

National Maternity and Perinatal Audit

Executive Summary

Based on births in NHS maternity services
between 1st April 2015 and 31st March 2016



National Maternity and Perinatal Audit

Executive Summary

Based on births in NHS maternity services
between 1st April 2015 and 31st March 2016

The National Maternity and Perinatal Audit is led by the Royal College of Obstetricians and Gynaecologists (RCOG) in partnership with the Royal College of Midwives (RCM), the Royal College of Paediatrics and Child Health (RCPCH) and the London School of Hygiene and Tropical Medicine (LSHTM)

Copyright Healthcare Quality Improvement Partnership (HQIP)

This report was prepared by the NMPA project team:

Ms Andrea Blotkamp, NMPA Clinical Fellow (Midwifery)

Dr Fran Carroll, NMPA Research Fellow

Dr David Cromwell, NMPA Senior Methodological Advisor

Dr Ipek Gurol-Urganci, NMPA Senior Methodological Advisor

Dr Tina Harris, NMPA Senior Clinical Lead (Midwifery)

Dr Jane Hawdon, NMPA Senior Clinical Lead (Neonatology)

Dr Jen Jardine, NMPA Clinical Fellow (Obstetrics)

Ms Hannah Knight, NMPA Audit Lead

Dr Lindsey Macdougall, NMPA Data Manager

Ms Natalie Moitt, NMPA Statistician

Dr Dharmindra Pasupathy, NMPA Senior Clinical Lead (Obstetrics)

Prof Jan van der Meulen, NMPA Senior Methodologist (Chair)

Please cite as:

NMPA Project Team. National Maternity and Perinatal Audit: Clinical Report 2017.
RCOG London, 2017.

Executive summary

Introduction

The National Maternity and Perinatal Audit (NMPA) is a national audit of the NHS maternity services across England, Scotland and Wales, commissioned in July 2016 by the Healthcare Quality Improvement Partnership (HQIP) on behalf of NHS England, the Welsh Government and the Health Department of the Scottish Government. The NMPA is led by the Royal College of Obstetricians and Gynaecologists (RCOG) in partnership with the Royal College of Midwives (RCM), the Royal College of Paediatrics and Child Health (RCPCH) and the London School of Hygiene and Tropical Medicine (LSHTM).

The overarching aim of the NMPA is to produce high-quality information about NHS maternity and neonatal services which can be used by providers, commissioners and users of the services to benchmark against national standards and recommendations where these exist, and to identify good practice and areas for improvement in the care of women and babies. The NMPA consists of three separate but related elements:

- an organisational survey of maternity and neonatal care in England, Scotland and Wales providing an up-to-date overview of care provision, and services and options available to women
- a continuous clinical audit of a number of key measures to identify unexpected variation between service providers or regions
- a programme of periodic 'sprint' audits on specific topics

The NMPA measures a range of care processes and outcomes and provides these data to maternity providers to facilitate quality improvement. Not all measures are accompanied by a national standard or acceptable ranges, and the NMPA does not limit its set of audit measures to only those that have 'auditable standards'. Very few such standards exist in maternity that can be measured via a national audit.

The purpose of the continuous audit is to:

- stimulate thought among healthcare professionals, managers, commissioners and policy-makers
- lead people to ask challenging questions and discuss and reflect locally, regionally and nationally
- allow maternity services and commissioners to identify priority areas for improving outcomes and productivity.

Methods

The analysis in this report is based on data about 696,738 births in NHS maternity services in England, Scotland and Wales between 1st April 2015 and 31st March 2016. We used a different approach to data collection in each home nation, reflecting the status and maturity of centralised national maternity datasets:

- In Scotland, the data used for this report comprised an extract of Scottish Morbidity Record 02 (SMR02) records linked with the Scottish Birth Record and Scottish Morbidity Record 01 (SMR01).

- In Wales, an extract of the new Maternity Indicators data set (MIDs) was linked at record level with Admitted Patient Care (APC) records from the Patient Episode Database for Wales (PEDW).
- In England, the NMPA requested an extract from each trust's individual electronic maternity information system. This was recoded internally and linked at record level to Hospital Episode Statistics (HES) inpatient records to allow longitudinal follow-up of mothers and babies.

The project is estimated to have captured 92% of births in England, Scotland and Wales during the time period, based on comparisons with hospital administrative and birth registration data for the reporting period.

The measures in this report were arrived at using an iterative process with consultation from external stakeholders through a Clinical Reference Group and members of the public through our Women and Families Involvement Group. They were evaluated for feasibility, data quality and statistical power, given the data that the NMPA has been able to collect and access in its first year.

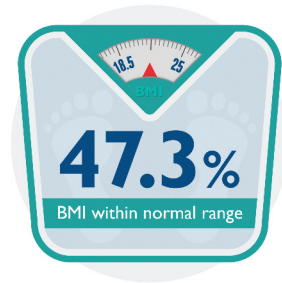
In order to compare like with like, the majority of measures are restricted to singleton, term births. We plan to analyse a set of key measures for preterm and multiple births and to publish this separately. As a general principle, the denominator for each measure is restricted to women or babies to whom the outcome or intervention of interest is applicable. For example, the measure of the 'proportion of women with a third or fourth degree tear' is restricted to women who gave birth vaginally. Rates of measures are also adjusted for risk factors which are beyond the control of the maternity service, such as age, ethnicity, level of socio-economic deprivation and clinical risk factors that may explain variation in results between organisations.

Data in this report are presented at site level, which is currently the lowest level of granularity the NMPA is able to report at.

Key messages

Clinical findings

Fewer than half of pregnant women (47.3%) have a body mass index within the normal range (BMI between 18.5 and 25) and 21.3% have a booking BMI of 30 or over. The high level of maternal obesity has implications for maternity and neonatal service provision.

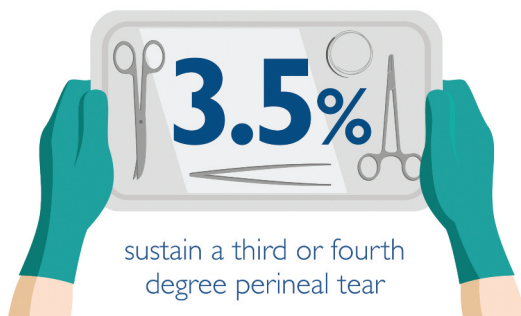


Overall, 52.5% of women giving birth are aged 30 or over and in England and Scotland, at 2.7%, the proportion of women having their first baby at the age of 40 or over is higher than the proportion having their first baby before age 18. Increasing maternal age has implications for clinical outcomes and maternity service provision.

Increasing access to midwife-led birth settings is a national priority and although the majority of obstetric units are co-located with an alongside midwifery unit in England, only around 13% of women give birth in a midwife-led setting.

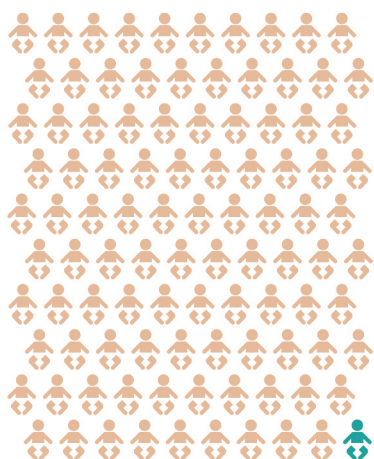
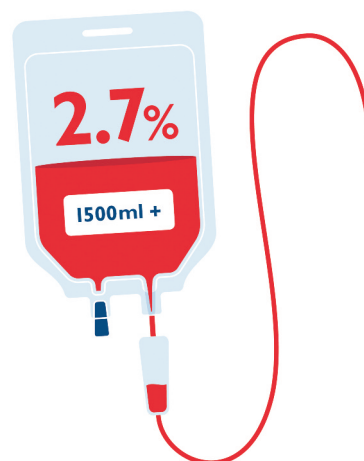


Allowing for data quality issues, there is extremely wide variation in the proportion of women who quit smoking during pregnancy, which is not related to the number of births in a site or trust.



Among women giving birth vaginally to a singleton, term baby, 3.5% sustain a third or fourth degree perineal tear, which can give rise to long term continence problems. The proportion of women affected varies from 0.6% to 6.5% between maternity services, even after adjustment for case mix.

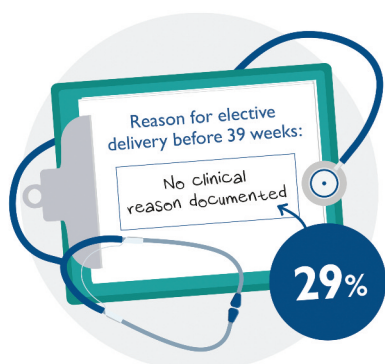
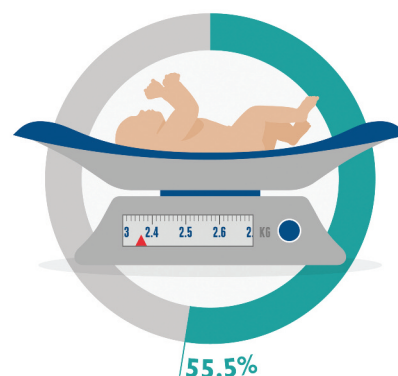
2.7% of women giving birth to a singleton, term baby in England and Wales have a haemorrhage of 1500ml or more. The proportion of this varies between maternity services, from 1.1% to 5.6%, even after case mix adjustment. Obstetric haemorrhage is associated with risk of maternal illness and death.



APGAR score below 7

1.2% of babies born at term in Britain have an Apgar score of less than 7 at five minutes of age, which is associated with short and long term morbidity. This proportion varies between maternity services, from 0.3% to 3.5%, despite adjustment for case mix.

Over half of all babies born small for gestational age (below the 10th centile) at term are born after their due date. This would suggest that these babies are currently not identified by local or national guidelines in use. Better identification of these babies has the potential to reduce stillbirth and severe neonatal complications.



28.7% of women having an elective delivery at 37 or 38 weeks gestation currently have no documented clinical indication; this rate is higher in Wales and Scotland than in England. Delivery in the early term period increases the risk of illness for the baby.

Although some services achieve high rates, there is extremely wide variation in the proportion of babies receiving skin to skin contact within the first hour after birth, which has been shown to improve the rates of women starting and continuing to breastfeed, and in the proportion of babies receiving breast milk for their first feed.

Data quality

- There is a discrepancy in the amount of information available in the routinely collected maternity datasets, both within and between countries. This means that currently not all NMPA measures can be derived for all sites.
- Where electronic maternity data are available, we have demonstrated that local collection of high quality data is achievable but that at present data quality is highly variable between sites, especially in England. This is despite the requirement from 1st November 2014 for English maternity systems to be fully compliant with the Maternity Services Data Set standard, and requires urgent attention. Data quality and completeness also varies between Welsh boards, whilst Scotland has high levels of consistency.
- Some key data items such as gestational age, birth weight and mode of birth are highly complete across maternity services. However, the completeness of other key data items including labour onset, augmentation, fetal presentation, and anaesthesia/analgesia in labour is highly variable between services and needs to improve. This means that some important measures are not currently possible for the NMPA to report.
- Electronic data collection is currently focused on booking and the period of labour and birth. The lack of information recorded during pregnancy and after the birth impedes the interpretation of labour events and the evaluation of care during pregnancy and the postnatal period.

Recommendations

Recommendations for individual clinicians

- Clinicians involved in maternity care should, in multidisciplinary teams, familiarise themselves with the findings for their own service and how these compare to national averages in order to determine the focus of quality improvement activity required.
- Clinicians should make every possible effort for all babies to have skin to skin contact with their mothers within one hour of birth, where the condition of mother and baby allows. For babies who are to be admitted to a neonatal unit, all efforts should be made to offer skin to skin contact prior to transfer of the baby where the baby's clinical condition allows.
- All clinicians involved in maternity and neonatal care should take ownership of the completeness and accuracy of the electronic recording of the care they provide. This includes influencing local purchasing decisions to ensure that software systems are appropriate for use and compliant with data standards.
- Clinicians should record maternal smoking status, both at booking and at the end of pregnancy.

Recommendations for services

- Services should examine their own findings and data quality and compare these to internal audits where available, both to evaluate their data quality and to consider how they compare with national rates, and to determine action plans for quality improvement.
- Results for individual measures should not be interpreted in isolation. Rather, services should examine all measures together, attempting to understand possible relationships between them, and use this analysis to improve services as a whole, not just to one particular target. Measures in this report should also be considered together with perinatal mortality results from MBRRACE and measures of neonatal care from the National Neonatal Audit Programme (NNAP).
- Where the rate for a service differs substantially from the overall rates, the service should identify reasons for this. This includes rates that appear to be 'positive' outliers as this may be due to under-diagnosis or data quality issues. Where true positive outliers are identified, services should consider ways of sharing best practice with their peers and with the NMPA so that these can be shared with other services.
- Services should ensure that local information about the rates of care processes and outcomes in labour is made available to women using their services.
- Audit departments should facilitate dissemination of these findings among all relevant staff and services and commissioners should share and discuss the findings as part of their Maternity Voices Partnerships (formerly Maternity Services Liaison Committees).
- Further work is needed to understand the potential for increased use of midwife-led settings. This includes gaining a better understanding of the proportion of women considered suitable to use these settings and the criteria applied by different services through local review by providers and commissioners, inclusion of relevant questions in national surveys of women, and further research.

- Maternity services, commissioners, GPs and local authorities should work together to support women to achieve and maintain a healthy weight before, during and after pregnancy.
- Services should engage with national initiatives aimed at identifying babies that are small for gestational age (the Saving Babies' Lives care bundle in England and the Scottish Patient Safety Collaborative) in order to enable appropriate care for mothers carrying small for gestational age babies.
- Services should conduct an internal audit of their elective deliveries prior to 39 weeks without recorded clinical indication. This should aim to identify whether improvements in clinical practice or documentation, or both, are required to ensure that elective delivery before 39 weeks only occurs with appropriately documented clinical indication.
- Several key NMPA data items are not currently routinely captured by all services, including blood loss, labour onset, fetal presentation, and the use of anaesthesia and analgesia in labour. Maternity services should aim to enter complete data for all key data items and ensure that standard coding definitions are followed to improve consistency.
- Services should ensure they have systems in place for data entry and hold regular training and data quality assurance exercises.
- When procuring maternity IT systems, maternity services should take into account the need for ongoing support from system suppliers for operational use and meeting national data submission requirements.

Recommendations for commissioners

- Commissioners should facilitate the dissemination of these results to GPs and local authorities.
- When planning services, commissioners together with policymakers and providers should take into account local demographics, including the increasing age and BMI of women giving birth.
- Commissioners, in collaboration with public health departments and services, should examine the rates of women who stop smoking during pregnancy and consider initiatives to increase this.
- Commissioners, together with clinicians, services and policymakers should strongly prioritise the provision of resources to support breastfeeding, both in maternity units and in the community, to reduce the variation in the proportion of babies receiving breast milk at their first feed and at discharge from the maternity unit.
- Commissioners should support services to collect information on planned and actual place of birth, distinguishing between obstetric units, alongside midwifery units, freestanding midwifery units and home, and to collect information on transfers in utero, and during labour and the postnatal period.
- Commissioners should hold providers to account on data quality performance.
- Allocation of sufficient staff and financial resource is required to ensure high quality electronic maternity data. Funding for maternity services should include provision for sufficient staff time to enter data and check quality, and to maintain adequate hardware and software.

Recommendations for system suppliers

- Software providers of maternity information systems should continue to develop solutions to allow users to review data quality. They should design systems that support users to enter accurate and complete data which are easily retrieved for care provision and reporting.
- System configurations currently support at best the entry of electronic information at booking and at birth, leading to a paucity of information about changes during pregnancy and postnatal care. This has significant implications for measurement of outcomes and care of interest to women, clinicians, commissioners and policymakers. System suppliers should therefore develop and implement solutions to support the collection of information during and after pregnancy, such as electronic hand held records.

Recommendations for national organisations, professional bodies and policymakers

- Professional bodies and policymakers should establish tools for investigating and reducing unwarranted variation.
- National bodies should develop initiatives to assist clinicians to effectively predict, prevent and recognise severe obstetric haemorrhage.
- National bodies should look to develop self-reported outcome and experience measures for women using maternity services to complement the set of NMPA measures.
- National organisations responsible for collating and managing maternity datasets should review current specifications and consider whether these are fit for purpose or need revising in light of evolving national priorities, including more information on antenatal and postnatal care for women and on outcomes for babies.
- National organisations responsible for collating and managing maternity datasets should continue efforts to report data quality concerns back to services which repeatedly submit poor quality data and provide support to help them improve their data collection systems. Both information professionals and clinical teams should be informed and encouraged to work together to find solutions to local challenges.

Conclusion

This first set of NMPA measures show that, while the information held on maternity information systems is variable in quality, it can be used to make meaningful observations about maternity care within and between countries in Britain. This ‘balanced scorecard’ of measures allows women, clinicians, commissioners and policymakers to evaluate care given locally and nationally in order to facilitate improvement. This report therefore provides a starting point for reflection as well as measurement of care. We would urge individual sites to take these results and examine their own rates and their accuracy in recording the care and outcomes for women and babies using their services.

National Maternity and Perinatal Audit

Lindsay Stewart Centre for Audit and Clinical Informatics
Royal College of Obstetricians and Gynaecologists
27 Sussex Place, Regent's Park, London NW1 4RG

Email: nmpa@rcog.org.uk

Website: www.maternityaudit.org.uk

Twitter: [@nmpa_audit](https://twitter.com/nmpa_audit)