Births in Scottish Hospitals

Technical Report

Publication date – 28 November 2017
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Context

This technical report accompanies the ‘Births in Scottish Hospitals’ publication, providing background and supporting information on data quality, interpretation and metadata.

In this 2016/17 release, covering the period up to and including March 2017, data are presented in the following formats:

- summary tables and charts – numbers and percentages of mother and baby data;
- CSV data files – for users to explore the data and perform their own analysis;
- data visualisation – interactive walk-through of live births presented over time, by deprivation area, maternal age group, smoking status, gestation and method of delivery at Scotland level.

This document focuses primarily on the CSV files, summary tables and charts.

Useful links

Summary tables and charts:  

CSV files:  

Full report for 2016/17 Births in Scottish Hospitals:  
http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births/

Summary report (key points from 2016/17 report):  
http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births/

Data visualisation:  
Births in Scottish Hospitals Dashboard

SMR02 data dictionary:  

Source for images

The images were sourced from The Noun Project and designers were Marco Livolsi (bathroom scales, amended), Aleksandr Vector (calendar, amended) and Tomasz Pasternak (baby face).

Data sources

SMR02

Hospital based maternity and birth data are derived from the maternity inpatient and day case record known as the SMR02. SMR02 records returned following an episode of care involving a delivery include a wide range of clinical data such as birthweight, gestational age, method of delivery, induction and outcome of pregnancy. Delivery records account for approximately half of all SMR02 discharges each year with antenatal, postnatal and abortion episodes forming the remaining discharges. The SMR02 data presented are based on date of discharge from hospital.
Although there is no legal requirement to submit these data to ISD, the level of submission falls only slightly short of the known total number of births occurring each year. Data for the most recent time period (1 April 2016 to 31 March 2017) were reported to be 99% complete at a national level at the time the data were extracted for the publication. Further information on SMR02 completeness is available on the ISD website. Historically, births recorded on SMR02 represent approximately 98% of the births recorded by National Records for Scotland (NRS). Some of this shortfall will be due to data on home births not being available from SMR02. For the period 1 April 2016 to 31 March 2017 births recorded on SMR02 represented 99% of the births recorded on NRS.

The following notes are applicable to all tables which are sourced from SMR02:

- Data exclude home births and births at non-NHS hospitals.
- Where four or more babies are involved in a pregnancy, birth details are only recorded for the first three delivered.
- Totals include unknown/missing data, unless specifically stated otherwise. For example, Scotland totals include births where NHS Board of residence is unknown or outside Scotland. Likewise, deprivation totals include those where a deprivation area could not be assigned.

The Data Quality Assurance (DQA) team is responsible for evaluating and ensuring Scottish Morbidity Record datasets are accurate, consistent and comparable across time and between sources. The team are currently undertaking site visits to maternity units in Scotland to assess the quality of the SMR02 data, with visits continuing throughout 2017 and into early 2018. A national summary on the outcome of this quality assurance exercise is scheduled for publication in late 2018. The previous Data Quality Assurance, Assessment of Maternity Data (SMR02) 2008-2009 report is available at: http://www.isdscotland.org/data_quality_assurance/DQA-Assessment-of-Maternity-Data-SMR02-2008-to-2009.pdf

**Scottish Birth Record (SBR)**

The Scottish Birth Record was introduced in 2002. In general, SBR records are thought to be reasonably complete for babies admitted to neonatal care from around 2004 onwards, and for all babies from around 2010 onwards.

The data for the SBR are collected in different ways in the various hospitals throughout Scotland. A minority of hospitals use the SBR as their main clinical information system for all babies within maternity services, whereas the majority just enter clinical information into SBR on sick babies requiring neonatal care. The SBR is based on individuals rather than episodes and provides the functionality to record all of a baby's neonatal care in Scotland.

During 2016/17, some NHS Boards have experienced difficulty completing SBR records following changes to the clinical information systems used in local maternity and/or neonatal services. At the time of publication NHS Forth Valley and NHS Dumfries & Galloway have recorded very little information on babies receiving neonatal care from September and October 2016 respectively. This means that the figures for the number of babies admitted to neonatal care for these areas for 2016/17 are incomplete and should be interpreted with caution (Tables 9, 12.3 and 12.4).

Further information on the background and development of the Scottish Birth Record is available at: http://www.isdscotland.org/Products-and-Services/Scottish-Birth-Record/.
National Records of Scotland (NRS)

Any live birth or stillbirth (a baby who is born without any signs of life after 24 weeks of pregnancy) in Scotland must be registered within twenty-one days by the Registrar of Births, Deaths and Marriages. In Scotland the most reliable data on number of births is based on the civil registration system administered by NRS. These data have been presented based on date of birth and financial year alongside SMR02 birth data in order to allow for comparisons to be made.

Population figures provided in this publication are also sourced from NRS, based on the 2016 mid-year population estimates for Scotland, NHS Board and local authority (council area).

CSV Tables

Guide to using CSV files

These tables have been provided in CSV format in order to allow greater accessibility and more flexible analysis by users. For every table, users can apply filters in order to explore and manipulate the data as they see fit. Alternatively, the tables may be read into a statistical package (eg SPSS) for further analyses.

For example, on opening a CSV file in Microsoft Excel and clicking a cell in the first row, users can select to ‘filter’ on any of the data variables appearing in this first row. Clicking on the presents a series of selection options where specific criteria can be applied, for example, as a single year or NHS Board. Care should be applied to avoid duplication where ‘All’ categories are presented as these are the grouped figures from the relevant subset. For example the ‘All’ Deprivation figure is the total of Deprivation Categories 1 to 5 and the unknowns:

Time Periods

The data for year ending 31 March 2017 should be regarded as provisional and will be revised in next year’s report. With the exception of Table 10.1, all data in CSV files are presented by financial year ending 31 March. For example, where a table notes the financial year is 2017, this represents 2016/17.
**Deprivation**

Deprivation is allocated using the Scottish Index of Multiple Deprivation (SIMD). Deprivation for individuals is estimated from aggregated data derived from the Census and other routine sources. There have been SIMD releases in 2004, 2006, 2009, 2012 and 2016. This report uses the most appropriate SIMD for each financial year of data:

- all years (ending 31 March) up to 2004 use SIMD2004;
- years 2005 to 2007 use SIMD2006;
- years 2008 to 2010 use SIMD2009;
- years 2011 to 2014 use SIMD2012;
- and years 2015 onwards use SIMD2016.

Deprivation categories are ranked from 1 to 5 (also known as quintiles), where 1 represents the most deprived areas and 5 represents the least deprived. A more detailed explanation about the application of SIMD is available at: [http://www.isdscotland.org/Products-and-Services/GPD-Support/Deprivation/SIMD/](http://www.isdscotland.org/Products-and-Services/GPD-Support/Deprivation/SIMD/)

**Geography**

NHS Boards are the patients’ board of residence, based on the most recent 2014 boundary configurations which aligned boundaries with those of local authorities (council areas). The ‘Islands’ NHS Board presented consists of NHS Orkney, Shetland and Western Isles. These have been grouped together into one category in order to protect patient confidentiality against the disclosure of small numbers. Data are also presented at local authority level (council area). There are 32 local authorities in Scotland, mapped to NHS Board as below:

<table>
<thead>
<tr>
<th>Council area</th>
<th>Health Board</th>
<th>Council area</th>
<th>Health Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Ayrshire</td>
<td>Ayrshire &amp; Arran</td>
<td>Argyll &amp; Bute</td>
<td>Highland</td>
</tr>
<tr>
<td>North Ayrshire</td>
<td></td>
<td>Highland</td>
<td></td>
</tr>
<tr>
<td>South Ayrshire</td>
<td></td>
<td>North Lanarkshire</td>
<td>Lanarkshire</td>
</tr>
<tr>
<td>Scottish Borders</td>
<td>Borders</td>
<td>South Lanarkshire</td>
<td></td>
</tr>
<tr>
<td>Dumfries &amp; Galloway</td>
<td>Dumfries &amp; Gallowy</td>
<td>East Lothian</td>
<td>Lothian</td>
</tr>
<tr>
<td>Fife</td>
<td>Fife</td>
<td>Edinburgh City</td>
<td>Lothian</td>
</tr>
<tr>
<td>Clackmannanshire</td>
<td></td>
<td>Midlothian</td>
<td></td>
</tr>
<tr>
<td>Falkirk</td>
<td></td>
<td>West Lothian</td>
<td></td>
</tr>
<tr>
<td>Stirling</td>
<td></td>
<td>Orkney Islands</td>
<td></td>
</tr>
<tr>
<td>Aberdeen City</td>
<td></td>
<td>Shetland Islands</td>
<td></td>
</tr>
<tr>
<td>Aberdeenshire</td>
<td>Grampian</td>
<td>Angus</td>
<td></td>
</tr>
<tr>
<td>Moray</td>
<td></td>
<td>Dundee City</td>
<td>Tayside</td>
</tr>
<tr>
<td>East Dunbartonshire</td>
<td>Greater Glasgow &amp; Clyde</td>
<td>Perth &amp; Kinross</td>
<td></td>
</tr>
<tr>
<td>East Renfrewshire</td>
<td></td>
<td>Na h-Eileanan Siar</td>
<td>Western Isles</td>
</tr>
<tr>
<td>Glasgow City</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inverclyde</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renfrewshire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Dunbartonshire</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Suppression of small numbers

Sometimes cell suppression is used in order to protect patient confidentiality where there are small numbers and/or the topic is deemed sensitive. On these occasions the cell value is replaced by ‘*’ (an asterisk) to indicate a suppressed value. This is called primary suppression, however, to make sure that the primary suppressions cannot be derived by subtraction, it may also be necessary to select additional cells for secondary suppression; also substituted with ‘*’. Further information on suppression is available from ISD’s Statistical Disclosure Control policy.

The following tables contain cell suppression:

- Table 11.5 – alcohol use in pregnancy;
- Table 11.6 – drug misuse in pregnancy;
- Table 12.4 – births affected by maternal use of drugs.

Table specific information

Alcohol use in pregnancy

Relating to: Table 11.5

Typical weekly alcohol consumption during pregnancy was made a mandatory SMR02 data collection item in April 2011. Midwives undertaking the antenatal booking appointment were asked to record in the Scottish Woman Held Maternity Record (SWHMR) the number of units of alcohol that the woman stated she drank ‘in an average week’. Concerns had been raised that simply considering the week prior to the booking appointment would not capture whether a woman was drinking very early in pregnancy, possibly before confirmation of pregnancy. The revised current advice for midwives in Scotland as of April 2013 is to ask women about their average weekly consumption of alcohol over the three months prior to booking.

If a woman says she has not drunk any alcohol over the last three months, number of units would be recorded as ‘0’. If the woman states that she has consumed an average of 0 to 1 units per week over the three months this would be recorded as ‘1’. Otherwise the nearest number averaged over the three months would be recorded.

The reliability of self-reported alcohol consumption is well known to be problematic. Women are likely to underestimate their actual alcohol intake, particularly during pregnancy, as there is a perceived risk of being judged as irresponsible. Results show that there is extensive variation across NHS Boards in the proportion of women drinking an average of one or more units of alcohol. It is likely that, for some NHS Boards, the SMR02 data presented do not reflect the true average weekly alcohol consumption during pregnancy due to under reporting of the data. Results should therefore be interpreted with caution.

Suppression of small numbers has been applied as per ISD’s statistical disclosure protocol in order to protect patient confidentiality.
Appropriate birthweight for gestational age (AWGA)

Relating to: Table 12.2

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. The data in the appropriate birthweight for gestational age tables have been produced by comparing the birthweights and gestations from SMR02 with a set of standard tables based on the UK-WHO Child Growth Standards developed by the Royal College of Paediatrics and Child Health available at: http://www.rcpch.ac.uk/child-health/research-projects/uk-who-growth-charts.

Babies identified as small for gestational age are those whose birthweight is under the 5th percentile. Babies identified as appropriate weight for gestational age are those with a birthweight between the 5th and 95th percentiles. Babies identified as large for gestational age are those whose birthweight is over the 95th percentile.

In order to match to the birthweight charts, cases with unknown gestation and birthweight were excluded, as were cases with estimated gestation outwith the range 24-42 weeks and undetermined gender.

If calculating the percentage of babies with an appropriate weight for gestational age using the CSV data available, please note that the ‘All’ category for ‘BirthweightForGestationalAge’ includes records that could not be assigned a weight category for gestational age. As such, percentages should be calculated using the sum of all known categories (small, appropriate and large) rather than ‘All’.

Babies affected by maternal use of drugs

Relating to: Table 12.4

Data on babies affected by maternal use of drugs are sourced from SBR while the denominator birth data are sourced from SMR02 (as SMR02 is the more reliable data source). A baby may be admitted to and discharged from neonatal care more than once. These data relate to the total number of individual babies, not discharges. Babies affected by maternal use of drugs are identified using the following ICD10 codes:

<table>
<thead>
<tr>
<th>ICD10</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P04.4</td>
<td>Foetus and newborn affected by maternal use of drugs of addiction.</td>
</tr>
<tr>
<td>P96.1</td>
<td>Neonatal withdrawal symptoms from maternal use of drug addiction.</td>
</tr>
</tbody>
</table>

Care should be taken when comparing numbers over time as there has been an improvement in drug misuse recording in recent years. It is also worth noting that recording practice of drug misuse diagnoses may vary between hospitals, which may explain some of the variation between NHS Boards or local authorities.

The figures presented cover three year aggregates to avoid disclosing small numbers in each individual year. Further suppression of small numbers has been applied as per ISD’s Statistical Disclosure Control policy in order to protect patient confidentiality.
Births by hospital
Relating to: Table 10.3

Sourced from SMR02, this table includes all births (singleton and multiple) split by outcome (live birth or stillbirth) and hospital of birth. Where hospitals have merged or changed name the most recent hospital name has been used across all previous years.

Comparison of NRS and SMR02
Relating to: Tables 1.1 to 1.4, Table 10.2

These tables present NRS registrations by year of birth compared to SMR02 records (by date of discharge) in order to present a measure of SMR02 completeness. They include live and stillbirths respectively.

Not all stillbirths are captured on SMR02 and therefore the recommended source of stillbirth data for Scotland is NRS.

Drug misuse in pregnancy
Relating to: Table 11.6

This table presents the number of maternities where drug misuse in pregnancy has been recorded. Drug misuse can be recorded as a hard-coded data item (there are a small number of possible choices rather than the broad range of codes available in a system such as ICD10), which was introduced in April 2003 and made mandatory as of April 2011. Although mandatory, it is possible to record ‘Unknown’ as a valid response. The data item asks whether there has been ‘drug misuse at any time during the current pregnancy’ and the possible responses are ‘Yes’, ‘No’ and ‘Unknown’.

In addition to being recorded as a hard-coded data item, drug misuse can also be recorded on SMR02 using the following ICD10 codes, which provide additional information about the type of drugs used:

<table>
<thead>
<tr>
<th>ICD10</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F11</td>
<td>Opioids</td>
</tr>
<tr>
<td>F12</td>
<td>Cannabinoids</td>
</tr>
<tr>
<td>F13</td>
<td>Sedatives or Hypnotics</td>
</tr>
<tr>
<td>F14</td>
<td>Cocaine</td>
</tr>
<tr>
<td>F15</td>
<td>Other Stimulants</td>
</tr>
<tr>
<td>F16</td>
<td>Hallucinogens</td>
</tr>
<tr>
<td>F18</td>
<td>Volatile Solvents</td>
</tr>
<tr>
<td>F19</td>
<td>Multiple / Other Psychoactive Substances</td>
</tr>
<tr>
<td>O35.5</td>
<td>Maternal care for suspected damage to foetus by drugs</td>
</tr>
</tbody>
</table>

Maternities reported in the drug misuse section of this publication are drawn from both the hard coded and the ICD10 coded data items. Results should be interpreted with caution as:
- recording of these data items improved in anticipation of them becoming mandatory (in April 2011);
- it is still possible to record ‘unknown’ as a valid response and this can affect the rate of maternities recording drug misuse. The level of ‘unknowns’ varies significantly by NHS Board.

The figures presented cover three year aggregates to avoid disclosing small numbers in each individual year. Subsequent suppression of small numbers has also been applied as per ISD’s statistical disclosure protocol in order to protect patient confidentiality.

Early access to antenatal services
Relating to: Tables 5.1 to 5.4, Table 10.1

Early access to antenatal services is currently being used by the Scottish Government as a Local Delivery Plan (LDP) standard. LDP standards are priorities that are set and agreed between the Scottish Government and NHS Boards. The ‘early access to antenatal services’ standard states that at least 80% of pregnant women in each deprivation area, based on the Scottish Index of Multiple Deprivation (SIMD), will have booked for antenatal care by the 12th week of gestation, that is, up to and including 12 weeks and 6 days. Further information about the early access to antenatal services LDP can be found on the ‘Scotland Performs’ Antenatal LDP webpage:

Taken from the SMR02, the gestation at booking (in completed weeks) is calculated by subtracting the number of weeks between delivery and booking dates from the gestation at delivery (in completed weeks).

It should be noted that this LDP standard uses deprivation areas based on the Scottish Government (SG) version of SIMD. This is consistent with other government LDP standards, but it means that LDP data are not directly comparable with other deprivation-based data presented in the publication. The main difference is:

- The SG publishes SIMD deprivation categories which are not population weighted. Data Zones are ranked from most to least deprived and then split into five deprivation quintiles, with 20% of the Data Zones in each quintile;
- ISD rank Data Zones from most to least deprived using the SG’s un-weighted SIMD and by using the NRS population estimates, which are then split into five deprivation quintiles with approximately 20% of the population in each quintile.

Further information on deprivation is available on the SIMD section of the ISD website.

An issue has been identified with SMR02 submissions from Island NHS Boards which affects cases where the mother has delivered in a mainland hospital. The majority of the affected cases have had the original date of booking, which took place in the Island NHS Board, overwritten with the date the woman was first seen at the mainland hospital. In some cases this will be the date of delivery. This will affect the number of maternities booked by 12 weeks gestation for the Island Boards and will result in a lower percentage than is actually the case. We are currently working with NHS Boards to establish the extent of this issue. However, in the meantime the data for Island Boards should be interpreted with caution.
Level of care of newborn babies
Relating to: Tables 9.1 to 9.3, Table 12.3

These data are sourced from SBR and include all live births. The main levels/types of neonatal care are:

- **Intensive care**: this is care provided for babies who are the most unwell and have the greatest needs in relation to staff skills and staff to patient ratios. The 2010 standards document from the British Association for Perinatal Medicine (BAPM) suggests that the ratio of suitably qualified nursing staff to babies would be one nurse to one baby.

- **High dependency care**: this is care provided for babies who require highly skilled staff but where the ratio of nurse to patient is less than intensive care. The BAPM standards suggest that this ratio would be one nurse to two babies.

- **Special care**: this care is provided for babies who require additional care delivered by the neonatal service but do not require either intensive or high dependency care. The BAPM standards suggest that this ratio would be one nurse to four babies.

- **Transitional care**: this care is where babies who are almost ready for discharge home receive most of their care from the parents, supported by medical and nursing staff as required.

Babies who are unwell after birth are admitted to a neonatal unit to receive intensive, high dependency or special neonatal care depending on their level of need. Babies who do not require admission to a neonatal unit but still require some additional care can receive transitional neonatal care whilst remaining with their mother on a dedicated transitional care ward or a ‘normal’ postnatal ward.

Other includes mainly normal care, although a very small number of births requiring medical and home care may also be included. For each baby, we have sought the most intensive type of care used following birth. If a baby had initially been admitted to ‘special care’ and then required to be transferred to ‘intensive care’, the baby would be recorded in this table as requiring ‘intensive care’.

Some hospitals use the SBR as their main clinical information system for all babies within maternity services, whereas the majority just enter clinical information into SBR on sick babies requiring neonatal care. This is reflected in the high levels of data for which ‘level of care’ is labelled as ‘missing/unknown’. It is reasonable to assume that babies with missing level of care were healthy babies that did not require admission to a neonatal unit. Previous linkage of SBR and SMR02 data has shown that the vast majority were term babies with normal birthweight (at least 2500g) further supporting this assumption.

During 2016/17, some NHS Boards have experienced difficulty completing SBR records following changes to the clinical information systems used in local maternity and/or neonatal services. At the time of publication NHS Forth Valley and NHS Dumfries & Galloway have recorded very little information on babies receiving neonatal care from September and October 2016 respectively. This means that the figures for the number of babies admitted to neonatal care for these areas for 2016/17 are incomplete and should be interpreted with caution.
Maternal body mass index (BMI)

Relating to: Tables 4.1 to 4.4, Table 11.3

BMI is one of the most widely used methods for assessing body composition in adults. It is calculated by dividing an individual’s weight (in kilograms) by their height squared (in metres$^2$) and gives an indication of whether weight is in proportion to height.

In adults there are static cut off values for body mass index indicating underweight, healthy weight, overweight and obese:

- Below 18.5 - Underweight;
- Between 18.5 and 24.9 - Healthy;
- Between 25 and 29.9 - Overweight;
- BMI of 30 or more - Obese.

Mother’s height and weight have been mandatory data items on SMR02 since April 2011 and are recorded at the antenatal booking appointment. Where a height or weight was not available or either value was considered to be an outlier, the BMI was categorised as ‘unknown’. The outliers are:

- Weight less than or equal to 35kg or greater than or equal to 250kg;
- Height less than 1m or greater than or equal to 2.2m.

Method of Delivery

Relating to: Tables 6.1 to 6.4, Table 12.1

Sourced from SMR02, this table presents live singleton births by mode of delivery and also indicates whether the delivery was induced or not. An elective caesarean section refers to a caesarean section which has been planned in advance and is usually carried out before labour starts. In most cases this will have been recommended for clinical reasons such as breech, multiple births or previous caesarean section. It may also be the case that the woman will have chosen this method of delivery for non-clinical reasons.

Parity

Relating to: Table 2.3, Table 11.1

Sourced from SMR02, these tables use the mother’s parity to identify whether the current delivery was the mother’s first birth or not. Parity refers to the number of previous pregnancies resulting in a live or stillbirth. One pregnancy may result in the delivery of more than one baby but the episode would be counted as one pregnancy.
Populations
Relating to: Table 10.1

These data are sourced from NRS based on mid-year population estimates and can be used in conjunction with data presented in other tables in order to calculate rates. These populations cover women aged 15-44 in order to best reflect reproductive age. These are available for NHS Board and local authority (council area) for the calendar years 1997 to 2016.

When calculating rates the recommended method is to use populations by calendar year (denominator) matched with the corresponding start year in the financial year (numerator), so for example:
- calculate rates with populations for calendar year 2016 and data for financial year 2016/17;
- calculate rates with populations for calendar year 2011 and data for financial year 2011/12, and so on.

Smoking at booking
Relating to: Tables 3.1 to 3.4, Table 11.4

Smoking behaviour in pregnancy is collected at a woman's first antenatal booking appointment, usually taking place within the first three months of pregnancy. These booking appointments take place at hospital or in the community and are recorded on the Scottish Woman Held Maternity Record, with data being subsequently transcribed onto the SMR02. Data on smoking behaviour is based on self-reported information, which may affect the overall accuracy and quality of national figures.

The 'smoking at booking' data item was made mandatory in 1993/94 and it should be noted that this information is not always recorded, although completeness has improved over time.

Routine use of carbon monoxide breath testing encourages more accurate reporting. Carbon monoxide is a poisonous gas which is invisible and odourless, and is dangerous to both the mother and the baby. National guidelines recommend that all women are offered carbon monoxide testing during pregnancy. Monitors are used to establish how much carbon monoxide is in the body and it is measured through a quick and simple breath test. In smokers, or those exposed to high levels of second hand smoke, carbon monoxide levels will be higher. Midwives will discuss the result with the woman and where applicable will refer her on to support from the stop smoking services.

Smoking at booking data is also available on the ScotPHO ‘health and wellbeing profile’ at NHS Board, local authority and intermediate zone geographies: [http://www.scotpho.org.uk/](http://www.scotpho.org.uk/)
### CSV files – variables and definitions

<table>
<thead>
<tr>
<th>Table</th>
<th>Variable name</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>All tables</td>
<td>HealthBoard</td>
<td>NHS Board of residence. There are 14 territorial NHS Boards. NHS Orkney, Shetland and Western Isles have been included in the category 'Islands'.</td>
</tr>
<tr>
<td>All tables</td>
<td>CouncilArea</td>
<td>Council Area Also known as local authority. There are 32 local authorities.</td>
</tr>
<tr>
<td>Tables 11.1 to 11.4 and Tables 12.1 to 12.4</td>
<td>Deprivation</td>
<td>SIMD quintile (1 = most deprived, 5 = least deprived).</td>
</tr>
</tbody>
</table>
| Tables 11.1 to 11.4 and Tables 12.1 to 12.2 | AgeGroup      | Maternal age group at time of admission:  
  • Less than 25 years;  
  • 25-34 years;  
  • 35 years and older.                                                                 |
<p>| Tables 11.1 to 11.6       | Maternities   | The number of mothers with pregnancies resulting in live or stillbirths. Multiple births in a pregnancy eg twins, are counted as one maternity. |
| Table 10.1                | pop1519 to pop44 | The female population aged 15 to 19 years.                                                                                                 |
|                           |               | The female population aged 40 to 44 years.                                                                                                  |
| Table 10.2                | Outcome       | The outcome of the pregnancy: Live, Still, All Births, or Unknown.                                                                           |
|                           | NRS_births    | The number of births sourced from NRS.                                                                                                      |
|                           | SMR02_births  | The number of births sourced from SMR02.                                                                                                    |
| Table 10.3                | Hospital      | The hospital of birth.                                                                                                                       |
|                           | Outcome       | The outcome of the pregnancy: Live, Still, All, or Unknown.                                                                                   |
|                           | SMR02_births  | The number of births sourced from SMR02.                                                                                                     |
| Table 11.1                | FirstBirth    | Whether the birth is the first birth for the mother: Yes, No, or Unknown.                                                                    |</p>
<table>
<thead>
<tr>
<th>Table</th>
<th>Variable name</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 11.2</td>
<td>BookedBy12wks</td>
<td>Whether the antenatal booking appointment for the mother took place by the end of the 12th completed week of gestation ie up to and including 12weeks+6days: Yes, No, All, Unknown.</td>
</tr>
<tr>
<td>Table 11.3</td>
<td>BMIGroup</td>
<td>Body Mass Index Group derived from mothers height and weight taken at antenatal booking appointment:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Underweight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Healthy weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Overweight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obese</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unknown</td>
</tr>
<tr>
<td>Table 11.4</td>
<td>SmokingAtBooking</td>
<td>Smoking status taken at antenatal booking appointment:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Current</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Former</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Never</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unknown</td>
</tr>
<tr>
<td>Table 11.5</td>
<td>AlcoholConsumption</td>
<td>Whether the mother consumed an average of one or more units of alcohol per week during the 12 weeks previous to the antenatal booking appointment: Yes, No, or Unknown. Contains cell suppression.</td>
</tr>
<tr>
<td>Table 11.6</td>
<td>DrugMisuse</td>
<td>The number of maternities with drug misuse recorded. Contains cell suppression.</td>
</tr>
<tr>
<td>Table 12.1</td>
<td>Delivery</td>
<td>The method by which the baby was delivered:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Breech</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Caesarean - Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Caesarean - Emergency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Forceps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Spontaneous</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vacuum</td>
</tr>
<tr>
<td></td>
<td>Induced</td>
<td>Was the delivery induced, that is, was it started artificially, often with the administration of drugs eg a prostaglandin. The options for induced are:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Induced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not Induced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not Known</td>
</tr>
<tr>
<td>Table</td>
<td>Variable name</td>
<td>Information</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Table 12.2 | Birthweight                 | Weight of baby in grams:  
- <1500g  
- 1500-2499g  
- 2500g+  
- All  
- Unknown |
|         | Gestation                    | Gestation is the period of time between conception and birth in completed weeks:  
- <24  
- 24-27  
- 28-31  
- 32-36  
- 37-41  
- 42+  
- All  
- Unknown |
|         | BirthweightForGestationalAge | Birthweight for gestational age is an indicator used to differentiate between babies who, for example, are light because they are preterm and those who are inappropriately light after adjustment for gestational age at birth:  
- Small  
- Appropriate  
- Large  
- N/A  
- Unknown  
- All |
| Table 12.3 | LevelOfCare                 | The highest level of care provided to babies:  
- Intensive Care  
- HDU – high dependency unit  
- Special Care  
- Other (incl normal, medical and home)  
- Transitional Care  
- Total Extra Care – includes intensive care, HDU, special care and transitional care  
- Missing/unknown  
- All |
| Table 12.4 | BirthsAffectedByDrugs        | Babies affected by maternal use of drugs. Contains cell suppression. |
A2 – Publication Metadata (including revisions details)

<table>
<thead>
<tr>
<th>Metadata Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication title</td>
<td>Births in Scottish Hospitals.</td>
</tr>
<tr>
<td>Description</td>
<td>Annual update to information on births in Scottish NHS hospitals. This includes information on the mother, the delivery and the baby, available at various geographies including NHS Board, local authority and hospital level.</td>
</tr>
<tr>
<td>Theme</td>
<td>Health and Social Care.</td>
</tr>
<tr>
<td>Topic</td>
<td>Maternity and pregnancy services.</td>
</tr>
<tr>
<td>Format</td>
<td>Excel workbooks, CSV files and online interactive content.</td>
</tr>
<tr>
<td>Data source(s)</td>
<td>SMR02 (maternity hospital discharge summary), Scottish Birth Record (SBR) and National Records of Scotland (NRS).</td>
</tr>
<tr>
<td>Date that data are acquired</td>
<td>August 2017.</td>
</tr>
<tr>
<td>Frequency</td>
<td>Annual.</td>
</tr>
<tr>
<td>Timeframe of data and timeliness</td>
<td>Data up to and including financial year ending 31 March 2017. 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 95% complete.</td>
</tr>
<tr>
<td>Continuity of data</td>
<td>Reports data from 1975/76.</td>
</tr>
<tr>
<td>Revisions statement</td>
<td>Data are generally noted as provisional (due to a small shortfall in completeness of data) at time of publication. The data are then revised at next year’s update.</td>
</tr>
<tr>
<td>Revisions relevant to this publication</td>
<td>In this year’s report the NRS birth cohort is based on year of delivery and not year of registration as in previous reports. This gives a slightly more accurate comparison between NRS and SMR02 births.</td>
</tr>
<tr>
<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>
</tr>
<tr>
<td>Relevance and key uses of the statistics</td>
<td>Making information publicly available for planning, epidemiology, provision of services, monitoring standards, and the statistics provide comparative information.</td>
</tr>
<tr>
<td>Accuracy</td>
<td>SMR02 data are subjected to validation on submission. The figures are compared to previous figures and 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/Previous-Projects/DQA-Assessment-of-Maternity-Data-SMR02-2008-to-2009.pdf">http://www.isdscotland.org/Products-and-Services/Data-Quality/Previous-Projects/DQA-Assessment-of-Maternity-Data-SMR02-2008-to-2009.pdf</a></td>
</tr>
<tr>
<td>Completeness</td>
<td>There is generally around a 1-4% shortfall in the number of births when compared to NRS birth registrations. Some of this shortfall is due to data on home births not being available from SMR02 and lower submission levels from some NHS Boards. In 2016/17 there was a reported shortfall</td>
</tr>
</tbody>
</table>
Comparability

Maternity data for England are published by NHS information Centre at HES Online. Some of this will be directly comparable with Scottish published data, for example, birthweight or gestation. Where directly comparable, Scottish maternity data are regularly provided to ONS and the Department of Health for contribution to both UK and international reports/databases such as UK Health Statistics, Social Trends and the European Health for All database. In these comparisons, data are provided only at national level or may be aggregated to UK.

Accessibility

It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines.

Coherence and clarity

Data are presented in excel tables and charts, in CSV files and as a visualisation using Tableau. These may be accessed via the ISD website at: http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Births

Value type and unit of measurement

Numbers and percentages.

Disclosure

The ISD protocol on Statistical Disclosure Protocol is followed.

Official Statistics designation

National Statistics.

UK Statistics Authority Assessment


Last published

November 2016.

Next published

November 2018.

Date of first publication

1975.

Help email

nss.isdmaternity@nhs.net

Date form completed

November 2017.
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.

Standard Pre-Release Access:
- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads
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.