HEALTH INNOVATION North West Coast

North West Neonatal Operational Delivery Network

NIHR | Applied Research Collaboration North West Coast

NHS

RECOMMENDATIONS FOR THE EXPANSION OF NEONATAL OUTREACH INTERVENTIONS

JANUARY 2024

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1 INTRODUCTION

The Applied Research Collaboration for the North West Coast (ARC NWC), Health Innovation North West Coast and the North West Neonatal Operational Delivery Network (NWNODN) have worked together on a project looking at neonatal outreach services across the North West.

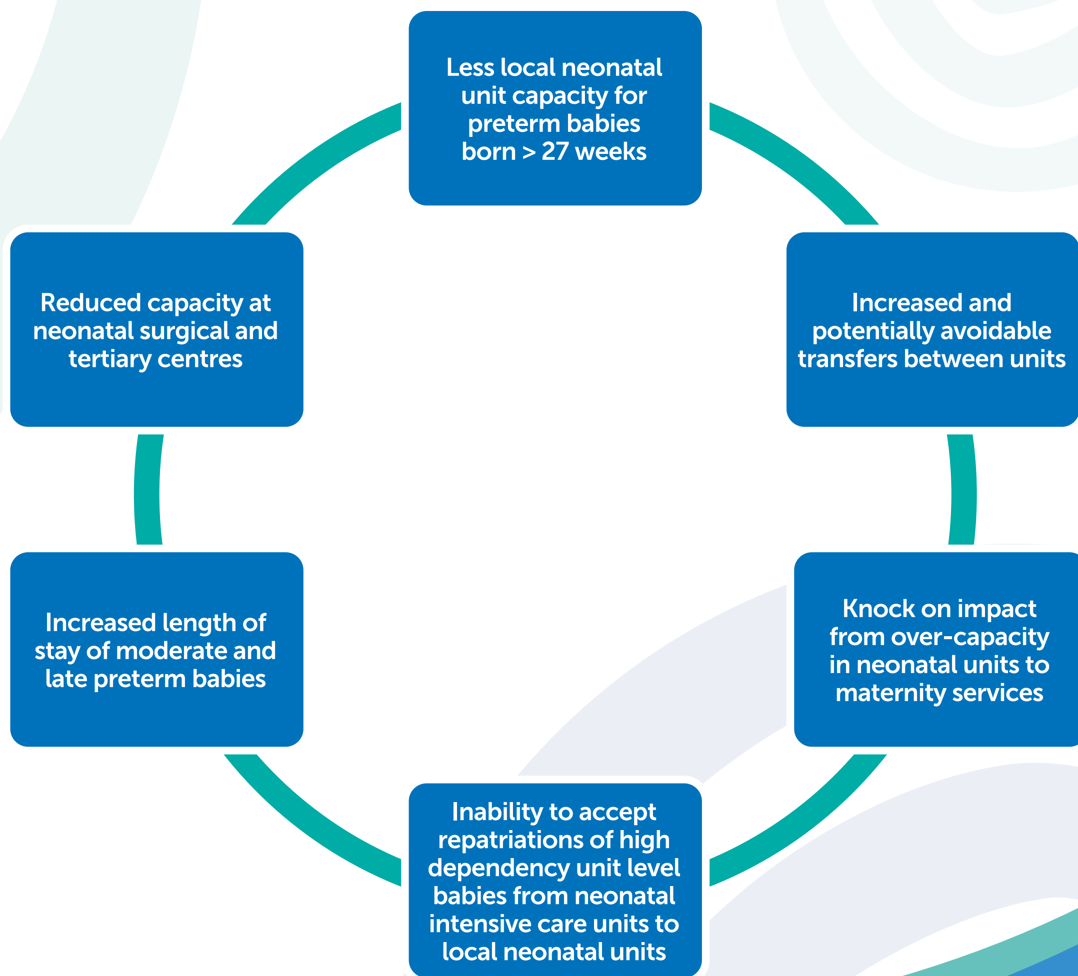
We conducted an audit of neonatal outreach services, followed by research into how staff and parents view these services. Qualitative data from the interviews of staff and parents from 5 neonatal units has been analysed in a research report which includes a costing analysis of the model at one site. This report complements the full research report and summarises our recommendations and next steps. It also features the findings from a rapid insight session that captured insights from an informed audience of neonatal professionals.

2 BACKGROUND

Around one in 13 babies in England and Wales are born prematurely[1] and most are born between four and six weeks early[2]. This leads to greater parent-infant separation with possible negative impacts on breastfeeding and adverse effects on attachment and perinatal mental health. Babies often remain in hospital to receive interventions that could safely be delivered in the home with adequate support from healthcare professionals. Due to hospital capacity, babies can be in a hospital some distance from the family home, placing significant and unexpected financial and social burdens on families, particularly the least advantaged families.

In 2021, over 33,000 babies were born in England and Wales between four and six weeks early[2]. The recent NWNODN's Neonatal Activity, Demand & Capacity Report[3] shows that 1,805 of these babies were admitted to a neonatal unit in the North West with an avoidable separation day average of 6.4 days. A recent ARC NWC systematic review and meta-analysis[4] about preterm infants in neonatal intensive care units found that the duration of hospital stay was approximately six to 10.5 days less with early discharge interventions[5 6].

Expert opinion suggests that a lack of timely discharge for stable preterm babies can impact the system as follows:



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There are 22 neonatal units in the North West region and of those 20 units were surveyed to determine which units offer an outreach service and to understand the differences between services. Alder Hey was out of scope as a surgical site and Macclesfield was closed at the time. The survey responses were used to categorise the neonatal units into high, medium, and low intensity outreach services:

- **High intensity service:** a 7-day service where neonatal nurses carry out home visits.
- **Medium intensity service:** ranges from 2 to 5 days with other existing services, such as drop-in clinics, midwives, health visitors and helpline numbers also being relied upon.
- **Low intensity service:** may offer parents drop-in clinics or helpline numbers.

Locality	Unit Name	Outreach Service Intensity Level	Unit Level
Greater Manchester	Manchester Foundation Trust	High	Neonatal Intensive Care Unit
	Royal Bolton Hospital	High	Neonatal Intensive Care Unit
	Tameside General Hospital	High	Local Neonatal Unit
	Royal Oldham Hospital	Medium	Neonatal Intensive Care Unit
	Royal Albert Edward Infirmary	Medium	Local Neonatal Unit
	Stepping Hill Hospital	Low	Local Neonatal Unit
Cheshire & Merseyside	Liverpool Women's	High	Neonatal Intensive Care Unit
	Whiston Hospital	High	Local Neonatal Unit
	Arrowe Park Hospital	Medium	Neonatal Intensive Care Unit
	Warrington Hospital	Medium	Local Neonatal Unit
	Countess of Chester Hospital	Low	Local Neonatal Unit
	Leighton Hospital	Low	Local Neonatal Unit
Lancashire & South Cumbria	Blackpool Victoria	High	Local Neonatal Unit
	Royal Preston Hospital	High	Neonatal Intensive Care Unit
	Burnley General Hospital	Medium	Neonatal Intensive Care Unit
	Furness General Hospital	Low	Special Care Unit
	Royal Lancaster Infirmary	Low	Local Neonatal Unit

Based on the categorisations above and considerations such as the size of the neonatal units, their location (rurality) and local levels of deprivation, we engaged with neonatal units from Blackpool Victoria, Liverpool Women's, Manchester Foundation Trust, Royal Albert Edward Infirmary, Royal Preston Hospital, Stepping Hill Hospital and Whiston Hospital. Staff and parents were interviewed to gather their views on the services and to understand the barriers and facilitators of outreach delivery.

3 FINDINGS

The findings from the interviews identified a range of barriers and facilitators of service delivery that may be useful in understanding how to improve neonatal outreach interventions in the future.

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 integrated IT 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. 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.

In Lancashire, a new discharge pathway is being trialled called NEST@home (Neonatal Early Supported Transfer Home). This involves transferring the care of late preterm babies, who need enhanced feeding support, to the home setting under the support of neonatal outreach nurses.

NEST@home can be described as a care bundle in which:

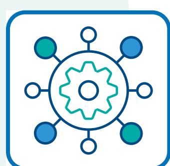
- **The interventions are based on the most common reasons for prolonged length of stay on neonatal units or postnatal maternity wards**
- **Interventions are applied according to the individual baby/family needs and are matched to the available resource and setting in the family's locality**

A costing analysis compared Lancashire Teaching Hospital's NEST@home model with its usual outreach service. Challenges in accessing data mean that conclusions about the financial implications of an expanded service remain uncertain and further economic evaluation is necessary.

4 RECOMMENDATIONS

Key Recommendations

- **Investment:** Sustainable investment is required to fund safe staffing, digital infrastructure and devices, and governance. Fully resourced outreach may alleviate hospital capacity issues whilst keeping babies safe.
- **Coordinated approach:** A coordinated, system thinking approach is required, including a defined service specification and standard reporting.
- **Spreading best practice:** Learning from other innovative approaches such as Preston's NEST@home model, Liverpool Women's home phototherapy offer and Blackpool Victoria's tongue tie clinic.
- **Data:** Mature digital and data infrastructure is needed. Standardised and quality data is needed to capture outreach activity across the system.

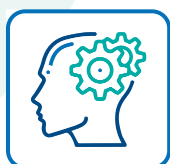


Implementation considerations

- **Roll out:** Any roll out of outreach services should be modular so that units can phase implementation and develop a business case for a model that suits them (e.g., tube feeding, home phototherapy, thermal care).
- **Guidance:** Service specifications / standard operating procedures for neonatal outreach services are essential for consistency. Parents reported inconsistent treatment approaches between different nurses.
- **Quality Improvement:** QI methodology, resources for training and real-time monitoring are required.
- **Quality data:** To understand outreach activity, team capacity requirements and to ensure a service is fit for purpose. A gap analysis of patient information systems is required.
- **Technology:** Simple to use technology with live reporting capability would save outreach staff considerable time. Potential for IT / telemedicine to support virtual wards.
- **Team composition:** Needs to be carefully considered for the most appropriate skills and competencies. For example, Band 4 nurses for routine observations and monitoring, and Band 7 nurses for leadership.
- **Expertise:** Staff should be experienced in managing jaundice, providing breastfeeding, and enhanced nasogastric tube feeding support and with Family Integrated Care principles (a model of neonatal care that promotes a culture of partnership between families and staff[7]).
- **Discharge:** Plans should be co-designed with parents and babies discharged when parents are confident with feeding and the baby's condition and temperature is stable[8].
- **Safety Netting / Escalation:** Clear pathway for contact in case of emergency or need for medical review[8].
- **Financial:** Support for parents, such as car parking passes and travel expenses.

Commissioning and funding

- Expert opinion in the North West region implies that unreported neonatal outreach activity is leading to resourcing the wrong areas of the system. Activity needs to be captured accurately and in a standardised way across the system to enable appropriate funding.
- There needs to be a reduction in siloed working and joined up funding streams (maternity / neonatal / paediatrics).
- Neonatal Transitional Care (NTC) should be thought of as a service, not a physical location, therefore enabling Trusts to pay for outreach with the transitional care tariff.
- There is potential for an outreach model to deliver workforce benefits as an outreach nurse could care for a caseload of 6 babies, which is more than the British Association of Perinatal Medicine (BAPM) 1:4 ratio.
- Historically, staff displaced from neonatal bedside care to neonatal outreach contributed to legacy staffing deficits and BAPM non-compliance. Funding mechanisms for existing neonatal outreach and transitional care teams must be distinct from staff providing direct care on neonatal units.
- Formal access pathways with postnatal allied health professional input are needed for patients with complex needs. One option is a 'hub and spoke' model linking tertiary centres or high complexity teams with local neonatal units.



Framework development

- Frameworks, service specifications and standards exist (e.g., National Neonatal Toolkit, BAPM standards 2022, LMNS, professional colleges, Paediatric Critical Care, BLISS, NHS Long Term Plan) however they need to be tailored to guide delivery, allocate funding and resources, and ensure consistency across outreach services.
- Existing frameworks should be built upon to create a new comprehensive framework, which includes outcomes reporting.

Other considerations

- Development of a comprehensive framework, including outcomes reporting.
- Integration of digital platforms and monitoring systems, including telemedicine and virtual wards.
- Further scoping to understand the characteristics of the babies who will do well in each setting, the impact of avoidance of separation and to explore evidence-based models of safe escalation of care. Develop a SOP in line with these insights.
- Further quantitative evaluation to interrogate readmission data and better understand the causes of readmission within 28 days of discharge. Data used to expand cost analysis to include consequences.

5 RAPID INSIGHT SESSION FINDINGS

During a Rapid Insight session in December 2023 an expert audience ratified our recommendations and shared their thoughts on the enablers and barriers to neonatal outreach. There were 42 participants consisting of neonatal clinicians and allied health professionals from neonatal units across the country and representatives from charities in the North West.

The Rapid Insight session focused on six questions:

1. Do you agree with these recommendations and what are the gaps?
2. What are the challenges in implementing neonatal outreach services at your level in the system?
3. What have you observed to be the impact of inequitable access to services and what can be done practically to address this inequity?
4. Which workforce modifications would be required to support expanded outreach services?
5. What are the main drivers to implementing neonatal outreach services?
6. Can you suggest any practical next steps we can take to move forward consistent implementation of outreach services?

Question 1
Do you agree with these recommendations and what are the gaps?

There was overwhelming agreement with the recommendations and no objections to them. The following gaps were identified:

Gap	Details
Input from wider teams (5 comments)	• Input required from wider multi-disciplinary teams, maternity services and paediatric services • Allied Health Professional involvement
Funding & workforce models (3 comments)	• Need to further understand the financial model • Realistic workforce model
Readmission data (1 comment)	• Readmission data from paediatric services

> "It all looks great. It would be good to regularly repeat the survey to continue to capture data measures and try to build an accurate picture of the service and offer ways for parents to feedback anonymously.

> "The recommendations are solid and as expected.

Question 2

What are the challenges in implementing neonatal outreach services at your level in the system?

Funding
(22 comments)

- Not funded adequately
- No influence on funding
- Requests for AHP support but no funding available
- Lack of recognition in funding that is just a different location of care

Staffing
(11 comments)

- Lack of staffing to support the service
- Staff retiring and delays in business case to replace them

Framework
(6 comments)

- Lack of national standards
- Variation in outreach criteria
- No Standard Operating Procedure to follow

Geographical boundaries
(5 comments)

- Postcode lottery
- Hub & spoke model would support rural areas

Management support
(4 comments)

- Lack of management understanding of service

Team structure
(3 comments)

- Variation in outreach teams
- Allied Health Professionals could support outreach teams

Skills & experience
(3 comments)

- Very few experienced neonatal nurses

IT
(2 comments)

- Better IT packages for data collection needed
- Need for IT systems to record clinical activity as part of patient records

> It feels like a postcode lottery currently. You can go anywhere in the network but if you live in the wrong area you're without support. There needs to be more consistency.

> Staffing and funding as competing with other Trust priorities. Neonatal Team keen to implement outreach.

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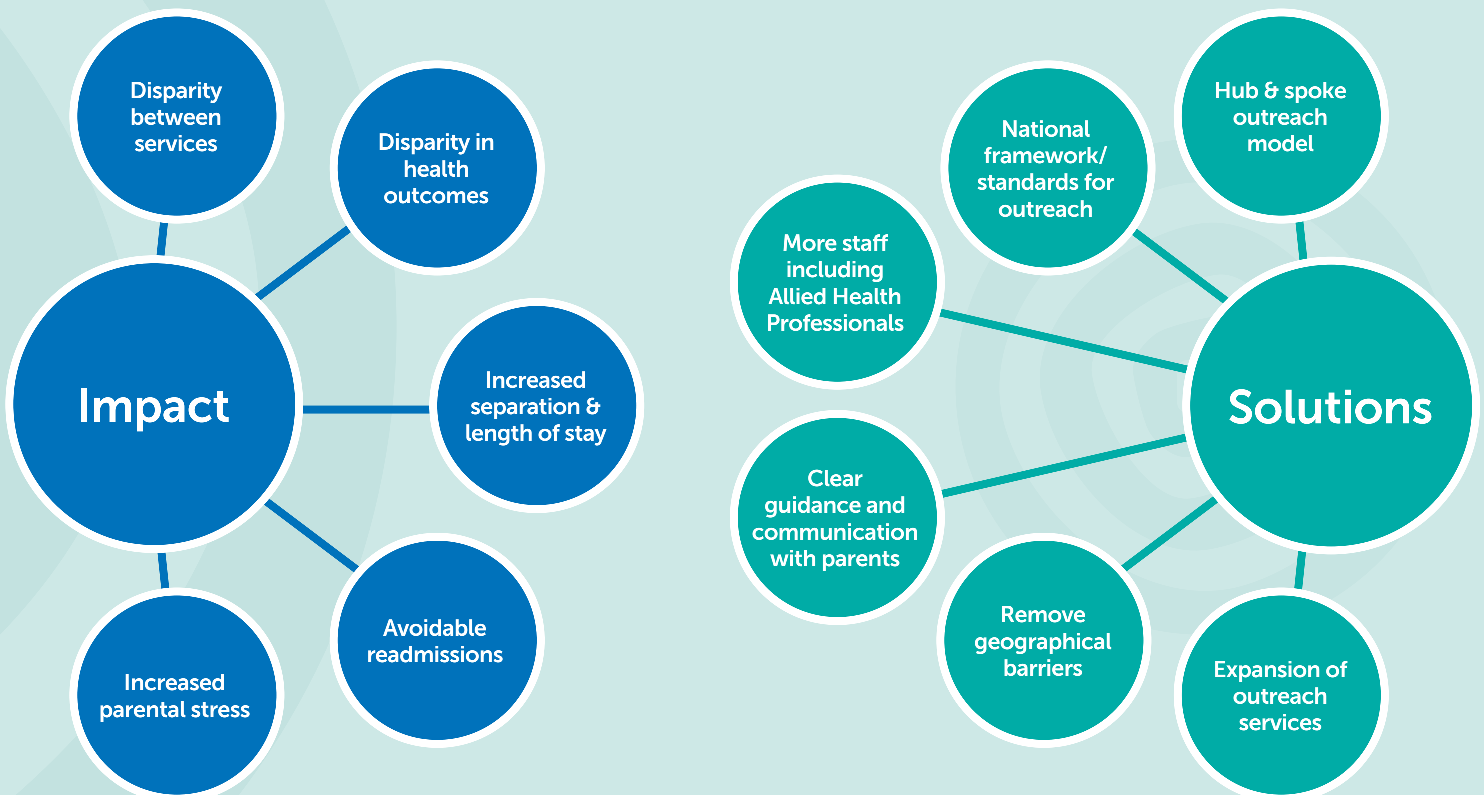
Question 3

What have you observed to be the impact of inequitable access to services and what can be done practically to address this inequity?



> The obvious impact is that some babies are required to return to hospital for treatment not offered at home leading to avoidable separation and may be financially strenuous for economically disadvantaged families.

> Length of stay and therefore separation extended in Trusts where there is no outreach service.

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Question 4
Which workforce modifications would be required to support expanded outreach services?

Expansion of outreach
(10 comments)

- Increase to 7 days
- Increased hours
- Remove geographical boundaries
- Home phototherapy

Training / Skills
(9 comments)

- Specific outreach training
- Staff with right skills / experience

Parental experience
(8 comments)

- Outreach staff to support families prior to discharge
- Virtual wards
- Improved communication

Team composition
(7 comments)

- Mixed banding approach
- More use of Band 4s

Multi-disciplinary Teams
(7 comments)

- Include AHPs
- Work with midwifery teams
- Use of wider support roles (peer feeding support)

Framework
(7 comments)

- Standard Operating Procedures / Frameworks required
- Collaboration to provide hub & spoke model

Increased staff
(4 comments)

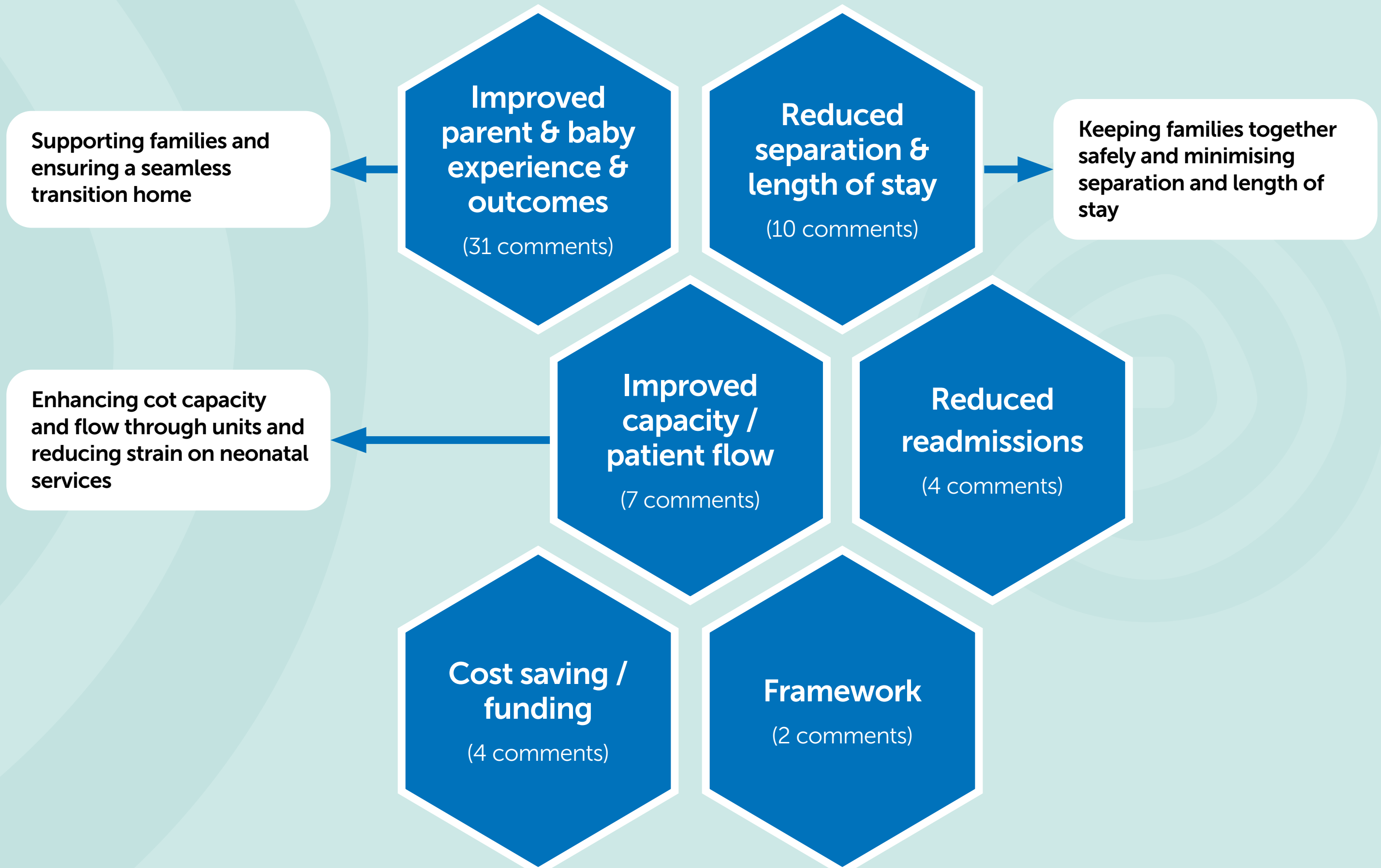
- Increased staffing with robust support

> "Designated outreach staff, with some rotation into transitional care/ low dependency to meet the families early in their journey towards home to support and help the families gain confidence prior to discharge.

> "Better sharing of information is also needed to promote a tell it once approach for families. Potentially traumatic stories are having to be told many times increasing stress for families.

Question 5

What are the main drivers to implementing neonatal outreach services?



> Keeping families together safely, and ensuring capacity is maintained for babies who actually require in-patient management. Allowing well babies who need simple interventions to be cared for in the right setting.

> The alignment of these drivers and the commitment of stakeholders at various levels are crucial in successfully implementing and sustaining neonatal outreach services, ultimately contributing to improved neonatal health outcomes and overall well-being.

Question 6

Can you suggest any practical next steps we can take to move forward consistent implementation of outreach services?

1 Collaboration & sharing best practice

- Units with good SOPs / models to share them with other units
- Local working groups to share best practice
- Mechanism for regional teams to communicate and share knowledge

2 Service improvements

- Increase services on offer (e.g. phototherapy at home)
- Remove geographical barriers
- Work with Allied Health Professionals

3 Further research with wider scope

- Formal scoping of IT tools
- Deeper dive into different models and include all babies requiring outreach
- Apply for more funding to continue working on the evidence base

4 Improved communication with families

- Promote parental skills to allow earlier discharge
- Consistent messages to parents is key
- More family engagement, particularly from more diverse communities

5 Funding

- Work with the National Neonatal Operational Group (NNOG) and British Association of Perinatal Medicine (BAPM) to campaign for an outreach tariff

6 Development of framework/standards

- Standard Operating Procedure development
- Network standards and support

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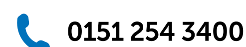

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