NICE impact
maternity and neonatal care

September 2019
There were more than **626,000 births** in the NHS in 2017/18, with around **100,000** neonatal admissions to hospital each year. This report focuses on how NICE’s evidence-based guidance contributes to improvements in maternity and neonatal care.

**Updates since the last maternity report**  p4

In May 2018 we published the NICEimpact report on maternity. We review the impact of NICE guidance from the previous report where new data has become available.

**Maternity and mental health**  p7

Up to 20% of women experience perinatal mental health problems, which if left untreated can have long-lasting effects on mother, baby and family. We review how NICE guidance is contributing to improvements in this area.

**Specialist care of newborns**  p11

Newborn babies who are born prematurely or need treatment in hospital require specialist neonatal care. We consider the impact of NICE’s recommendations across the care pathway, including how NICE guidance is helping to support mothers to initiate and continue to breastfeed while their babies are receiving specialist neonatal care.

**Spotlight on valproate prescribing**  p16

Babies exposed to valproate in the womb are at a high risk of serious complications. We look at how updated NICE guidance is aligning with regulatory safety advice to reduce risk in this area.

**Commentary**  p18

Dr Kathryn Gutteridge, President of The Royal College of Midwives, reviews recent achievements and considers NICE’s role in improving maternity and neonatal care.
Why focus on maternity and neonatal care?

NICE impact reports review how NICE recommendations for evidence-based and cost-effective care are being used in priority areas of the health and care system, helping to improve outcomes where this is needed most.

NICE provides evidence-based guidance and advice to help improve health and social care services. The uptake of NICE guidance is influenced by close relationships with partners in the system, such as NHS England, NHS Improvement and Public Health England (PHE).

NICE published its first maternity guideline, on antenatal care, in 2003. Since then we have produced a suite of maternity and neonatal related guidance. Since the last NICEimpact report on maternity in May 2018 we have published 3 new and 5 updated guidelines.

The Department of Health and Social Care (DHSC) set out a vision in 2015 to halve the number of stillbirths, neonatal and maternal deaths and brain injuries by 2030. As a result NHS England established the Maternity Transformation Programme. This was the focus of the last NICEimpact report on maternity. Since then the DHSC announced a renewed commitment to achieve this aim by 2025, which was highlighted in the NHS Long Term Plan.

NICE routinely collects data which provide information about the uptake of its guidance. To produce this report, we have worked with national partners to select those data which tell us about how NICE guidance might be making a difference in priority areas of maternity and neonatal care. They also highlight areas where there is still room for improvement.
Updates since the last maternity report

In May 2018 we published the NICEimpact report on maternity. This considered how NICE’s evidence-based guidance might contribute to improvements in the safety and personalisation of maternity care.

Since the last impact report new data and quality improvement initiatives have reported on the uptake of NICE recommendations. In addition the NHS Long Term Plan was published which included a renewed commitment to maternity services. This sets out that the NHS will accelerate action to achieve 50% reductions in stillbirth, maternal mortality, neonatal mortality and serious brain injury by 2025.

Safety – multiple pregnancy

Increasing adherence to NICE guidance for multiple pregnancy helps to contribute to reductions in neonatal admissions and emergency caesarean rates.

Since the last impact report on maternity the Twins and Multiple Births Association (TAMBA) concluded a 3 year maternity engagement project to improve outcomes for multiple pregnancy families by promoting the use of NICE guidance.

As part of this they worked with 30 maternity units across England and published a report on the outcomes, NICE works. There were 40 positive findings, including a reduction in neonatal admissions rates and emergency caesarean section rates for multiple pregnancy.

Findings from units in the TAMBA maternity engagement project

Maternity units that made improvements for multiple pregnancy:

- 65% of units reduced neonatal admissions
- 60% of units reduced the emergency caesarean section rate

If all maternity units in England increased adherence to NICE guidance on multiple pregnancy, it could lead to:

- 1,308 fewer neonatal admissions per year
- 634 fewer emergency caesarean sections per year
As part of the project, an antenatal care pathway improvement tool developed by TAMBA was endorsed by NICE in May 2018. This provides healthcare professionals with a tool to ensure they meet NICE guidance, therefore ensuring families receive the specialist care they need.

An update for the NICE guidance on twin and triplet pregnancy was published in September 2019.

Implementation of NICE guidance significantly improves outcomes in multiple pregnancy

East and North Hertfordshire NHS Trust has recently implemented a continuity of carer pathway for women with multiple pregnancies to meet the NICE guideline. Following an audit of their service by the Twins and Multiple Births Association (TAMBA) in 2017 they received recommendations to enhance their service and implement a continuity of carer pathway. A later audit in 2018 identified the service as outstanding for multiple pregnancy. Further focus on other areas to improve experience of care have been beneficial. There has been a marked improvement on appointment attendance, enhanced collaborative team working, an enriched education programme for antenatal care and a better communication package. Further information is available in a NICE shared learning example.

Safety – fetal rhesus-D genotype test

High-throughput non-invasive prenatal testing (NIPT) for fetal RHD genotype, as recommended by NICE in November 2016, was the first reliable way of testing the D status of a baby before it is born. If the baby’s D status is different to that of the mother, it can cause serious complications. The test helps to decide whether anti-D immunoglobulin prophylaxis is required to prevent severe fetal anaemia, fetal heart failure, fluid retention and swelling, and intrauterine death.

Since the last impact report on maternity the number of trusts providing NIPT for fetal RHD genotype have increased from 40 to 54 and the number of tests being carried out has continued to increase, as shown in data from NHS Blood and Transplant. This is expected to increase further by 2021/22 when the test is fully rolled out nationally.

NICE has produced an adoption support resource which provides practical information and advice to support the adoption of high-throughput non-invasive prenatal testing (NIPT) for fetal RHD genotype.
Safety – smoking in pregnancy

Evidence shows that stopping smoking in pregnancy reduces the likelihood of stillbirth. It also reduces the chances of babies being born prematurely, with a low birth weight or suffering from sudden infant death syndrome. Smoking in pregnancy also affects babies later in life who are more likely to suffer from asthma and other serious illnesses. The NICE guideline on stopping smoking in pregnancy and after childbirth contains recommendations on identifying women who need help to quit, referring them to stop smoking services and providing support to help them stop.

Since the last impact report on maternity the proportion of mothers who smoke at the time of delivery has remained similar as shown in the latest NHS Digital statistics on Women’s Smoking Status at Time of Delivery in England.

Over the last 3 years, the proportion of mothers who smoke at time of delivery has remained similar

<table>
<thead>
<tr>
<th>Year</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015/16</td>
<td>11.7%</td>
</tr>
<tr>
<td>2016/17</td>
<td>10.5%</td>
</tr>
<tr>
<td>2017/18</td>
<td>10.8%</td>
</tr>
</tbody>
</table>
Maternity and mental health

Women can develop mental ill health for the first-time during pregnancy, and pre-existing mental health conditions can get worse in the perinatal period. Perinatal mental health problems affect up to 20% of women with an estimated cost of almost £10,000 per birth.

Mental health problems during the perinatal period can frequently go unrecognised and untreated, with some women not seeking help because of fear of stigma, or fear of intervention by social services. If left untreated, perinatal mental health problems can have significant and long-lasting effects on the woman and her family, as well as on children's emotional, social and cognitive development. NICE has produced guidance to reduce the risk of mental illness during pregnancy and reduce harm for both mother and child.

Perinatal mental health services

Access to specialist multidisciplinary perinatal community services and inpatient psychiatric mother and baby units can help to ensure that the most appropriate assessment, monitoring and treatment is provided. The NICE quality standard and guideline on antenatal and postnatal mental health state that these services should be available to support women with a mental health problem during pregnancy or the postnatal period. They are currently only found in a minority of providers, as they require redesign of services.

The Five Year Forward View for Mental Health made the commitment to support at least 30,000 more women each year to access evidence-based specialist mental health care during the perinatal period by 2020/21. To provide this care NHS England have developed a five-year national transformation programme to build capacity and capability in specialist perinatal mental health services.
As part of the transformation of these services, in May 2018 the National Collaborating Centre for Mental Health worked with NICE to publish the perinatal mental health care pathways. This provides services with evidence on what works in perinatal mental health care, as well as case studies describing how areas are starting to make this a reality.

These services include community perinatal mental health teams which have been included in the national transformation programme. In 2017, 71% of sites had access to a community perinatal mental health team, as shown in the National Maternity and Perinatal Audit.

In April 2019, NHS England announced the roll out of specialist perinatal community services across the whole of England in line with commitments to transform services from the NHS Long Term Plan.

‘I have an amazing local perinatal mental health team. I had a community psychiatric nurse who I had regular sessions with during pregnancy and after my second son was born. When I had a mental health crisis, she was at my house within 45 minutes and my psychiatrist had prescribed my medication so I could start it that day. I owe them so much. Every mother and family should have access to care like that, it would improve so many lives.’ Mumsnet – user of specialist perinatal mental health services

Using NICE guidance for antenatal and postnatal mental health to improve the quality of NHS services working with women during the perinatal period

Thames Valley Perinatal Mental Health (PMH) Network designed an online self-assessment tool for NHS services working with women with or at risk of developing perinatal mental health problems. This enables maternity, health visiting, secondary care mental health and Improving Access to Psychological Therapies (IAPT) services to benchmark performance against NICE guidance and Royal College of Psychiatrists PMH workforce standards.

The tool has been endorsed by NICE and is being implemented across NHS England south regions. Results are available on a live dashboard and can be viewed at regional, Local Maternity System, CCG and service level. The tool identifies good practice and gaps in service provision and data collection; guiding service development tailored to the local service landscape and demand, mapping performance progress over time. Further information is available in a NICE shared learning example.
Emotional wellbeing

Asking women about their emotional wellbeing provides an opportunity to identify potential mental health problems. It also gives women an opportunity to talk about any concerns they might have, such as fears around childbirth, multiple pregnancy, or past experiences, such as loss of a child or traumatic childbirth. This enables healthcare professionals to provide appropriate support and signpost to services as required.

The NICE quality standard on antenatal and postnatal mental health highlights that women should be asked about their emotional wellbeing at each routine antenatal and postnatal contact. The NICE guideline on postnatal care up to 8 weeks after birth recommends that, at each postnatal contact, women should be asked about their emotional wellbeing, what family and social support they have and their usual coping strategies for dealing with day-to-day matters.

The Care Quality Commission surveyed women about their experience of maternity care, with over 90% of eligible women asked.

According to the survey there has been an increase in midwives routinely asking about emotional wellbeing at antenatal check-ups.

Between 2015 and 2018 more midwives are carrying out emotional wellbeing checks at antenatal check-ups

<table>
<thead>
<tr>
<th>Year</th>
<th>Emotional Wellbeing Checks at Antenatal Check-Ups</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>87%</td>
</tr>
<tr>
<td>2017</td>
<td>90%</td>
</tr>
<tr>
<td>2018</td>
<td>92%</td>
</tr>
</tbody>
</table>

The survey also shows that emotional wellbeing checks continue to be undertaken for most women after childbirth by a midwife or health visitor.

Nearly all women have their emotional wellbeing checked after birth

<table>
<thead>
<tr>
<th>Year</th>
<th>Emotional Wellbeing Checks after Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>97%</td>
</tr>
<tr>
<td>2017</td>
<td>98%</td>
</tr>
<tr>
<td>2018</td>
<td>98%</td>
</tr>
</tbody>
</table>
Most mothers were also told who to contact if they needed advice about any emotional changes they might experience after birth.

**Between 2015 and 2018 there was a slight increase in the proportion of mothers who were told who to contact for emotional support after birth**

Mothers told who to contact for emotional support after birth

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>74%</td>
</tr>
<tr>
<td>2017</td>
<td>78%</td>
</tr>
<tr>
<td>2018</td>
<td>77%</td>
</tr>
</tbody>
</table>

Encouragingly, additional data from the NHS Safety Thermometer showed that in 2018 only 2.1% of women reported being left alone at a time that worried them in a hospital, midwife led unit or community setting.
Specialist care of newborns

Newborn babies may need special, high-dependency, intensive or surgical care if they are unwell. This may be due to being born early (1 baby in 13) or if they are very small and have a low birth weight.

Pre-term births continue to increase. However, as maternity care has developed, the survival rate of unwell newborn babies is continuing to improve. Specialist neonatal care capacity needs to keep pace with these advances to improve short and long-term outcomes for these babies. NICE’s guidance covers the full care pathway from admission to specialist care and follow-up. It also ensures parents are involved as much as possible in the care of their baby.

Admission, transfer and discharge

The NICE quality standard on neonatal specialist care highlights that neonatal transfer services should be in place to provide babies with safe and efficient transfers to and from specialist neonatal care services. This is important as unwell newborns may have difficulty with breathing or keeping warm and require support as they are transferred.

A decrease in children born under 32 weeks admitted with a temperature of less than 36°C suggests an improvement in transfer services maintaining the core body temperature of babies. Data from the Royal College of Paediatrics and Child Health’s National Neonatal Audit Programme (NNAP) shows that this decrease continued over the last 3 years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Normal Core Body Temperature After Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>91.7%</td>
</tr>
<tr>
<td>2016</td>
<td>93.0%</td>
</tr>
<tr>
<td>2017</td>
<td>94.4%</td>
</tr>
</tbody>
</table>

The NICE quality standard highlights that network commissioners and providers of specialist neonatal care should undertake an annual needs assessment and ensure that each network has adequate capacity.
While the NNAP audit shows that most children requiring specialist neonatal care who are transferred out of a unit remain in their own network area, the Department of Health Toolkit for high quality neonatal services sets the standard at 95%. So, there is still room for improvement.

**Most children remain within their own network area once transferred out of a maternity unit**

Children remaining in their network area after transfer out of a maternity unit

- 83% in 2014
- 82% in 2015

**Follow-up**

The NICE quality standard and guidance on developmental follow-up highlights that health outcomes should be monitored as part of long term follow-up to ensure children continue to get the care and support they need during their development. It also ensures that any developmental issues are identified as early as possible.

The NNAP audit shows that babies receiving specialist neonatal care have increasingly had their health outcomes monitored at 2-year follow-up.

---

**Neurodevelopmental impairment occurs when the development of the central nervous system is disturbed. This can lead to brain dysfunction and problems such as impaired motor function.**

**Health outcome monitoring continues to increase**
For babies born at less than 30 weeks of gestation, there has been a decrease in those with neurodevelopmental impairment at 2-year follow-up.

Improvements in neonatal specialist care are likely to have contributed to the reductions in neurodevelopmental impairments, as improved services can reduce risk factors associated with conditions such as cerebral palsy.

### Half of babies born at less than 30 weeks have neurodevelopmental impairment at 2-year follow-up

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>55%</td>
</tr>
<tr>
<td>2015</td>
<td>57%</td>
</tr>
<tr>
<td>2016</td>
<td>50%</td>
</tr>
</tbody>
</table>

### Parents’ experiences of care

The NICE quality standard on neonatal specialist care highlights that parents of babies receiving specialist neonatal care should be supported to be involved in planning of the care pathway. This ensures they are fully informed, and they can engage in the personalisation of care for their baby.

In order to be involved with planning, more parents have a consultation with a senior member of the neonatal team within 24 hours of admission as shown in data from the Royal College of Paediatrics and Child Health’s National Neonatal Audit Programme.

Nearly all parents have a consultation with a senior member of the neonatal team within 24 hours of admission

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>92%</td>
</tr>
<tr>
<td>2016</td>
<td>94%</td>
</tr>
<tr>
<td>2017</td>
<td>95%</td>
</tr>
</tbody>
</table>

In addition, the audit reviewed the presence of parents on consultant ward rounds which would ensure they are fully informed of decisions about the care of their baby. It found that, in 2017, around 83% of consultant ward rounds had a parental presence.
Breastfeeding

Breastfeeding reduces risk of:
- infections, with fewer visits to hospital as a result
- diarrhoea and vomiting, with fewer visits to hospital as a result
- sudden infant death syndrome (SIDS)
- childhood leukaemia
- obesity
- cardiovascular disease in adulthood

‘From the moment we stepped foot inside the unit, every member of staff was amazing, they kept us informed of what was going on, allowed us to be involved in Taylor’s care routines and looked after us as well. We became experts in oxygen saturation levels, saw countless blood tests and transfusions and learnt about brain scans, chest and lung X-rays, and gravity feeding.’
Sue, mum to a baby born at 25 weeks from Bliss

Breastfeeding

Breastfeeding has long-term benefits for babies which last into adulthood. However, it can be challenging for mothers of babies to initiate and continue to breastfeed in neonatal specialist care.

The NICE quality standard on neonatal specialist care states that mothers of babies receiving specialist neonatal care should be supported to start and continue breastfeeding, including being supported to express milk. This support gives mothers comfort and confidence in their ability to feed their baby. In addition the NICE guideline on postnatal care up to 8 weeks after birth recommends that healthcare professionals should have sufficient time, as a priority, to give support to a woman and baby during initiation and continuation of breastfeeding.

However, in recent years there has been little change in the active support and encouragement women report they received, as shown in the Care Quality Commission’s survey of women’s experience of maternity care.

Between 2015 and 2018 the same proportion of women report receiving active support and encouragement from midwives to feed their baby

Women who receive active support and encouragement from midwives to feed their baby

<table>
<thead>
<tr>
<th>Year</th>
<th>Support Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>63%</td>
</tr>
<tr>
<td>2017</td>
<td>64%</td>
</tr>
<tr>
<td>2018</td>
<td>63%</td>
</tr>
</tbody>
</table>
This trend is reflected in data from the Royal College of Paediatrics and Child Health’s, National Neonatal Audit Programme. For babies born under 33 weeks who were discharged there has been little change in those receiving their own mother’s breast milk.

The audit also showed that babies that were born between 34 and 36 weeks had a similar rate of breastfeeding initiation at 62%. However, those born full-term at 37 to 42 weeks had the highest rate at 75%. With up to 39% of babies not receiving their mother’s breast milk, more support is needed particularly when babies are born pre-term.
Spotlight on valproate prescribing

Babies exposed to valproate in the womb are at high risk of serious complications.

**NICE guidance** has been updated to align with the advice provided on the use of valproate by the Medicines and Healthcare products Regulatory Agency (MHRA). Valproate must not be used by any woman or girl able to have children unless there is a pregnancy prevention programme (PPP) in place.

If valproate is taken during pregnancy, up to 4 in 10 babies may have developmental problems and 1 in 10 may have a birth defect, according to data from the MHRA.

Total prescribing of valproate for women or girls aged 14 to 45 in England has reduced in recent years, as shown in data from the NHS Business Services Authority. Though this trend is positive, some women or girls who can have children continue to take it, which suggests that more can be done to reduce the risk.

Between January to March 2019, the proportion of all patients receiving prescriptions for sodium valproate who are women or girls aged 14 to 45 ranged from 6% to 13% across CCGs. This suggests there is wide variation and there may be room for improvement in many areas.
There is CCG variation in the proportion of all patients receiving prescriptions for sodium valproate who are women or girls aged 14 to 45 (Jan to Mar 2019)

To further address this risk, we have published a summary sheet which brings together existing information and advice on safe prescribing from other sources (for example, MHRA safety alerts, BNF information, summary of products data and information from the Driver and Vehicle Licensing Agency) with NICE’s existing guideline recommendations, to produce easy to access, practical recommendations supported by a visual summary.
Commentary
Dr Kathryn Gutteridge, President of The Royal College of Midwives, June 2019

Maternity and neonatal care is an important sector of the NHS and as such attracts a great deal of interest from maternity users and from those clinicians who work in this demanding area. In our society, prospective parents invest a great deal in their pregnancies in a way that would have been unthinkable to our grandparents.

This means that women and their partners have higher expectations about the service and care provision that they will receive. Thus, it is incumbent upon us that any care is evidence-based and clinicians working within maternity are working within these standards and pathways.

NICE has provided maternity and neonatal services with a wide range of guidance and standards that have modernised and streamlined care, improving health outcomes for women and their babies. Much progress has been made with the implementation of mental wellbeing screening programmes during pregnancy that decrease the impact of any underlying or impending psychiatric illnesses. This has reduced the stigma of mental illness during parenthood and helped to increase access to interventions and specialist services.

However, there is still a need to remain focussed as mental health inpatient services for severely ill women are minimal, despite the maternity transformation work that is ongoing. All maternity clinicians are expected to enquire and report where mental wellbeing is liable to change and access to specialist support is necessary.

In recent years the administration of sodium valproate use in controlling bipolar disorder and epilepsy in childbearing women has caused concern. According to the MHRA there remains variation in practice despite the compelling evidence that it can cause an embryo fetus to develop abnormally, causing distress to the family.

Many maternity units in England support this evidence and, where a woman presents to them in pregnancy taking this medication she will be offered and prescribed alternative treatment. General practice and primary care are informed of these changes through their CCG but there remains a need for vigilance to improve the current level of advice.
Multiple pregnancies generate challenges in care provision. Excellent work has been achieved with collaboration between health providers and TAMBA in producing a pathway that seeks to optimise health for all. Although a multiple pregnancy is a minority in many maternity services it has the potential for increased obstetric and neonatal care demand in all areas of perinatal care. Parents require increased support and information which is best delivered within a multidisciplinary approach.

NHS England’s programme ‘Saving Babies Lives’ is well underway and the expected reduction of harm at birth and reducing stillbirth is being closely monitored. Multiple pregnancies are at increased risk of falling into these statistics which is why any targeted programme of care is welcome. The introduction of Continuity of Carer as directed within the report ‘Better Births’ will assist in reducing duplication and avoid separate appointments with a range of clinicians. As a result, care will be provided by a small multidisciplinary team who attend the woman throughout her pregnancy. TAMBA pilot sites found that approaching care in this way and applying NICE pathways reduced unplanned caesarean sections and neonatal admissions.

Examples in this report of smaller maternity units seeing fewer women with multiple pregnancies and consequently working collaboratively with neighbouring units will improve outcomes for those pregnancies. Access to fetal medicine expertise, ultrasonography, specialist midwife, neonatology and infant feeding advisor as part of a multidisciplinary team approach will ensure that the pregnancy is optimised for a healthy mother and baby.

Any maternity improvements must demonstrate validity for women and their families and be easily implemented for clinicians working at all levels. The results seen within this report when applying NICE’s guidance are compelling. They should be strongly implemented by all maternity providers as part of improving health and wellbeing for mothers and their babies.
We would like to thank Dr Matthew Jolly, National Clinical Director for the Maternity Review and Women’s Health and Dr Kathryn Gutteridge, President of The Royal College of Midwives. We would also like to thank Mumsnet, Bliss and NHS Blood and Transplant for their contributions to this report.

Published September 2019

© NICE 2019. All rights reserved. Subject to Notice of rights.

Any enquiries regarding this publication or any other enquiries about NICE and its work should be made to:

National Institute for Health and Care Excellence
10 Spring Gardens
London SW1A 2BU
Telephone: +44 (0)300 323 0140

National Institute for Health and Care Excellence
Level 1A, City Tower
Piccadilly Plaza
Manchester M1 4BT
Telephone: +44 (0)300 323 0140

Email: impact@nice.org.uk
Website: www.nice.org.uk