown as were cases with estimated gestation outwith the range 24-43 weeks and undetermined gender.</td>
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<td>Concepts and definitions</td>
<td><a href="http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births">http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births</a></td>
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<td>Relevance and key uses of the statistics</td>
<td>Making information publicly available for planning, epidemiology, provision of services and the statistics provides comparative information.</td>
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<td>Accuracy</td>
<td>SMR02 data are subjected to validation on submission. The figures are compared to previous years' figures and to expected trends. The SMR02 data are also occasionally assessed for accuracy by ISD’s Data Quality Assurance -- see latest report 'Data Quality Assurance (Assessment of Maternity Data) 2008-09' Report at <a href="http://www.isdscotland.org/Products-and-Services/Data-Quality">http://www.isdscotland.org/Products-and-Services/Data-Quality</a></td>
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<tr>
<td>Completeness</td>
<td>There is generally around a 2 - 3% shortfall in the number of births when compared to the National Records of Scotland (NRS) birth registrations,</td>
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<td>Comparability</td>
<td>Maternity data for England are published by NHS information Centre at HES Online (<a href="http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&amp;categoryId=1009">http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&amp;categoryId=1009</a>) - some of this will be directly comparable with Scottish published data e.g. birthweight, gestation. Where directly comparable, Scottish maternity data are regularly provided to ONS, Department of Health for contribution to both UK and International reports/databases e.g. UK Health Statistics, Social Trends, European Health for All database. In these comparisons, data are provided only at national (Scotland) level or may be aggregated to UK.</td>
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<td>Accessibility</td>
<td>It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines.</td>
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<td>Coherence and clarity</td>
<td>Healthy Birthweight tables are accessible via the ISD website at <a href="http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births">http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births</a> Drop down menus are presented where appropriate e.g. for selection of geography i.e. NHS board/local council area/community health partnership or for selection of singleton/multiple/all births or live/stillbirths/total births.</td>
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<tr>
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<td>Date of first publication</td>
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A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:

- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads

Extended Pre-Release Access

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)

Pre-Release Access for Other Publications

Pre-Release Access is granted for the purpose of ensuring that related publications or other material being prepared for release at the same time as (or shortly after) the statistics concerned are properly informed by the correct figures, for example provision of data for the SG ‘Scotland Performs’ website.

Scottish Government Health Department (Analytical Services Division)
A4 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of ‘Official Statistics’. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD’s statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD’s statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the ISD website.

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.