Introduction

This is a report on NHS maternity activity in England. The report examines data relating to delivery and birth episodes in 2018-19, and the booking appointments for these deliveries.

The report examines data from both Hospital Episode Statistics (HES) and the Maternity Services Data Set (MSDS). In doing so it aims to provide a more complete picture of NHS maternity activity.

This report does not examine statistics relating to outpatient appointments or attendances at A&E departments reported within HES which may be found in other publications. Data on other aspects of the maternity pathway from the MSDS is reported in a monthly publication series.

Both sets of data are submitted by NHS providers in England on a monthly basis to NHS Digital. The HES data is patient level record based data relating to deliveries in NHS hospitals, and looks at specific types of hospital episodes called ‘finished delivery episodes’ and ‘finished birth episodes’. The MSDS is a patient-level data set that captures key information at each stage of the maternity service care pathway in NHS-funded maternity services. It is a maturing, national-level dataset and reporting coverage has continued to improve. However it does not yet capture as many deliveries as are recorded in HES. As such statistics using MSDS are classified as experimental and should be used with caution.
The Office for National Statistics (ONS) collects information on births and maternities (maternities are equivalent to deliveries in HES). Most of the information, for both live births and stillbirths, is supplied to registrars by one or both parents. It is legal requirement in England and Wales to register the identity of a new baby within 42 days of the birth.

As it is a legal requirement to register all births, the ONS is the official source of delivery and birth information and should be used in preference to HES and MSDS maternity data held by NHS Digital. Common to both NHS Digital and ONS data sets.

However, NHS Digital maternity data has the following advantages:

• detailed information on the hospital care that a mother and baby received before, during and after the delivery, such as the method of delivery and the type of anaesthetic received;

• clinical information about the mother and baby – diagnosis, investigation and treatment details;

• the organisation where the baby was delivered.

• Investigating links between previous medical or socio demographic factors of the mother at the beginning of the pregnancy to outcomes at the end of the pregnancy (MSDS).
This section reports on the number of reported deliveries. A delivery is the term used to describe child birth in HES data and is the ending of a pregnancy by one or more babies leaving a woman's uterus by vaginal passage or caesarean section.

Within this section we explore how the relationship between reported number of deliveries by women's age group, type of delivery at both the onset and end of labour and the frequency that anaesthetics and analgesics were administered either before or during delivery.

Percentages in the following commentary, unless otherwise stated, are based on total ‘knowns’, e.g. the percentage of caesareans is based on all deliveries with a known method of delivery, excluding those with an unknown method of delivery.
There were 603,766 deliveries in NHS hospitals during 2018-19.

This is an a decrease of 3.6 per cent from 2017-18.

Over the past ten years numbers of deliveries in NHS Hospitals fluctuated but are now at their lowest reported level in this time.

Source: HES

For more information: Summary Report 1, NHS Maternity Statistics, 2018-19
 Indexed change in the number of deliveries by age group, 2008-09 to 2018-19

When comparing deliveries by age group to a base year of 2008-09 deliveries for age groups for women aged 30 years or over has increased whilst those below this age have declined.

Women in the 30-39 age group showing the largest percentage increase, up 7 per cent in 2018-19.

Deliveries amongst women aged under 20 have more than halved since 2008-09 with 16,956 deliveries in 2018-19.

For more information: Summary Report 2, NHS Maternity Statistics, 2018-19
Percentage of deliveries by method of onset from 2008-09 to 2018-19

Method of onset describes the means by which labour was initiated. Where this begins without pharmacological, mechanical, or operative intervention is said to be Spontaneous.

Spontaneous method of onset is most common as a proportion of total deliveries but has decreased from 69 per cent in 2008-09 to 50 per cent in 2018-19.

Caesarean method of onset increased from 11 per cent to 17 per cent and induced method of onset from 20 per cent to 33 per cent in the period 2008-09 to 2018-19.

Source: HES
Where the method of delivery was unknown, those deliveries have been excluded from this analysis

For more information: Summary Report 3, NHS Maternity Statistics, 2018-19
Proportion of deliveries with anaesthetic or analgesic use before or during delivery by age group, 2018-19

Anaesthetic or analgesic maybe administered during labour to provide pain relief during labour.

Overall the proportion of deliveries where an anaesthetic or analgesic was administered before or during delivery has decreased from 67 per cent in 2008-09 to 61 per cent of deliveries in 2018-19.

In 2018-19, anaesthetic was administered in 57 per cent of deliveries for women aged under 20, compared to 65 per cent aged 40 years and over.

Source: HES
2018-19 - includes 'other' but excludes n/a values

For more information: Summary Report 4, NHS Maternity Statistics, 2018-19
The final method of delivery may differ to that which occurs at the onset of labour.

The most common method of delivery is spontaneous for all age groups, with the exception of 40 years and over.

Proportion of caesarean deliveries increase with age group and accounts for 46 per cent of deliveries to those women aged 40 and over.

Source: HES
Where the method of delivery was unknown, those deliveries have been excluded from this analysis.

For more information: Summary Report 5, NHS Maternity Statistics, 2018-19
Labour is usually a straightforward process but sometimes complications arise that may need attention.

In 2018-19 the most prevalent delivery complications were ‘Perineal laceration during delivery’ which occurred in **42 per cent** of deliveries and ‘Labour and delivery complicated by fetal stress [distress]’ which occurred in **26 per cent** of deliveries.

**Most prevalent delivery complications, 2018-19**

For more information: [Summary Report 6, NHS Maternity Statistics, 2018-19](#)
Method of delivery by duration of postnatal stay, 2018-19

The duration that women spend in hospital following delivery varies by the method of delivery.

In 2018-19, 77 per cent of women who had a spontaneous method of delivery were discharged either the same day or the next day after delivery. This compares to 52 per cent for instrumental and 36 per cent for caesarean methods of delivery.

For more information: Summary Report 7, NHS Maternity Statistics, 2018-19
Birth Related Data

This section reports characteristics of and associated activity occurring to the baby following delivery. HES data contains some basic information about the baby at delivery, such as the method of delivery but MSDS contains more granular data for each birth.

Due to partial coverage of activity reported to the MSDS both geographically and over time during 2018-19 it is advised that the following figures should be described in terms of all submitters to the MSDS rather than England level figures.

A baby born at 37 weeks gestation or later is known as a ‘term’ baby. Babies born before 37 weeks gestation (preterm babies) may be less healthy and require additional care. So that data at maternity service provider level is not influenced by the proportion of preterm babies that they deliver, many measures of health and outcomes for newborn infants are produced only for term babies. In this report the proportion of babies by Apgar score, and the proportion of mothers that had skin-to-skin-contact relate only to term births, while the proportion of babies by first feed type relates to all births.
Babies weight at birth can be influenced by a number of factors including gestational age at which the child is born, genetics and also the health of the mother particularly during pregnancy.

Of babies with a reported birthweight at delivery, **7 per cent** had a low birthweight that was less than **2.5kg**, and **1.2 per cent** reported as weighing under **1.5kg** at time of delivery.

For more information: [Summary Report 8, NHS Maternity Statistics, 2018-19](#)
Medical professionals assess the Apgar score for a baby at 5 minutes after birth by scoring them between zero and two for each of five criteria (Appearance, Pulse, Grimace, Activity and Respiration) and summing to give a score between zero and ten.

A score of seven or above is considered normal, and a score below seven is regarded as low.

Of the 485,901 term babies with an Apgar score recorded, one per cent had a score below seven.

Source: MSDS

For more information: Summary Report 9, NHS Maternity Statistics, 2018-19
Skin-to-skin contact for term deliveries, 2018-19

The NICE Quality Standard for care at birth recommends that mothers have skin-to-skin contact with their babies after birth to promote the initiation of breastfeeding and protect against the negative effects of mother-baby separation.

82 per cent of women with babies born at 37 weeks gestation or more had skin-to-skin contact within 1 hour of birth.

Source: MSDS

For more information: Summary Report 10, NHS Maternity Statistics, 2018-19
The NICE Quality Standard for care after birth recommends that women should be made aware of the health benefits of breastfeeding for both mother and child in the short and longer term.

The MSDS records whether a baby’s first feed was breast milk (maternal or donor) or not breast milk.

Of the 498,596 babies submitted to the MSDS with a recorded feed type, 75 per cent received breast milk for their first feed.

Source: MSDS

For more information: Summary Report 11, NHS Maternity Statistics, 2018-19
This section reports on details captured at the booking appointment. This is classed as the first official antenatal appointment which NICE recommends should occur ideally by 10 weeks into pregnancy. The majority of HES maternity data relates to the delivery episode. The only data relating to contact with services earlier in pregnancy that is recorded as part of the delivery episode is the gestation at the first antenatal assessment date.

The MSDS has been designed to record activity throughout the maternity pathway, from the booking appointment to discharge from maternity services, so is able to report more information on women’s characteristics and circumstances prior to the delivery episode. Analysis in this report is of booking appointments for births in 2018-19 submitted to MSDS. This differs from the analysis of booking appointments in the Maternity Services Monthly Statistics, which analyses booking appointments that took place in the reporting period. For example, for a birth in April 2018 the booking appointment is likely to have been in late summer 2017.

Due to partial coverage of activity reported to the MSDS both geographically and over time during 2018-19 it is advised that the following figures should be described in terms of all submitters to the MSDS rather than England level figures.
Out of all recorded deliveries reported within HES, **61 per cent** of women had their first antenatal assessment between 8-11 weeks for that pregnancy.

The NICE Quality Standard for antenatal care recommends maiden appointments for pregnancy assessment should ideally be completed by 10 weeks.

Source: HES
Where the birth weight was unknown, those deliveries have been excluded from this analysis

**For more information:** [Summary Report 12, NHS Maternity Statistics, 2018-19]
Proportion of deliveries by mother’s BMI group at booking appointment and age group, 2018-19

BMI is calculated from a person’s height and weight.

A high maternal BMI increases risks in pregnancy for both women and their babies.

The proportion of women with a BMI in the Obese range (BMI over 30) was lowest for those aged under 20 (15 per cent) and highest for those aged 40 or over (25 per cent).

For more information: Summary Report 13, NHS Maternity Statistics, 2018-19
Smoking during pregnancy can affect the baby’s health.

The proportion of deliveries in 2018-19 where the mother was recorded as a current smoker at the booking appointment was 30 per cent of women aged under 20. Among women aged 40 and over, only 6 per cent were smokers at their booking appointment.

Source: MSDS
Excludes missing and invalid values

For more information: Summary Report 14, NHS Maternity Statistics, 2018-19
Proportion of deliveries by weekly alcohol intake at booking appointment and age for women who had a reported alcohol intake greater than zero, 2018-19

Pregnant women and women planning to become pregnant are advised not to drink alcohol in the first three months of pregnancy.

Alcohol status was reported in 60 per cent of antenatal bookings, of these 97 per cent reported consuming zero alcohol.

Of the 3 per cent that reported greater than zero alcohol intake, 72 per cent reported consuming 1-4 units per week, 26 per cent of women under 20 reported an intake of 5-9 units per week.

Source: MSDS
Chart based on the 3 percent of women for whom alcohol intake greater than zero was reported.
Excludes missing and invalid values

For more information: Summary Report 15, NHS Maternity Statistics, 2018-19
Women who may become pregnant can most easily reduce the risk of having a baby with a neural tube defect by taking folic acid supplements.

Overall 83 per cent of women reported taking a folic acid supplement prior to, or on confirmation of, pregnancy.

This was seen to vary with age with the lowest figure observed for those aged under 20 at 69 per cent.
Comparison of Data Common to HES and MSDS

This is the third annual report on NHS Maternity Activity which brings together established HES data with data from the MSDS which is a maturing, national-level dataset which has been impacted in terms of non-response from providers as they work towards establishing their reporting flows.

This section reports on the similarities and differences in terms of coverage and nature of reported activity between both data sets.

Both the HES and MSDS record some core data about each delivery and pregnancy including method of delivery, onset of labour, gestation at delivery and gestation at the first antenatal assessment / booking appointment.

Although fewer deliveries were recorded in the MSDS than HES for 2018-19, provided the subset of providers that did submit to the MSDS is not skewed e.g. geographically or by unit type, there are now similar proportions of deliveries in each category for each of these common data items.
The MSDS is a maturing data set and reporting coverage continues to improve. However it does not yet capture as many deliveries as are recorded in HES.

In 2018-19 MSDS reported **91 per cent** of the number of deliveries reported in HES based on data submitted by 130 maternity providers.

In 2017-18 MSDS reported **78 per cent** of the number of deliveries reported in HES based on data submitted by 132 maternity providers.

For more information: Summary Report 17, NHS Maternity Statistics, 2018-19
Both the HES and MSDS data sets record some core data about each delivery and pregnancy including method of delivery, onset of labour, gestation at delivery and gestation at the first antenatal assessment booking appointment.

The proportion of deliveries with each method of delivery is similar for HES and MSDS.

For more information: Summary Report 18, NHS Maternity Statistics, 2018-19
The proportion of deliveries with each of onset of labour method is very different between HES and MSDS. This is likely to be because the method of onset of labour is a submitted data item in HES but is derived from a number of separate submitted data items in MSDS. If any of these data items are missing for a delivery record in MSDS, the method of onset of labour will be missing.

Comparisons at provider level are published in an Excel file alongside this report.
Additional Information

Further guidance and associated documentation
Hospital Episode Statistics (HES)
HES is extracted from Secondary Uses Service (SUS). It holds patient level details of all admissions, outpatient appointments and accident and emergency (A&E) attendances at National Health Service (NHS) hospitals in England.
HES data are the source for a wide range of healthcare analyses for the NHS, Government and many other organisations and individuals. It includes private patients treated in NHS hospitals, patients resident outside of England and care delivered by treatment centres (including those in the independent sector) funded by the NHS.
Further information about HES is available at: http://digital.nhs.uk/hes

Maternity Services Dataset (MSDS)
MSDS is a patient-level data set that captures key information at each stage of the maternity care pathway including mother’s demographics, booking appointments, admissions and re-admissions, screening tests, labour and delivery along with baby’s demographics, admissions, diagnoses and screening tests.
As a secondary uses data set it re-uses clinical and operational data for purposes other than direct patient care. It defines the data items, definitions and associated value sets extracted or derived from local information systems and sent to NHS Digital for analysis purposes.

Further information about MSDS is available at: http://content.digital.nhs.uk/maternityandchildren
Caveats and Data Quality

Detailed information about HES data quality of data items, and completeness of provider data submissions can be accessed via the following link:

Detailed information about data quality of HES & MSDS data items, and completeness of provider data submissions can be found in the Excel data quality files published alongside this report. A joint data quality statement reporting against the European Statistical System (ESS) quality dimensions and principles is published with this report.
Provide Feedback

We would welcome feedback from users on the content and style of this report.

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NHS Digital welcomes all feedback relating to any aspect of this publication. In particular we would welcome feedback on:

- the usefulness of the content to different users
- the ways in which the information is used
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