

Neonatal early supported transfer home





Babies often remain in hospital to receive healthcare interventions which can increase parent-baby separation. Some of these healthcare interventions could be delivered safely at home with support from an outreach team. Neonatal early supported transfer home may reduce hospital stays and improve cot capacity.

| Project summary

During the pandemic, a new pathway was developed in Lancashire Teaching Hospitals called NEST@home (Neonatal Early Supported Transfer Home) where late preterm infants who needed enhanced support were discharged early and cared for at home with the support of neonatal outreach nurses.

Expanding on that work, this project “Staff and parent perceptions of neonatal outreach interventions in the North West of England” aimed to evaluate existing neonatal outreach services across North West England to understand disparities and variations in service provision. The findings have been used to make recommendations for regional spread.

The study employed a mixed methods design. Firstly, a survey of neonatal discharge interventions across the North West. Secondly, qualitative interviews with staff and parents to explore their experiences of outreach services. Thirdly, quantitative data collection for a costing study.

The close working relationships between Health Innovation North West Coast, Applied Research Collaboration North West Coast and the North West Neonatal Operational Delivery Network enabled us to access the neonatal units.

Gathering data and business intelligence was complex due to variations in information systems. For example, neonatal unit systems are separate from other hospital systems, so when babies are readmitted there are challenges in tracking the readmission journey. This will be an ongoing issue when implementing any new interventions.

| Addressing health inequalities

The project involved developing an understanding of the disparities in services to determine what is needed to reduce health inequalities.

In the parent interviews, we aimed for maximum variation in participants to understand the challenges from different socioeconomic and cultural backgrounds. Sociodemographic questions following the Cochrane Progress-Plus checklist formed part of the interviews. This checklist was developed to describe and assess equity related to social determinants of health within a population, namely place of residence, race (ethnicity, culture, language), occupation, gender, religion, education, socio-economic status, social capital.

In considering the outreach models, we identified and assessed factors contributing to health inequalities using the [Forequity](#) toolkit and found that:

- Variation within neonatal outreach models highlights the disparities between the services provided across the North West of England.
- Families who reside outside the geographical area of an outreach service face a further health inequality because the infant may be transferred to a paediatric unit for a further stay, or they may need to travel to a clinic for outreach support.

The project also corroborated existing research indicating that:

- Mothers living in socio-economic deprived areas / socio-economic disadvantage have a greater risk of their infants being 'small for dates' in utero, which in turn is a risk factor for preterm delivery (Thomson et al., 2021).
- Late, preterm infants born to mothers living in socio-economic deprived areas / socio-economic disadvantage or demographically differentiated circumstances (e.g. disability, young mother) are likely to have longer lengths of stay due to limited personal resources, and are therefore in greater need of a personalised home support package.



“We will be forever grateful for the extra support we received at home from the neonatal outreach team. They really enabled us to become well-equipped with advice, reassurance and top tips for life at home with two healthy, happy babies.”

Gemma, mum to twins

| Outcomes

The results of our mapping survey allowed us to categorise outreach services into high, medium and low intensity as follows:

- High intensity services offer a seven-day service with neonatal nurses carrying out home visits.
- Medium intensity services offer a service ranging from two to five days relying on other existing services, e.g. drop-in clinics, midwives, health visitors and helpline numbers.
- Low intensity services may refer to paediatric community teams or offer drop-in clinics or helpline numbers.

We created an outreach criteria matrix which showed the similarities and differences between units. For example, gestation criteria varied between 32-35 weeks, weight varied between 1.8-2.3kg, and while complex needs criteria varied, most included nasogastric feeding and home oxygen.

The findings from the interviews identified a range of barriers to and facilitators of service delivery. Neonatal healthcare professionals perceived several barriers to implementation, including a lack of support from commissioners and a lack of resources.

Staff also suggested that the absence of a comprehensive framework or standard operating procedure for neonatal outreach contributed to inconsistencies in delivery across the North West.

Both staff and parents suggested that consistency in treatment approaches, financial support and an updated documentation system could facilitate improvements in the quality and efficiency of neonatal outreach interventions. Although staff and parents made some minor suggestions to improve intervention delivery, there was a consensus that parents greatly valued neonatal outreach.

Earlier research into Lancashire Teaching Hospital's NEST@home outreach model indicated that it differs from standard outreach in the North West as it facilitates the earlier transfer home of late preterm infants. Improvements could be achieved through co-ordination between hospital and community services. Neonatal staff believed successful future implementation is more likely with a flexible, multi-faceted, well-resourced and suitably staffed intervention that incorporates pre-discharge planning, parent education and training, home monitoring equipment and 24-7 access to support.

| Implications for service improvement

Disparity between units means there is not a consistent pathway for babies requiring supported discharge from a neonatal unit, and babies remain on neonatal units, postnatal wards or transitional care units when it may not be the best place for them to receive care.

Where services do exist they often focus on babies with complex needs, due to limited resources, but the need to avoid separation of late preterm infants from their parents should be considered equally important as the separation of full-term babies, especially when these babies are stable but are admitted due to mothers being discharged home.

The insights from this study, particularly related to the barriers and facilitators, could be useful in steering future implementation of neonatal outreach interventions, or guiding service improvements within existing services.

Building on findings from the staff and parent interviews we have made a series of recommendations to shape future services in such a way that they are fit for purpose and reduce health inequalities ([available here](#)).

I Next steps

We encourage commissioners to consider investing in the development of a comprehensive framework or standard operating procedure for neonatal outreach. Quantitative evaluation to better understand the causes of readmission and to determine the number of bed days which could be reduced if outreach was in place is required as well as further research into the impact of separation (for example around mental health, breast feeding and bonding) and the avoidance of separation.

Staff and parent interview findings will inform the clinical innovations and equipment we advocate for use in the community (for example including heated mattresses for thermoregulation, remote monitoring and consultation technology, and home phototherapy devices).

Outputs from this project can link into other initiatives such as [First 1001 Days Movement](#), [Healthy Early Years](#), [Family Integrated Care](#) and [Baby Friendly Initiative](#).

This project was undertaken by Health Innovation North West Coast (the new name for the Innovation Agency North West Coast) and National Institute for Health and Care Research (NIHR) Applied Research Collaboration (ARC) North West Coast with funding from the Accelerated Access Collaborative at NHS England, and support from the NIHR.

Resources

[The effectiveness of neonatal early supported transfer to home interventions for parents and preterm infants in neonatal intensive care units: A systematic review and meta-analysis](#)

Reference: Thomson, K., Moffat, M., & Oluwatomi, A., et al. [Socioeconomic inequalities and adverse pregnancy outcomes in the UK and Republic of Ireland: a systematic review and meta-analysis](#). BMJ Open 2021.

Key partners

- North West Neonatal Operational Delivery Network (NWNODN)
- Blackpool Victoria Hospital
- Liverpool Women's Hospital
- Manchester Foundation Trust
- Royal Preston Hospital
- Stepping Hill Hospital
- The Royal Albert Infirmary
- Whiston Hospital

The views expressed in this report are those of the authors and not necessarily those of NHS England, the National Institute for Health and Care Research, or the Department of Health and Social Care.



More information

Health Innovation North West Coast

www.healthinnovationnwc.nhs.uk

info@healthinnovationnwc.nhs.uk

ARC North West Coast

arc-nwc.nihr.ac.uk

ARCNWC@uclan.ac.uk

Care settings

- ✓ STP/ICS
- ✓ Acute trusts – in-patients
- ✓ Community
- ✓ Urgent and emergency

Clinical areas

- ✓ Children
- ✓ Maternity and neonatal

Cross-cutting themes

- ✓ Patient safety
- ✓ Quality improvement and culture
- ✓ Health inequalities
- ✓ Patient and public involvement and co-design
- ✓ Workforce

Solution themes

- ✓ Monitoring
- ✓ Management

Innovation types

- ✓ Service
- ✓ Complex intervention

Innovation status

- ✓ Research