

A guide to the
**National Neonatal
Audit Programme**
Summary report
on 2022 data

NNAP
National Neonatal
Audit Programme

Your baby's care

Measuring standards and improving neonatal care



"This is the first picture of Tejveer, Agamjot and Balraaj all together with Daddy. It was amazing to see their breathing synchronise in seconds."

Maddy, Mother

"The first cuddle with
Evelynn-Rose was the best
moment of my life.

All of the stress and worry
disappeared, and I was
just able to enjoy it."

Esme, Mother

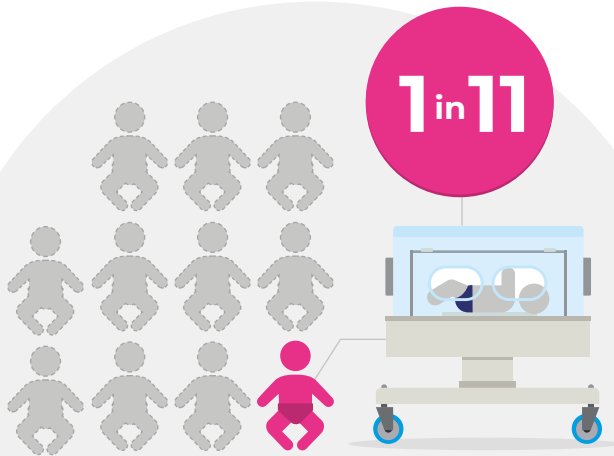


What is neonatal care?

About **1 in 11** babies will need to be admitted to a neonatal unit because they are born early, with a low birth weight or unwell and need specialist care and treatment.

Your baby may need help with breathing or feeding. Sometimes babies might have an infection

or other medical conditions that require treatment. Your baby might stay in a neonatal unit for days, weeks or months, depending on their needs. You will be encouraged to take an active role in their care from the very beginning.



Neonatal unit admissions

About **1 in 11** babies born in England, Scotland and Wales each year (or 57,000 out of 650,000) need specialist neonatal care in hospital.

What is the National Neonatal Audit Programme?

It is important to regularly share information about the quality of care provided by neonatal units. The Royal College of Paediatrics and Child Health (RCPCH) does this through the National Neonatal Audit Programme (NNAP).

The National Neonatal Audit Programme helps neonatal units give better care to babies who need specialist treatment.

We look at:

- Whether babies receive consistent, high-quality care.
- If babies have had the health checks recommended to reduce the risk of complications.
- How well babies are doing following this care.

We use information about your baby's care to help neonatal units in England, Scotland and Wales to improve the care and outcomes for other babies. To help with this, we gather information about babies who receive neonatal care.

Neonatal unit staff enter your baby's information onto a secure electronic record system called BadgerNet. All neonatal units share information from these electronic records with the National Neonatal Audit Programme (NNAP) project team within the RCPCH, via another processor, Clevermed Ltd, who manage the BadgerNet system.

Find out more



To find out more about the audit, how we use this information, and your rights, you can read our privacy notice:

www.rcpch.ac.uk/your-babys-information

or scan the QR code with your phone.

NNAP
National Neonatal
Audit Programme



"My daughter Mia was born at 24 weeks. She was able to have my breast milk in her incubator via tube feeding on the day she was born. As she got bigger and stronger, I was able to tube feed her while she snuggled in during skin to skin. Eventually she moved on to breastfeed, something I was incredibly proud to be able to do after everything we'd been through. This photo still makes me emotional!"

Lucy, Mother

Which areas of care does the NNAP focus on?

The NNAP report on 2022 data covers five areas of care for premature and sick babies, covered by 19 audit measures.

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These were chosen by a group of experts in neonatal care, which included nurses, doctors and parents with experience of neonatal care. Parental partnership in care is one of the five areas that the NNAP focuses on. The measures in this area of care focus on breastmilk feeding and parental involvement with the neonatal team caring for their babies. The NNAP consults regularly with parents with experience of neonatal care to reflect on these measures.

This guide explains more about these five areas of care and shows how well units are doing across England, Scotland and Wales for each of the audit measures. It also explains what you can do next if you have a baby in neonatal care.



"We will always be grateful to the hospital for teaching us how to care for William. Giving him his first bath was very rewarding as it gave us a chance to bond with him and learn how to do it ready for when we got home."

Sam, Mother

Find out more

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If you want to find out more about how a particular neonatal unit is doing, you can go to NNAP Online and look at the results posters, at: nnap.rcpch.ac.uk/postergenerator.aspx or scan the QR code:

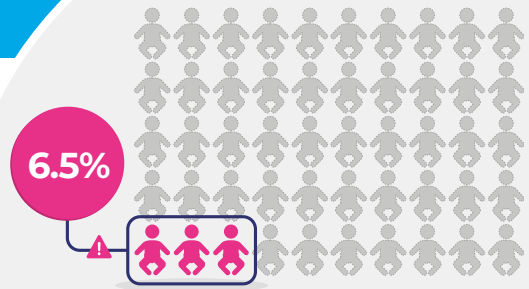


Outcomes of neonatal care

This part of the audit focuses on some of the medical outcomes that can happen to babies born premature or sick.

Mortality

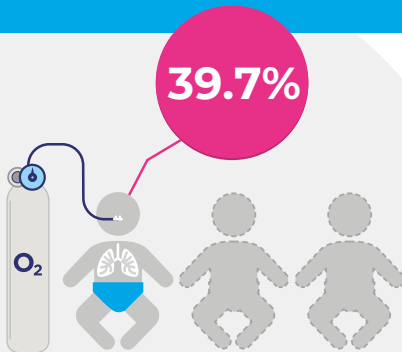
It is important that we monitor the proportion of babies who are admitted for neonatal care and sadly die before they go home, despite these numbers being very low. This enables neonatal services to review the number of babies who die and the causes of death with the aim that through shared learning and sometimes changes in practice, mortality numbers will decrease.



Mortality

6.5% of babies born at less than 32 weeks gestational age and admitted to neonatal care died before discharge or 44 weeks post menstrual age.

Bronchopulmonary dysplasia (BPD)



Bronchopulmonary dysplasia (BPD)

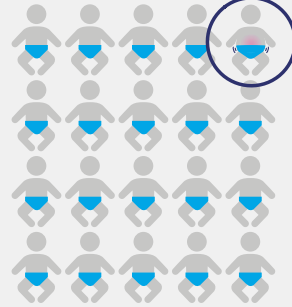
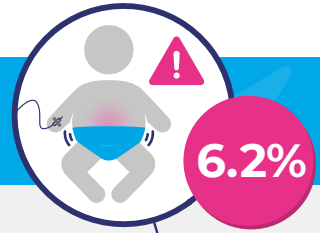
39.7% of babies born at less than 32 weeks gestational age developed bronchopulmonary dysplasia (BPD) or died between 2020 and 2022.

Babies born very early often have underdeveloped lungs and may require help with their breathing.

Being born prematurely can lead to ongoing breathing challenges. The use of a ventilator, although often an essential piece of equipment, can potentially harm the lungs and increase the risk of chest infections. This condition is known as bronchopulmonary dysplasia (BPD), which is also called chronic lung disease.

Necrotising enterocolitis (NEC)

Necrotising enterocolitis (NEC) is a severe condition that can occur after premature birth. It causes inflammation in the bowel, making it difficult for babies to be fed with milk, and sometimes requires surgery. Babies with NEC often have to stay in hospital for an extended period. Sadly, over 20% of babies with NEC do not survive, and those who do may face developmental delays and long-term issues with feeding and bowel function.



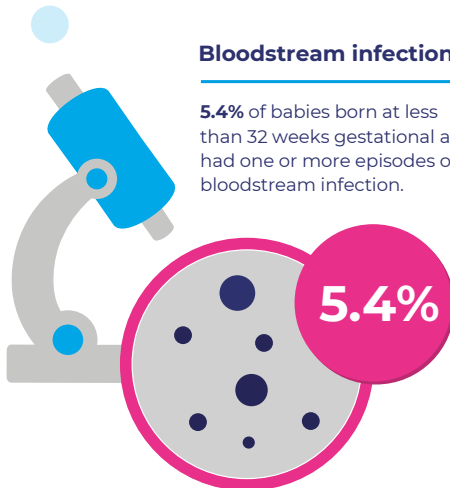
Necrotising enterocolitis (NEC)

6.2% of babies born at less than 32 weeks gestational age developed necrotising enterocolitis (NEC).

Bloodstream infection (BSI)

Bloodstream infection

5.4% of babies born at less than 32 weeks gestational age had one or more episodes of bloodstream infection.



Babies who are sick or born prematurely are more at risk of getting infections, even ones that don't usually harm healthy people. These infections can prolong their stay in the neonatal unit, increase the risk of death and sometimes affect the babies' long-term development.

To help lower the risk of infection it is essential that all health professionals, parents and visitors follow good infection prevention and control practices on the neonatal unit.

Preterm brain injury (IVH and cPVL)

Babies born very early may experience brain injury, sometimes caused by bleeding. The consequences of these injuries vary, partly depending on the severity of the injury.

The NNAP reports two types of brain injury - more serious forms of intraventricular haemorrhage (IVH) and cystic periventricular leukomalacia (cPVL).

By understanding how many babies get brain injuries, neonatal teams can try to reduce the number of brain injuries.



Preterm brain injury – Intraventricular haemorrhage (IVH)

7.5% of babies born at less than 32 weeks experienced IVH. Missing data was high (13.9%).



Preterm brain injury – cystic periventricular leukomalacia (cPVL)

2.6% of babies born at less than 32 weeks experienced cPVL. Missing data was high (17.2%).



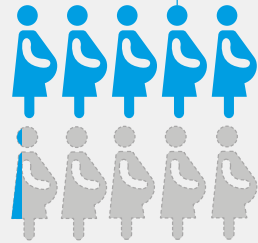
Optimal perinatal care

This area of the audit focuses on interventions prior to, during or immediately after birth that can improve outcomes for babies born premature or sick.

Antenatal steroids

Babies born early sometimes have breathing difficulties. Guidance¹ recommends that mothers who deliver a baby at less than 34 weeks gestational age receive a full course of antenatal steroids in the week before they deliver to support the development of their babies' lung function. Antenatal steroids help reduce breathing difficulties and through this the risk of death and other serious problems, such as bleeding into the brain.

52%



Antenatal steroids

52% of mothers who delivered a baby below 34 weeks gestational age received a full course of antenatal corticosteroids in the week prior to delivery.

Antenatal magnesium sulphate



Antenatal magnesium sulphate

85.6% of mothers who delivered a baby below 30 weeks gestational age received magnesium sulphate in the 24 hours prior to delivery.

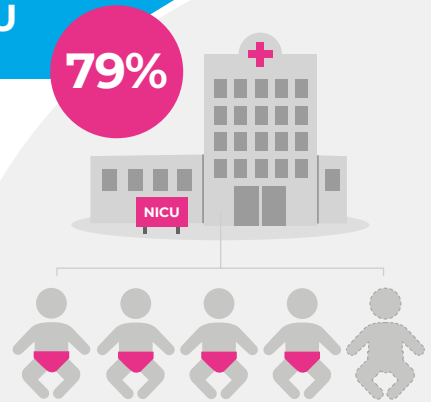
Giving magnesium sulphate to women who are at risk of delivering a very preterm baby reduces the chance that their baby will develop cerebral palsy, a lifelong condition affecting movement and coordination, by 32%.

Guidance¹ recommends that magnesium sulphate should be given to all women who give birth to a baby at less than 30 weeks within the 24 hours before they deliver.

Birth in a centre with a NICU

Babies who are born very early are at higher risk of serious complications, such as brain injury, bronchopulmonary dysplasia and necrotising enterocolitis. Therefore, these babies should be delivered in a hospital with a neonatal intensive care unit (NICU).

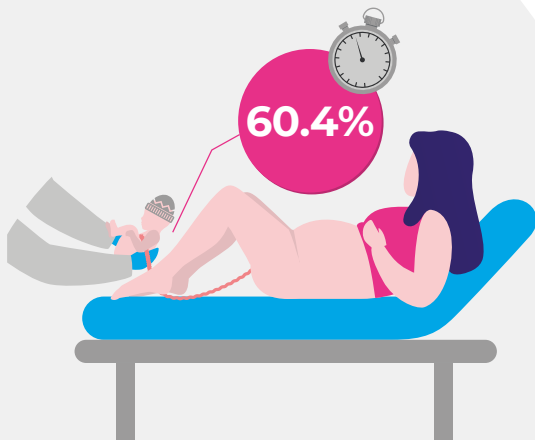
NICUs provide the highest level of care and are best equipped to look after these babies. Evidence suggests that extremely preterm babies have better outcomes if they are cared for in a NICU from birth.



Birth in a centre with a NICU

79% babies born at less than 27 weeks or less than 800 grams or born as a multiple at less than 28 weeks, were delivered in a maternity service on the same site as a designated NICU.

Deferred cord clamping



Deferred cord clamping

60.4% of babies born at less than 34 weeks gestational age had their cord clamped at or after one minute from birth.

Deferred cord clamping means waiting at least 60 seconds after birth before clamping the umbilical cord. Research shows that doing this reduces the risk of death in premature babies by nearly a third².

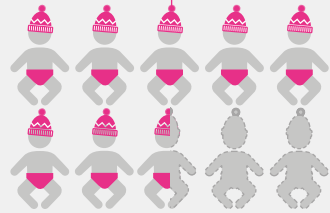
In some rare circumstances deferred cord clamping is not appropriate, but it can be done for most babies. Therefore, it is the best option, even if your baby needs help breathing.

Temperature on admission

Low admission temperature is linked to risk of illness and death in preterm babies. Low temperature (or hypothermia) is a preventable condition in newborn babies.

This NNAP measure looks at how successful neonatal units are at making sure very premature babies have a normal first temperature reading (between 36.5 and 37.5°C) within an hour of birth.

76.3%
36.5–37.5°C



Temperature on admission

76.3% of babies born at less than 32 weeks gestational age had a first temperature on admission which is both between 36.5–37.5°C and measured within one hour of birth.

"Cameron was born at 25 weeks and weighed 380 grams. After 103 days in hospital and thanks to the unwavering support of the dedicated staff on the neonatal unit, he finally came home. We are forever grateful to everyone who supported us on our neonatal journey."

Vicki & Jamie, Parents

Breastmilk feeding in the first 2 days of life

Early breastmilk, known as colostrum, is beneficial to babies' health and may also help to establish longer term breastfeeding.

Babies born premature or sick may not be ready to be fed from their mother's breast straight away. Mothers are encouraged to express milk for their baby within the first few hours after birth and this milk can be used for mouth care or given via a feeding tube. It is important that neonatal services provide the right support to families at the right time.

As part of several measures which look at the care given to mothers and babies before, during and immediately after birth, the NNAP reports how many babies receive any of their own mother's milk within the first two days of life.

WITHIN
2
DAYS

49%

**Breastmilk feeding in
first 2 days of life**

49% of babies born at less than 34 weeks received their mother's milk in the first 2 days of life.

"Being supported to breastfeed Isabelle meant that I was able to feel involved in the care of my daughter and to bond with her outside the incubator. It meant the world to us."

Rebecca, Mother



Parental partnership in care

This area of the audit focuses on how teams looking after babies can work effectively with the families of babies born premature or sick.

Breastmilk feeding throughout the neonatal stay

Premature babies benefit from their own mother's breastmilk because it's easier to digest, helps them to grow and protects them from infections. Breastfeeding is also a good way to get skin to skin contact with your baby and for you to get to know each other.

It is important that staff on the neonatal unit give you or your partner practical support to help you express milk, to help with breastfeeding, and to get feeding established ready for going home. Support may come from an infant feeding specialist, neonatal nurse or midwife.

The NNAP reports the proportion of babies born prematurely who receive any of their mother's milk at day 14 of life, and when they are discharged from the neonatal unit.



What can you do?

Ask staff in your unit for information about breastmilk, how they can support you with expressing milk and with breastfeeding, and for advice about other organisations that offer support.

WITHIN
14
DAYS

79%

Breastmilk feeding at 14 days of life

79% of babies born at less than 34 weeks received their mother's milk at 14 days of life.

AT
DISCHARGE

62.9%

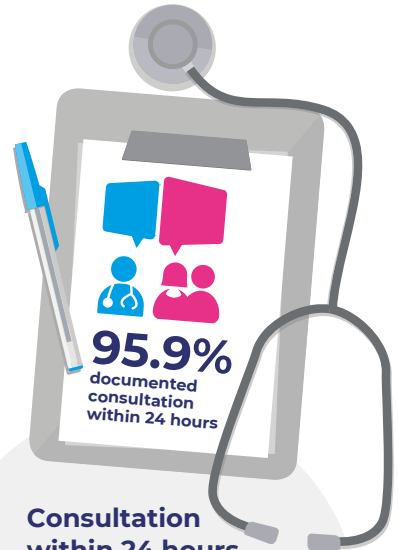
Breastmilk feeding at discharge

62.9% of babies born at less than 34 weeks received their mother's milk at discharge.

Parent consultation within 24 hours

It is important that families understand and are involved in the care of their baby. Evidence shows that parents being involved in hands on care and decision making can improve outcomes for babies. The NNAP looks at whether a senior member of the neonatal team has talked to parents within the first 24 hours of their baby's admission.

The first consultation is an opportunity for the parents to form a relationship with the senior member of the care team. Parents can ask questions and share concerns and the member of the team can find out about the family and their needs and preferences.



Consultation within 24 hours

95.9% of parents received a documented consultation by a senior member of the neonatal team within 24 hours of admission.

What can you do?

If you feel that you haven't had an early consultation with a member of the neonatal team, you can ask your baby's nurse to arrange one. At this meeting, you can ask about how you can work in partnership with the neonatal team to look after your baby.

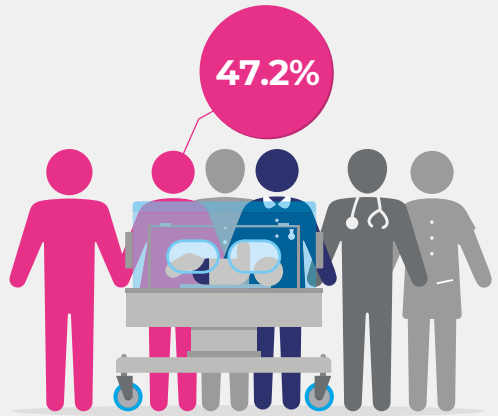
Remember, you can ask for a meeting with a senior member of the neonatal team at any time, regardless of whether you had one within 24 hours of your baby being admitted to the neonatal unit.



Parent inclusion in consultant ward rounds

Neonatal intensive care can be stressful for babies and parents. It is important that families understand and are involved in the care of their baby since this can improve outcomes for babies.

Including parents in consultant ward rounds, which occur regularly on neonatal units, can help to develop a partnership in the planning of care between parents and the neonatal team.



Parental inclusion on consultant ward rounds

In **47.2%** of baby care days had a consultant-led ward round with at least one parent included.



What can you do?

Find out when consultant ward rounds usually take place. If it would be hard for you to join the team, you can ask a member of the neonatal team to introduce or share particular information about your baby during the ward round.

Neonatal nurse staffing

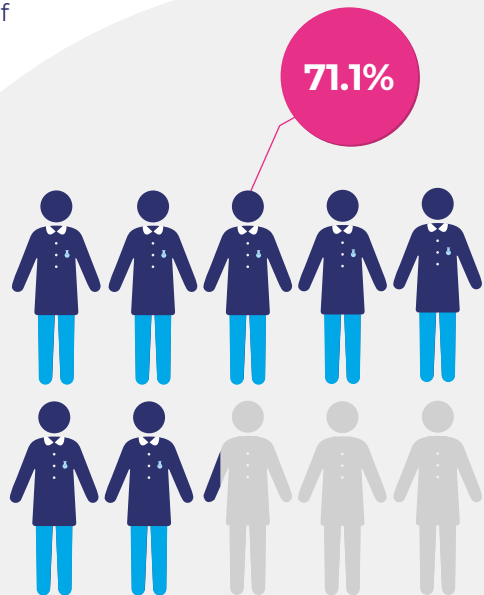
This area of the audit focuses on whether there are enough nurses working on neonatal units to ensure babies are cared for effectively.

Neonatal nurse staffing

Having enough neonatal nurses to care for babies on the neonatal unit is really important to make sure the quality of care is high, support is available for parents, and outcomes for babies are good.

There are national guidelines^{3,4,5} which set out how many nurses are needed for each shift, depending on the number of babies they are caring for and how complex the needs of those babies are.

The NNAP reports how many shifts have enough nurses to care for the babies in the neonatal unit, based on these guidelines.



Neonatal nurse staffing

71.1% of nursing shifts were numerically staffed according to guidelines and service specification.

Care processes

This area of the audit focuses on whether babies born early or unwell have the required follow up screening and appointments.

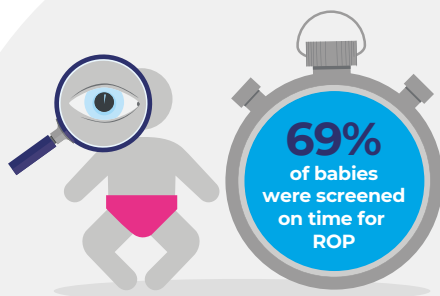
Retinopathy of prematurity

Retinopathy of prematurity (ROP) is a condition that affects blood vessels in a part of the eye called the retina. If a baby is born very prematurely, these blood vessels can start growing abnormally, which causes ROP.

Finding and treating ROP before it becomes severe can reduce the risk of sight loss.

There is a national guideline⁶ that tells neonatal services which babies should be checked for ROP, and when the first screen should be carried out.

The NNAP looks at how well neonatal units do at screening these babies at the right time.



Screening for retinopathy of prematurity (ROP)

69% of babies born at less than 31 weeks gestational age, or weighing less than 1501g at birth had their first ROP screening according to the guideline.

What can you do?

If your baby needs screening for ROP, find out when this will take place.

If your baby is discharged before their final screening, make sure you have an outpatient eye appointment date before taking your baby home to ensure that you don't miss this appointment.

You can find out more by reading the Screening for Prematurity Information for Parents and Carers, available at: www.rcpch.ac.uk/resources/screening-retinopathy-prematurity-information-parents-carers



Non-invasive breathing support

Bronchopulmonary dysplasia (BPD) is a lung disease that affects babies born prematurely. One factor contributing to the development of BPD is the type of breathing support given to babies.

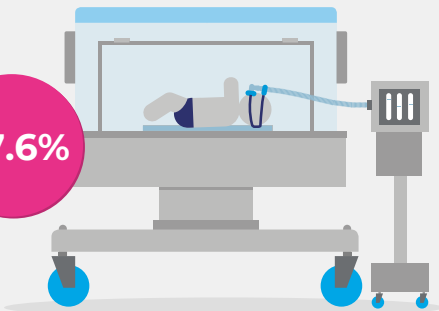
Providing non-invasive breathing support, such as CPAP, instead of using mechanical ventilation through an endotracheal tube can reduce the risk of BPD.

The NNAP looks at how many babies receive only non-invasive breathing support in the first 7 days of their life.

"Damon receiving breathing support via CPAP for the first 3 days of life. Having this equipment gave me peace of mind that he was getting what he needed, for which I will be forever grateful."

Lisa-Marie, Mother

47.6%



Non-invasive breathing support

47.6% of babies born at less than 32 weeks gestational age received only non-invasive breathing support in the first seven days of life.

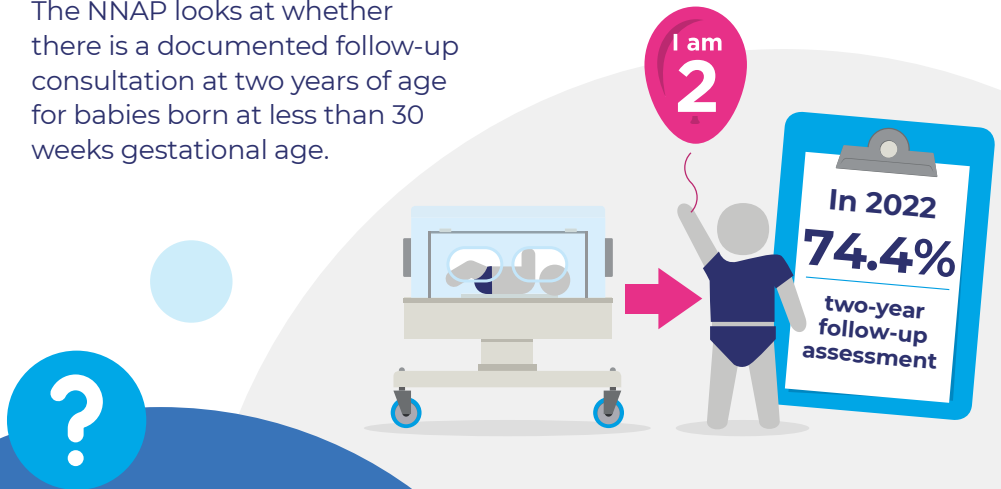


Medical follow up at two years of age

It is important that a paediatrician or neonatologist (specialist doctors trained in the care of children and babies) checks the development of babies born either very prematurely or sick after they leave the neonatal unit. There is a national guideline⁷ that tells neonatal services when and how this should be done.

The NNAP looks at whether there is a documented follow-up consultation at two years of age for babies born at less than 30 weeks gestational age.

Babies born prematurely are more likely to have developmental problems than babies born at full term. It is important that those involved in the care of premature babies know how the babies are developing as they get older, so that any additional support required can be put in place.



What can you do?

Stay in touch with the neonatal unit after you're discharged and find out when and where follow-up appointments will take place. Going to all follow-up appointments means you can get reassurance about how your baby is developing and get any support your baby might need.

Follow-up at two years of age

74.4% of babies born at less than 30 weeks gestational age received medical follow-up at two years gestationally corrected age (18-30 months gestationally corrected acceptable age range).

At birth

"When I first saw Roxanne, I had no idea what the future would be like or how we'd get through the challenges."



At 2 years old

"Roxanne still faces challenges, but she grows and develops with love, laughter and determination. Sometimes I look at my daughter now and struggle to think how we have got this far."

Rebekah, Mother

Your unit's NNAP results

The information given in this guide describes the national results for all units in England, Scotland and Wales.

You can look for your unit's NNAP posters, which we encourage neonatal teams to display. You can also view these at:

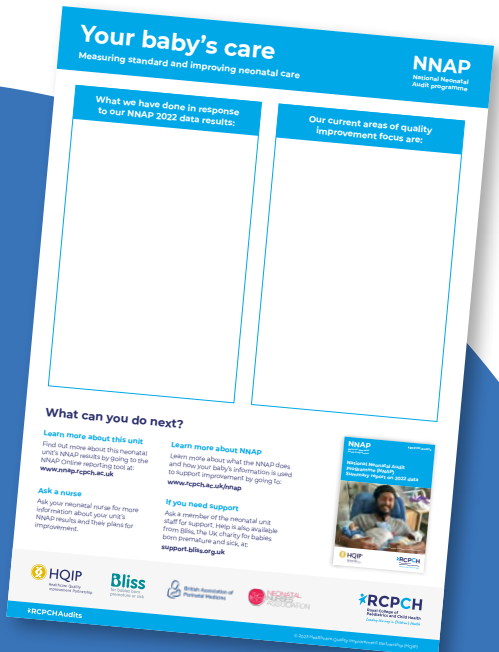
nnap.rcpch.ac.uk/postergenerator.aspx

Examples of both posters can be found below.

These posters show you the NNAP results for your unit, national results and what your unit is doing in response to their NNAP results. Where there are opportunities for improvement, units are encouraged to put together an action plan.

You can view the full National Neonatal Audit Programme report and information about each hospital on NNAP Online at

www.nnap.rcpch.ac.uk



Who is the NNAP supported by?



We're pleased to be supported by a range of organisations. Further details can be found below.



Bliss is the UK charity working to ensure that every baby born premature or sick in the UK has the best chance of survival and quality of life. Bliss supports the National Neonatal Audit Programme.

For support and information please visit: www.bliss.org.uk



**British Association of
Perinatal Medicine**

British Association of Perinatal Medicine (BAPM) aims to improve standards of perinatal care by supporting all those involved in perinatal care to optimise their skills and knowledge, deliver and share high quality safe and innovative practice, undertake research, and promote the needs of babies and their families.

For further information, visit:

www.bapm.org



The Neonatal Nurses' Association (NNA) is the national organisation representing, supporting and celebrating neonatal nurses, working to promote neonatal nursing for the benefit of newborns and their families throughout the country.

For more information, visit: www.nna.org.uk

What can you do next?

- Find out more about your neonatal unit's NNAP results by going to the NNAP Online reporting tool at: www.nnap.rcpch.ac.uk
- Ask your neonatal nurse for more information about your unit's NNAP results and their plans for improvement.
- Learn more about what the NNAP does and how your baby's information is used to support improvement by going to: www.rcpch.ac.uk/nnap
- Ask a member of the neonatal unit staff for support.

"Toby was born at 30 weeks and needed to be ventilated. At 5 days old, just an hour after this photo was taken, Toby's lung collapsed. This photo reminds me how important hope is when navigating the highs and lows of neonatal care."

Amanda, Mother



Find out more about the NNAP



To find out more about the audit, please visit our website below or scan the QR code with your phone.

www.rcpch.ac.uk/NNAP

To find out how we use your baby's information and your rights, you can read our privacy notice at:

www.rcpch.ac.uk/your-babys-information

Glossary

Antenatal – The period before birth during or related to pregnancy.

Antenatal magnesium sulphate – A substance naturally found in the body but given as a medicine to women in premature labour, to reduce the risk of cerebral palsy.

Antenatal steroids – A medication given to mothers who may give birth early to reduce the baby's risk of breathing problems, bleeding into the brain and developmental delay.

Bronchopulmonary dysplasia (BPD) – A lung condition that mostly affects premature babies. The NNAP defines a baby as having BPD if they need breathing support or extra oxygen when they reach 36 weeks corrected gestational age. BPD is sometimes called 'chronic lung disease' (CLD).

Continuous positive airway pressure (CPAP) – See Ventilation.

Cystic periventricular leukomalacia (cPVL) – See Preterm brain injury.

Deferred cord clamping – Waiting at least 60 seconds after delivery before clamping the umbilical cord.

Expressing breastmilk – To use a pump, hands or both to get milk from the mother's breasts. The milk can be stored in a fridge or freezer or given directly to the baby.

Gestational age – The number of weeks the baby has been in the womb is known as the gestation. Being born at term means being born after 37 full weeks in the womb. If a baby is born

before 37 weeks' gestation, they are premature.

Intraventricular haemorrhage (IVH) – See Preterm brain injury.

Necrotising enterocolitis (NEC) – A severe condition that can occur after premature birth. It causes inflammation in the bowel, making it difficult for babies to be fed with milk, and sometimes requires surgery.

Neonatal – Newborn, or the first 28 days of life.

NICU – Neonatal Intensive Care Unit - Where babies who need the highest levels of care are looked after.

Paediatric – The branch of medicine dealing with children and their health.

Perinatal – The period of time between becoming pregnant and up to a year after giving birth.

Premature – A baby born before 37 weeks of pregnancy (full term is 40 weeks).

Preterm brain injury – Babies born very early may experience brain injury, sometimes caused by bleeding. The consequences of these injuries vary, partly depending on how bad the injury is. The NNAP reports two types of brain injury - more serious forms of intraventricular haemorrhage (IVH) and cystic periventricular leukomalacia (cPVL).

Retinopathy of prematurity (ROP) – Damage to the back of the eye (retina) in premature babies and those born

with a very low birth weight. ROP is not fully understood but is linked to the amount of oxygen in the blood. At risk babies should be regularly checked for signs of ROP.

Ventilation – Mechanical support with breathing, to help the baby to have acceptable levels of oxygen and carbon dioxide in their blood when they are unable to achieve this. There are several different types of ventilation including CPAP.

Ward rounds – Regular, planned reviews of all the babies in a ward or area, involving all the team caring for those patients, often in the morning.

Note on terminology:

Throughout this guide the term 'mother' is used. However, it is not only people who identify as women who may want to access this leaflet. Your care should be personalised, inclusive and sensitive to your needs whatever your gender identity.

References

¹NICE guideline [NG25]. Preterm labour and birth. Last updated: 10 June 2022. Available at: www.nice.org.uk/guidance/ng25

²Fogarty, M. et al. Delayed vs early umbilical cord clamping for preterm infants: a systematic review and meta-analysis. *Am J Obstet Gynecol*. 2018 Jan;218(1):1-18.doi: 10.1016/j.ajog.2017.10.231. Available at: pubmed.ncbi.nlm.nih.gov/29097178/

³NHS England. Neonatal Critical Care Service Specification. 2016. Available at: www.england.nhs.uk/commissioning/spec-services/npc-crg/group-e/e08/

⁴Department of Health. Toolkit for high quality neonatal services. 2009. Available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20130123200735/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107845

⁵British Association of Perinatal Medicine. Service Standards for Hospitals Providing Neonatal Care (3rd edition). 2010. Available at: www.bapm.org/resources/32-service-standards-for-hospitals-providing-neonatal-care-3rd-edition-2010

⁶Screening of retinopathy of prematurity (ROP) – clinical guideline available at: www.rcpch.ac.uk/resources/screening-retinopathy-prematurity-rop-clinical-guideline

⁷NICE guideline [NG72]. Developmental follow-up of children and young people born preterm. 2017. Available at: www.nice.org.uk/guidance/ng72

A guide to the
**National Neonatal
Audit Programme**
Summary report
on 2022 data



The National Neonatal Audit Programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales.

HQIP holds the contract to commission, manage and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies

www.hqip.org.uk/national-programmes



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