Neonatal outreach models in the North West of England

12th December 2023

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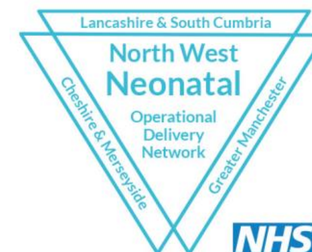

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Welcome

Laura Boland

Neonatal outreach models in the North West of England

Tuesday 12th December
Microsoft Teams, 1100 - 1200

11:00 **Chair introduction and welcome**

Laura Boland, Head of Innovation Pipeline, Evaluation & Insights
Health Innovation North West Coast

11.05 **Introduction to the evaluation of neonatal outreach services project and why it was needed**

Kelly Harvey, Acting Director, North West Neonatal Operational Delivery Network;
Advanced Neonatal Nurse Practitioner; National GIRFT Neonatal Nurse Advisor;
Executive Committee Member of the National Neonatal Nurses Association (NNA)

11.15 **Research and key findings**

Natalie Morgan, Lead Research Associate, Implementation and Capacity BuildingTeam,
NIHR ARC NWC; Paediatric and Neonatal Research Nurse,
Lancashire Teaching Hospitals NHS Foundation Trust

11:25 **Recommendations and next steps**

Richa Gupta, Consultant Paediatric Neonatologist,
Lancashire Teaching Hospitals NHS Foundation Trust;
Clinical Lead for Lancashire & South Cumbria Neonatal locality network

11.35 **Rapid Insight session introduction and slido questions**

Laura Boland, Head of Innovation Pipeline, Evaluation & Insights
Health Innovation North West Coast

Sarah Fullwood, Lead Care Co-ordinator and Chair of National Care Coordinator Group
North West Neonatal Operational Delivery Network

11:55 **Closing remarks**

Laura Boland, Head of Innovation Pipeline, Evaluation & Insights,
Health Innovation North West Coast

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Rapid insights session

Laura Boland

Join at Slido.com
#noutreach

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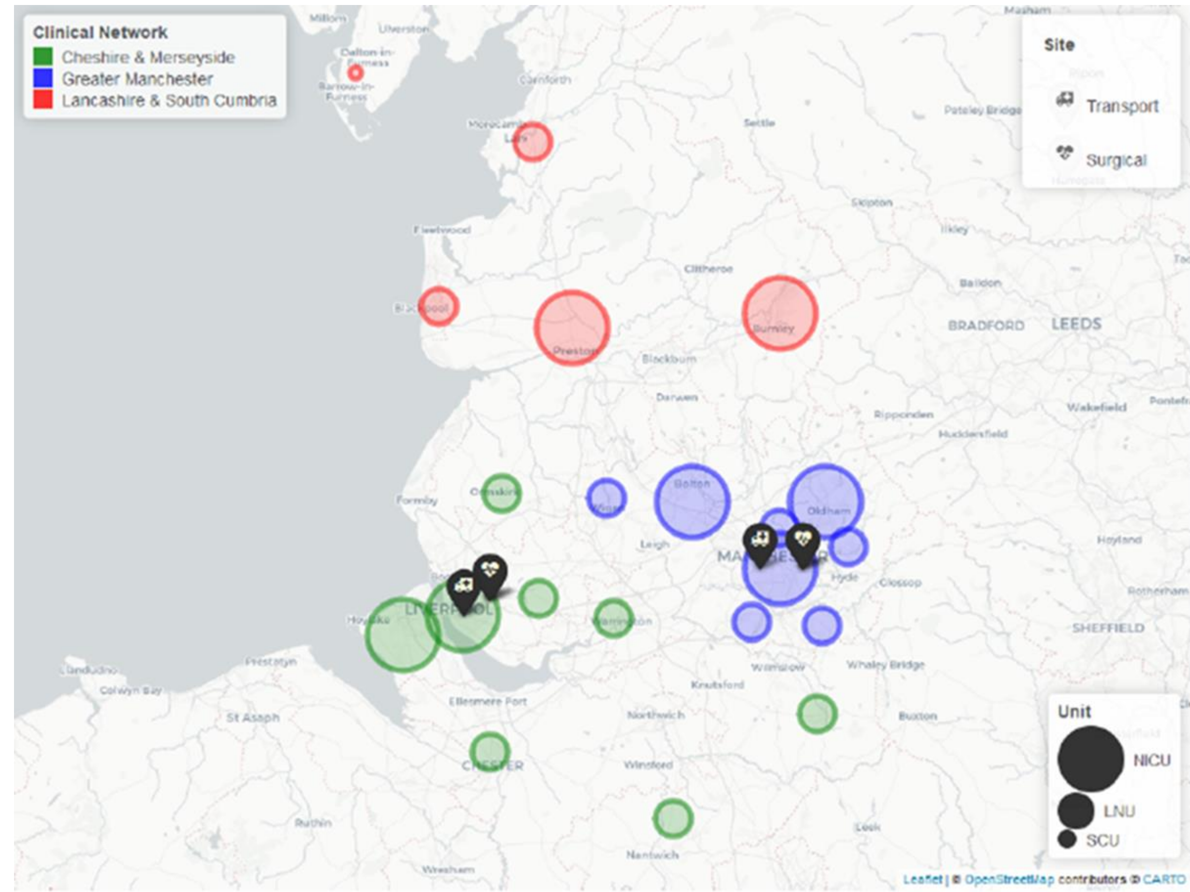
Introduction to the project and why it was needed

Kelly Harvey

www.neonatalnetwork.co.uk/nwnodn/

The NWODN



The Neonatal Experience

"People don't understand unless they've been there – they don't really understand what it all means. You think your baby's going to die. Every time the monitor beeps you think it might be now. You're expecting the worst all the time."

(Dad)

"Although going through the experience at the time was very stressful and full of anxiety, I feel as though the full impact of the events over the course of my pregnancy and then of our stay on the units only really hit me when I was home and had time to digest what had happened." (Mum)

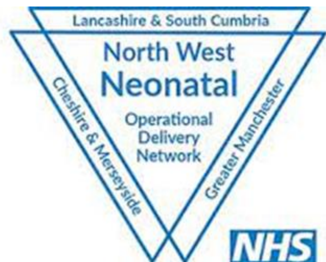
"I found that when we went home and the outreach team discharged us, I felt alone and struggled to easily integrate with baby groups etc. I missed NCT etc so I didn't make any mum friends really. I then struggled with my mental health after some of my experiences and the birth and found that support for this was lacking." (Mum)

Why Outreach

- Reducing Separation
- Empowering Parents
- Reduced length of stay
- Improved breastfeeding rates
- Reduce inequity

Research and key findings

NIHR ARC-NWC IMPlementation and Capacity building Team (IMPaCT)



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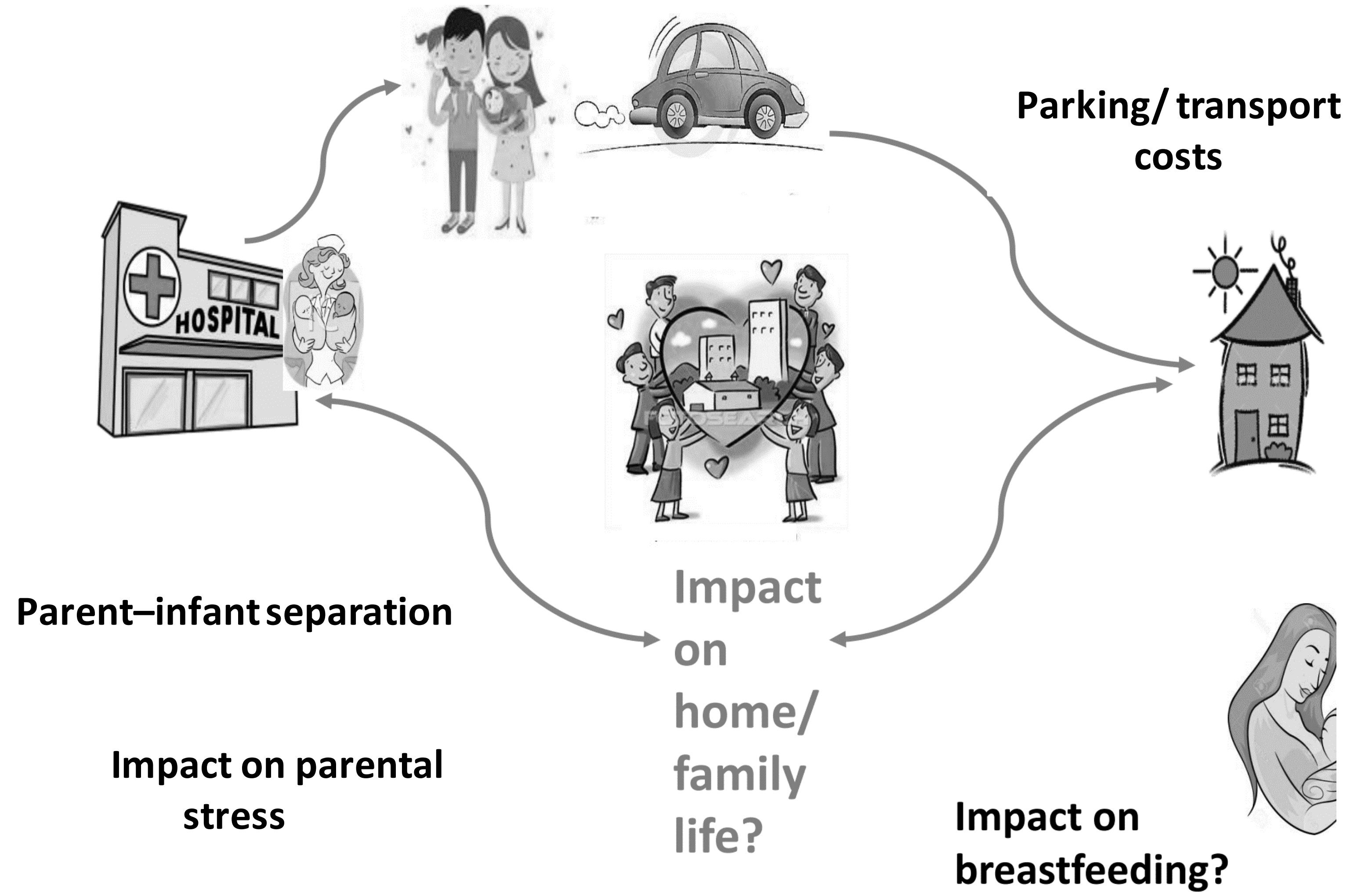
Background



Aims and objectives

Aim

The aim of this project was to evaluate the existing neonatal early supported transfer to home (neonatal outreach) services across the North West of England.

Objectives

1. To describe the neonatal early supported transfer to home (neonatal outreach) services currently in place across the North West of England.
2. To identify the barriers and facilitators of neonatal outreach service delivery and to explore how parents and staff perceive neonatal outreach services across the North West of England (including the advantages and disadvantages of early transfer to home).
3. To establish comparative costs of the services and for providing neonatal outreach.

Mapping existing services across the North West Region

A **survey** was designed to obtain basic information from neonatal units across the North West region.

Anonymised responses were shared with the steering group (stakeholders from NIHR ARC NWC, Health Innovation North West Coast, UCLan, NWNODN, clinicians) to develop a sampling matrix to determine which neonatal units should be selected for more detailed examination.

Sampling matrix of existing services across the North West region

Region	Service	7 days service	2 to 5 days service	Health visitor	Midwife /MTs	Drop-in service	Tele-phone support
Lancashire and South Cumbria	Royal Preston		✓				
	Burnley General		✓			✓	
	Royal Lancaster			✓			
	Blackpool Victoria	✓					
	Furness General			✓			
Cheshire and Merseyside	Ormskirk			✓			
	Whiston	✓					
	Warrington		✓		✓		✓
	Liverpool Women's	✓					
	Arrowe Park		✓				✓
	Leighton					✓	
	Countess of Chester			✓		✓	
Greater Manchester	Royal Albert Edward		✓		✓		✓
	Royal Bolton	✓					
	Royal Oldham		✓		✓		✓
	Manchester FT	✓					
	Stepping Hill			✓	✓	✓	✓
	Tameside	✓					

High: Service offered 7 days outreach per week, telephone consultations, and a multi-professional approach to discharge preparation.

Medium: Service offered a 2 to 5 day outreach service and may include telephone consultations.

Low: Service did not offer outreach but may provide midwifery, health visitor led care or care provided by a paediatric community team, drop-in clinics, clinic appointments or telephone helplines.

Existing service selected	Category of service provision (high, medium and low)
Blackpool Victoria	High
Liverpool Women's	High
Whiston Hospital	High
Manchester	High
Royal Preston	Medium
Royal Albert Edward	Medium
Stepping Hill	Low

Category of existing services

Steering group selected 7 sites with a range of service provision

Methods of qualitative study

Qualitative descriptive approach

The Consolidated Framework for Implementation Research (CFIR) theoretical framework was employed to underpin data collection and data analysis

A purposive sampling strategy was used to recruit participants from each site

Semi structured individual and group interviews

Thematic analysis was employed to analyse the data using the six steps outlined by Braun & Clarke (2006)

Participants

A total of 25 interviews were conducted with 15 staff and 10 parent participants

5 sites across the Northwest

Substantial diversity in what each site offered regarding neonatal outreach services

Service	Education sessions pre-discharge	Discharge planning	Rooming in	Home visit post-discharge	Staff	Equipment provided (into the home)	Telephone support (outreach team)	Days of service (time)	Categorisation of service
NHS Trust 1 (Liverpool Women's)	Yes	Yes	Yes	Yes	6 staff	Yes	Yes	7 days	High
NHS Trust 2 (Blackpool Victoria)	Yes	Yes	Yes	Yes	4 staff	Yes	Yes	7 days	High
NHS Trust 3 (Royal Preston)	Yes	Yes	Yes	Yes	8 staff	Yes	Yes	5 days	Medium
NHS Trust 4 (Royal Albert Edward)	Yes	Yes	Yes	Yes	4 staff	Yes	Yes	5 days	Medium
NHS Trust 5 (Stepping Hill)	Yes	Yes	Yes	No	0 staff	Yes	No	0 days	Low

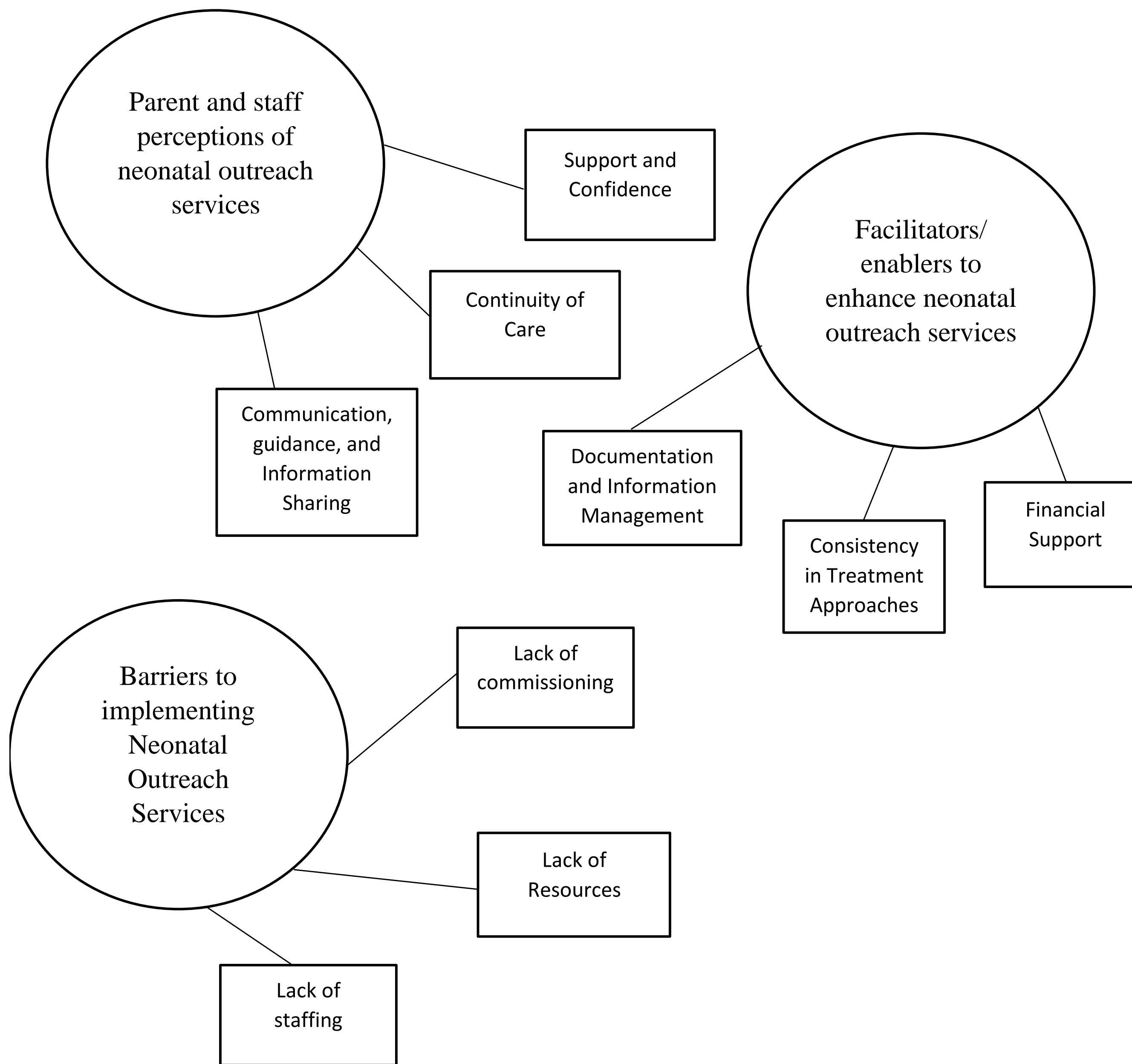
Objective 1: Component matrix of existing services

Parent characteristics (n= 10)

Characteristics of parents	Qualitative sample	
	n	%
Gender		
Female	10	100
Male	0	0
Marital status		
Single	0	0
Married	5	50
Partnered	5	50
Ethnicity		
White British	9	90
White other	1	10
Employment		
Full-time	8	80
Part-time	1	10
Unemployed	1	10
Parity		
One Child	5	50
Two children	2	20
Three children	3	30
Disability		
None	10	100
Age		
20-25	1	10
26-30	1	10
31-35	4	40
40+	2	20
Undisclosed	2	20

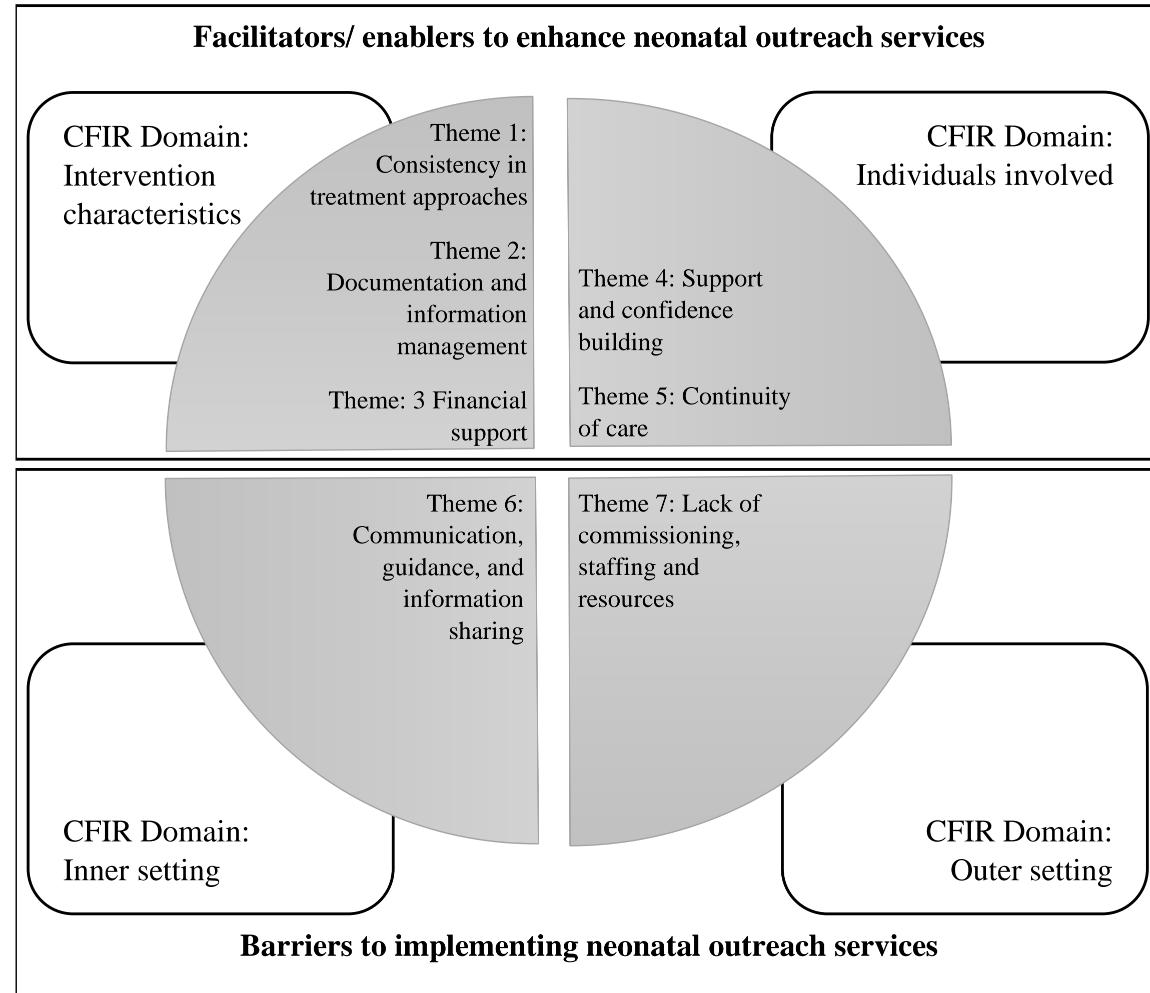
Staff characteristics (n= 15)

Characteristics of staff	Qualitative sample	
	n	%
Gender		
Female	13	85
Male	2	14
Job title		
Consultant neonatologist	2	14
Neonatal outreach sister (Band 6)	3	20
Neonatal outreach nurse (Band 5)	4	28
Neonatal intensive care sister (Band 6)	1	7.5
Transitional care lead (Band 6)	1	7.5
Transitional care nurse (Band 5)	1	7.5
Senior clinical support worker (Band 4)	2	14
Paediatric dietician	1	7.5
Years in service		
7-12	3	20
13-18	3	20
19-24	2	14
>25	7	52.5



Objective 2: Coding tree

Objective 2: Thematic map – themes mapped to CFIR



Objective 2: Parent and staff perceptions of neonatal outreach services across the North West of England

'You can be so worried, but the support that they've given me has given me the confidence' (Parent – Blackpool)

'I can't thank them enough, the girls from outreach, honestly, they were just such a big part of our life from the start. I can't say anything bad, they were just amazing.' (Parent - Blackpool)

'We'll get feedback from parents saying we are always on hand to support.' (Staff – Blackpool)

'the amount of positive feedback we get is absolutely fantastic. We get loads of positive feedback not only from the parents, but also from the consultants as well… I feel it is a really beneficial service just from the feedback we get from parents, a lot of parents said they wouldn't have known what to do if we hadn't been there to support them… the parents feel it's a good bridge from hospital to home with that support.' (Staff – LTHTR)

Methods of costing analysis (advanced statistics)

Costing analysis conducted on 1 outreach service: Royal Preston Hospital – NEST@home service

NEST@home was initiated in 2019 to: address health inequalities due to parent-baby separation; alleviate difficulties with breast milk feeding; reduce costs of travelling between hospital and home; and reduce burden on parent.

Preterm infants were eligible for NEST@home if they were born 34-36+6 weeks gestational age, and their parents consented. The intervention included:

- Parents received training in breastfeeding, kangaroo care, nutrition, illness prevention, discharge preparation, signs of disease, and arrival at home.
- Parents also received information packs which included direct telephone access to hospital-based neonatal support (neonatal outreach nurses) and were offered opportunities for rooming-in (to familiarise themselves with overnight infant care).
- After transfer home, parents of preterm infants were supported by the neonatal outreach team who provided equipment and guidance on infant care during several home visits (e.g., in the use of feeding and monitoring equipment).

Objective 3: Costing analysis - main findings

NEST@home is associated with additional staff costs compared with usual care, mainly driven by costs for training, early supported transfer home and safeguarding risk assessments, and subsequent home visits.

Costs could be reduced by deploying staff in lower bandings.

NEST@home has had limited effect on a baby's length of hospital stay.

In contrast, NEST@home has resulted in an increased use of neonatal outreach care and a reduction in ad hoc calls compared to usual care.

Challenges in accessing data on neonatal outreach services mean any conclusions about the service remain uncertain, with future RCT and economic evaluation recommended.

Summary of findings

Objective 1: Neonatal outreach services across the North West are diverse, with some offering more components than others (i.e., regular home visits, training and education etc)

Objective 2: Key barriers to implementation include funding, staffing, resource limitations and support from commissioning. Key enablers include improving the consistency in treatment approaches, improved documentation and information management (e.g., electronic equipment and live reporting), and financially supporting parents who have challenges accessing services.

Objective 3: NEST@Home has had limited effect on a baby's length of hospital stay. In contrast, NEST@Home has resulted in an increased use of neonatal outreach care and a reduction in outreach contact calls compared to usual care.

Further research: Further research is needed to develop a comprehensive, evidence-based framework that can guide the delivery of neonatal outreach services across the UK. Further research is also needed in the form of a high quality RCT to assess the effectiveness of these interventions.

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Recommendations and next steps

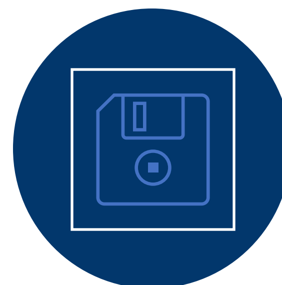
Richa Gupta

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.

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.

Coordinated approach: A coordinated, system thinking approach is needed, including a defined service specification and standard reporting.



Data: Standardised and quality data is needed to capture outreach activity across the system.

Implementation considerations

- **Roll out;** modular roll out of outreach services with phased implementation of appropriate interventions (e.g. tube feeding, home phototherapy, thermal care).
- **Guidance;** neonatal outreach guidance / SOP for consistency. Parents reported inconsistent treatment approaches between nurses.
- **Quality Improvement;** QI methodology, resources for training and real-time monitoring is required.
- **Quality data**; to understand hidden activity, team capacity requirements and to ensure a service is fit for purpose. A gap analysis on patient information systems is required.
- **Technology;** simple to use technology with live reporting capability would save considerable time. Potential for IT / telemedicine to support virtual wards.
- **Team composition;** e.g. 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.
- **Discharge;** plans should be co-designed with parents and babies discharged when parents are confident with feeding, the baby's condition and temperature is stable
- **Safety Netting / Escalation;** clear pathway for contact in case of emergency or need for medical review.
- **Financial;** support for parents, such as car parking passes and travel expenses.

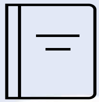
Commissioning and funding

- Outreach activity needs to be captured accurately, transparently 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 should be thought of as a service, not a physical location, 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.
- 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.

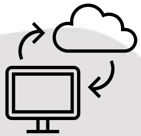
Framework development

Frameworks, service specifications and standards exist however they need to be tailored to guide delivery, allocate funding and resources, and ensure consistency across outreach services

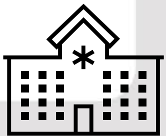
Next steps



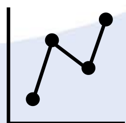
Development of a comprehensive framework, including outcomes reporting.



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 Standard Operating Procedure 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.

Outreach models

Neonatal Early Supported Transfer Home

Historical

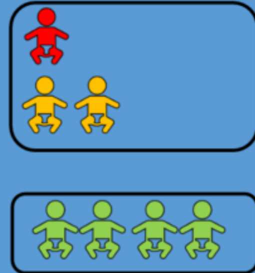
The neonatal unit supports babies with a defined ratio of staff to babies dependant on the need of the baby:

1 : 1 to 2 : 1 for high support babies

2 : 1 to 4 : 1 for medium support babies

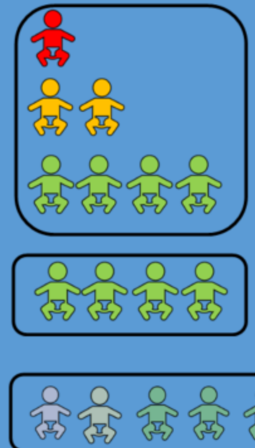
4 : 1 for low support babies

ATAIN & Transitional Care



The introduction of transitional care meant babies were able to move out of the neonatal units, freeing capacity and enabling better flow through the neonatal unit. However, staffing was still provided by the neonatal unit, so the additional space created in the neonatal unit is unable to be utilised as the staff are not available to tend to the babies.

Potential Model



The proposed model restores the resource issue in the neonatal unit to allow greater flow, retains transitional care, but also has a care at home model with a range of resources available to care for the babies.

This could include visits to the home by outreach nurses, virtual monitoring and safety netting for parents to raise concerns.

What is the appropriate babies to staff ratio for caring for babies at home?

Desired pathway

Family Integrated Care

Preterm Optimisation:

Antenatal and Intra-partum care in the right place

Special Care Units - > 32 weeks

Local Neonatal Units - > 27 weeks

Neonatal Intensive Care Units - all gestations/medical complexities

Neonatal Surgical/ Cardiac conditions - Tertiary centres

Neonatal Unit Care vs Transitional Care

ATAIN (Avoid Term Admission in Newborns) principles:

Admit when medically needed

Admission as long as medically necessary

Avoid admission where and when possible

Neonatal Outreach as appropriate

Early identification of babies requiring and eligible

- Moderate preterm for early supported transfer home – NEST@home
- Extreme preterms additional complex discharge needs - Specialised Community Outreach team

No increase (potential decrease) in avoidable newborn re-admissions

Acknowledgements and appreciation

- **Health Innovation North West Coast**
  - Laura Boland, Louise Houghton, Paul Brain, Omobolanle Olagunju, Haku Bhatt
- **NIHR ARC NWC**
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  - Gill Thomson, Caroline Watkins, Victoria Appleton, George Georgiou
  - Andy Clegg, Valerio Benedetto
- **NWNODN**
  - Sarah Fullwood, Louise Weaver-Lowe, Kelly Harvey
- Helen Purves and Jill Harrison
- All the units that completed surveys and participated
- Neonatal Outreach teams – in the North West and across the UK
- Parents and families participating

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Rapid insights session

Laura Boland

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Question 1

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

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Question 2

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

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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?

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Question 4

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

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Question 5

What are the main drivers to implementing neonatal outreach services?

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Question 6

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

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Question 7

Please add any other comments / feedback

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Closing remarks

Laura Boland

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