



BAPM Annual Conference 2026 Presented Abstracts

.....

15-17 September 2026
Nottingham & Online

**British Association of
Perinatal Medicine**



**British Association of
Perinatal Medicine**

Presented abstracts BAPM Annual Conference 2026

Oral Presentations – Page 3

BAPM Committee Walk-Through Posters – Page 12

Posters – Page 73

Oral Presentations

Table of Content

396

Price Z¹, Vallance H², Gooding N³, Gaze S⁴, Bracken L⁵, Chadwick C⁶, Hibberd S⁷, Hinton R⁸, Johnson B⁹, Kafka S¹⁰, Moohan M¹¹, Stachow L¹², Wyllie T¹³

¹University Hospitals Bristol And Weston NHS Foundation Trust, ²University of Birmingham, University Hospitals Birmingham NHS Foundation Trust, ³Cambridge University Hospitals NHS Foundation Trust, ⁴Evelina London, Guy's & St Thomas' NHS Foundation Trust, ⁵Alder Hey Children's NHS Foundation Trust, ⁶University Hospitals Sussex NHS Foundation Trust, ⁷Southampton Children's Hospital, University Hospital Southampton NHS Foundation Trust, ⁸Manchester University NHS Foundation Trust, ⁹West Midlands Perinatal Network, ¹⁰NHS Greater Glasgow and Clyde, ¹¹Belfast Health and Social Care Trust, ¹²University Hospitals of Leicester NHS Trust, ¹³Cardiff and Vale University Health Board

384

Jones K¹, Van Hasselt T¹, Shari N¹, Sham D¹, Behrsin J¹, Millard K¹, Kaur A¹

¹University Hospitals Leicester

458

McDermott H^{1,2,3}, Battersby C^{4,5}, NeoTRIPS 22 Week Group⁶

¹Kids Intensive Care and Decision Support/Neonatal Transfer Service KIDSNTS, Birmingham Women's And Children's NHS Trust, ²Neonatal Department, New Cross Hospital, The Royal Wolverhampton NHS Foundation Trust, ³Imperial College London, ⁴Chelsea and Westminster Hospital NHS Foundation Trust, ⁵Section of Neonatal Medicine, School of Public Health, Faculty of Medicine, Imperial College London, ⁶Neonatal Trainee-Led Research and Improvement Projects (NeoTRIPs)

367

Stone A¹, Kelly N¹, Marshall M¹, Rowe D¹, Alcock A¹, Perry T¹, Martin V¹, Aughey H^{1,2}

¹Royal Devon (RDUH), ²NIHR Applied Research Collaboration South West Peninsula

Price Z¹, Vallance H², Gooding N³, Gaze S⁴, Bracken L⁵, Chadwick C⁶, Hibberd S⁷, Hinton R⁸, Johnson B⁹, Kafka S¹⁰, Moohan M¹¹, Stachow L¹², Wyllie T¹³

¹University Hospitals Bristol And Weston NHS Foundation Trust, ²University of Birmingham, University Hospitals Birmingham NHS Foundation Trust, ³Cambridge University Hospitals NHS Foundation Trust, ⁴Evelina London, Guy's & St Thomas' NHS Foundation Trust, ⁵Alder Hey Children's NHS Foundation Trust, ⁶University Hospitals Sussex NHS Foundation Trust, ⁷Southampton Children's Hospital, University Hospital Southampton NHS Foundation Trust, ⁸Manchester University NHS Foundation Trust, ⁹West Midlands Perinatal Network, ¹⁰NHS Greater Glasgow and Clyde, ¹¹Belfast Health and Social Care Trust, ¹²University Hospitals of Leicester NHS Trust, ¹³Cardiff and Vale University Health Board

Background

Neonatal patients require specialist pharmaceutical care due to their small size, prematurity and complex needs. However, two recent publications have demonstrated the need for more specialist trained neonatal pharmacists: only 13% of NHS Trusts¹ with neonatal beds met the Neonatal & Paediatric Pharmacy Group (NPPG) staffing standards², and nearly 63% of neonatal intensive care units reported medication errors in their top 3 incident categories³.

Method

The NPPG Neonatology Specialist Interest Group (SIG), steered by a committee of UK pharmacists, responded to a membership request for more educational support.

Based on the mnemonic 'BABY FLAMINGo!', the SIG committee developed a training module focusing on 11 areas where interventions in pharmaceutical care can optimise outcomes. It reflects a baby's journey through neonatal care: starting with 'B' for 'Before birth and Baby' and continuing until discharge, 'Go!'. The associated tool serves as an ongoing aide memoire.

The learning outcomes and draft outline were reviewed by the SIG membership. All responses (n=18) agreed a need for this training module; almost 89% agreed the most relevant topics were included. 100% responded that the teaching pack would be 'extremely useful' or 'very useful'.

In collaboration with the NHS funded SCRIPT eLearning programme, BABY FLAMINGo! was written and peer reviewed, before launching at the end of 2025.

Results

In the first five months, BABY FLAMINGo! was completed by 68 NHS staff (pharmacists=41, doctors=21, nurses=2 and 'other'=4). See table 1 for end of module feedback.

Conclusions

BABY FLAMINGo! has been completed by learners from across the neonatal MDT, achieving high levels of satisfaction. Learners were likely to recommend BABY FLAMINGo! to colleagues.

Developing the neonatology workforce is essential to optimising the pharmaceutical care delivered to neonates: this teaching module plays a key role in supporting this goal.

Image

Domain	Mean (<i>M</i>)	Standard deviation (<i>SD</i>)	Average time spent	Average pre-test score	Average post-test score
Content	4.71	0.49	2 hours 45 mins	6.78	8.83
Presentation	4.71	0.49			
Interactivity	4.71	0.49			
Pre/Post test	4.29	0.76			
Overall Satisfaction	4.86	0.38			
Recommendation	4.43	0.79			

Table 1. Feedback from learners (n=7) (1=poor, 5=excellent) from SCRIPT Learning Management System

Jones K¹, Van Hasselt T¹, Shari N¹, Sham D¹, Behrsin J¹, Millard K¹, Kaur A¹

¹University Hospitals Leicester

Background:

Non-invasive ventilation (NIV) rates for infants born <32 weeks in the first week of life is a core NNAP quality metric. The majority of preterm infants require supported transition rather than resuscitation, and delivery-room nasal continuous positive airway pressure (DR-nCPAP) for preterm infants is associated with reduced intubation and invasive ventilation. Local NNAP data demonstrated declining unit performance below national average.

Aim:

Primary: increase proportion of infants 28-31+6 weeks receiving NIV only during the first week of life by introducing DR-nCPAP as standard delivery-room practice.

Secondary: evaluate associated clinical and family-centred outcomes.

Methods:

A multidisciplinary quality improvement project was embedded within existing PERIPrem and Saving Babies' Lives workstreams. Fishbone analysis and a key driver diagram informed three iterative Plan-Do-Study-Act (PDSA) cycles across three themes: equipment assembly (DR-nCPAP grab-bag and pictorial guideline); educational resources (training video and simulation package); and staff training ("tea trolley" teaching and integration into medical induction). Outcome, process and balancing measures were collected prospectively.

Results:

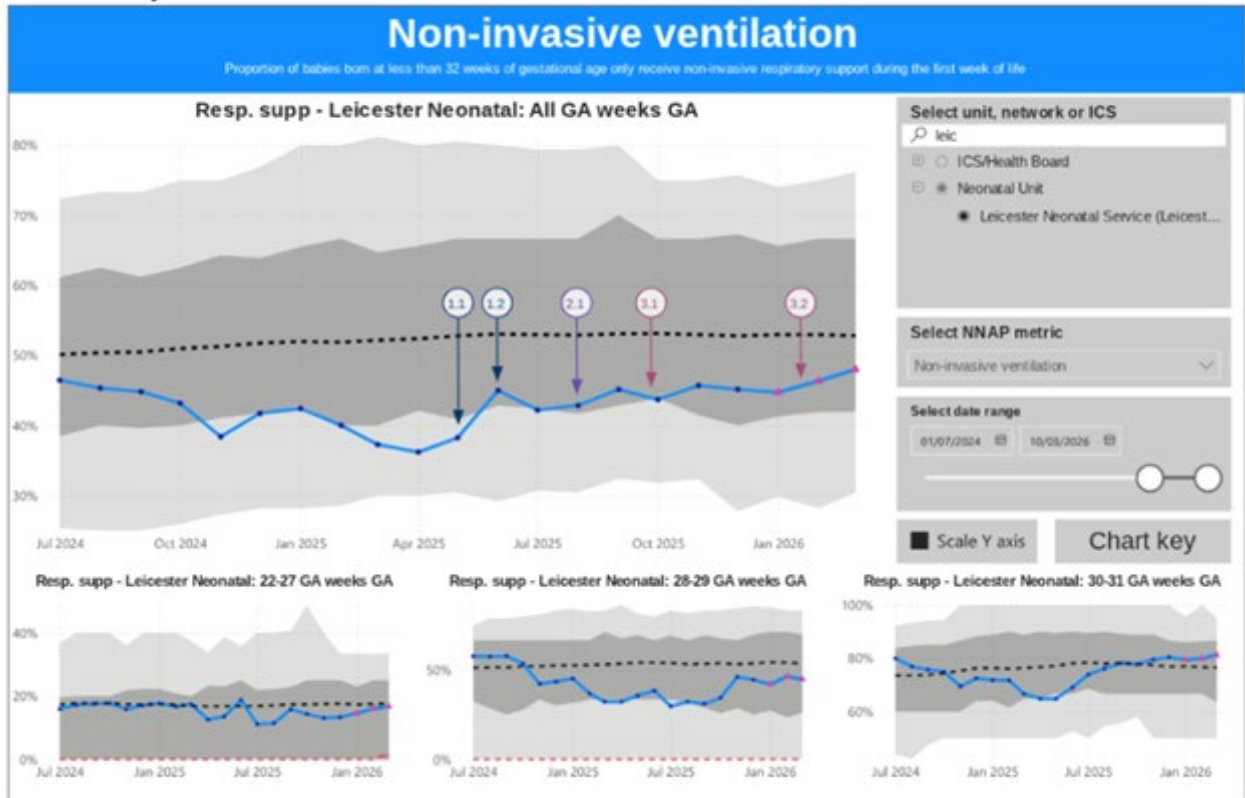
The primary outcome (NNAP measure: NIV alone during the first week of life) had declined to 37% by April 2025 (national average ~50%). Following implementation, performance improved to 48% by March 2026. DR-nCPAP was used in 26/76 (34%) of eligible 28-31+6 week deliveries, increasing to 39% in the most recent quarter. DR-nCPAP was associated with lower intubation rates in the delivery-room (8% vs 32%, $p=0.02$) and higher delivery-room cuddle rates (81% vs 40%, $p<0.001$) despite comparable gestational age. Staff surveys identified inexperience and equipment unfamiliarity as key barriers. Implementation enquiries have been received from neighbouring neonatal units following network presentation of progress.

Conclusion:

Structured DR-nCPAP implementation reversed a declining NNAP trajectory and was associated with reduced intubation and substantially increased delivery-room cuddle rates. Investment in staff training and educational resources supports sustainability, with ongoing PDSA cycles driving further improvement.

Graphs

Figure 1: Run Chart from NNAP database showing one year prior to implementation to most recent data with PDSA cycle timeline



Image

Table 1: PDSA cycles across three themes

PDSA cycle	Plan	Do	Study	Act
1.1	Easy gathering of equipment during preterm delivery	Introduce grab bag for preterm delivery	Feedback from medical/nursing staff	Produce a checklist and pictorial guide manual
1.2	Pilot use of nasal mask	Use of nasal mask during elective preterm delivery	Feedback from neonatal champion	Development of educational content based on pilot findings
2.1	Demonstration of nCPAP technique to staff	Morning pre-handover teaching Tea trolley teaching	Feedback obtained from each session	Plan simulation training based on identified gaps
3.1	Staff training on nCPAP in delivery room	Simulation training for non-rotating staff	Capture debrief notes and participant feedback	Incorporate formal simulation session into existing teaching schedule
3.2	Staff training on nCPAP for rotating staff	Include nCPAP training in medical induction	Feedback obtained	Target induction training specifically to registrar level

McDermott H^{1,2,3}, Battersby C^{4,5}, NeoTRIPS 22 Week Group⁶

¹Kids Intensive Care and Decision Support/Neonatal Transfer Service KIDSNTS, Birmingham Women's And Children's NHS Trust, ²Neonatal Department, New Cross Hospital, The Royal Wolverhampton NHS Foundation Trust, ³Imperial College London, ⁴Chelsea and Westminster Hospital NHS Foundation Trust, ⁵Section of Neonatal Medicine, School of Public Health, Faculty of Medicine, Imperial College London, ⁶Neonatal Trainee-Led Research and Improvement Projects (NeoTRIPs)

Background

The 22 Week Study consists of a tertiary unit-level survey and prospective baby-level data collection in the UK.[1] We describe demographics, delivery room practices and outcomes from a preliminary dataset.

Methods

Patient data were collected prospectively in REDCap by UK NICU study teams, from 1st June 2025. Parents received an information leaflet. Eligibility criteria are NICU inborn or admitted (transferred ex-utero) babies (research ethics IRAS 346626).

Results

Figure 1 shows demographics and delivery room practices of the first 60 babies receiving survival focused care from 27 units.

Most babies (92%) were admitted to NICU. Over 95% received respiratory support only. All were intubated in the delivery room, with a 46% first pass success rate; a 2.0 mm endotracheal tube (ETT) was used in 52% of final intubations. ETT length was longer than the subsequently optimised position on chest X-ray in 23/53 (43%) babies. Starting fiO_2 was 30% for the majority (72%); escalated to 100% for 80% of babies. Majority were kept warm and received parental cuddles; around half received full perinatal optimisation.

To date, 13% have been discharged home, 58% died; 28% remain in neonatal care. For 32 babies who died after admission, median time to death was 10 days (IQR 5.5–27). The commonest causes of death were respiratory disease and sepsis; re-orientation of care most frequently due to refractory cardio-respiratory failure.

Conclusions

Preliminary findings highlight important delivery room challenges, with over half of successful intubations requiring a 2.0 mm ETT and frequent ETT repositioning after chest radiography. Majority of babies (80%) required escalation to high fiO_2 .

Death occurred later than reported in previous UK cohorts[2] (25% vs 65% within first 7 days) with respiratory failure and sepsis the predominant causes. These early findings demonstrate the value of national collaboration in generating meaningful evidence for this emerging population.

Image

Table 1 – Demographics and delivery room practices for babies receiving survival focused care

Demographics	N (%) N = 68	
Number of babies per centre, median (IQR)	1 (1-3)	
Gestational age, median (IQR)	32+4 (32+3-32+5)	
Birthweight in grams, median (IQR)	477 (457-510)	
Male	36 (50%)	
Singleton	51 (85%)	
Idiom	51 (85%)	
Ethnicity	White 25 (42%) Asian 12 (28%) Black 10 (17%) Multiple/Mixed or Other 9 (15%) Unknown 4 (7%)	
Antenatal steroids	Two doses 29 (48%) First dose 24 (40%) None – delivered before given 7 (12%)	
Maternal infection (sepsis +/- sepsis) suspected	20 (32%)	
Chorioamnionitis	14 (22%)	
Rupture of membranes	None 23 (36%) <18 hours 9 (15%) 18-72 hours 6 (10%) 4-7 days 9 (13%) >7 days 7 (12%) Unknown 7 (12%)	
Vaginal delivery	+55 (+92%)	
Delivery Room Practices		
Consent present at delivery	46 (77%)	
Weighted in DR	12 (20%)	
Intubated in DR	60 (100%)	
Intubation attempts, median (IQR)	2 (1-3)	
First attempt intubation success	26 (46%)	
Age at first intubation attempt in mins, median (IQR)	5 (3-8)	
Operator per intubation attempt	First attempt 33 (55%) Consultant (NICU/LMU/SCU) 19 (32%) S16-4/Senior ANNP/SCF 18 (30%) S14-S11-3/Junior ANNP/SCF 13 (22%) Unknown 10 (16%) Final attempt 22 (38%) S16-4/Senior ANNP/SCF 14 (23%) S14-S11-3/Junior ANNP/SCF <5 (+8%) Unknown 6 (10%)	
ETT size per intubation attempt	First attempt 17 (28%) 2mm 36 (60%) 2.5mm 7 (12%) Other/ Size unknown 0 (0%) Final attempt 31 (52%) 2mm 29 (48%) 2.5mm 0 (0%)	
ETT lengths (where both documented), median (IQR)	N = 53 Secured on DR 4 (5.5-6) Optimised post chest x-ray 5.5 (5.5-6)	
Stylet use (any attempts)	34 (57%)	
Videolaryngoscopy use (any attempts)	25 (42%)	
Surfactant given in DR	52 (87%)	
Surfactant dose given	200-250mg/kg 26 (43%) 251-300mg/kg 19 (32%) Other dose 7 (12%)	
Age at first surfactant dose in mins, median (IQR)	10 (10-20)	
Chest xray prior to DR surfactant administration	0 (0%)	
Chest compressions	<5 (+8%)	

Table 1 – Demographics and delivery room practices for babies receiving survival focused care

Cord Clamping	Equal or more than 60 seconds 29 (48%) Less than 60 seconds 8 (13%) Immediate 19 (32%) Unknown 4 (7%)
Temperature control methods	Unknown 16 (24%) Plastic bag 54 (80%) Radiant heat 43 (72%) Hat 39 (60%) Tubercular 11 (16%) Bedside resuscitation trolley 35 (58%)
DR cuddles	35 (58%)
Admission temperature in °C	N = 55 Median (IQR) 36.7 (36.5-37.1)
Outcomes	55 (82%)
Admitted to NICU	55 (82%)
Available outcomes following admission	Discharged home 7 (12%) Dead 32 (58%) Ongoing admission 16 (29%)
Day of life at death, median (IQR)	N = 22 10 (5-24)
Death within set time period	Death within 7 days 8 (25%) Death within 28 days 25 (76%)
Neonatal cause(s) of death from certificate (where documented)	N = 28 Extreme prematurity 28 (100%) Respiratory causes** 14 (50%) Sepsis/ Infection 13 (46%) HSC surgical lesion 6 (21%)
Was care re-orientated prior to death?	N = 32 Yes 17 (53%) Other 4 (19%) No 6 (19%) Unknown 3 (9%)
Reasons for re-orientation (multiple options)	N = 17 Refractory hypoxia 12 (71%) Other 11 (34%) Refractory hypotension 6 (35%) Significant IVH (grade 3-4) <5 (+8%) Necrotising enterocolitis <5 (+8%)

DR (Delivery room), IQR (interquartile range)

*Any categories N=5 not reported to prevent patient identification

**Respiratory causes include respiratory distress syndrome, pneumothorax, pulmonary haemorrhage, persistent pulmonary hypertension, pulmonary hypertension, chronic lung disease/ bronchopulmonary dysplasia

References

- <https://neotrips.org/research/the-22-week-study/>
- Van Bankenstein E, Battersby C. https://www neonatal society at uk/wp-content/uploads/2024/11/Abstract_Book-and-Programme-NNS-Autumn-Meeting-2024.pdf

All collaborators can be found online: <https://neotrips.org/research/the-22-week-study/>

Stone A¹, Kelly N¹, Marshall M¹, Rowe D¹, Alcock A¹, Perry T¹, Martin V¹, Aughey H^{1,2}

¹Royal Devon (RDUH), ²NIHR Applied Research Collaboration South West Peninsula

Background

Transitional Care (TC) keeps mothers and babies together whilst delivering elements of neonatal care. Prior to November 2025, RDUH Exeter's TC provision was limited: 34-week babies were separated through neonatal unit admission, and 35-36 week babies received no structured neonatal oversight. Benchmarking data identified term admission rates above the network average and long NNU stays for non-complex preterm infants.

Aim

To expand and redesign TC, doubling capacity from 4 to 8 beds, extending admission criteria to 34 weeks gestation, and embedding a sustainable model keeping families together.

Methodology

A test of change launched November 2025, co-designed by neonatal and midwifery staff through pre-implementation focus groups. The project was also shaped by parent views through surveys shared via social media and support from the MNVP. Iterative improvement was driven by real-time "you said, we did" feedback cycles, with a dedicated TC lead nurse responding to staff concerns throughout. Prospective quantitative data was collected and compared against a matched pre-implementation period. Parent experience was captured via QR code survey; staff experience via end-of-shift written feedback and surveys.

Results

113 mother-baby pairs kept together over three months (401 cot days). In late preterm babies (34-36+6 weeks), comparing pre and post implementation: mother-infant separation fell from 47% to 22%; average length of stay halved from 8.5 to 4.1 days; hypothermia rates fell from 37% to 8.6%; hypoglycaemia from 67% to 7%; IV antibiotic administration from 67% to 41%; breastmilk feeding at discharge improved from 53% to 63%. One readmission occurred among 33 preterm TC babies. Parent feedback (n=20): 100% rated staff support excellent; 95% rated feeding support excellent.

Conclusions

A cost-neutral, TC expansion delivered rapid, substantial improvements in clinical outcomes and family experience. TC is now embedded as permanent practice at RDUH, with planned extension to RDUH's SCBU site.

Graphs

Comparative data of preterm babies (34-36+6 weeks gestation)		
	Pre-implementation of current TC	Post-implementation of current TC
Number of admissions over a three month period	36	33
How many were separated from their mother at some point	47%	22% (for respiratory needs on NNU) Less than 1% when admitted directly to TC with no NNU input
How many experienced hypothermia during admission	37%	8.6%
How many experienced hypoglycaemia during admission	67%	7%
How many received a sepsis screen	67%	41%
How many received any kind of breastmilk at discharge (breast, expressed milk, mixed)	53%	63%
Average length of stay	8.5 days	4.1 days

TRANSITIONAL CARE

FAMILY FEEDBACK

"Was really good that my partner got offered a cup of tea and something to eat in the morning as he was exhausted and hadn't been offered anything from when we were on the other ward before baby was born"

"All of the staff were amazing"

"This team has been very helpful"

"Feeding support was amazing"

"Very well-supported, fantastic team"

"Dad was asked to leave when we were on postnatal ward and I got really upset and he had to come back in. TC was a lot better with allowing dad to stay"

"The care and support provided by the Transitional Care Team made our experience less painful"

"I honestly feel that TC felt like a really special place"

"it just felt more comfortable and special"

"such wonderful nurses"

"Everyone just being so caring and attentive nothing was too much of an ask and you always felt like they wanted to be there"

"I think for such a new section of the hospital everything is just great. Couldn't of asked for a better place to bring baby into the world with such great incredible support"

"We learned an awful lot and everyone was just so supportive"

BAPM Committee Walk-Through Posters

Table of Content

3 Improving Transitions in Care: A Parent-Informed Neonatal Repatriation Pathway

Cleator A¹, Hoyle E¹, Nesbitt V², Murphy G²

¹Liverpool Women's Hospital, ²Ormskirk Hospital

349 Parent Perceptions of Early Start Sessions – an AHP initiative

Factor G¹, Kahn A¹, Gibbs D^{1,2}

¹Barts Health NHS Trust, ²Queen Mary University of London

364 Improving Infant Comfort and Staff Wellbeing During Neonatal Lumbar Puncture: A Quality Improvement Project Implementing an Evidence-Based Wrapped Holding Technique

Thannickal Mathew S¹, Rajah K²

¹The Hillingdon Hospitals Nhs Foundation Trust, ²The Hillingdon Hospitals Nhs Foundation Trust

392 Development of an e-learning tool for neonatal healthcare professionals: 'Preparing parents for administering medicine at home'

Sutton C¹, Gill A¹, Clark J¹, Anders N², Harvey K², Haycocks C², Mainwaring K², Palin H³, Bracken L¹

¹Paediatric Medicines Research Unit, Alder Hey Children's NHS Foundation Trust, ²North West Neonatal Operational Delivery Network, ³WELLKNOWN

407 Development of a Specialist Perinatal Clinic at St Peter's Hospital

McGrath J¹, McDonnell S¹

¹St Peter's Hospital

440 Addressing Parental Vitamin K Refusal Through Empathetic Refutational Interviewing

Mamun M¹, Nesbitt V

¹Ormskirk District General Hospital

467 "Why Aren't Parents There?" Identifying Barriers to Parental Inclusion in Neonatal Consultant Ward Rounds

Alarcio E¹, Jacob E¹, Sanghera R², Pillay T²

¹Leicester Medical School, University Of Leicester, ²Department of Neonatology, University Hospitals of Leicester NHS Trust

502 Creativi-tea: A Craft-Based Intervention to Support Parental Wellbeing in the Neonatal Intensive Care Unit

Storey A

13 "Every Touch Matters": A QI Initiative to Reduce IVH at BHH

Eyo T¹, Zulfiqar F¹, Eltahir R¹, Fernandes M¹, Chaeger E¹, Garikapati V¹

¹Neonatal Intensive Care Unit, Birmingham Heartlands Hospital

14 Evaluation of a National Neonatal competency-based training programme in Vietnam

Eason J¹, Schapira D², Campbell M³, Lubran S⁴, Bedford Russell A⁵

¹University Hospital Plymouth, ²Royal Hampshire County Hospital, ³Royal Hospital for Children,

⁴Newborns Vietnam, ⁵Liverpool Women's Hospital

325 "Take a Breath": Reducing Delivery Room Intubation in Preterm Infants. A Quality Improvement Project (QIP)

Gabriel M², Tse C², Hoo Chuin Shen M, Sur A¹

¹NWNODN, ²Department of Neonatology, East Lancashire Hospitals NHS Trust, Lancashire, UK

337 Embedding Everyday Memory Making into Neonatal Intensive Care: A Quality Improvement Initiative

Maher N¹, Lynas G¹, Bhayat S¹

¹Great Ormond Street Hospital For Sick Children

356 Implementing a structured handover framework to improve interprofessional handover for attending deliveries

Wilson E¹, Nott V, Green A, Thakkar D

¹The Hillingdon Hospitals NHS Foundation Trust

408 Introducing a Family-Integrated Developmental Care Ward Round - a multi-professional pilot
Kruger R¹, Vincent E¹, Leonard A¹, Kraleva D¹, Arron K¹

¹Neonatal Unit, Nottingham University Hospitals NHS Trust

422 Introduction of routine delivery room LISA for infants born at 25-26+6 weeks' gestational age: a quality improvement project

Cliff C, Spierson H¹

¹Bolton Neonatal unit

436 Cyanoacrylate Tissue Adhesive (CTA) Reduces Neonatal Long Line Migration (NLL): A NICU Quality Improvement Study

Singh R¹, Verma V¹, Bhayat S¹, Janagill M¹

¹Great Ormond Street Hospital For Children NHS Foundation Trust

449 POCUS vs chest X-ray for neonatal central long line confirmation

Point-of-care ultrasound for central long line confirmation in neonates: an 18-month quality improvement study

Lasokova M¹, Tolentino D, Duffy D, Shetty S, Kulkarni A

¹St George's University Hospital NHS Foundation Trust

469 Golden Early Minutes (GEM), Improving Optimal Cord Management in Preterm Infants: A Multidisciplinary Quality Improvement Project.

Macaskill L¹, Shah K¹, Thottungal M¹, Booth-Davis J¹, Scott K¹, Dodds M¹, Ramsay R¹, Banerjee Oberoi S¹, Jain P¹

¹Walsall Manor Hospital

491 Improving Normothermia Achievement in Preterm Infants <34 Weeks: A Quality Improvement Initiative Against National Standards

Ikram R¹, Chang R¹, Chuang S¹, Abdulla S¹, Abobade A¹

¹Chelsea & Westminster Hospital NHS Foundation Trust

7 Outcomes After Fetoscopic Endoluminal Tracheal Occlusion for Congenital Diaphragmatic Hernia: A Systematic Review and Meta-analysis of Single-Arm Cohort Studies

Jamileh E^{1,2}, Muhammad F³, Xamza M⁴

¹Department of Neonatal Medicine, Royal Blackburn Teaching Hospital, East Lancashire Hospitals Trust., ²School of Medicine, Queens University Belfast., ³School Of Medicine, Queen Mary University Of London, ⁴Department of Medicine, Barking Havering and Redbridge University Hospitals NHS Trust.

372 Less-Invasive Sedation and Non-Invasive Ventilation for Retinopathy of Prematurity Laser Treatment: A Matched Cohort Study

Mendoza M¹, Mohamed R¹, Kiray G¹, De Smit E¹, Duffy D¹, Kulkarni A¹, Shetty S¹

¹St George's University Hospitals NHS Foundation Trust

377 Can we safely reduce the need for ROP screening in low-risk infants? A population-based cohort study in England and Wales

Kwok T¹, Sharkey D¹

¹University of Nottingham & Nottingham Centre for Neonatal Care

380 Differences in presentation, co-morbidities and outcomes between preterm necrotising enterocolitis and spontaneous intestinal perforation

Copp F, Leven L¹, Walker G¹, Simpson J¹

¹Royal Hospital For Children, Glasgow, ²Louise Leven

397 Estimates of potential missed opportunities to reduce morbidity and mortality in UK preterm infants over time

Ezeh N¹, Sharkey E², Sharkey D³

¹Nottingham Centre for Neonatal Care, ²Sheffield University, ³University of Nottingham

424 Unplanned Extubation During Neurally Adjusted Ventilatory Assist (NAVA) Compared with Conventional Ventilation in Neonates: A Retrospective Cohort Study

Haggag R¹, Duffy D¹, Kulkarni A¹, Shetty S^{1,2}

¹St George's Hospital, ²City St George's University of London

25 Neonatal hypothermia following birth before arrival: repeat evaluation after changes to prehospital thermal care

Goodwin L¹

¹University of the West of England, Bristol

328 Neonatal Speech and Language Therapy Identification Tool

Parnell K¹

¹West Midlands Perinatal Network

374 Neonatal Outcomes following Nutrition Support Team Implementation

Dawson N¹, McDowall L, Mac K, Forster C

¹Leeds Teaching Trust

413 Evaluating the Efficacy and Safety of Continuous Vancomycin Infusions in Term and Preterm Neonates: A Tertiary NICU Clinical Service Evaluation

Anwar M¹, Ahmed T, Damra H, Khpal J

¹University Hospitals Of Leicester

430 Introduction of a neonatal birth-related refeeding syndrome guideline reduced hypercalcaemia and hypophosphataemia in the first two weeks of life

Levene I¹, Moreno M¹, Adams E¹

¹John Radcliffe Hospital, Oxford

445 Identifying social needs in families with infants admitted to the Neonatal Unit: a single centre pilot evaluation of a co-designed screening tool

Evans K¹, Jones M¹, Nezafat Maldonado B^{1,2,3}, Park J¹, Asir M¹, Blewer E¹, Cantoni M¹, Desmonde P¹, Phillips A¹, Phillips A¹, Wood E¹, Khan H¹, Cawley P^{1,4}

¹Evelina Children's Hospital London, ²Neonatal Medicine, ³Centre for Paediatrics and Child Health,

⁴Research Department of Early Life Imaging

474 The OdonAssist™ device for assisted vaginal birth: clinical introduction and neonatal safety outcomes.

Rose C¹, Hutton E²

¹Southmead Hospital, North Bristol NHS Trust, ²South West PGME School of Obstetrics and Gynaecology

478 From Non-Invasive Ventilation (NIV) to Home: A Neonatologist-Led Multidisciplinary Pathway for Severe Bronchopulmonary Dysplasia (s-BPD)

Manjunath T¹, Hiney A¹, Gardner C¹, Paria A¹, Sur A¹

¹East Lancashire Hospitals NHS Trust

Improving Transitions in Care: A Parent-Informed Neonatal Repatriation Pathway

Cleator A¹, Hoyle E¹, Nesbitt V², Murphy G²

¹Liverpool Women's Hospital, ²Ormskirk Hospital

Background:

Repatriation from neonatal intensive care to local units should be a positive milestone, bringing infants closer to home and signalling progress. However, it is frequently stressful for families, with local feedback highlighting uncertainty, poor communication, and loss of familiar support. We therefore evaluated our repatriation pathway, using family perspectives to inform improvement.

Methods:

Seven families whose infants were repatriated from Liverpool Women's Hospital NICU to a Level 2 neonatal unit at Ormskirk Hospital, following stays exceeding 28 days, were recruited within 12 months of transfer. Semi-structured telephone interviews explored parental experiences of the repatriation process.

Results:

Only one family described repatriation as a positive experience. Most perceived the process as rushed; one family was unaware transfer was planned. Six of seven families were not guided through their discharge letter, and few were offered a tour or introduction to the receiving team. Families reported significant stress adapting to differences in care, including variations in staffing, monitoring, and expectations to demonstrate competency in tasks such as nasogastric tube feeding and medication administration.

Intervention:

In response, we implemented a redesigned repatriation pathway (figure 1):

1. Early parent information emphasising repatriation as an expected stage of care
2. To utilise virtual tours of receiving units, all now accessible via QR code
3. Weekly multidisciplinary email communication between units to identify patients awaiting repatriation
4. A structured virtual multidisciplinary meeting approximately one week prior to transfer, involving parents, both clinical teams, and allied health professionals. Parents complete a pre-meeting booklet to guide discussion and highlight any priorities

Conclusion:

The revised pathway has been successfully trialled and introduced and will be applied to all long-stay repatriations. Ongoing evaluation will focus on parent experience and pathway refinement. The parents' booklet highlighted important elements of care that were often not included in the medical discharge summary.

Image

Neonatal Repatriation Pathway

Baby born at LWH or transferred to LWH after birth AND LWH stay of more than 28 days



Admission pack and initial discussions highlight future transfer as expected milestone. PIL provided regarding repatriation. Ongoing promotion of repatriation pathway in subsequent ward rounds/parent communications.



Ward manager / discharge coordinator to identify eligible babies weekly and update MDT at local unit with information.



Parents given handover booklet to complete with nursing staff support



Parents offered in-person or virtual tour of the DGH prior to handover



Handover meeting (in unit quiet room)

To take place 1–2 weeks prior to repatriation
To be organised by LWH discharge coordinator

LWH team and wider MDT as appropriate
DGH team (on MS Teams)
Parents

Discussion points:

- Discharge letter talked through
- Medications discussed
- Outstanding investigations and follow-up clarified
- Parents present their handover/questions/concerns
- Estimated date for repatriation proposed
- Actions added to discharge summary



Repatriation completed (update to DGH clinical team as appropriate prior to transfer)

Parent Perceptions of Early Start Sessions – an AHP initiative

Factor G¹, Kahn A¹, Gibbs D^{1,2}

¹Barts Health NHS Trust, ²Queen Mary University of London

Background:

In support of Family Integrated Care (FiCare) and developmental care models, Early Start sessions were developed by the AHP team to support the needs of babies and their families during the earliest stages of the neonatal journey. These sessions focus on family empowerment, providing education, advice and relationship building. Individualised sessions are provided with babies and their families within 1-2 weeks of birth/admission. The Early Start sessions aim to provide neurodevelopmentally supportive care and strengthen multidisciplinary working between AHPs and families. This project aimed to evaluate parent perceptions of whether the Early Start sessions were meeting the identified program aims and inform future service development.

Methods:

A mixed-method questionnaire explored parent perceptions of the timing of the sessions, quality and quantity of information provided, parent confidence and empowerment, opportunities for participation and questions and overall parent experience. The survey was piloted with two families before dissemination. Data was collected during a 3-month period (n=15, response rate 71%). Data was analysed using descriptive statistics and thematic analysis.

Results:

Parents reported that the sessions were informative, appropriately timed, and delivered at a suitable level. The majority of parents indicated satisfaction with the amount of information provided, that the sessions helped them feel more confident and comfortable in caring for their baby during the early days and weeks following birth, and provided ample opportunity to ask questions and share insights regarding their baby's journey. Future developments should focus on providing written and visual information to complement the sessions and support parent learning throughout the neonatal journey.

Conclusion:

The Early Start sessions were determined to provide valuable neurodevelopmental education and support for families of extremely preterm infants. The sessions successfully support the principles of FiCare and developmental care by empowering families, promoting participation, and strengthening relationships between parents and the MDT.

Improving Infant Comfort and Staff Wellbeing During Neonatal Lumbar Puncture: A Quality Improvement Project Implementing an Evidence-Based Wrapped Holding Technique

Thannickal Mathew S¹, Rajah K²

¹The Hillingdon Hospitals Nhs Foundation Trust, ²The Hillingdon Hospitals Nhs Foundation Trust

Background: Lumbar puncture is a common neonatal invasive procedure associated with pain, distress, physiological instability, and positioning challenges. Traditional holding often involves restraint, infant agitation and staff strain, whereas developmental care promotes containment, facilitated flexion, and neuroprotective positioning. Following FINE (Family and Infant Neuroprotective Education) Level 1 training (September 2024), an evidence-based wrapped holding technique, endorsed by FINE, was introduced to support infant self-regulation and procedural access. This was implemented through a quality improvement initiative to align practice with developmental care.

Aim: To evaluate and implement an evidence-based wrapped holding technique for neonatal lumbar puncture to improve infant comfort, reduce distress, enhance procedural efficiency, and reduce staff physical strain.

Methods: A Quality Improvement project using the Plan–Do–Study–Act (PDSA) methodology was undertaken in a Local Neonatal Unit and Transitional Care Unit within The Hillingdon Hospitals NHS Trust. Baseline data were collected from LP procedures using traditional holding techniques. Following multidisciplinary approval, staff education, and bedside training, the wrapped holding technique was implemented. Outcome measures included infant comfort and pain (N-PASS), physiological stability, procedural efficiency, ease of positioning, and staff-reported physical strain. Post-implementation data were collected between April and December 2025.

Results: Compared with traditional holding, the wrapped holding technique was associated with reduced infant pain and agitation, improved physiological stability, and increased opportunities for self-soothing. Procedures required shorter positioning and procedure times. Nursing staff reported significant reductions in back and neck strain, awkward postures, and muscle fatigue. Positioning was consistently rated as easier, while medical staff reported improved procedural access and stability. The intervention was low-cost, reproducible, and readily integrated into routine clinical practice using existing resources.

Conclusions: Implementation of an evidence-based wrapped holding technique improved infant comfort, procedural success, and staff wellbeing during neonatal lumbar puncture, demonstrating how developmental care principles can be integrated into routine practice through quality improvement.

Image

Wrapped Holding Technique: Step- by- step guide	Step and Description
	Step 1 – Fold and Position the Drape Fold the drape into a long strip (approximately 10–15 cm wide, adjusted according to infant size). Position it lengthwise beneath the infant, between the shoulders and the base of the head, ensuring a longer tail on one side and a shorter tail on the other.
	Step 2 – Position the First Arm for Self-Soothing Starting on the side with the longer tail, gently bring the nearer arm toward the mouth to facilitate self-soothing. Non-nutritive sucking or sucrose may be offered in accordance with local guidelines.
	Step 3 – Wrap the Long Tail Bring the long tail across the chest toward the opposite hip. Tuck it under the buttocks, then pass it behind the back and across the abdomen in a figure-of-eight motion to promote flexion and containment.
	Step 4 – Secure the Shorter Tail Bring the opposite arm toward the mouth and wrap the shorter tail across the body to meet the long tail. Ensure the wrap is snug but not restrictive, maintaining visible chest movement and a patent airway.
	Step 5 – Position for Lumbar Puncture Gently roll the infant into the lateral decubitus position with the back exposed. Confirm appropriate spinal flexion, with hips and knees flexed, to optimise access to the interspinous spaces.

Development of an e-learning tool for neonatal healthcare professionals: 'Preparing parents for administering medicine at home'

Sutton C¹, Gill A¹, Clark J¹, Anders N², Harvey K², Haycocks C², Mainwaring K², Palin H³, Bracken L¹

¹Paediatric Medicines Research Unit, Alder Hey Children's NHS Foundation Trust, ²North West Neonatal Operational Delivery Network, ³WELLKNOWN

Background

The PADDINGToN-1 study highlighted training needs for healthcare professionals (HCPs) preparing neonatal parents to administer medicines at home. An e-learning package was designed to enhance HCPs understanding of the parents' experiences administering medicines following discharge in order to support the delivery of clear, practical and timely guidance, enabling parents to feel confident and empowered to administer medicines safely.

Methods

E-learning content was informed by feedback from PADDINGToN-1 parents and a multidisciplinary 'Discovery session'. including neonatal staff, a parent, research pharmacists, a senior educationalist and a digital learning expert.

Various iterations were reviewed by pharmacists, neonatal nursing staff, an advanced neonatal nurse practitioner and a neonatal clinical educator to ensure relevance and alignment with current practice. The package was made available to HCPs via the Northwest Neonatal Operational Delivery Network online platform in May 2026. Feedback was requested from those completing the course.

Results

In the first month following its launch 37 staff members from 18 hospitals completed the e-learning package. Twenty-one (57%) rated it as 'extremely useful' and eighteen (49%) as 'very useful'. 97% (36/37) would recommend to a colleague.

32 (86%) reported the course will change their practice with examples cited such as "spending more time with parents even when they say they are confident [to] give them chances for more questions", "actively listening and understanding parents' concerns for after discharge and advocating for them" and "I feel more empowered to support parents with medication administration".

Staff reported highlights of the package including "parent voices", "starting medication conversations early" and "it opened my mind to the anxieties parents face".

Conclusions

The aim of developing this e-learning package was to better support healthcare professionals to prepare neonatal parents to administer medicines at home. Initial feedback suggests this aim has been achieved.

Development of a Specialist Perinatal Clinic at St Peter's Hospital

McGrath J¹, McDonnell S¹

¹St Peter's Hospital

Background: The Perinatal Clinic was created in October 2024 at St Peter's Hospital to provide coordinated, multidisciplinary antenatal care for pregnancies at high risk of preterm birth and neonatal morbidity. The clinic aligns with BAPM Perinatal Optimisation ('Prem 7'), the Saving Babies' Lives care bundle, and national maternity safety recommendations. Short term funding was granted by the LMNS.

Aim: To establish a multidisciplinary Perinatal Clinic that improves antenatal counselling, care planning, neonatal preparedness, family experience, and in-utero transfer outcomes for local and regional families.

Methods: A weekly 2-slot clinic was created. Patients are pre-booked after discussion with the fetal medicine consultants. Appropriate cases included those pregnancies with:

- Preterm prolonged rupture of membranes (PPROM)
- Significant fetal growth restriction (FGR)
- Structural anomalies for delivery at St Peter's (non-surgical)
- Multiple pregnancy: complex twins or higher grade
- Palliative care including parallel planning

The clinic slots facilitate joint discussion between families and appropriate members of the MDT. This has included obstetric and neonatal consultants, resident doctors and ANNPs, specialist midwives, our neonatal family support worker, our neonatal psychologist, MNVP representatives and members of the paediatric palliative care team and perinatal mental health team.

Results: The clinic has proven to be feasible and effective with overwhelmingly positive feedback from families and staff. All families received a QR code for feedback after attending clinic- 100% felt 'very satisfied' with the experience. The MDT involved were sent an online survey for interim feedback. See comments in figure 1. Staff were also asked for clinic development suggestions.

Conclusions: The perinatal clinic at St Peter's has fulfilled the required objectives by facilitating patient-centred specialist antenatal consultation by a bespoke perinatal MDT.

We aim to secure funding to continue the service, widen the case range and encourage earlier referral of complex pregnancies from surrounding maternity units.

Image

Comments from families

'Invaluable to have all those minds in the same room at the same time'

'The meeting was extremely helpful and made us feel a lot better about the weeks ahead'

'The team answered all our questions and built our confidence.'

'It was a very helpful and informative meeting. We received... the NICU Consultant kindly took the time to give us a tour of the NICU and explain everything to us in detail which we found extremely valuable'

Comments from Palliative Care team

Very valuable to be 'part of the perinatal team'. Allows families to understand that palliative care is working in collaboration and parallel with obstetric and neonatal teams.

Comments from the hospital MDT

The Perinatal clinic puts families at the centre of their baby's care. Where much uncertainty is faced by these complex pregnancies, the joint introduction to the perinatal team gives families insight and confidence in a team that appreciate the challenges they face.

Family knowing that there is a team behind them rather than a disparate group of professionals

Useful to see families in calm environment as opposed to LW and also take them around for tour of NICU. Families remember us well when they are later admitted to NICU and helps from a good relationship.

I think it's a fantastic service that patients really appreciate. It gives complex patients the opportunity to ask questions to all professionals involved in their care.

Addressing Parental Vitamin K Refusal Through Empathetic Refutational Interviewing

Mamun M¹, Nesbitt V

¹Ormskirk District General Hospital

Background: Vitamin K deficiency bleeding is a rare but devastating preventable condition, with late-onset disease carrying high mortality and risk of intracranial haemorrhage. Parental refusal of intramuscular prophylaxis is increasingly driven by online misinformation, much of it referencing US formulations containing additives absent from the UK product. Correcting such misinformation with facts alone can paradoxically entrench resistance, leaving clinicians underprepared for these emotionally and culturally sensitive conversations, with leaflet-based counselling often reported as ineffective.

Methods: A pre-intervention survey of paediatric doctors and advanced neonatal nurse practitioners (n=12) assessed confidence, perceived preparedness, and the specific challenges encountered. Informed by these findings and a structured literature review, an educational intervention was developed for the multidisciplinary neonatal team, combining a teaching session with a ward-based quick-reference counselling guide. The session introduced the Empathetic Refutational Interview (ERI), a structured framework that identifies the attitude root underlying refusal (e.g., fear, distrust, religious concern) before affirming the parent's motivation, correcting the misconception, and sharing clinical evidence. Staff preparedness was re-evaluated through post-session feedback.

Results: Pre-intervention, 83% of respondents encountered refusal at least monthly, and 50% had felt unable to address parental concerns adequately, despite 75% self-rating as confident, revealing a clear gap between confidence and actual preparedness. Reported challenges included social-media misinformation, religious queries, and entrenched beliefs, reflecting variation in concerns across cultural and faith groups. Post-session (n=7), all respondents reported improved knowledge and preparedness in managing these conversations.

Conclusions: A meaningful gap exists between clinician confidence and actual preparedness for these conversations. Equipping staff with a psychologically informed, equity-conscious communication approach, reinforced by a transferable reference guide, improved their preparedness for culturally sensitive refusals and are readily transferable to other UK units sharing the same formulation. Limitations include a small, single-site sample and self-reported outcomes. A longer-term re-evaluation of staff preparedness is planned.

Image

EMPATHETIC REFUTATIONAL INTERVIEW

"People will forget what you said and what you did, but they will never forget how you made them feel."

1

Elicit: Get curious

Ask, then actually listen; resist correcting straight away.

- "What have you heard about vitamin K?"
- "Can you tell me what's worrying you?"
- "What matters most to you about how things go for her?"

3

Correct: Don't just say they're wrong

Offer a truer model aimed at their root, not a flat "that's incorrect". Negating a belief leaves a hole; fill it. Mind your tone: informing lands differently from scoring a point, and they feel which it is before they've heard the content.

"Vitamin K isn't a chemical; it's a natural vitamin your baby needs but can't yet make enough of."

2

Affirm: Validate the concern

Validate the motivation behind the worry, never the misinformation; it only sounds sincere if you've genuinely heard them. **Skip this and the rest fails.**

- "It's clear you're thinking hard about what's best for her."
- "That's a good question; lots of parents ask it."
- "That worry stems from a real study, so I understand why it's on your mind."

4

Inform: Facts → Last

Only now bring in the numbers: how rare it is and how serious the risk of a brain bleed. (Delivered first, they bounce off.)

It's a conversation, not a script

We gave our older one the oral drops, and he was completely fine. We'd rather do that again.

I understand, you've done it before, and it worked out. What made you choose oral over IM?

I just don't like jabbing a newborn for something when there's a tablet that does the same job.

I get that completely, not wanting her stuck with a needle on day one is a caring instinct, and oral is a real option we offer.

The one thing to weigh is that the oral and the injection don't quite protect the same way: the drops only work if her gut absorbs them, and a hidden liver problem that can't always be spotted at birth can block that, which is where the rare, serious bleeds happen. Oral is also three doses over the first month, and the cover depends on finishing all of them.

So are you saying I put my son at risk by giving him the drops?

No, not at all. Most babies are completely fine whichever route they have, and you followed perfectly sensible advice. I'm not second-guessing what you did with your son; I'm just laying out the options so you've got the full picture.

And on the injections, it's almost the reverse of how it feels. The jab takes one moment, once, and is done. Orally there are three separate doses to remember and come back for. So the needle is the fewer-steps option, not the extra one.

I hadn't thought about it like that. I still don't love the needle, though.

Totally fair. If you go for the injection, we can make it gentle, during a feed or skin-to-skin, with a little sugar or a breastfeed to blunt the pain, and it's over in seconds. If you'd still prefer oral, that's fine; I'll make sure you've got all three doses and know what to watch for.

Either way, the reason we make a point of it is the bleed it prevents is rare, but it's often a brain bleed and it's largely preventable. That's the whole point.

● Elicit: Notice what just happened in you; most of us feel an instant pull to say, "But injection's more reliable." Catch that reflex and hold it. Get curious before you correct. Do you actually know why she wants oral? Or are you assuming? You have a guess, not an answer. Go and get the answer.

▲ Affirm: Validate the motivation, never the misinformation. Can you find something here you genuinely believe? Sparing a newborn an unnecessary needle is good parenting. If you can't locate anything real to affirm, you haven't listened enough yet. An affirmation you don't mean sounds exactly as hollow as it is.

■ Correct: Swap "oral does the same job" for an accurate picture aimed at her actual worry. Watch your tone: are you informing her or scoring a point? The same words land differently depending on which you're doing, and she'll feel which it is before she's heard the content.

▲ Affirm: Repair first and mean the reassurance. Notice the pull to rush back to the clinical point, and resist it until she's landed. Could you have headed this off by naming it before correcting, "This isn't about your older one"? The kindest correction is often the one you pre-empt.

■ Correct: A reframe of her frame. This is where it's most tempting to land it like a "gotcha", because it's a good point, and it feels like winning. Don't. You're not trying to be right; you're enabling her to change her mind.

▲ Affirm: Honour her autonomy, and fix the pain she actually named. Notice the urge to press and close her on the injection. Resist it. Genuinely leaving the oral door open is what keeps this a conversation, not a sale.

◆ Inform: The stakes, last and brief. Notice the timing: you held the frightening fact until now. In the first thirty seconds it reads as a scare tactic, and she digs in. Here, after she's been heard, it's simply the honest reason behind everything you've offered. Same fact, opposite effect, and the only difference is where you put it.

After a conversation, ask yourself:

- Which step did I skip, and which did I reach for first?
- Was I just waiting for my turn to talk or genuinely curious about why they felt that way?
- Did it stay a conversation, or did the affirmation slip and become an argument I was trying to win?
- If I'd been the parent, would I have felt heard?
- If they still said no, did I leave without it feeling like a failure?

Go deeper:

- The complete slides and references: [Vitamin K Guidelines on Eolas](#)
- The attitude roots behind a parent's concerns: [jitsuvax.info/discover](#)

“Why Aren’t Parents There?” Identifying Barriers to Parental Inclusion in Neonatal Consultant Ward Rounds

Alarcio E¹, Jacob E¹, Sanghera R², Pillay T²

¹Leicester Medical School, University Of Leicester, ²Department of Neonatology, University Hospitals of Leicester NHS Trust

Background:

The National Neonatal Audit Programme (NNAP) monitors parental inclusion in consultant ward rounds (WRs) to assess neonatal unit performance. Leicester Neonatal Service (LNS) consistently underperforms in this metric, with recent parental inclusion rates dipping to 22.7% below the national average.

Aim:

To improve parental inclusion rates in LNS by identifying barriers which limit performance and develop targeted interventions based on findings.

Method:

Surveys were designed for both neonatal staff and parents of LNS patients. They were available in paper and online formats and translated into multiple languages. Participation was encouraged through virtual staff communications, leaflets, and direct approach. Parents absent across both units were contacted via telephone.

Results:

Over a 20-day period, 36 parents and 28 staff members chose to participate.

The parent survey identified limited awareness of WR timing, with 30.6% being unsure when WRs started. The remaining answers ranged from 08:00-12:00. Furthermore, 50% of parents identified barriers to attendance, with the prominent themes being:

- Uncertainty about timing
- Competing responsibilities
- Recovering from childbirth/surgery
- Accessibility issues
- Languages barriers
- Coinciding maternity WRs

Staff responses highlighted additional barriers:

- Inconsistent communication – 29% reported not informing parents about WRs.
- Varied documentation of parental attendance on BadgerNet – only 39% of respondents reported always documenting parental presence.
- Lack of standardised WRs due to fluctuations in workload and time pressures.

Conclusion:

Our surveys identified several barriers that limit higher rates of parental inclusion within LNS. They can be categorised into parental factors, staff factors, and documentation issues. Parental inclusion may also be influenced by Leicester’s diverse population, which has significant variations in language proficiency, transport accessibility and health literacy, potentially affecting a parent’s ability to attend WR consistently. If our recommended interventions (Image 1) are implemented, their impact can be monitored via the NNAP dashboard.

Image

Recommendations	
Identified barriers	Recommended improvements
Uncertainty regarding WR timing	- Standardise the communication process for WR timing, including consistent use of the parent information booklet (yellow book), which outlines the purpose and timing of WR. - Identify a process where any WR during the day can be linked to parent inclusion.
Competing responsibilities (childcare/work)	- Ensure regular BadgerNet diary updates. - Provide parents with the opportunity for a bedside catch-up with the neonatal team later in the day.
Parents recovering from childbirth/surgery	Offer virtual access to WRs (e.g. via a tablet).
Accessibility issues	- Maintain onsite parent accommodation. - Explore the idea of a travel fund for families experiencing financial difficulty or travelling long distances. - Support virtual engagement.
Language barriers	Promote routine use of Language Line and other media to support parental participation in WRs.
Coinciding maternity and neonatal WRs	- Improve coordination between these teams so inpatient mothers have the option of attending both WRs. - If WR is missed, offer parents the option of speaking to a senior doctor later in the day.
Documentation issues	Standardise BadgerNet documentation practices, including consistent use of BadgerNet diaries and accurate recording of parental attendance during WRs.
Variations in how WRs are conducted	- Encourage the team to consistently involve parents during WRs to reinforce parental inclusion as the expected standard. - Reinforce parent-led WRs to allow for shared decision-making and family-centred care.

Creativi-tea: A Craft-Based Intervention to Support Parental Wellbeing in the Neonatal Intensive Care Unit

Storey A

Background

Parents of premature infants in neonatal intensive care units (NICUs) often experience significant emotional distress, including anxiety and post-traumatic stress. Occupational therapy offers a unique, holistic approach to supporting families in these settings. This project aimed to introduce a creative, activity-based intervention to reduce parental anxiety and promote emotional wellbeing.

Objective

To evaluate the impact of a weekly craft-based support group—Creativi-tea—on parental anxiety and emotional wellbeing during NICU admission.

Methods

Following a co-production survey in 2022, a pilot group was launched at Poole Neonatal Unit from June to December 2024. Sessions were facilitated by an occupational therapist and offered simple sewing activities, refreshments, and peer support. Participation was flexible. Parents were invited to complete an anonymous 20-question survey assessing motivations, engagement, and emotional impact.

Results

Fourteen families participated. Survey responses showed 100% enjoyment of the group and activity, with 86% learning a new skill. Anxiety levels decreased significantly during and after participation, with the most common rating dropping to 1 on a 10-point scale. 92% of respondents felt more relaxed, and 93% reported a positive emotional effect. Feedback supported continuation and expansion of the group.

Conclusion

The Creativi-tea group demonstrated strong engagement and measurable emotional benefits for NICU parents. The intervention has since evolved into the Cake Break group, incorporating psychological support and peer connection. These findings support the integration of creative, occupational therapy-led interventions into neonatal care to enhance family wellbeing.

"Every Touch Matters": A QI Initiative to Reduce IVH at BHH

Eyo T¹, Zulfiqar F¹, Eltahir R¹, Fernandes M¹, Chaeger E¹, Garikapati V¹

¹Neonatal Intensive Care Unit, Birmingham Heartlands Hospital

Background: Intraventricular haemorrhage (IVH) remains a significant cause of morbidity in extremely preterm infants. Local audit data (2022–2023) demonstrated rates above national benchmarks, with 31.5% of infants affected and 13.8–16.7% experiencing severe (grade 3/4) IVH.

Aim: To reduce overall IVH incidence by 10% and achieve severe IVH rates below 10% in infants <28 weeks' gestation within 12 months.

Methods: A multidisciplinary quality improvement project was conducted in a tertiary neonatal unit using iterative Plan–Do–Study–Act cycles. Baseline data were analysed to identify key drivers, followed by stakeholder engagement and implementation of an evidence-based neuroprotective care bundle. Interventions included optimised positioning, minimal handling, delayed cord clamping, maintenance of respiratory stability, avoidance of rapid fluctuations in blood pressure and carbon dioxide, and normothermia. Additional measures included transcutaneous CO₂ monitoring, enhanced thermal care during procedures, and visual prompts to support adherence ("Think Brain poster"). Outcome and process measures were collected prospectively for infants <28 weeks' gestation between November 2024 and November 2025.

Results: Forty-one infants were included. IVH occurred in 8/41 (19.5%), with severe IVH in 3/41 (7.3%), representing a reduction from baseline rates of 31.5% (any IVH) and 13.8–16.7% (severe IVH). Early IVH events occurring prior to bundle implementation highlighted the importance of timely intervention, prompting extension of the bundle into the delivery room. Variation in adherence was observed, particularly in timely use of transcutaneous CO₂ monitoring, optimisation of thermal control during procedures, and accuracy of non-invasive blood pressure measurement.

Conclusion: This quality improvement initiative was associated with a reduction in severe IVH in extremely preterm infants. Early delivery room application and reliable bundle implementation are likely key to sustaining improvement in extremely preterm infants.

Graphs

Pre and post intervention.png (could not be inserted)

Image

Checklist.pdf (could not be inserted)

Evaluation of a National Neonatal competency-based training programme in Vietnam

Eason J¹, Schapira D², Campbell M³, Lubran S⁴, Bedford Russell A⁵

¹University Hospital Plymouth, ²Royal Hampshire County Hospital, ³Royal Hospital for Children,

⁴Newborns Vietnam, ⁵Liverpool Women's Hospital

What is already known:

Educational interventions often demonstrate limited evidence of sustained behaviour change in clinical practice.

What this study adds:

This evaluation demonstrates consistent, sustained self-reported behaviour change following a neonatal education programme, even in a resource-constrained setting.

How this study might affect research, practice or policy:

Combining structured educational evaluation with realist-informed analysis can support more nuanced understanding of how education contributes to practice change and inform future programme design.

Objectives: To evaluate the impact of a locally delivered postgraduate neonatal education programme based on the UK-RCPCH curriculum in a tertiary neonatal unit in Vietnam.

Design: Mixed-method questionnaire evaluation at four timepoints across two successive cohorts of neonatal doctors completing a 42-week Level 1 neonatal training programme (during 2023 and 2024), in a resource-constrained setting.

Methods: Free-text responses were obtained at all timepoints and three 0–10 rating items at mid-course 2024. Data were analysed using Kirkpatrick's framework with realist-informed Context–Mechanism–Outcome (CMO) configurations and descriptive statistics.

Results: Participants reported high satisfaction and relevance. They described improved systematic reasoning and basic neonatal care. Neurology was the most challenging subject. Self-reported practice changes (improved ventilation practice, earlier extubation, shorter courses of IV antibiotics, structured communication) emerged mid-course and were sustained at one year. Perceived improvements included safety, consistency, teamwork, and quality improvement, though workload, staffing, and equipment limitations constrained progress. Key mechanisms were likely through cognitive reframing, with increased confidence, and legitimising evidence-based practice.

Conclusions: The programme was associated with sustained self-reported practice change and perceived improvements in care. Context-responsive education which is focused on systematic reasoning may support durable change in this resource-limited setting.

Graphs

Table 1. Epoch B: Midway through the 2024 Level 1 course

Question and summary of comments	Median (IQR) score	Score range
Do you think the course content is appropriate? Comments (summary): All comments positive; participants recognised the importance of understanding basics; no negative comments.	10 (10-10)	9-10
Can you understand the lectures and case presentations in English? Comments (summary): Improving but still difficult; lectures only approximately 20–30% understood; still need a translator.	7 (5-9)	3-10
Can you express your views clearly in English during discussion? Comments (summary): Some can only manage simple sentences or words (score 3); sometimes need a translator (score 7).	7 (5-8)	3-10

Image

Table 3. Direct quotations regarding communication-related benefits

2023 cohort (Epochs A and D)	
1.	"I have learned a systemic approach in the diagnosis and treatment process of my patients"
2.	"After the course, I have learned how to approach and manage patients in a more systematic way".
3.	"After this course, I completely changed the way I approach patients' problems.... with more communication to obstetrics, microbiologist, radiologist, cardiologist to find the best way to take care the baby"
4.	"I can share knowledge with nurses, making caring for babies work smoother"
5.	"I also work smoothly with other doctors and nurses by gaining their trust."
6.	"I also use the SBAR model to hand over patients and consult with colleagues more effectively."
2024 cohort (Epochs B and C)	
1.	"Record full information in the notes, and improved handover using SBAR"
2.	"Systematic examination and handover"
3.	"Good care needs teamwork and number of specialties"
4.	"Thanks to the course, I have learned a lot of knowledge as well as systematic approaches to problems, which has helped me a lot in the treatment process."
5.	"After taking the course, I have been able to approach patient problems systematically but also pay attention to even the smallest details."

"Take a Breath": Reducing Delivery Room Intubation in Preterm Infants. A Quality Improvement Project (QIP)

Gabriel M², Tse C², Hoo Chuin Shen M, Sur A¹

¹NWNODN, ²Department of Neonatology, East Lancashire Hospitals NHS Trust, Lancashire, UK
Background

Delivery room (DR) intubation in very preterm infants increases ventilator-induced lung injury and risk of bronchopulmonary dysplasia (BPD). International and national guidelines recommend use of PEEP through CPAP as first-line respiratory support for spontaneously breathing preterm infants. However, the optimal interface choice, thresholds for escalating PEEP and oxygen (FiO₂) require standardisation and influence success.

Methods

We conducted a single-centre QIP using sequential Plan-Do-Study-Act(PDSA) cycles. We compared two cohorts of infants born between 25+0 to 31+6 weeks: baseline(July–December 2025, n=26) and Cycle 1(January–March 2026, n=14), mean GA 29+2 and 30+0 weeks respectively. The intervention was the implementation of specific thresholds for DR intubation. For preterm infants, recommendation was to switch from T-piece face mask to transport ventilator CPAP immediately after spontaneous respiration was established. Stepwise PEEP escalation was allowed from 6 to 8 cmH₂O, and intubation recommended if FiO₂ exceeded 50% at 10 minutes on PEEP of 8. This mirrored the regional neonatal network guidance. Local implementation was aided by intensive multi-disciplinary simulation.

Results

DR intubation fell from 13/26 (50%) to 3/14 (21%). Median time to intubation decision increased from 9 to 12 minutes, while decisions to intubate before 10 minutes fell from 54% to 0%, reflecting protocolised decision-making. Infants managed non-invasively throughout the first week increased from 31% to 57%. CPAP failure was unchanged, no deaths occurred, pneumothorax fell from 12% to 0%, and BPD trended downward (42% to 36%).

Conclusions

Sequential PDSA testing of a structured decision rule, using reliable PEEP delivery method, produced a meaningful and safe reduction in DR intubation. This appeared to be driven by a change in decision timing rather than elimination of justified intubations. Aligned with regional guidance, the intervention standardises practice, supports equity of care, and is transferable across units. Cycle 2 is testing whether active implementation deepens and sustains the change.

Image

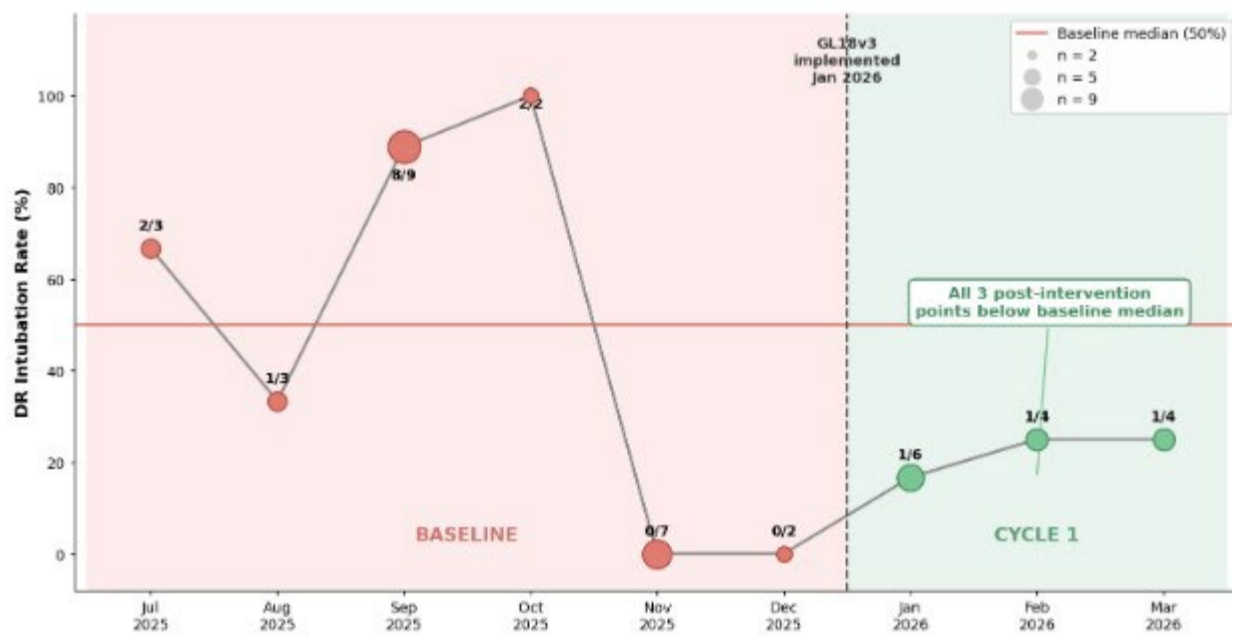


Figure 1. Run chart of monthly DR intubation rate (IHI methodology).

Embedding Everyday Memory Making into Neonatal Intensive Care: A Quality Improvement Initiative

Maher N¹, Lynas G¹, Bhayat S¹

¹Great Ormond Street Hospital For Sick Children

Background: Memory making and Family Integrated Care (FIC) are recognised components of neonatal practice, particularly during emotionally challenging experiences for families. While much of the literature focuses on end-of-life care, memory making may also promote parent-infant bonding, positive family experiences, and opportunities for normal parenting within the NICU environment. Despite these benefits, memory-making practices are often inconsistently delivered in routine care.

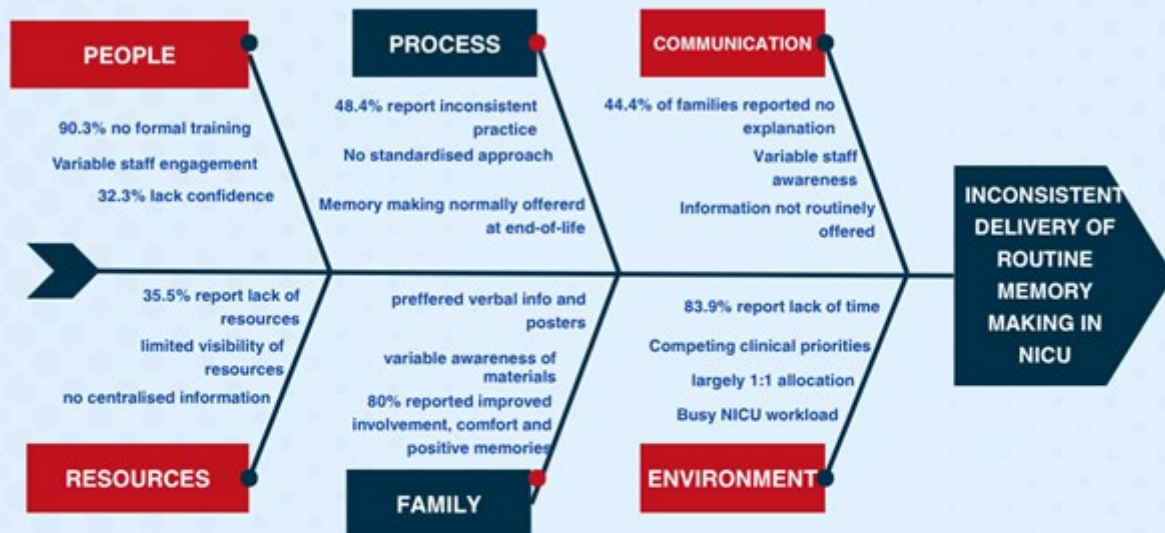
Aim: To conduct a service evaluation in order to establish a baseline understanding of memory-making practices and subsequently plan interventions to embed it in routine practice.

Methods: As part of a quality improvement project, baseline staff and family surveys were conducted between 19/03/26 and 11/05/26. Voluntary anonymous questionnaires, distributed via QR code, explored current practice, staff confidence, barriers to implementation, and parental experiences. Quantitative data were analysed descriptively, and free-text responses underwent thematic analysis.

Results: Thirty-one staff and nine families participated. Memory making was rated as very or extremely important by 93.5% of staff; however, 90.3% had received no formal training, 48.4% reported a lack of consistent practice, and 67.7% requested additional training or resources. Key barriers included lack of time (83.9%), uncertainty about when to offer activities (45.2%), lack of resources (35.5%), and lack of confidence (32.3%). Staff reported memory making was most offered during end-of-life care (51.6%). Among families, 55.6% had been offered memory-making opportunities, while 44.4% had received no explanation of available activities. Eighty percent reported memory making increased involvement in care, provided comfort, and created positive memories.

Conclusion: Baseline evaluation identified a gap between the recognised value of memory making and its consistent delivery. In response, low-cost interventions were implemented, including memory-making champions, enhanced resources, parent information, QR code-accessible activities, and staff guidance. Ongoing measurement will evaluate impact and inform future improvement cycles to embed sustainable memory-making practices within routine neonatal care.

Image



Root cause analysis informed the development of targeted quality improvement interventions.

Implementing a structured handover framework to improve interprofessional handover for attending deliveries

Wilson E¹, Nott V, Green A, Thakkar D

¹The Hillingdon Hospitals NHS Foundation Trust

Background:

Interprofessional handovers between obstetric and neonatal teams for deliveries frequently miss key components, which has been linked to increased odds of adverse outcomes. Use of structured handover tools is well-established in healthcare to facilitate effective communication. We aimed to improve information transfer in interprofessional handovers at our Trust, and thus neonatal team preparedness at deliveries.

Methods:

We undertook a multi-cycle PDSA approach between May 2025 and May 2026, obtaining quantitative and qualitative feedback. Our initial cycle demonstrated the need for a structured handover framework. The STARS tool was sourced from previous literature and implemented into clinical practice. Subsequent PDSA cycles focused on feedback from stakeholders within the maternity and neonatal teams, with multiple rounds of qualitative and quantitative data collection and adaptation of both content and practical implementation of the handover framework.

Results:

Initial data from May 2025 showed delivery type was provided in 33/40 deliveries (82.5%) with gestational age provided in 16/40 (40.0%) and multiple reports of calls such as “Come to theatre” without further details. In comparison, data from May 2026 showed delivery type was provided for 44/47 deliveries (93.6%) with gestational age provided in 37/47 (78.7%). Qualitative feedback found anecdotal reports from the neonatal team of gradual but progressive improvement of information provision over the course of multiple cycles.

Initial maternity team feedback was mixed, with many expressing reluctance to use the STARS framework for varied reasons. However, during iterative cycles of providing education, seeking feedback and making adjustments, reports of confidence in the STARS tool grew and use became more frequent.

Conclusion:

Implementation of the STARS structured handover framework significantly improved interprofessional information transfer during telephone calls to deliveries, but required gradual embedding in current practice with buy-in from all stakeholders. Further PDSA cycles are planned, including assessment of maternity team confidence in its use.

Image

Neonatal Handover: STARS



Situation

Name
Location



Type of Delivery

SVD
Instrumental
Caesarean section



Age (gestational)

Weeks + days



Risk factors

Sepsis risk factors
Congenital anomaly
Any other concerns



Senior input

Is a registrar or
consultant needed?

NEONATAL SHO NEEDED:

- Instrumental delivery
- Category 1-3 EmCS
- CS under GA
- Elective CS with breech
- Preterm <37 weeks
- Meconium
- Suspected fetal distress

NEONATAL REGISTRAR NEEDED:

- Vaginal breech delivery
- Preterm <34 weeks
- Twin or multiples <36 weeks
- Thick meconium
- Serious congenital anomaly

**IF CRITICAL EMERGENCY, CALL 2222 AND STATE "NEONATAL EMERGENCY"
AND LOCATION**

**Category 1 EmCS, shoulder dystocia, cord prolapse, obstructed breech
delivery, intrapartum haemorrhage, placental abruption, uterine rupture,
extreme preterm <28 weeks, extreme low birth weight <850g**

Introducing a Family-Integrated Developmental Care Ward Round - a multi-professional pilot

Kruger R¹, Vincent E¹, Leonard A¹, Kraleva D¹, Arron K¹

¹Neonatal Unit, Nottingham University Hospitals NHS Trust

Aim:

Pilot to establish a working model for a 'multi-professional family-integrated ward round', supporting cohesive communication and consistent embedded developmental care.

Background:

Neonatal Allied Health Professional + Psychology (AHP+P) team expansion at Nottingham University Hospitals (NUH) allows for richer collaborative working, however inconsistency in communication and integration of developmental care recommendations is a known challenge. Integration within established medical round models has proved ineffective, requiring exploration of alternative models to promote greater parental confidence and cohesive communication across the different strands of neonatal input.

Methods:

A multi-professional project group with AHP, Nursing and Consultant representation.

Use of Quality Improvement tools within an iterative Plan-Do-Study-Act (PDSA) cycle: review of evidence from literature and other units; stakeholder engagement.

Staff and family surveys (Likert scales, open questions) before and after pilot; numerical and data theme capture during pilot.

Weekly pilot - an additional specialised round with parent, medic, nursing and AHP representation.

Findings:

Pre-pilot:

- Favourable desire and importance attached to proposed move towards joined-up family-integrated ward round model.
- Concerns re: clinical capacity and risks, timings.

Pilot data and findings:

- 55% of possible contacts made
- 71% of contacts parent-led
- exposure of inconsistencies in advice from silo models; opportunities to address in joined-up model
- themes of discussion broad and varied in line with parental concerns and stage of infant care/development
- practical challenges relating to staffing (24% nursing presence) and timing (additional demand)

Post-pilot evaluation:

- Model actively integrates parents real-time concerns
- Model promotes developmental care integration within medical/nursing strands of care; active collaborative problem-solving
- Value increases when all professional strands represented
- Pilot model not optimal fit for working structures or families

Conclusion:

- Model has strong benefits but not optimised
- PDSA round 2 in progress exploring potential for adapting model within current structures

Introduction of routine delivery room LISA for infants born at 25-26+6 weeks' gestational age: a quality improvement project

Cliff C, Spierson H¹

¹Bolton Neonatal unit

Background

Bronchopulmonary dysplasia (BPD) is a common complication of prematurity. Avoiding lung injury by using non-invasive breathing support (NIBS) alongside early surfactant via less invasive surfactant administration (LISA) reduces BPD. We initiated this project as our rates of BPD/death were 10% higher than national averages.

Methods

We collected data from Badgernet for babies inborn at 25-26+6 weeks' gestation:

Cohort 1 – 56 infants born between 1/5/2020 and 30/4/2023 – a pre-intervention cohort, routine intubation was recommended practice during this period.

Iterative PDSA cycles were used to implement change. Interventions included simulation training, guideline change, a training video, quick reference guides and acquisition of equipment including an additional videolaryngoscope. New practice was launched on in May 2023.

Cohort 2 – 37 infants born between 1/5/2023 and 30/4/2026 – a post-intervention cohort, routine delivery room LISA with CPAP was recommended practice during this period.

Results

LISA rates increased from 0% (0/56) to 72.9% (27/37); 25 babies received LISA in the DR and 2 on NICU.

In cohort 2 LISA was performed at a median of 11.5 minutes of life (range 6-20). Instability during the procedure (desaturations or bradycardia) occurred in 8.1% (3/37), LISA was never abandoned when attempted.

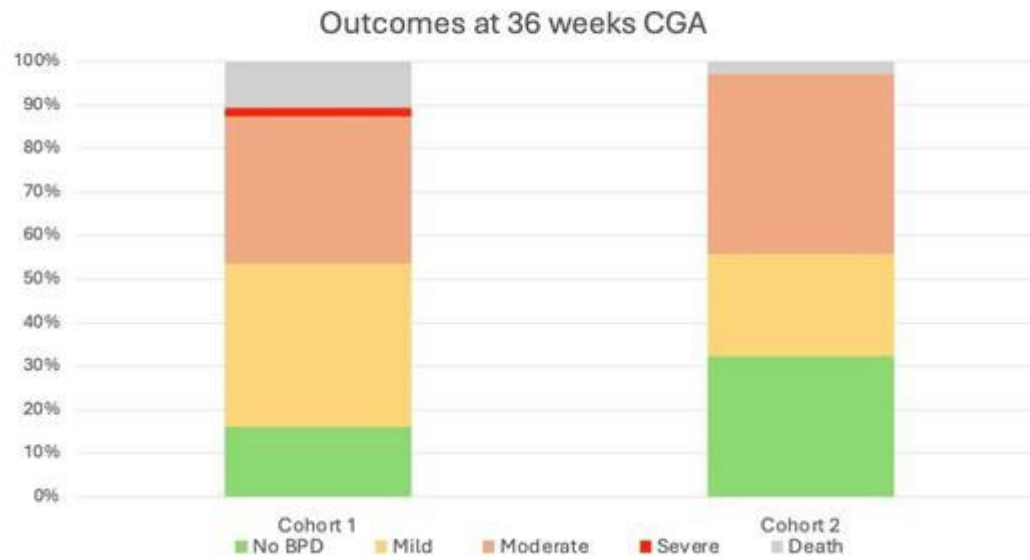
Pneumothoraces decreased from 8.9% (5/56) to 0% (0/37). Babies maintained on NIBS for the first week of life, avoiding intubation, increased from 0% (0/56) to 37.8% (14/37). BPD free survivors increased as shown in Figure 1. Babies discharged on home oxygen decreased by 10.6%.

Conclusions

A rapid and sustained change in practice was achieved, with 72.9% of infants offered LISA in cohort 2. Routine DR LISA was safe, feasible and effective in this extremely preterm cohort. NIBS rates and BPD/death data have improved over the study period and are now better than national averages reported by NNAP.

Image

Figure 1: Death rate decreased from 10.7% (6/56) to 2.7% (1/37). BPD free survivors increased from 16.1% (9/56) to 32.4% (11/34) in babies who had reached 36 weeks corrected gestational age (CGA).



Cyanoacrylate Tissue Adhesive (CTA) Reduces Neonatal Long Line Migration (NLL): A NICU Quality Improvement Study

Singh R¹, Verma V¹, Bhayat S¹, Janagill M¹

¹Great Ormond Street Hospital For Children NHS Foundation Trust

Title: Cyanoacrylate Tissue Adhesive (CTA) Reduces Neonatal Long Line Migration (NLL): A NICU Quality Improvement Study

Authors: Richa Singh, Vinita Verma, Monika Janagill, Sadaf Bhayat

Institution: Neonatal Intensive Care, Great Ormond Street Hospital for Children NHS Foundation Trust.

Background: NLL migration contributes to extravasation, catheter dysfunction, and infection. CTA improves catheter securement, haemostasis, and reduces dislodgement in adults. Evidence suggests similar benefits in neonatal vascular access when CTA is used as part of securement bundle.

Aim: To evaluate the impact of CTA on NLL migration following structured implementation within a NICU.

Methods: A single-centre retrospective observational study was conducted at Great Ormond Street Hospital (GOSH) comparing pre-implementation (June - November 2025) and post-implementation (December 2025- February 2026) periods. CTA was initially applied at the insertion site and later beneath the dressing for infants >30 weeks' gestation. Continuous variables were summarized as mean $\pm$ SD; categorical variables as counts and percentages. Comparisons between groups by the student's t-test for continuous variables and Fisher's exact test for categorical variables ($p < 0.05$ significant).

Results: 94 lines were analysed (69 pre, 25 post). Baseline characteristics were similar (mean gestation 33.1 vs 33.3 weeks; mean birthweight 2100g vs 2079g). CTA was used in 24/25 post-implementation lines 96% compliance rate. One line was secured without glue. Migration occurred in 10/69 (14.5%) pre-implementation vs 1/25 (4%) post-implementation; the migrated line had not secured with CTA. No CTA-secured lines migrated (0/24). Post CTA to the pre-implementation cohort, the reduction in migration was statistically significant (0/24 vs 10/69; $p = 0.04$).

Conclusion: CTA implementation in NICU NLL securement was associated with reduced migration. Structured training achieved high compliance. Future plans include broader application across all gestational age, additional vascular devices, and multicentre studies to validate findings.

POCUS vs chest X-ray for neonatal central long line confirmation

Point-of-care ultrasound for central long line confirmation in neonates: an 18-month quality improvement study

Lasokova M¹, Tolentino D, Duffy D, Shetty S, Kulkarni A

¹St George's University Hospital NHS Foundation Trust

Background

Chest X-ray (CXR) has long been the standard for confirming neonatal central long line position but carries radiation burden and delays time-critical parenteral nutrition (PN). Point-of-care ultrasound (POCUS) is well established in adult practice and is rapidly evolving in neonatal care. We undertook a quality improvement (QI) project to embed POCUS as the primary confirmation modality in a surgical neonatal intensive care unit (NICU).

Methods

Long line insertions over 18 months (January 2025–June 2026) in a surgical NICU were prospectively captured. Right upper limb and right sided scalp peripherally inserted lines were excluded due to limited ultrasound tip visualisation. Primary outcomes were time to line confirmation and time to PN initiation. Secondary outcomes included radiation exposure and central line-associated bloodstream infection (CLABSI) rates. Adverse events were monitored throughout.

Results

126 long line placements were studied: 83 in the CXR group (1,288 line-days) and 43 in the POCUS group (583 line-days). Groups were comparable at baseline. POCUS reduced median time to confirmation from 75 to 7 minutes ($p<0.05$) and time to PN initiation from 80 to 53 minutes ($p<0.05$). POCUS achieved 100% sensitivity for malposition, lines not seen on ultrasound were invariably misplaced. Radiation exposure was substantially reduced: 43% of CXR-group infants required more than one X-ray. CLABSI rates were lower in the POCUS group (3.4 vs 11.6 per 1,000 line-days). No adverse events attributable to POCUS were recorded.

Conclusion

POCUS reliably confirms neonatal long line position, eliminates avoidable radiation, and significantly accelerates time to parenteral nutrition, a critical outcome in this vulnerable population. Lower CLABSI rates in the POCUS group are encouraging but require prospective multicentre study to confirm. These findings strongly support POCUS adoption as a safe, efficient first-line modality for central line confirmation in neonatal practice.

Graphs

	X-ray (n=83)	POCUS (n=43)	p value
Baseline characteristics			
Gestational age (median, range)	27+6 (22+5-40+5)	26+2 (22+4-40+4)	0.086
Age at insertion (median, range)	6 days (1-146)	6 days (1-183)	0.73
Birth weight (median, range)	970 g (460-3635)	820 g (470-3720)	0.07
Primary outcomes			
Time to confirmation (median, range)	75 min (6-660)	7 min (3-16)	<0.05 *
Time to PN initiation (median, range)	80 min (15-440)	53 min (7-234)	<0.05 *
Secondary outcomes			
Xrays required	133	4	<0.00001
CLABSI (per 1,000 line-days)	15 (11.6)	2 (3.4)	0.1
Adverse events from POCUS	—	None	—

Golden Early Minutes (GEM), Improving Optimal Cord Management in Preterm Infants: A Multidisciplinary Quality Improvement Project.

Macaskill L¹, Shah K¹, Thottungal M¹, Booth-Davis J¹, Scott K¹, Dodds M¹, Ramsay R¹, Banerjee Oberoi S¹, Jain P¹

¹Walsall Manor Hospital

Background

Optimal cord management (OCM), defined as deferred umbilical cord clamping for ≥ 1 minute or resuscitation with an intact cord, improves outcomes in preterm infants, including reduced mortality. Despite British Association of Perinatal Medicine (BAPM) guidance and inclusion within the PERIPrem programme, implementation remains variable. In 2024, only 50% of eligible preterm infants at Walsall Manor Hospital received OCM, identifying the unit as a regional and national negative outlier and highlighting a gap between evidence and practice.

Aim

To increase compliance with OCM in eligible preterm deliveries from 50% to $>90\%$ by the end of 2026.

Methods

A multidisciplinary quality improvement project was undertaken using Model for Improvement methodology. Process mapping, fishbone analysis and a driver diagram identified barriers to implementation (Figure 1). Sequential Plan–Do–Study–Act (PDSA) cycles included individual clinician feedback, multidisciplinary teaching, simulation training, educational posters and introduction of a designated cord management lead. Compliance was monitored using monthly PERIPrem data.

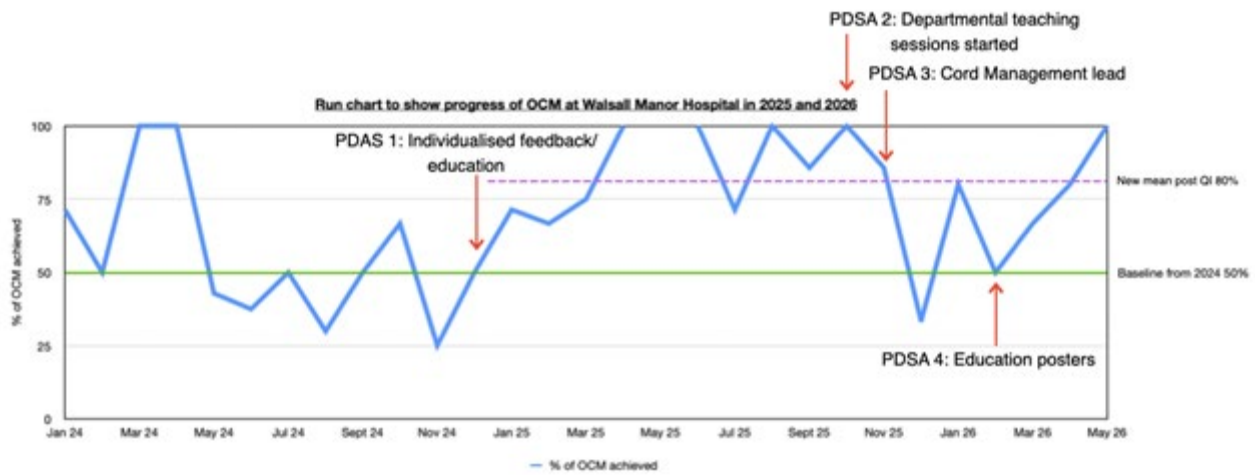
Results

Compliance with OCM improved from 50% in 2024 to 80% following interventions. Run chart analysis demonstrated sustained improvement above baseline after implementation of interventions (Figure 2). Education was an effective driver of change; however, maintaining improvement required progression from individual interventions to embedded system-level approaches. Key learning included the importance of multidisciplinary engagement, adaptability and ongoing reinforcement.

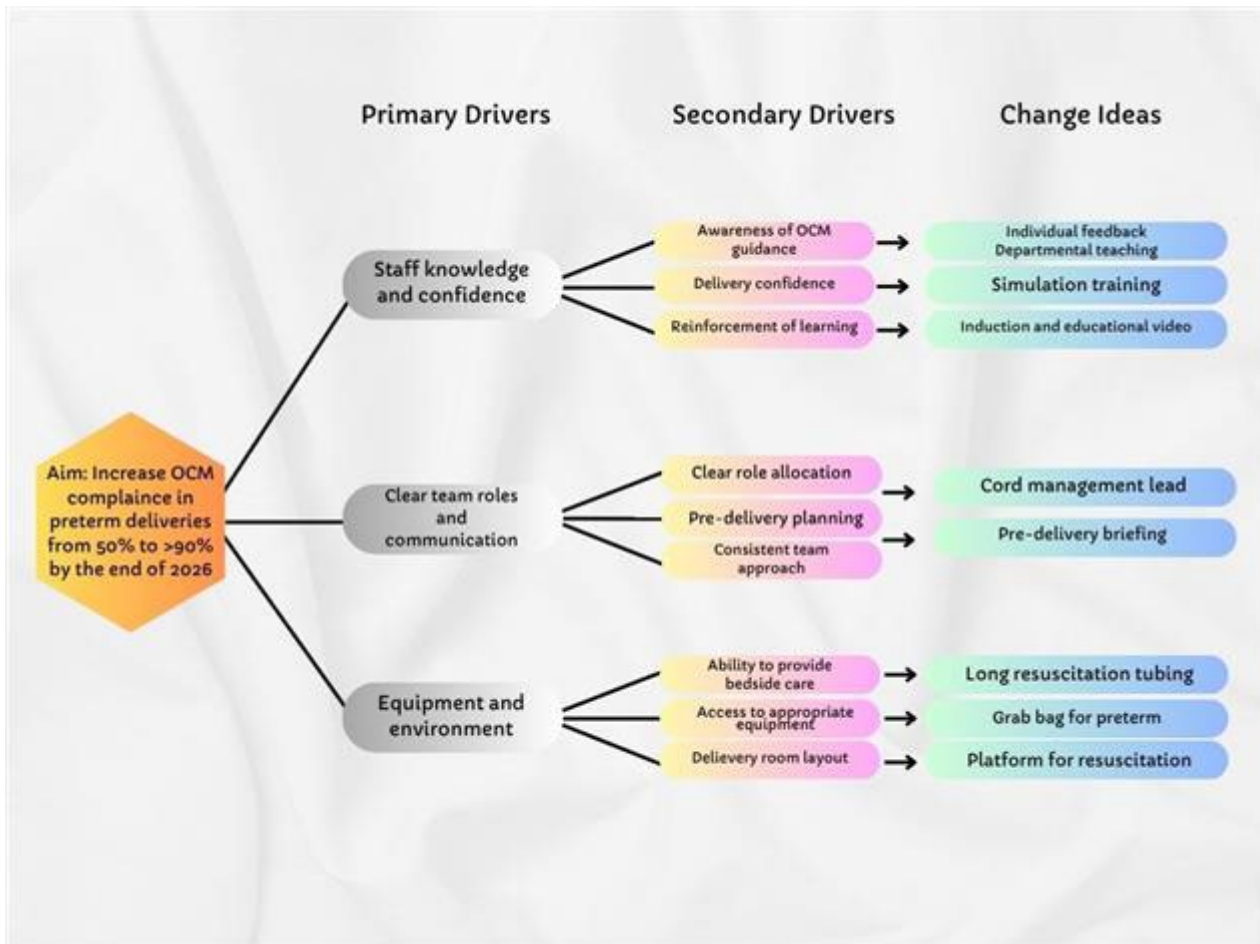
Conclusion

A structured multidisciplinary quality improvement approach resulted in substantial and sustained improvement in OCM compliance. Sustainable improvement required movement beyond individual behaviour change towards embedded educational and system-level interventions. Future work includes implementation of long resuscitation tubing to facilitate bedside resuscitation with an intact cord, incorporation of educational resources into staff induction, expansion into operative delivery settings and continued audit to ensure sustainability.

Graphs



Image



Improving Normothermia Achievement in Preterm Infants <34 Weeks: A Quality Improvement Initiative Against National Standards

Ikram R¹, Chang R¹, Chuang S¹, Abdulla S¹, Abobade A¹

¹Chelsea & Westminster Hospital NHS Foundation Trust

Background

Normothermia is essential for neonatal physiological stability and improved clinical outcomes¹. Preterm infants are vulnerable to hypothermia due to increased heat loss and immature thermoregulation^{2,3}. The National Neonatal Audit Programme (NNAP) recommends that ≥90% of infants born at <34 weeks' gestation achieve normothermia (36.5–37.5°C) within one hour of birth¹. Local NNAP data (July 2024–June 2025) showed suboptimal performance, with only 66.4% of eligible infants achieving normothermia within the target timeframe.

Aim

To identify factors contributing to suboptimal thermoregulation and increase NNAP compliance to ≥90% in infants <34 weeks using a structured quality improvement approach.

Methods

A quality improvement project was conducted from September 2025 to June 2026 using plan-do-study-act (PDSA) cycles. A standardised 20-point thermal care bundle was implemented to improve thermoregulatory practices.

Interventions included regular audit feedback, optimisation of delivery room environments, and multidisciplinary collaboration with obstetric and midwifery teams to improve thermal care practices. Persistent barriers were identified through a survey following non-compliance.

The primary outcome was achievement of normothermia within one hour of birth. Data were collected from BADGERNet and Cerner electronic patient records.

Results:

Compliance improved from 66.4% to 90.3% between October and December 2025. However, performance subsequently varied, declining to 70.8% between April and June 2026, demonstrating reduced sustainability following initial gains.

Contributing factors included staff rotation, prolonged resuscitation, and inconsistent adherence to thermal care practices.

Data quality issues were identified where admission temperatures were recorded beyond the one-hour target despite normothermia being achieved. This suggests that initial gains were intervention-dependent and vulnerable to workforce and system variability.

Conclusion

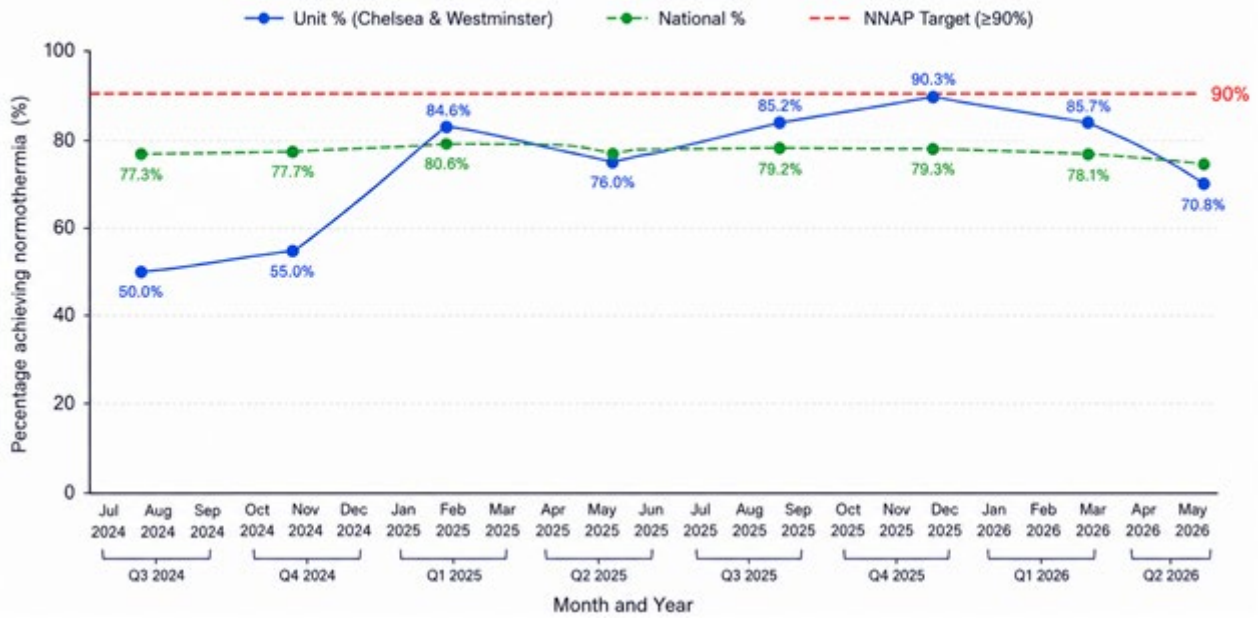
Achieving and sustaining normothermia in preterm infants requires continuous reinforcement, reliable systems, and multidisciplinary ownership rather than one-off interventions. Sustained change depends on both clinical practice and data accuracy.

Ongoing PDSA cycles will focus on process reliability, staff onboarding, and documentation to sustain NNAP compliance.

Graphs

Normothermia Achievement in Infants <34 Weeks

Unit Performance vs National Performance and NNAP Target ($\geq 90\%$ within 1 hour of birth)



Outcomes After Fetoscopic Endoluminal Tracheal Occlusion for Congenital Diaphragmatic Hernia: A Systematic Review and Meta-analysis of Single-Arm Cohort Studies

Jamileh E^{1,2}, Muhammad F³, Xamza M⁴

¹Department of Neonatal Medicine, Royal Blackburn Teaching Hospital, East Lancashire Hospitals Trust., ²School of Medicine, Queens University Belfast., ³School Of Medicine, Queen Mary University Of London, ⁴Department of Medicine, Barking Havering and Redbridge University Hospitals NHS Trust.

Introduction

Congenital diaphragmatic hernia (CDH) is a severe developmental anomaly associated with pulmonary hypoplasia and high neonatal morbidity and mortality. Fetoscopic endoluminal tracheal occlusion (FETO) has emerged as a prenatal intervention aimed at promoting fetal lung growth in severe CDH; however, reported outcomes remain heterogeneous. This study aimed to synthesise the available evidence on clinical outcomes following FETO.

Methods

A systematic review and meta-analysis was conducted in accordance with PRISMA guidelines. PubMed, EMBASE, and the Cochrane Central Register of Controlled Trials were searched from inception to January 2026. Observational cohort studies reporting outcomes following FETO for CDH were included. Pooled estimates of survival and clinical outcomes were calculated using random-effects meta-analysis of proportions with Freeman-Tukey double arcsine transformation.

Results

A total of 11 studies comprising 236 fetuses undergoing FETO were included. The pooled survival rate at hospital discharge was 60% (95% CI 40-79%), with substantial heterogeneity ($I^2=73.2\%$). Survival at three and six months was 54% (95% CI 38-70%) and 34% (95% CI 23-47%), respectively. Pulmonary hypertension occurred in 58% (95% CI 45-70%) of infants. Premature rupture of membranes occurred in 32% before 34 weeks and 46% before 37 weeks' gestation, while 13% of pregnancies were delivered before 32 weeks and 38% before 37 weeks. Extracorporeal membrane oxygenation was required in 31% of neonates, and 33% required supplementary oxygen at discharge. Prosthetic patch repair was required in 80% of cases.

Conclusions

FETO is associated with moderate survival in severe CDH but carries substantial risks of prematurity and neonatal morbidity. Current evidence is limited to observational studies, and robust comparative trials against conservative management are required to better define its clinical role.

Less-Invasive Sedation and Non-Invasive Ventilation for Retinopathy of Prematurity Laser Treatment: A Matched Cohort Study

Mendoza M¹, Mohamed R¹, Kiray G¹, De Smit E¹, Duffy D¹, Kulkarni A¹, Shetty S¹

¹St George's University Hospitals NHS Foundation Trust

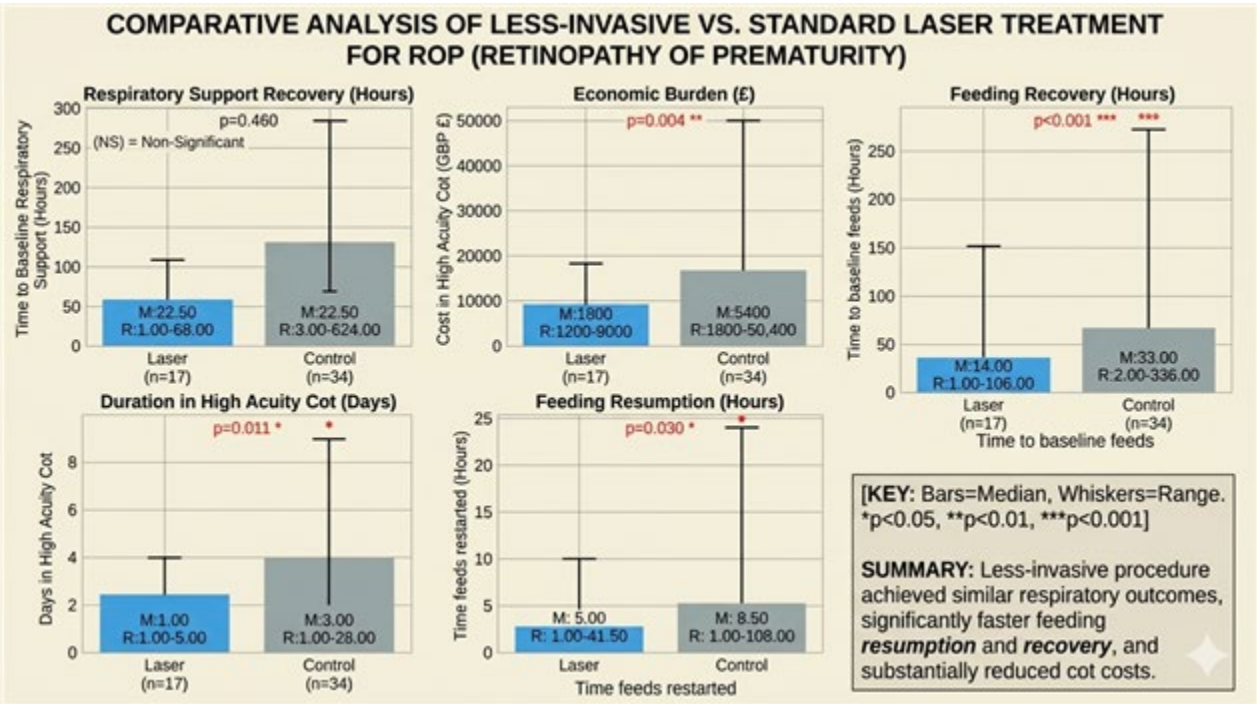
Background: Retinopathy of prematurity (ROP) is a major cause of preventable visual impairment in extremely preterm infants. Laser photocoagulation is a widely used treatment modality for ROP in the UK and it traditionally requires elective intubation and mechanical ventilation. Our study looked at a less-invasive approach using sedation, analgesia and non-invasive ventilation and how it may reduce physiological disturbance and healthcare utilisation.

Methods: We conducted a matched cohort study comparing preterm infants who underwent laser treatment for ROP under a less-invasive protocol against two matched historical controls treated under elective intubation and mechanical ventilation in a tertiary neonatal unit between 2015 and 2025. Outcomes included respiratory recovery, feeding interruption, duration of higher-acuity care and associated costs. Continuous variables were reported as median (range).

Results: Seventeen infants who underwent less-invasive laser with a median gestational age of 25 (22.6-26.9) weeks were compared with 34 historical controls with a median gestational age of 24.8 (22.9-27.4) weeks. Infants in the less invasive group restarted feeds earlier (median 5 (1-41.5) hours versus 8.5 (1-108) p=0.030) and therefore reached baseline feeding status sooner (median 14 (1-106) hours versus 33 (2-336) p <0.001). Time to baseline respiratory support was comparable between the two groups (median 22.5 (1-68) hours versus 22.5 (3-624) p= 0.460). Infants in the less-invasive group spent less time in a higher acuity cot post-laser (median 1 (1-5) days versus 3 (1-28) p=0.011) and had significantly reduced cost per patient (median 1,800 (1,200–9,000) GBP versus 5,400 (1,800-50,400) p=0.004).

Conclusion: A less-invasive approach to ROP laser treatment was associated with earlier feeding recovery, reduced high-dependency and intensive care duration and substantially lower costs, while maintaining comparable respiratory stability.

Graphs



Image

NORMAL RETINAL DEVELOPMENT
(Vessels reach edge)

Optic nerve

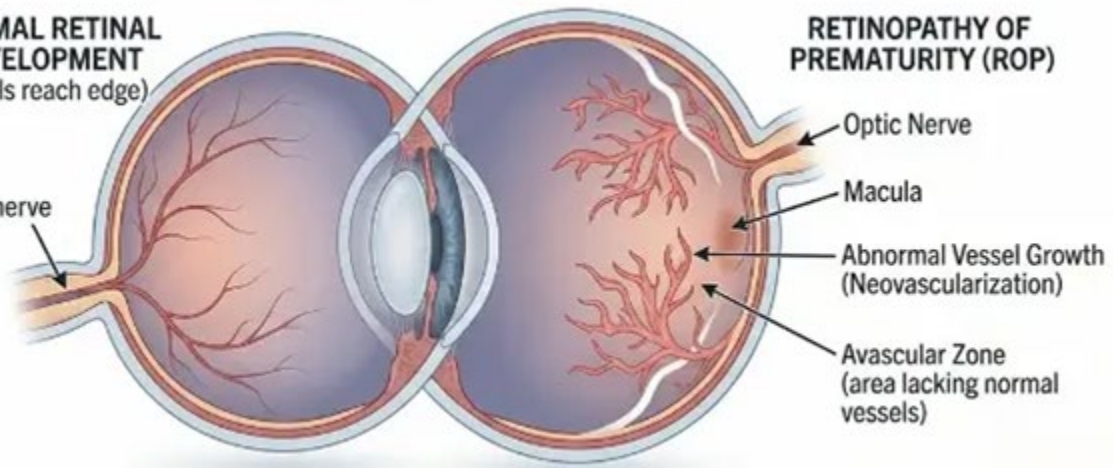
RETINOPATHY OF PREMATURITY (ROP)

Optic Nerve

Macula

Abnormal Vessel Growth
(Neovascularization)

Avascular Zone
(area lacking normal vessels)



Can we safely reduce the need for ROP screening in low-risk infants? A population-based cohort study in England and Wales

Kwok T¹, Sharkey D¹

¹University of Nottingham & Nottingham Centre for Neonatal Care

Introduction

Retinopathy of prematurity (ROP) screening may expose low-risk infants to uncomfortable and unnecessary procedures. Uncertainty about screening infants at 31 weeks gestation resulted in recent revisions of RCPCH ROP guidance, something also reflected widely across other international guidelines. We examined risk factors for treatment-requiring ROP in low-risk infants of 31 weeks' gestation to evaluate whether screening could be safely targeted.

Methods

Retrospective cohort study of preterm infants <32 weeks' gestation undergoing ROP screening from 2013 to 2022 in 185 neonatal units in England and Wales. Using the National Neonatal Research Database, we identified ROP screening outcomes and risk factors associated with treatment in infants born at 31 weeks' gestation.

Results

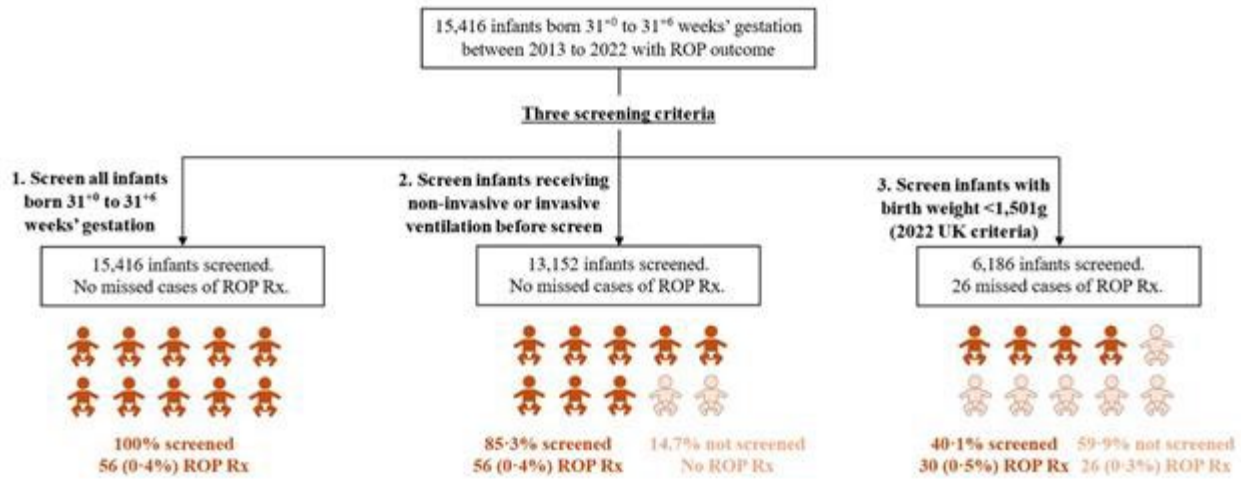
Among 68,941 infants <32 weeks' gestation (45% female), 262,965 ROP screens were recorded (median 3 per infant IQR:2-5) with 3,415 (5.0%) requiring treatment. There were 15,416 infants (22.4%) born at 31 weeks' gestation who underwent 29,791 (11.3%) screens and 56 (0.4%) required treatment. The duration of positive pressure respiratory support (PS) and duration of parenteral nutrition were risk factors associated with ROP treatment. Restricting screening of 31-week gestation infants who received PS before their first ROP examination would reduce screens by 14.7% without missing any treatment cases (Figure-a). Applying this approach to infants born at 30 weeks' gestation, screening only infants born $\leq 30+0$ weeks or who received PS before their first screen reduces examinations by 6.1%, but missed one treatment case (sensitivity 0.986, negative predictive value 0.999, Figure-b).

Conclusion

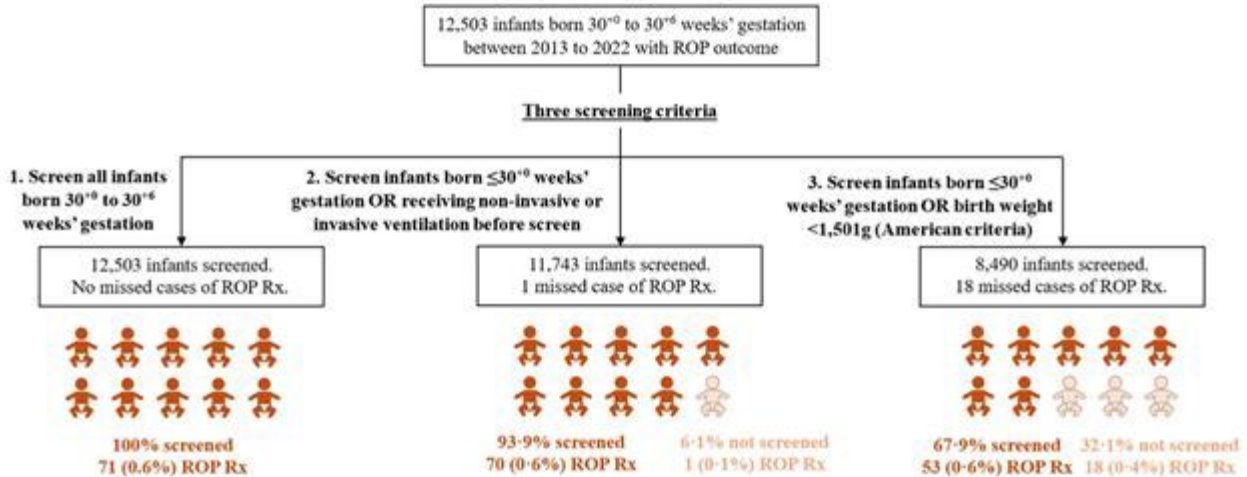
Receiving positive pressure respiratory support before the first ROP examination is a pragmatic criterion that could safely reduce retinal screening in lower-risk infants who make up 45% of the screening population. Application of this screening approach over the 10-year study would reduce the number of infants screened by approximately 3200 but risk missing one case of ROP requiring treatment.

Image

(a) 31 weeks' gestation



(b) 30 weeks' gestation



Differences in presentation, co-morbidities and outcomes between preterm necrotising enterocolitis and spontaneous intestinal perforation

Copp F, Leven L¹, Walker G¹, Simpson J¹

¹Royal Hospital For Children, Glasgow, ²Louise Leven

Background

Necrotising enterocolitis (NEC) and spontaneous intestinal perforation (SIP) are surgical complications of preterm birth associated with increased mortality and morbidity. We explore differences in presentation, co-morbidities and developmental outcomes in a cohort of preterm infants with confirmed NEC or SIP managed in a single surgical centre.

Methods

Retrospective review of neonates <32 weeks' gestation managed over a 14 year period (2012-2025). Data extracted from the Badgernet database and medical records with local Caldicott Guardian approval. Mann-Whitney U and Chi-Square tests were used as appropriate to compare variables. Odds ratios for developmental outcomes were calculated.

Results

130 infants were identified; 83 NEC and 47 SIP. Background demographics were similar between groups but survival was higher with SIP; 80.9% versus 61.4%, $p=0.022$ (Table 1).

SIP presented significantly earlier than NEC both in terms of postnatal day of life and corrected gestation, and those with SIP were more likely to have a stoma created; 72.3% versus 51.8%, $p=0.023$. Length of stay was longer with NEC than SIP (Table 1).

There was a significantly increased risk of large intraventricular haemorrhage (IVH) with SIP; 36.2% versus 9.6%, $p=0.002$. Preterm co-morbidities were otherwise similar between groups (Table 1).

Developmental outcome at 2 years corrected age was available for 35 infants with NEC and 34 with SIP. Two infants with NEC died following discharge. Compared with SIP, infants with NEC had higher odds of severe cognitive developmental delay (OR 2.28, 95% CI 0.78–6.70), cerebral palsy (OR 2.32, 95% CI 0.70–7.70), and severe impairment (OR 2.85, 95% CI 1.06–7.69).

Conclusion

We identified differences in age at presentation, type of surgery, length of stay, developmental outcome, survival and associated co-morbidities between NEC and SIP in our cohort. Despite the

lower incidence of large IVH, surviving infants with NEC had higher risk of poor developmental outcome.

Image

Table 1 - Differences in presentation, co-morbidities and outcomes between preterm NEC and SIP.pdf
(could not be inserted)

Estimates of potential missed opportunities to reduce morbidity and mortality in UK preterm infants over time

Ezeh N¹, Sharkey E², Sharkey D³

¹Nottingham Centre for Neonatal Care, ²Sheffield University, ³University of Nottingham

Background

Preterm birth is a leading cause of neonatal mortality and long-term adverse neurodevelopmental and health outcomes. Evidence-based interventions delivered along the perinatal pathway improve survival and reduce major morbidity. National quality improvement programmes, including the Maternity and Neonatal Safety Improvement Programme (MatNeoSIP) and the National Neonatal Audit Programme (NNAP), provide infrastructure to support and monitor the uptake of these interventions. While implementation rates are tracked, the population-level consequences of suboptimal uptake remain unquantified. Estimating the burden of 'missed opportunities' could provide a more compelling actionable message for stakeholders to drive improvements.

Methods

We extracted six NNAP perinatal pathway metrics with established evidence of benefit for preterm infant outcomes: antenatal corticosteroids (ANS), magnesium sulphate (MgSO₄), birth in a NICU, deferred cord clamping (DCC), admission normothermia, and D14 maternal breast milk. For each metric, we identified the highest-quality published effect estimate (number needed to treat/harm [NNT/NNH]) and applied these to regional NNAP compliance data to estimate missed opportunities to prevent adverse outcomes. Regional estimates were aggregated across all years for which NNAP data were available.

Results

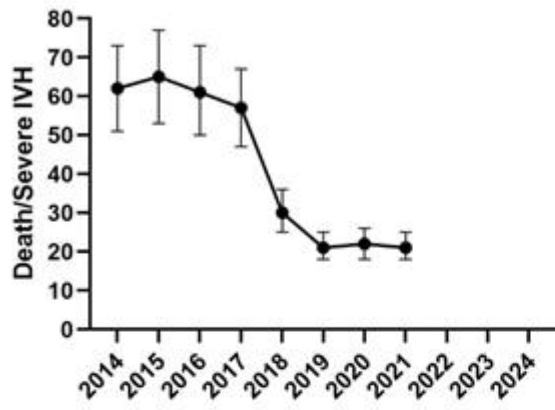
In total, 86,443 infants had at least one NNAP metric recorded, equating to approximately 7,858/year. Overall, the greatest burden of missed opportunities was attributable to DCC (estimated 567 deaths over 5yrs [range:158-872]) and birth in non-NICU (estimated 333 deaths/ severe brain injury over 8yrs [range:176-499]). Antenatal steroids, MgSO₄ and admission temperature have all improved significantly and account for 10-25 missed opportunities per year (Figure), although marked regional variations were observed.

Conclusions

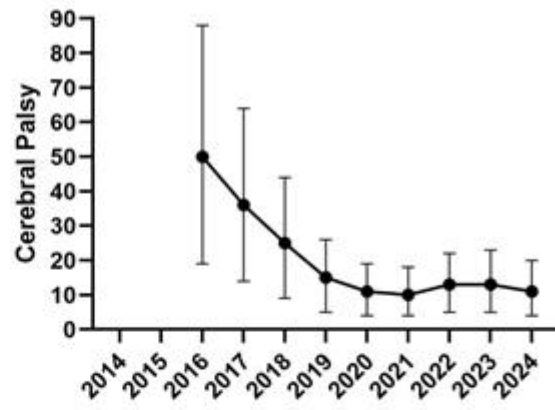
Against a background of stalled improvement in preterm mortality and neurological outcomes, this analysis provides regional and national outcome estimates of missed opportunities across the perinatal care pathway. These estimates identify where targeted implementation strategies, including quality improvement initiatives and public health messaging, may have the greatest potential impact for this high-risk population.

Image

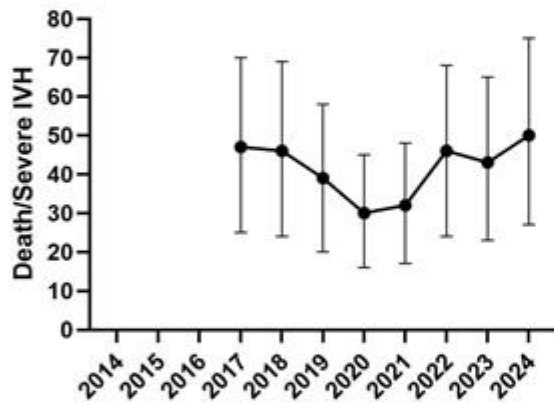
Antenatal Steroids



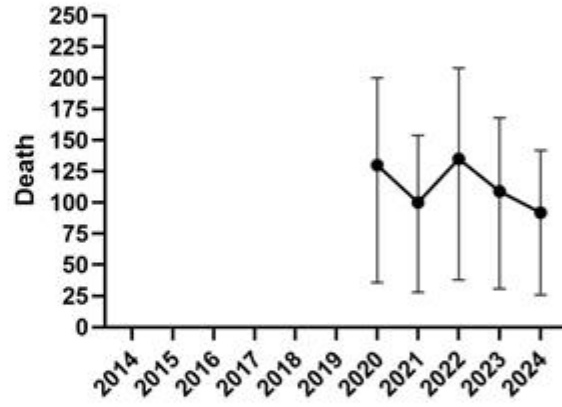
MgSO₄



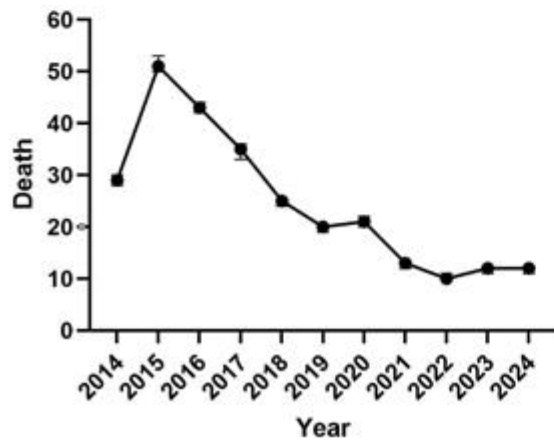
Non-NICU birth



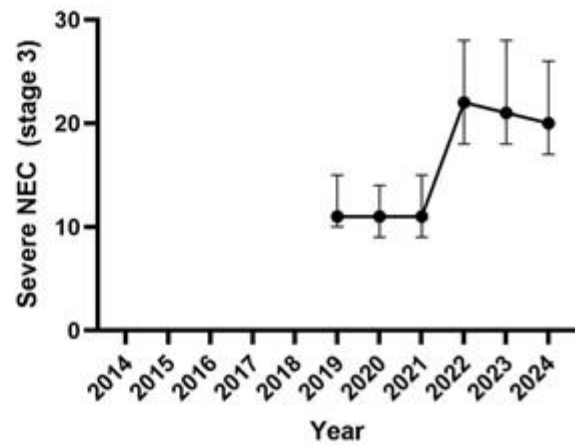
Deferred Cord Clamping



Temperature <36°C



Maternal milk D14



Unplanned Extubation During Neurally Adjusted Ventilatory Assist (NAVA) Compared with Conventional Ventilation in Neonates: A Retrospective Cohort Study

Haggag R¹, Duffy D¹, Kulkarni A¹, Shetty S^{1,2}

¹St George's Hospital, ²City St George's University of London

Background: Unplanned extubation (UE) is a significant adverse event in neonatal intensive care, associated with increased morbidity, prolonged respiratory support, and increased healthcare utilisation. Neurally Adjusted Ventilatory Assist (NAVA) improves patient–ventilator synchrony and may reduce ventilator-related complications; however, its association with UE has not been well studied.

Aim: To evaluate whether NAVA is associated with reduced unplanned extubation in neonates.

Methods: Retrospective cohort study in a tertiary NICU (Jan–Jul 2025). Included neonates <32 weeks' gestation, grouped by NAVA exposure (NAVA/CV) or conventional ventilation only (CV). **Data sources:** BadgerNet, iClip, NAVA database, and the unit's unplanned extubation audit. Incidence rate ratios with 95% CIs were calculated and group comparisons used non parametric tests.

Primary outcome: UE per 100 ventilator days.

Secondary outcomes:

- Within cohort UE rates during NAVA vs CV periods.
- Post UE reintubation rate.

Results: Forty neonates contributed 934 ventilator days and 17 UEs (1.82 per 100 ventilator days). The NAVA/CV group (n=13) was more premature and lower birth weight than the CV group (n=27) (median GA 24.6 vs 26.6 weeks; median BW 660 vs 780 g; $p<0.05$). Despite higher baseline risk, only one UE occurred during NAVA ventilation (0.79 per 100 ventilator days) versus 16 during conventional periods (1.98 per 100 ventilator days; IRR 0.40, 95% CI 0.01–2.58). Within the NAVA/CV cohort, UE incidence was lower during NAVA than conventional periods (0.79 vs 2.79 per 100 ventilator days; IRR 0.28, 95% CI 0.01–2.22). Wide CI can be explained by the small number of events. Reintubation was required following 73.7% of UE events.

Conclusion: NAVA was associated with a lower observed incidence of UE compared with conventional ventilation, including in within patient analyses. These findings are hypothesis generating, and larger prospective studies are needed to determine whether improved patient–ventilator synchrony during NAVA truly reduces unplanned extubation risk.

Neonatal hypothermia following birth before arrival: repeat evaluation after changes to prehospital thermal care

Goodwin L¹

¹University of the West of England, Bristol

Background

Babies born before arrival (BBA) at hospital are at increased risk of neonatal hypothermia and adverse outcomes. A previous South West evaluation identified hypothermia in 35% of babies conveyed to hospital by the ambulance service following BBA, alongside inequalities associated with prematurity and safeguarding concerns. Changes to local ambulance service and international emergency call-handler practice were implemented, including updated neonatal thermal care guidance, education and equipment.

Aim

To evaluate neonatal hypothermia rates and patterns of care for BBA babies, following implementation of changes to prehospital neonatal thermal care.

Methods

A retrospective repeat evaluation of routinely collected neonatal data was undertaken across five NHS hospital trusts in South West England. Data were included from live births ≥ 24 weeks gestation conveyed to hospital by ambulance between April 2024 and September 2025. This 18-month period followed implementation of changes to prehospital neonatal thermal care and was compared with the previous regional evaluation across the same trusts.

Results

A total of 106 babies met inclusion criteria; 92 had a documented arrival temperature. Hypothermia on arrival at hospital reduced from 35% (64/184) in the previous evaluation to 17% (16/92) in the period following implementation of changes to prehospital care (RR 0.50, 95% CI 0.30–0.83).

Most hypothermic babies (11/16; 69%) were classified as having mild hypothermia/cold stress (36.0°C–36.4°C). No babies in the repeat evaluation were severely hypothermic. A higher proportion of hypothermic babies received advanced care than previously (50% vs 17%). Preterm babies and babies of women with safeguarding concerns remained more likely to be hypothermic.

Conclusion

In the 18-month period following implementation of changes, neonatal hypothermia rates following BBA reduced by 50%. However, inequalities in hypothermia risk persist, particularly among preterm babies and families with safeguarding concerns. These findings support targeted prehospital neonatal thermal care interventions to improve outcomes following BBA.

Image

Table 1: Neonatal temperature on arrival at hospital

Temperature on arrival		Before changes (2018-2020)	After changes (2024-2025)	% point change
Hypothermic (temperature $\leq 36.4^{\circ}\text{C}$)		64/184 (35%)	16/92 (17%)	-18%
WHO classification of hypothermia	Temperature range			
Cold stress (mild hypothermia; cause for concern)	36 – 36.4°C	48/64 (75%)	12/16 (75%)	0
Moderate hypothermia (Danger, warm baby)	32 – 35.9°C	14/64 (22%)	4/16 (25%)	+3%
Severe hypothermia (Outlook grave, skilled care urgently needed)	<32°C	2/64 (3%)	0/16 (0%)	-3%
Normothermic (temperature 36.5°C–37.5°C)		120/184 (65%)	76/92 (83%)	+18%

“Before changes” refers to data from the previous evaluation (2018–2020). “After changes” refers to data collected following implementation of ambulance service and 999 call-handler changes (2024–2025).

Neonatal Speech and Language Therapy Identification Tool

Parnell K¹

¹West Midlands Perinatal Network

Early identification of infants at risk for communication and feeding difficulties is critical for timely intervention and improved developmental outcomes. The project aimed to develop a comprehensive Speech and Language Therapy (SLT) Neonatal Identification Tool to facilitate early detection of neonates who would benefit from specialised therapeutic support.

Tool Development Process:

A working group was formed and there was an extensive review of the evidence base that acknowledges the potential long term outcomes of pre-term and medically complex infants.

The resource was then designed to provide guidance for how SLTs work on a neonatal unit as part of the team.

Outcome:

- The tool provides an overview of the range of infants and services SLTs may be involved with broadly divided into specialist, targeted and universal levels of care for feeding and communication.
- Neonatal SLTs can use this tool to help them to identify infants and families with the recognition of holistic needs related to communication, feeding and brain development. This is all underpinned by developmental care, family integrated care and trauma informed care principles.
- Examples for embedding funded SLT services within the unit, in conjunction with the broader Allied Health Professional (AHP)/Multidisciplinary Team (MDT).

Impact:

We are continuing to understand what the level of WTE funding can deliver and this will be individualised to each service.

- The tool supports job planning, demand/capacity, data collection, service development and escalation alongside the support of service managers.
- It is being utilised to support capture of unmet need and business case development

The tool is endorsed by RCSLT and has received positive feedback and reflective discussion around how this would also be useful if developed for other SLT and AHP specialities/service areas.

Image

Development of the Speech and Language Therapy Neonatal Identification Tool

Authors

Natalie Madden: East Midlands Neonatal Operational Delivery Network Lead Speech & Language Therapist
Alexandra Connelly: London Neonatal Operational Delivery Network Lead Speech & Language Therapist
Brenda Carty: London Neonatal Operational Delivery Network Lead Speech & Language Therapist
Julie-Ann Watford: West Midlands Neonatal Operational Delivery Network Lead Speech & Language Therapist
Katy Parnell: West Midlands Neonatal Operational Delivery Network Lead Speech & Language Therapist
Marina Sloan: South West Neonatal Operational Delivery Network Lead Speech & Language Therapist
Samira Mian: Yorkshire and Humber Neonatal Operational Delivery Network Lead Speech & Language Therapist



Background

Early identification of infants at risk for speech, language, and feeding/swallowing difficulties is critical for timely intervention and improved developmental outcomes. The project aimed to develop a comprehensive Speech and Language Therapy Neonatal Identification Tool to facilitate early detection of neonates who would benefit from specialised therapeutic support.

Method

A working group consisting of Speech and Language Therapy (SLT) Neonatal Operational Delivery Network leads was formed in order to develop an agreed SLT Neonatal identification tool. The resource was designed to provide guidance for how Speech and Language Therapists (SaLTs) work on a neonatal unit as part of the neonatal team. The working group reviewed the evidence base that acknowledges the potential long term outcomes of pre-term and medically complex infants.



Key Points

- The tool provides an overview of the range of babies and services we may be involved with broadly divided into specialist, targeted and universal levels of care for feeding, speech, language and communication needs (SLCN).
- SaLTs who are part of a neonatal team can use this tool to help them to identify babies and families with the recognition of holistic needs related to communication, feeding and brain development. This is all underpinned by developmental care, family integrated care and trauma informed care principles.
- Tables are also provided as a reference for embedding funded Speech and Language Therapy neonatal services within the unit, in conjunction with the broader Allied Health Professional (AHP)/ Multidisciplinary Team (MDT). The staffing % Whole Time Equivalent (WTE) outlined in these tables is based on RCSLT Neonatal staffing recommendations.

Levels of Input

Input for those needing neonatal care can be provided across the three levels of specialist, targeted and universal intervention.

Figure 1 shows examples of which interventions would be carried out at each level.

Resources

Communication and feeding milestones and strategies

SaLTs have a key role to play in the development of communication and feeding in neonatal infants. The tool also includes strategies that can be used at key developmental milestones to support feeding and communication.

Embedding Funded Services

The identification tool includes tables to serve as a reference for embedding funded SLT neonatal services within the unit, in conjunction with the broader AHP/MDT. They are intended to be used as a guide and not an exact indication of how individual SLTs/teams work on each unit. This needs to be localised to fit individual service models with additional support from managers, neonatal and network leads as required.

Figure 2 shows an example of the table for universal level

Figure 1: Levels of intervention within neonatal care

SPECIALIST

SL assessment and clinical management focusing on feeding and SLCN support

- Babies born under 28 weeks
- Acquired brain injury (e.g. HIE, 5th neonatal stroke, etc)
- Any congenital or acquired neurological conditions
- All babies with known syndromes/chromosomal abnormalities likely to impact on feeding
- Chronic lung disease/respiratory disease with prolonged respiratory support (e.g. long term CPAP/high flow)
- Complex cardiac conditions (not relating to prematurity e.g. FGM)
- TOT/Deafblind babies
- Complex congenital conditions

- Priority indicators for feeding assessment:
 - Babies born 28/30 weeks showing limited wakefulness, feeding cues or readiness to begin breastfeeding
 - Babies identified as not feeding well by parent/carer, nursing or medical team
 - Any baby with a history of coughing / desaturations / bradycardia associated with feeding
 - Any baby with respiratory changes/complained oxygen requirement who has commenced oral feeding and/or where there are concerns re possible aspiration

TARGETED

Developmental feeding and SLCN intervention

- Babies born under 30 weeks
- Chronic lung disease
- Long term NCP due to complex gastro-intestinal NDC
- Delayed initiation or interrupted oral feeding journey
- SLCN/low birth weight
- Neonatal jaundice syndrome
- Babies on and off life support/palliative care (these babies would be reviewed under the specialist pathway as requested)
- Families who are vulnerable, have safeguarding concerns, or have speech, communication, and language needs (SLCN) may require prioritisation

Any babies from this list demonstrating priority indicators for feeding assessment move to specialist level

UNIVERSAL

Developmental and SLCN intervention which benefits all babies and families

- Babies establishing feeding (babies born over 30 weeks gestation with no co-morbidities)
- Supporting early communication, interaction and improving babies long term language and communication potential through:
 - Supporting parent-child interaction
 - Use of total communication environment
 - Supporting the development of responsive relationships between babies and parent/carer staff



Impact

We are continuing to understand how the level of WTE funding can be delivered and this will be individualised to each service.

- The tool supports job planning, demand/capacity, data collection, service development and escalation alongside the support of service managers.
- It is being utilised to support capture of unmet need and business case development.

What a fantastic resource! I'm already starting to think about how we can use this framework within acute adult services to areas within our hospital such as A&E

I love the concept of considering your priorities and potentially providing universal/targeted support to reach a wider patient group

Love this as a clear way of identifying what is possible with different levels of staffing both for business case but also for personal reflection and support

This is such a brilliant and needed resource. Thank you for sharing!

This is so helpful. Especially to see how you have identified what level of service can be provided based on staffing WTE

Thanks I like the way you identify core activities, unmet needs, also if reduced staffing it's a good way of illustrating impact this has on service

This is a great example of how a transformation of a service can really highlight the offer at the 3 different layers and role of those at each layer

Feedback

Feedback from RCSLT conference: Innovation in Practice: Job planning and service redesign in speech and language therapy

Figure 2: Embedding funded services

Intervention	Universal	Universal	Universal	Ad-hoc service
Service with 100% staffing	Service with > 50% staffing	Service with < 50% staffing	Ad-hoc service	
24x7 weekly attendance on ward round for all babies	1-2x weekly attendance on ward round for all babies	1x weekly attendance on ward round for all babies based on capacity	No capacity to attend ward rounds	
Best practice models of care				
Weekly parent education session as part of R Care	Monthly parent education session as part of R Care	Parent education board with set curriculum/has parent education sessions on request. SLT topics may include early communication and feeding cues	No capacity to provide parent education	
Active role in R Care working group (e.g. rotational chair/regular attendees)	Regular attendance/rotational at R Care working group (e.g. rotate attendance within R Care team)	Attend R Care working group when capacity	No capacity to attend R Care working group	
Active role in Developmental Care group	Regular attendance/rotational at Developmental Care working group (e.g. rotate attendance within R Care team)	Attend Developmental Care working group when capacity	No capacity to attend Developmental Care working group	
Active role in BFI accreditation	Regular contribution to BFI accreditation (e.g. teaching, attend working group)	Support and contribute to BFI accreditation based on capacity	No capacity to contribute to BFI accreditation	
Clinical Governance				
Regular QIP projects at universal level and with external stakeholders (e.g. spread a smile book drive, library slot on the end of the ward, skin to skin)	Lead proactive project team member for 1 x universal QIP project a year	Contribute towards universal QIP project a year	No capacity for QIP	
Staff education and training				
Regular teaching slot on range of topics related to professional (non-clinical)	Teaching slot on range of topics related to professional (non-clinical) - frequency agreed with unit	Teaching on junior doctors' induction and human study day if prioritised by team/lead	No capacity for regular teaching to unit team. Ad-hoc training may be agreed with unit on request	
Weekly group teaching sessions in SLCN (e.g. over-based feeding, communication, positioning for feeding)	Weekly group teaching sessions in SLCN based on capacity/priority agreed with unit	Ad-hoc group teaching sessions in SLCN if agreed as priority with unit and based on capacity	No capacity for group teaching. Ad-hoc training may be agreed with unit if prioritised	



Neonatal Outcomes following Nutrition Support Team Implementation

Dawson N¹, Mcdowall L, Mac K, Forster C

¹Leeds Teaching Trust

Preterm infants in Neonatal Intensive Care Units face substantial challenges in the first week of life, including acute illness and difficulties establishing enteral nutrition (Ojha and Salas 2025). According to The British Association of Perinatal Medicine (BAPM), a multidisciplinary team (MDT) approach to nutrition in preterm and growth restricted neonates is recommended, due to the increased nutritional needs of preterm infants in comparison to that of term infants. This, however poses financial and workforce constraints, there is limited evidence demonstrating benefit. A Nutritional Support Team (NST) was established in the Leeds Neonatal Service in 2018.

Growth rates were collected prospectively for infants at 1 year and 5 years post introduction of the NST, along with time to full feeds and difference in birth and discharge centiles.

Overall Growth rates increased 68% at 1 year and 84% over six years following the introduction of an NST. Infants <30 weeks had a growth rate pre NST of 8g/kg/day which has now increased to 17g/kg/day at 5 years. Infants 30 weeks to 36 weeks increased from 9g/kg/day to 16.6g/kg/day and infants >36weeks gestation had a growth increase from 18g/day to 31g/day. Centile drops and time to full feeds were reduced following implementation of the NST, with the number of infants falling more than two centiles reducing. SPN prescriptions now make up over 85% of all PN prescriptions, with 91% of infants <1kg remaining on a standardised prescription. Growth rates have also been maintained even in those infants with Intrauterine Growth Restriction (IUGR) and Extremely Low Birth Weight (ELBW).

Following the implementation of the NST we have seen improvements in nutritional outcomes in a tertiary neonatal unit. SPN is now routinely commenced for all babies including Extremely Low Birth Weight (ELBW) infants and those with Intrauterine Growth Restriction (IUGR).

Evaluating the Efficacy and Safety of Continuous Vancomycin Infusions in Term and Preterm Neonates: A Tertiary NICU Clinical Service Evaluation

Anwar M¹, Ahmed T, Damra H, Khupal J

¹University Hospitals Of Leicester

Background:

Continuous vancomycin infusion (CVI) is increasingly favored over intermittent dosing to achieve therapeutic targets in neonates¹. However, clinical data encompassing both term and preterm cohorts remain limited². This service evaluation aimed to assess initial therapeutic target attainment and renal safety profiles of a standardized CVI in a tertiary NICU.

Methods:

A retrospective clinical audit was conducted over a three-year period. All neonates receiving CVI with at least one therapeutic drug monitoring (TDM) level were included. The primary outcome was attainment of therapeutic range (15–25 mg/L) at first TDM assessment. Secondary outcomes included time to target attainment and acute kidney injury (AKI), defined as a $\geq 50\%$ rise in serum creatinine from baseline using modified neonatal KDIGO criteria³. Outcomes were analyzed by the gestational age subgroup.

Results:

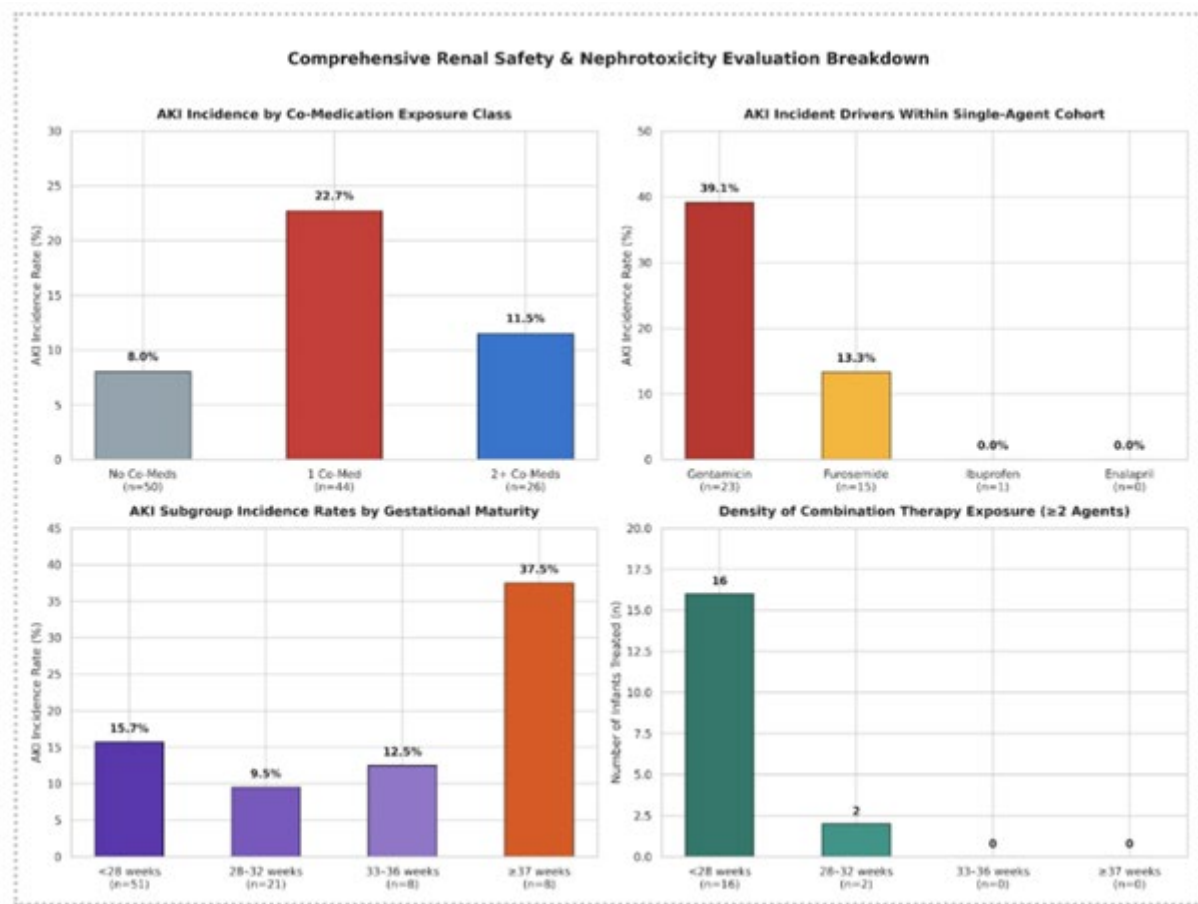
133 neonates were evaluated (mean birth weight $1.21 \pm 0.89\text{kg}$): 80 extremely preterm (<28 weeks), 26 very preterm (28–32 weeks), 12 moderate-to-late preterm (33–36 weeks), and 15 term neonates (≥ 37 weeks). Overall, the therapeutic target attainment at the first TDM check was 70.7% (n=94) with a median time-to-target of 22.5 hours. Sub-therapeutic levels (<15 mg/L) occurred in 17.3% (n=23), and supra-therapeutic levels (>25 mg/L) in 12.0% (n=16). Among term infants, 33.3% had supra-therapeutic levels, and none were sub-therapeutic.

The overall AKI rate was 13.6% (n=17/125). Higher AKI rates (22.7%) were observed in infants receiving nephrotoxic co-medications, particularly gentamicin (39.1%). Interestingly, patients receiving ≥ 2 concurrent nephrotoxins demonstrated a lower AKI incidence (11.5%); mirroring established class-combination safety trends⁴.

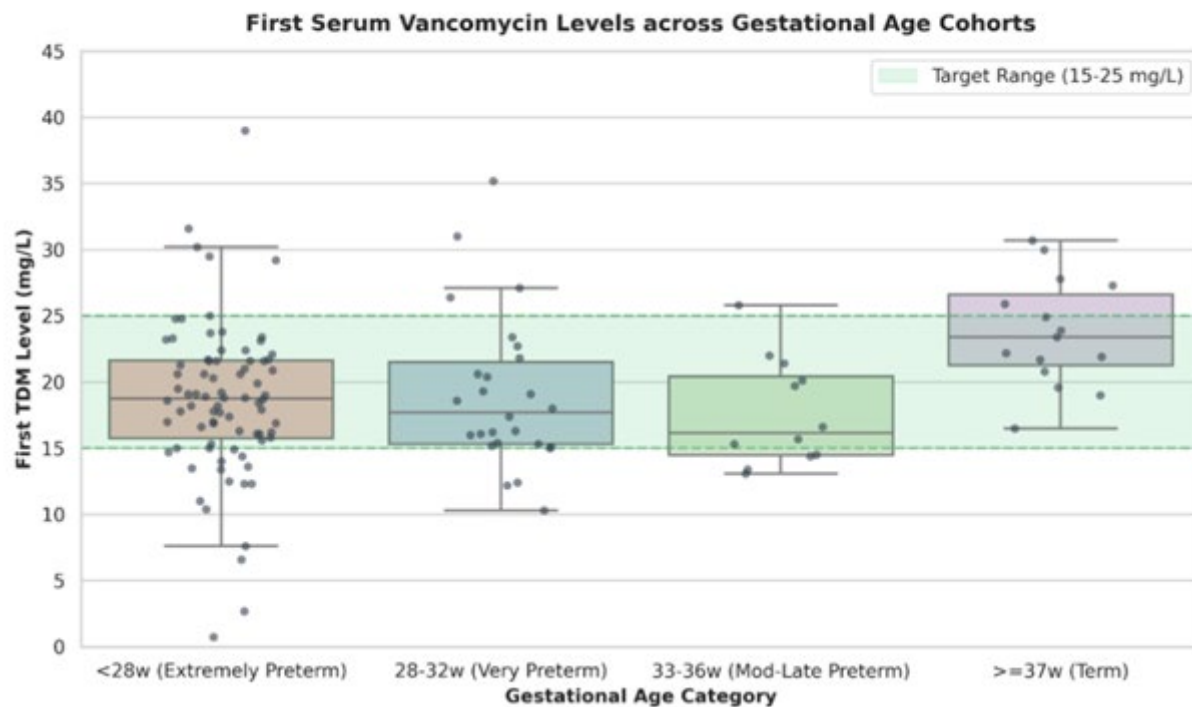
Conclusion:

CVI achieved therapeutic concentrations in over 70% of neonates within 24 hours, comparing favorably with intermittent dosing literature^{1,5,6}. However, term neonates exhibit significant vulnerability to early over-exposure, justifying a conservative empiric maintenance rate. AKI occurred in approximately one in seven infants and was more frequent with nephrotoxic exposure, supporting mandatory daily creatinine monitoring during co-therapy⁴.

Graphs



Image



Introduction of a neonatal birth-related refeeding syndrome guideline reduced hypercalcaemia and hypophosphataemia in the first two weeks of life

Levene I¹, Moreno M¹, Adams E¹

¹John Radcliffe Hospital, Oxford

***Background*:** Intensive postnatal nutrition after fetal growth restriction can trigger a refeeding-like syndrome. Randomised evidence shows that high-energy PN can increase the risk of hypophosphataemia (defining characteristic of neonatal refeeding syndrome) and associated sepsis. Hypophosphataemia causes apparent hypercalcaemia due to bone demineralisation - if phosphate is not measured, blood gas hypercalcaemia can be a signal.

We created a post-birth refeeding syndrome guideline summarised in the image for babies born <1kg or with antenatal doppler abnormalities. This recommended phosphate/magnesium/calcium/potassium monitoring and replacement over the first 10 days after birth.

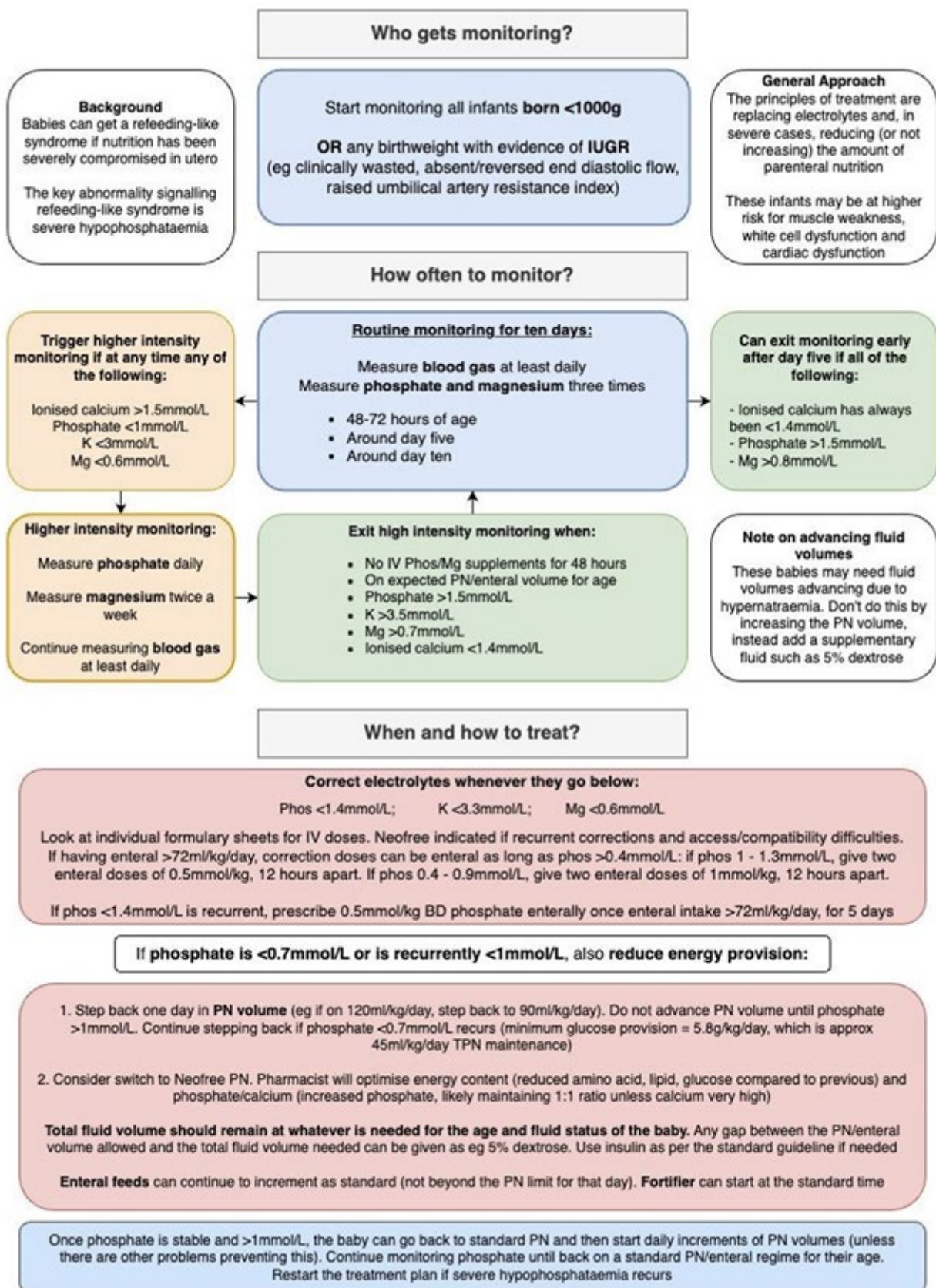
***Methods*:** Infants were identified using Badgernet and sepsis-related information retrieved from discharge summaries. Two one-year cohorts were compared, before/after guideline introduction. Chi squared and t test were used.

***Results*:** There were 79 and 82 infants in the two cohorts with no differences in mean gestation (26 weeks) or birthweight (735g). The number of infants with at least two measurements of phosphate and magnesium in the first 10 days of life increased from 48% and 14% in cohort 1 to 88% and 67% in cohort 2 ($p<0.05$). Ionised calcium measurement frequency increased marginally from 9.3 ± 2.3 to 10.6 ± 1.0 ($p<0.01$).

The table shows the results. The number of infants showing potential significant refeeding syndrome biochemical signs reduced substantially from 81% to 33%. Given the difference in testing frequency, ionised calcium and day 14 phosphate (sent during both cohorts for bone screening) are the most reliable comparators. There was a reduction in highest ionised calcium in the first ten days (-0.1mmol/L). Phosphate at day 14 increased ($+0.3\text{mmol/L}$). All measures of sepsis and antibiotic use trended down.

***Conclusions*:** The introduction of a refeeding guideline was associated with more biochemical monitoring and fewer cases showing signs of significant refeeding syndrome biochemistry. It is possible that this had positive clinical implications for sepsis but this should not be over-interpreted.

Graphs



Image

	Pre refeeding guideline N, % or mean, SD	Post refeeding guideline N, % or mean, SD
Potential significant biochemical refeeding syndrome in first 10 days (Phos <1 or ionised Ca >1.5 or K <3 or Mg <0.6, all mmol/L. Included if at least one result available for each)	46/57 (80.7%)	23/70 (32.9%) *
Highest ionised calcium first 4 days of life	1.40 ± 0.2	1.35 ± 0.1*
Highest ionised calcium first 10 days of life	1.51 ± 0.2	1.41 ± 0.1**
Any ionised ca >1.5 mmol/L in first 10 days of life (severe hypercalcaemia)	36 (46.2%)	14 (17.1%) **
Phosphate at day 14 of life	1.41 ± 0.4	1.73 ± 0.4**
Lowest phosphate first 4 days of life	1.70 ± 0.5	1.61 ± 0.5
Lowest phosphate first 10 days of life	1.38 ± 0.5	1.40 ± 0.5
Any phosphate <1 mmol/L in first 10 days of life (severe hypophosphataemia)	25 (37.3%)	17 (22.4%)
Lowest magnesium in first 10 days of life	0.8 ± 0.2	0.9 ± 0.1**
Any magnesium <0.6 mmol/L in first 10 days of life (severe hypomagnesaemia)	2 (4.7%)	0
Lowest potassium in first 10 days of life	3.7 ± 0.5	3.7 ± 0.6
Any potassium <3 mmol/L in first 10 days of life (severe hypokalaemia)	4 (5.1%)	2 (2.4%)
Any use of meropenem	7 (8.9%)	5 (6.1%)
Any use of vancomycin	15 (19.0%)	7 (8.5%) *
Any use of flucloxacillin	24 (30.4%)	18 (22.0%)
Sepsis in Badgernet discharge principal diagnoses (excluding "sepsis suspected")	24 (30.4%)	16 (19.5%)

*p≤0.05. **p≤0.01.

Identifying social needs in families with infants admitted to the Neonatal Unit: a single centre pilot evaluation of a co-designed screening tool

Evans K¹, Jones M¹, Nezafat Maldonado B^{1,2,3}, Park J¹, Asir M¹, Blewer E¹, Cantoni M¹, Desmonde P¹, Phillips A¹, Phillips A¹, Wood E¹, Khan H¹, Cawley P^{1,4}

¹Evelina Children's Hospital London, ²Neonatal Medicine, ³Centre for Paediatrics and Child Health,

⁴Research Department of Early Life Imaging

Background:

Families admitted to neonatal units are disproportionately from socioeconomically disadvantaged groups. We published a scoping review that found no validated neonatal-specific social determinants of health (SDOH) screening tool in the UK (1). To address this gap, we co-designed a screening tool with parents and the multidisciplinary team. This pilot evaluated its feasibility, acceptability, and clinical utility to support the NHS ambition to reduce health inequity.

Methods:

Registered service evaluation, prospectively conducted during a 28-day admission period, April-May 2026, in a single tertiary neonatal unit. The two-part SDOH tool consisted of:

- Part 1 (issued day 0-3) - capturing demographics and immediate social needs on admission
- Part 2 (issued day 10-14) - addressing wider social determinants for ongoing admissions

Parents completed the tool with staff support. Acceptability feedback surveys were collected and social needs intervention rate captured.

Results:

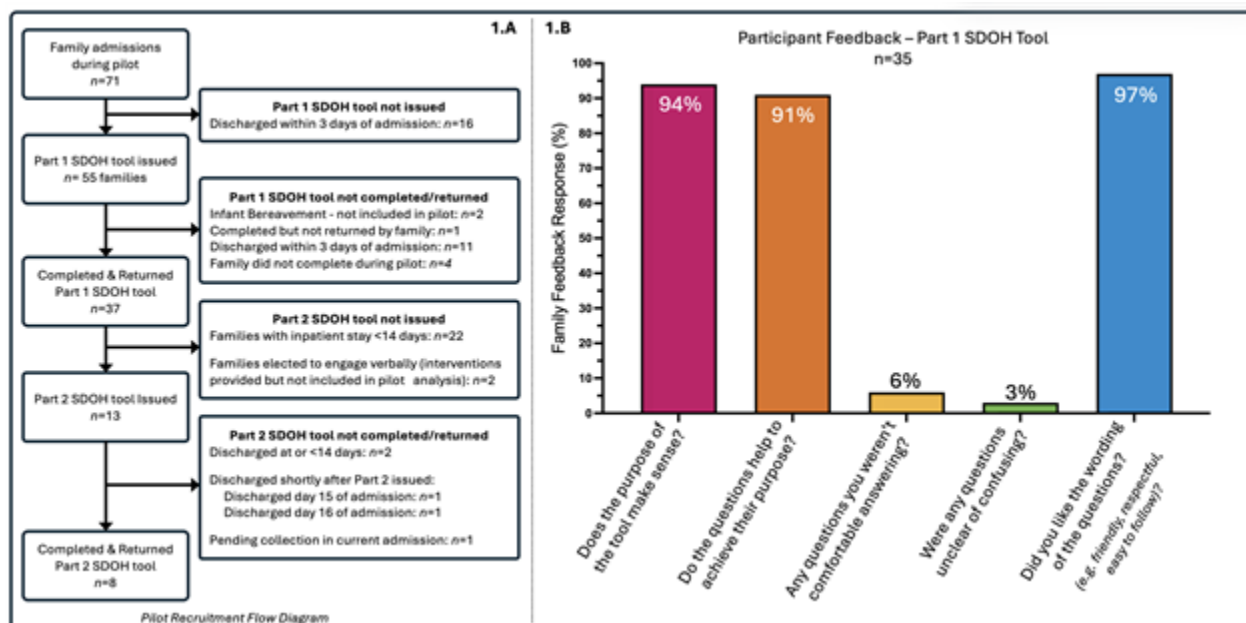
37 families completed part 1 (recruitment flow-diagram; Figure 1.A); with feedback in 35/37 families (Response rate: 95%). The tool identified at least one unrecognised social need in 30/37 families (81%). Targeted interventions included: accommodation support, travel/parking reimbursement, housing/employer letters, psychology referral, charity financial support, interpreter bookings, adjusted visiting and voluntary-sector referrals.

15 families were eligible for part 2 inclusion; 2 families engaged in interventional support verbally and did not complete the written form. Of the remaining 13 families, 8 completed part 2 (Figure 1.A), and all completed the feedback survey (Response rate: 100%). Part 2 social intervention rate 88% (n=7/8). Additional interventions included: foodbank referral, Healthy Start information, health visitor referral and employer support letters. Family feedback was positive (Figure 1.B).

Conclusion:

This pilot demonstrates that a co-designed neonatal social needs support tool is feasible, acceptable and clinically useful in identifying hidden need and prompting timely family support. Wider testing across neonatal settings is needed to assess transferability, and equity impact.

Image



The OdonAssist™ device for assisted vaginal birth: clinical introduction and neonatal safety outcomes.

Rose C¹, Hotton E²

¹Southmead Hospital, North Bristol NHS Trust, ²South West PGME School of Obstetrics and Gynaecology

Dr Claire Rose and Dr Emily Hotton on behalf of the OdonAssist™ UK Expert Group.

Background

OdonAssist is a novel device for assisted vaginal birth (AVB), gaining regulatory approval in 2025. Its European clinical introduction is being undertaken with enhanced post-market surveillance. We report real-world outcomes from the initial clinical use of OdonAssist across nine UK hospitals, with primary focus on safety during early implementation.

Methods

Prospective, routine clinical data were collected for all consecutive AVBs performed using OdonAssist during initial introduction. Operators trained in the use of the OdonAssist recorded labour characteristics, maternal and neonatal outcomes, and device performance using a shared anonymised electronic database.

Results

Between 18/07/2025 and 04/06/2026, 118 AVBs using OdonAssist were performed by 39 operators. Vaginal birth using OdonAssist alone occurred in 72 cases (61%); 45 cases (38%) required sequential instruments, 1 caesarean birth occurred. The main indications for AVB were presumed fetal compromise (47%) and prolonged second stage (47%). Median Apgar score at 5 minutes was 10, median arterial cord pH 7.2 (range 6.96-7.36), and median venous cord pH 7.3 (range 7.13-7.45). Importantly, when OdonAssist alone was used, there was only one case of device-related neonatal soft tissue trauma (scratch to scalp), and no cases of intracranial haemorrhage or bony fracture. One baby was admitted to NICU (not device related), and no babies required therapeutic hypothermia.

Conclusions

These early real-world data from first clinical use demonstrate a reassuring neonatal safety profile during initial implementation. Ongoing monitored evaluation is essential as more clinical sites begin using the device and operator experience increases along a natural learning curve. This data supports the continued evaluation of OdonAssist as an addition to current AVB strategies.

From Non-Invasive Ventilation (NIV) to Home: A Neonatologist-Led Multidisciplinary Pathway for Severe Bronchopulmonary Dysplasia (s-BPD)

Manjunath T¹, Hiney A¹, Gardner C¹, Paria A¹, Sur A¹

¹East Lancashire Hospitals NHS Trust

Background:

Preterm infants with established s-BPD (requiring non-invasive or invasive respiratory support at 36 weeks) frequently have prolonged respiratory dependence requiring complex multidisciplinary input. A lack of commissioned PICU/paediatric HDU beds leads to longer NICU stays without established frameworks of practice. Our tertiary NICU developed a neonatologist-led multidisciplinary pathway supported by monthly complex-care rounds focusing on 5 core strategies:

- 1) Cardiorespiratory: Cycling between NIV and low-flow nasal cannula (LFNC) oxygen (Image), pulmonary hypertension (BPD-PH) surveillance
- 2) Nutrition: Volume restriction with calorie maximisation
- 3) Pharmacotherapeutics: Inhaled steroids and non-opioid analgosedation
- 4) Outreach: Early involvement of community team
- 5) Family education: Parent-led development of BPD information leaflets

Aims:

To evaluate whether a structured multidisciplinary pathway facilitates discharge of infants with s-BPD on home oxygen and leads to fewer respiratory/PICU referrals.

Methods:

Retrospective service evaluation of infants with s-BPD, born from 2024 onwards following pathway development. Outcomes were compared to a pre-pathway cohort born between 2020-2023.

Results:

From 2024 onwards, 17 infants met criteria. Median gestation was 26+5 (23+5-30+3), median birth weight of 750g (417-1800g) and median length of NICU stay was 142 days. 10/17 had BPD-PH, 6/17 received sildenafil. 13 infants stable on NIV underwent respiratory cycling for a median of 23 days (range 7-37). All 13 were discharged home; 12/13 on LFNC oxygen and one in air. 4 infants who did not undergo cycling due to severity required PICU transfer, 3 needing invasive ventilation. All 17 survived to NICU discharge. In the pre-pathway cohort, 6/14 infants were discharged home on LFNC, 6/14 required PICU transfer and 2/14 died.

Conclusions:

A multidisciplinary pathway for s-BPD is feasible and provides a practical framework for neonatal teams caring for infants with chronic complex-care needs. Such models, adopted and standardised regionally through peer review, could reduce prolonged hospital stays and improve quality of care.

Image

Neonatologist-led Multidisciplinary Pathway for Severe BPD



Cardiorespiratory optimisation

- Steroid use to wean pressures to CPAP
- High-dose inhaled budesonide whilst cycling
- Consider weaning off diuretics following cycling
- Pulmonary hypertension surveillance with echocardiography



Sedation & Positioning

- Physiotherapy input and positioning optimisation
- Early switch from opioid sedation to non-opioid agents (alpha 2 adrenergic agonists)
- Slow, gradual opioid weaning

STEP	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								
16																								
17																								

LFNC 1 L/min

CPAP at 6 cm

Move to next step if saturating well and WOB tolerable on LFNC



Dietitian & SLT involvement

- Allow oral feeds when on LFNC for >2 hours
- Consider anti-reflux medication
- Consider fluid restriction
- Consider high-energy formula



Growth

- Review for extra-uterine growth retardation (dropping > 2 centile lines)
- Monitor length/linear growth



Early outreach planning and family education about BPD

Preparing families early for discharge and ongoing care.



Metabolic Bone Disease

- Monitor PTH and give Ca supplementation as appropriate

BAPM Posters

Table of Content

9 Establishing a Neonatal Research and Development Special Interest Group – A Year On
Knight R¹, Oliver C²

¹Royal United Hospitals Bath, ²Royal United Hospitals Bath

22 Impact of a Multidisciplinary Simulation-Based Program on Knowledge and Confidence in Neonatal Central Line Management.

Abdalla R¹, Halpin L¹

¹Maidstone And Tunbridge Wells NHS Trusts

340 What Families Remember: The Lasting Impact of Relationships in Neonatal Care

Melia L¹

¹Thames Valley and Wessex Neonatal ODN

353 Multivitamin support for expressing parents on the neonatal unit

Whitfield-brown L¹, Storey Gould L²

¹RVI Newcastle, ²Northumbria University

370 "The BENefits of AHPs"

What is the impact on the family of having a team of Allied Health Professionals supporting them? A case study

Cruickshank H¹, Blair H¹, Johnson A¹, Baillie L¹

¹Nhs Lothian

382 Establishing a Dedicated Perinatal Team to Optimise Care Delivery and Outcomes in the NICU

Dunn E¹, Kemmish E, McDonnell S

¹Ashford & St Peter's Nhs Trust

383 Pilot of FiCare e-learning package 'An Introduction to Family Integrated Care'

MacLennan C¹, Whitfield Brown L¹, Collins C¹, Peacock C¹, Ashcroft C¹, Gair A¹

¹Newcastle Upon Tyne Hospitals

432 A Muslim Faith Bereavement Pathway: Improving Family and Staff Experience

Osler S¹, Reid H¹, England F¹, McGrath J¹

¹St Peter's Hospital

446 Enhancing Family Integrated Care (FiC) through consistent use of V-Create in the NICU

Pompa V¹, Pinnamaneni R¹, Padilha J¹, Pompa V

¹Cambridge University Hospital NHS Foundation Trust

17 Improving timeline of ROP screening in a level 2 NICU. A quality improvement initiative

Ghouri M¹

¹Newham University Hospital, Barts Health NHS Trust

19 Reducing Unplanned Extubation in Neonatal Intensive Care Through a Systems-Based Approach to Inform Targeted Education

Dunne T^{1,2}, Slee S^{1,2}, Babarao S^{1,2}

¹Liverpool Women's Hospital, Liverpool Women's NHS Foundation Trust, ²NHS University Hospitals of Liverpool Group (UHLG)

314 Umbilical Cord Sampling: Innovative Method to Reduce Blood Transfusions in Premature Infants

Gulati N¹, Bowler K, Crawley E, Castaldi S, Century H, Iyamabo D

¹Luton & Dunstable Hospital

352 Achieving Nothing – Are zero unplanned extubations achievable?

Beh A¹, Maxwell S¹

¹Ashford And St Peter's NHS Foundation Trust

358 A Quality Improvement project assessing the use of role cards in creating more confident Foundation Year 2 doctors and contributing to safer patient care in Neonatology

Watt E¹, McNicholl L¹, Campbell K¹, Conetta H¹

¹Royal Alexandra Hospital

361 Standardising Antenatal Counselling in a Special Care Unit: A Quality Improvement Project Using Concurrent Parent–Clinician Feedback

Bird S¹, Jose S¹, Qureshi M¹, Fawcner P¹

¹South Warwickshire Nhs Foundation Trust

363

Improving Early Maternal Milk Exposure in Preterm Infants <35 Weeks' Gestation Through Delivery-Room Buccal Colostrum: A Quality Improvement Project

Dunn E¹, Kemmish E, Smith M, Chui A

¹Ashford & St Peter's Nhs Trust

368 Time for CXR to Surrender: Lung Ultrasound as the First-Line Imaging Tool in a Tertiary NICU
Iacono D^{1,2}, Gowda H¹

¹University Hospitals Birmingham NHS Trust, ²Paediatric Clinic University Hospital of Udine

376 Keeping babies warm - A quality improve project to improve compliance with NNAP Measure for Normothermia

Gibbons L¹, Krishnan A¹, Yadav K¹

¹University Hospitals Of Leicester NHS Trust

394 A Regional Cooling Collaborative Improves Therapeutic Hypothermia Practice Across Northwest Neonatal Network

Mahaveer A^{1,2}, Ollerenshaw R, Anders N², Nash C², Walsh C², Garr R², Dharmaraj S², Babarao S², Mishra A², Zipitis C²

¹Manchester University NHS Foundation Trust, ²Northwest Neonatal Operational delivery network

415 Bridging the Airway Training Gap: A Collaborative Theatre-Based Airway Exposure Programme for Paediatric Trainees

Saeed M¹, Ayeni K², Labib, ³, Millard ⁴, Sumal J⁵

¹Neonatal Department, University hospitals of Leicester NHS Trust, ²Neonatal Department, University hospitals of Leicester NHS Trust, ³Neonatal Department, University hospitals of Leicester NHS Trust,

⁴Neonatal Department, University hospitals of Leicester NHS Trust, ⁵Paediatric Cardiac Anaesthesia, East Midlands Congenital Heart Centre, University hospitals of Leicester NHS Trust

421 Improving Compliance with BAPM Neonatal Airway Safety

Standards: A Quality Improvement Project at a Level Two Neonatal Unit

Geeson E¹, Atiya A¹, Cheruvalli V¹, ul Haq A¹

¹Humber Health Partnership Scunthorpe Hospital

425 HO.ME (Hospital Near Me): Developing a Digital Tool to Improve Neonatal Repatriation Pathways
Coupland E¹, Khan H²

¹Guy's & St. Thomas' NHS Foundation Trust, ²Guy's & St. Thomas' NHS Foundation Trust

454 Barriers to the Implementation of a Perinatal Optimisation Passport for Infants at Risk of Preterm Birth: A Quality Improvement Project

Estrera S¹, Chetcuti-Ganado C¹, Tuchlei Y¹, Burnell L¹

¹Luton And Dunstable University Hospital - Bedfordshire NHS Foundation Trust

456 Closing the Gap: Eliminating delays in continuous glucose monitoring in preterm neonates

Chaudhary N¹, Burgess H¹, Beardsall K¹

¹Cambridge University Hospital NHS Foundation Trust

460 Enhancing Delivery of Evidence-Based Care for Preterm Infants: A Closed-Loop Quality Improvement Project Using a Perinatal Optimisation Pathway.

Saad B¹, Thapa N², Douthwaite A³

¹St. George's University Hospitals NHS Foundation Trust, ²Guy's and St. Thomas NHS Foundation Trust, ³Croydon University Hospitals

473 Less Invasive Surfactant Administration (LISA) in a Local Neonatal Unit (LNU): Trials and Tribulations despite Progress Plus (2022–2025)

Narayanan S¹, Gopalakrishnan S¹, Karthikeyan A¹

¹West Hertfordshire Teaching Hospitals Nhs Trust

476 Safer Amikacin use in Neonates: Reducing Supratherapeutic Serum Levels Through Dosing Regimen Optimisation.

Eyo-Ita E¹, Sayeemuddin M², Nwokolo S¹, Menesez E¹, Bharania B¹, Gandhi R¹

¹Kings College Hospital Foundation Trust, ²St George Hospital

477 Unplanned Extubation: A QI project in a tertiary neonatal unit in West of Scotland.

Babur N¹, Briant E¹, Frew G¹, Duggan M¹

¹Nhs Greater Glasgow And Clyde

485 The Development of a National Standard Concentration e-learning Package

Hibberd S¹, Weddell J^{1,2}, Hinton R³, Adams J¹, Fudge E¹

¹Southampton Children's Hospital, University Hospital Southampton NHS Foundation Trust,

²Southampton Oxford Neonatal Transport team (SONeT), ³North West Neonatal Operational Delivery Network.

486 Implementing Video-Laryngoscopy to Enhance Neonatal Airway Management: A Quality Improvement Project

Abdalhady M¹, Khalid K, Ong T, Bogiatzopoulou A

¹Northwest Deanery- Northern Care Alliance

487 GEM (Golden Early Milk): Improving Early Colostrum Provision – Lessons in Culture Change Across the Maternity–Neonatal Pathway

Chadwick C¹, Jain P

¹Walsall Healthcare NHS Trust

488 Implementing Neonatal Standard Concentration Infusions across a Neonatal Transport Region

Hibberd S¹, Weddell J^{1,2}, Adams J¹, Fudge E¹

¹Southampton Children's Hospital, University Hospital Southampton NHS Foundation Trust,

²Southampton Oxford Neonatal Transport team (SONeT)

501 Optimising Neonatal Imaging Using Incubator Trays to Promote Developmental Care in the Newborn: A Quality Improvement (QI) Project

Samanta S, Patel S^{Manchester University NHS Foundation Trust, Manchester, UK}, Varghese L^{Manchester University NHS Foundation Trust, Manchester, UK}, Nedungadi S^{Manchester University NHS Foundation Trust, Manchester, UK}, Greenwood B^{Manchester University NHS Foundation Trust, Manchester, UK}, Samanta S^{Manchester University NHS Foundation Trust, Manchester, UK}

4 Assessment of Leak Performance in Eight Face Masks While Ventilating an Extremely Preterm Manikin

Patel N^{1,2}, Salgin B^{1,3}

¹Barts Health NHS Trust, ²William Harvey Research Institute, Queen Mary University of London, John Vane Science Centre, Charterhouse Square, ³Centre for Genomics and Child Health, Blizard Institute, Queen Mary University of London, 4 Newark Street

12 Transition to school from a parents' perspective for children with neonatal encephalopathy

Chakkarapani E^{1,2}, Warren A

¹UHBW, ²University of Bristol

18 Doxapram for Apnoea of Prematurity: Single-Centre Retrospective Cohort Analysis

Labaeka A¹, Loganathan P¹

¹James Cook University Hospital

315 Gestational heat exposure reshapes early-life gut microbiome development: evidence from a human cohort and cross-fostering mouse model

Xiong T¹, Liu D¹

¹Department of Pediatrics, West China Second University Hospital, Sichuan University

316 Hypertensive disorders of pregnancy and the risk of kidney outcomes in the offspring: A systematic review and meta-analysis

Xiong T¹, Xiong L¹

¹Department of Pediatrics, West China Second University Hospital, Sichuan University

317 Maternal Gestational Weight Gain and Offspring Internalizing-Externalizing Comorbidity in Adolescence: a BMI-Stratified Analysis in ALSPAC

Yang T¹, Xiong T¹

¹West China Second University Hospital, Sichuan University

318 Cumulative Maternal Socioeconomic Disadvantage and Neurodevelopmental Disorders in Offspring: Dose-Response Associations and Prenatal Mediating Pathways in a UK Birth Cohort
Yang T¹, Xiong T¹

¹West China Second University Hospital, Sichuan University

322 Hypertensive Disorder Subtypes Differentially Influence Small Vulnerable Newborn Phenotypes: A Large Cohort Study and Preterm SGA Prediction Model

Xiong T¹, Wu J¹

¹Department Of Pediatrics, West China Second University Hospital, Sichuan University

323 Prenatal Pre-eclampsia Exposure Is Associated with Impaired Left Ventricular Feature-Tracking Strain and Altered Serum Metabolomic Profiles in Childhood

Mao Y¹, Xiong T¹

¹四川大学

324 Birth Head Circumference and Adolescent Total, Verbal, and Performance IQ: Associations Across the Full Distribution in the ALSPAC Birth Cohort

Mao Y¹, Xiong T¹

¹Department of Pediatrics, West China Second University Hospital, Sichuan University, 610041, Chengdu, China.

326 Validation of NICHD 2011 and 2022 Broncho-pulmonary dysplasia prediction calculator in a UK tertiary neonatal unit

Karima M¹, Loganathan P¹, Bailes E¹

¹The James Cook University Hospital, ²The James Cook University Hospital, ³The James Cook University Hospital

331 Exploring Outcomes for Infants with Surgical Necrotising Enterocolitis: A Systematic Review of Surgical Interventions and Patient Characteristics Associated with Mortality.

Guillot Lozano A¹, Laviola A¹, Hosking J¹, Walker K¹, Bunn L¹

¹University of Plymouth

335 Clinician experiences of neurological examination for hypoxic ischaemic encephalopathy in the Northwest region

Ollerenshaw R¹, Anders N², Mahaveer A^{1,2}

¹St Mary's Hospital, Manchester University Nhs Foundation Trust, ²North West Neonatal Operational Delivery Network

336 Congenital Complete Atrioventricular Block in a 25+2 Week, 827 g baby: Limitations of Pacing at the Extreme Limits of Viability

Atyia A¹, Mohamed A¹

¹Diana Princess Of Wales Hospital, NLaG

341 Collodion Baby Presenting at Birth: A Case Report and Review of Early Neonatal Management

Pathan S¹, Ghias S¹, Mushtaq S¹

¹Pilgrim Hospital ULTH

343 Neonatal Hydrocolpos Secondary to Imperforate Hymen: A Rare Cause of Vulval Mass and Urinary Obstruction

Mohammed A¹, Awad O, Awad O¹

¹Diana Princess Of Wales Hospital

344 Respiratory Outcomes Following Antenatal Corticosteroid Exposure in Planned Caesarean Births at 35+0 to 38+6 Weeks Gestation: A Cohort Comparison of 2021 and 2025

Campbell C¹, Foreman K²

¹Princess Royal Maternity Hospital, ²Princess Royal Maternity Hospital

346 SURVIVE 2-Trial - Sustained inflation and chest compression versus 3:1 chest compression to ventilation ratio during cardiopulmonary resuscitation of asphyxiated newborns – a multi-centre, international cluster randomized control trial

Quine D¹, Monnelly V¹, Rorhr C², Schmolzer G³

¹Nhs Lothian, ²North Bristol NHS Trust, ³Royal Alexandra Hospital Canada

350 Respiratory distress and congenital hypothyroidism as a presentation of Brain-Lung-Thyroid Syndrome in monochorionic premature twins

O'Neill C¹, Becher J^{1,2,3}, Campbell J^{1,4}, Miles H^{1,5}

¹NHS Lothian, ²Simpson Centre for Reproductive Health, ³University of Edinburgh, ⁴South East Scotland Clinical Genetics Service, ⁵Royal Hospital for Children and Young People

387 Changes in surgical approach to necrotising enterocolitis and spontaneous intestinal perforation in preterm infants

Clachers M¹, Walker G, Simpson J

¹Nhs Greater Glasgow And Clyde

398 Understanding sibling support experience at Nottingham University Hospitals' Neonatal Units
Beckham L¹, Kruger R¹, Thompson B¹, Hay N¹, Waterfall J¹, Partridge M¹, Nash P¹, Sharma A¹

¹Nottingham University Hospitals NHS Trust

410 Post-operative Use of Neurally Adjusted Ventilatory Assist (NAVA) in Infants with Congenital Diaphragmatic Hernia

Choudhary R¹, Ganguly S¹, Duffy D¹, Kulkarni A¹, Shetty S^{1,2}

¹St George's University Hospitals NHS Foundation Trust, London, United Kingdom, ²City St George's University of London, London, United Kingdom

417 Rapid Expansion of Less Invasive Surfactant Administration in England: A National Survey

Patrawala S¹, Gowda H¹, Sakaya Stephen Ray N¹, Gray H¹, Smidy - Wallis B¹, Smidt-wallis B, Turner M¹

¹Birmingham Heartlands Hospital, NICU

419 Extubation Readiness in Extremely Preterm Neonates: Expanding the Predictive Framework Beyond Respiratory Parameters

Rafaqat A^{1,2}, Kopuri A¹, Susnerwala S¹

¹Neonatology Department, Latifa Women's and Children's Hospital, ²MBRU- Mohammed Bin Rashed University

426 Accuracy of Standard Endotracheal Tube Positioning Formulas in Neonates with Congenital Diaphragmatic Hernia: A 16 years Retrospective Cohort Study

Haggag R¹, Elsaddig M¹, Fletcher J¹, Mankarious M¹, Shetty S^{1,2}, Kulkarni A¹

¹St George's Hospital, ²City St George's University of London

427 Predictive Value of Delivery Suite SpO₂/FiO₂ Ratio for Mortality and Duration of Ventilation in Neonates with Congenital Diaphragmatic Hernia: A 16-Year Retrospective Study

Haggag R¹, Fletcher J¹, Mankarious M¹, Elsaddig M¹, Shetty S^{1,2}, Kulkarni A¹

¹St George's Hospital, ²City St George's University of London

437 Perforated Neonatal Appendicitis: A 21-Year Retrospective Case Series

Elemam H¹, Varik R², Glen K², Schiff A², Mohammedi A¹

¹Royal Sussex County Hospital, Trevor Mann Baby Unit (TMBU), ²Royal Alexandra Children's Hospital

450 Real-world oscillatory frequency and amplitude use during rescue HFOV on the Dräger Babylog VN500: a longitudinal ventilator data analysis.

Bhat S¹, Belteki G¹

¹Cambridge University Hospitals NHS Trust

457 The 22 Week Study National Survey: Variation in clinical practice across UK Neonatal Intensive Care Units

McDermott H¹, Howarth C⁴, Tombling M⁵, Evans K⁶, McKinnon K^{7,8,9}, Gandhi R¹⁰, Fitzpatrick S¹¹, Harous A¹², Battersby C^{13,14}, NeoTRIPS 22 Week Group¹⁵

¹Kids Intensive Care and Decision Support/Neonatal Transfer Service (KIDSNTS), Birmingham Women's And Children's NHS Trust, ²Neonatal Department, New Cross Hospital, The Royal Wolverhampton NHS Foundation Trust, ³Imperial College London, ⁴Neonatal Department, Homerton Healthcare NHS Foundation Trust, ⁵Neonatal Department, Derriford Hospital, University Hospital Plymouth, ⁶Neonatal Department, Ashford and St Peters NHS Foundation Trust, ⁷Department of Child and Adolescent Psychiatry, Institute of Psychiatry, Psychology & Neuroscience, King's College London, ⁸Department of Early Life Imaging, School of Biomedical Engineering & Imaging Sciences, King's College London, ⁹Neonatal Department, Royal London Hospital, Barts Health NHS Trust, ¹⁰Neonatal Department, Kings College Hospital NHS Foundation Trust, ¹¹Neonatal Department, Lancashire Teaching Hospitals NHS Trust, ¹²Neonatal Department, Leeds Teaching Hospitals NHS Trust, ¹³Chelsea and Westminster Hospital NHS Foundation Trust, ¹⁴Section of Neonatal Medicine,

School of Public Health, Faculty of Medicine, Imperial College London, ¹⁵Neonatal Trainee-Led Research and Improvement Projects (NeoTRIPs)

462 Are neonates born with congenital gastrointestinal anomalies (CGIA) at greater risk of developing neurodevelopmental impairment (NDI) compared to neonates without CGIA? - A Systematic review
Kuttikottayil Joy O²

¹Nottingham University Hospitals, ²University of southampton

464 Role of Human Milk Fortification in Achievement of Gut Autonomy Before Stoma Closure in Preterm Infants <32 weeks

Flower A¹, Saad B¹, Umasankar D¹, Shetty S¹, Kulkarni A¹, Fatima T¹

¹St Georges Hospital

479 Antenatally undetected Sacrococcygeal Teratoma presenting as a subtle sacral swelling in a term neonate

Akinnusi F¹

¹Tunbridge Wells Hospital/maidstone And Tunbridge Wells Nhs Trust

489 Is this UVC safe to use? Using ultrasound to detect UVC malposition and hepatic extravasation

Flockton H¹, Oh S¹, Meena V¹

¹John Radcliffe Hospital

495 Postnatal Outcomes and Predictors of Significant Pathology Following Antenatal Detection of Microcephaly: A Five-Year Dual-Centre UK Cohort Study

Chadwick C¹, Storey I, Rehal A

¹University Hospitals Birmingham NHS Foundation Trust

499 Antenatally Diagnosed Pleural Effusions: Natural History and Outcomes of Neonatal Chylothorax

Lasokova M¹, Pang R¹, Rosa C, Kortsalioudaki C

¹Institute for Women's Health, University College London

6 Outcome of in-utero transfers of extreme premature infants in a tertiary centre

Ganguly S¹, Kulkarni A², Shetty S²

¹St. Thomas Hospital, ² St George's University Hospitals NHS Foundation Trust

8 Evaluation of Decision-to-Delivery Interval Performance, Documentation, and Causes of Delay

Across Caesarean Section Categories (1–3): A Multi-Site Re-Audit in Somerset NHS Foundation Trust

Egagifo O¹, Mak S¹, Rae D¹

¹Somerset NHS Foundation Trust, ²Somerset NHS Foundation Trust

10 Use of point of care bowel ultrasound

(BUS) for diagnosis of suspected

necrotizing enterocolitis (NEC):

A feasibility study

Sur A¹, Gopinathansarasa N¹

¹East Lancashire Hospital NHS Trust

15 Implementation of Neonatal Oral Antibiotics at Home (NOAH) in a Non-Co-Located Neonatal Unit:

A Quality Improvement Project

Dunne T^{1,2}, Brophy H^{1,2}, Taggart R^{1,2}, Westhead R^{1,2}, De Alwis D^{1,2}, Daniels L^{1,2}, Hoyle E^{1,2}

¹Liverpool Women's Hospital, Liverpool Women's NHS Foundation Trust, ²NHS University Hospitals of Liverpool Group (UHLG)

20 Every Minute Matters: Reducing System Delays in Antibiotic Delivery for Suspected Neonatal Sepsis in a Tertiary Neonatal Network

Anwar M¹, Ayeni K, Ikhayere E, Ababio E

¹University Hospitals Of Leicester

21 Does a routine 36-week antenatal ultrasound detect additional significant renal tract abnormalities not identified at the 20-week scan?

Lethaby D¹, Gudichuttu V¹, Myint Shein M¹, Bashir H¹, Misra D²

¹Broomfield Hospital, Mid and South Essex NHS Foundation Trust, ²Royal London Hospital

319 Benchmarking BPD Outcomes to Drive Quality Improvement: A Denominator-Aware NNAP Unit-Level Analysis (2020–2024)

Hawley J¹, Loganathan P¹

¹James Cook University Hospital

321 Closing the Care Gap in Late Preterm Infants

Basha M¹, Manoharan S¹, Manur S¹, Al-Muzaffar I¹

¹Prince Charles Hospital / Cwm Taf Morgannwg University Health Board

330 Closing the Gap: Insulin Safety Variation Across London Neonatal Units

Gaze S¹

¹London Neonatal ODN

334 Correlation of Transcutaneous Temperature Monitoring with Conventional Temperature Measurement in Extremely Premature Infants

Oo C¹, Shetty S^{1,2}, Duffy D², Richards J², Kulkarni A²

¹St George's City University, ²St George's Hospital NHS Foundation Trust

342 Breathe Together with ARC: Admission Reduction through CPAP

Al-Muzaffar I¹, Gowen A¹, Smith H¹, Barnes K¹

¹Prince Charles Hospital / Cwm Taf Morgannwg University Health Board

345 A 11 year Retrospective analysis of Laparotomy outcomes in neonates less than 800 grams and more than 800 grams: A single centre study

Verma R¹, FATIMA T¹, Shetty S², KULKARNI A¹

¹St. George's University Hospital Nhs Foundation Trust, ²City St George's, University of London

351 Skills and Drills: An approach to enhance confidence and readiness for critical neonatal procedures

Buckle A¹, Jamieson J¹, O'Neill C¹, Becher J¹

¹NHS Lothian

355 Thermoregulation on T2 recovery ward – The TOTz Trial

Presswala D¹, Hayward R¹, Tector G¹, Reeves A¹, Thomas A¹, Maria Piccione R, Course K, Hampson K

¹University Hospital Of Wales

359 Safe Transitions Home: Redesigning Neonatal Nasogastric Discharge Pathways

Cogswell E¹, Al-Muzaffar I¹

¹Prince Charles Hospital, Cwm Taf Morgannwg University Health Board

362 Benchmarking clonidine use for neonatal analgesia and sedation across UK tertiary NICUs

Cosgrove E¹, Wyllie T¹

¹University Hospital For Wales

365 NeoSIT: A National Neonatal Survey of Intubation for Transfer

Kershaw M¹, Harrison C^{1,2}, Adams E³

¹Embrace, Sheffield Children's NHS Foundation Trust, ²Leeds Centre for Newborn Care, Leeds Teaching Hospitals NHS Trust, ³Newborn Care Services, Oxford University Hospitals NHS Foundation Trust

366 Building the Future Neonatal AHP Workforce in

Scotland: A National Approach to Equity,

Innovation & Integration

Cruickshank H¹, Blair H¹, Whyte Z¹

¹Nhs Lothian

371 Developmental Dysplasia of the Hip: Evaluating Compliance with the Newborn and Infant Physical Examination Cymru (NIPEC) Screening Standards at the University Hospital of Wales

Subba S¹, Eriksen P¹, Hayward R¹

¹Neonatal Intensive Care Unit (NICU), University Hospital Of Wales

375 Golden Hour Antibiotics: Identifying and Reducing Delays to Antibiotic Administration in Suspected Neonatal Sepsis

Simmons L¹, Patel P¹, Morris J

¹Croydon University Hospital

379 A Service Evaluation (10 year) of Blood Culture positive Neonatal Sepsis

Aston E¹, Orr D², Dharmaraj S²

¹University Of Manchester, ²Lancashire Teaching Hospitals NHS Foundation Trust

381 Preventing prescribing errors in neonatal intensive care through pharmacist integration in ward rounds

Wyllie T¹, Miles T¹

¹University Hospital Of Wales

386 High Risk Neurodevelopmental Follow Up Clinic Pilot Project: 3-month Corrected Age (CGA) Outcomes

Evans R¹, Brennan L, Davis A, Mantle K, Hotze M

¹Royal Wolverhampton NHS Trust

389 Addressing Gaps in Breastfeeding Expertise: Development of a Clinician-Led Breastfeeding Clinic
Busuttil S¹, Bland R¹

¹Royal Hospital For Children

393 Understanding Neonatal Pain Management Practices across two neonatal ODNs

Chadwick C¹, Silva M², Hibberd S³, Lawes A⁴

¹University Hospitals Sussex Nhs Foundation Trust, ²Kent Surrey & Sussex Neonatal ODN, ³University Hospital Southampton NHS Foundation Trust, ⁴Thames Valley and Wessex Neonatal ODN

402 Low sugar, high efforts: a retrospective analysis of hyperinsulinism admissions in a tertiary neonatal unit.

D'Silva N¹, Hassim K¹, Wanigasekara R¹, Wai P¹, Dubus M¹

¹Queen Alexandra Hospital, Portsmouth Hospitals University NHS Trust

403 Understanding the Role of Point-of-Care Ultrasound (POCUS) in Neonatal Transport.

Forsyth S¹, Rajaraman N², Montasser M³

¹NHS Greater Glasgow and Clyde, ²West Midlands School of Paediatrics, ³University Hospital Wishaw, ScotSTAR Neonatal Transport Service

404 The Scottish Cooling Group: Eight year audit of a National Neuroprotection Pathway

Farquharson S¹, Dunn L², Smee N³, Psiouri L³, Jackson A⁴, Jackson L¹, Bhushan S⁵, Boyd D¹, McEwan T⁶, Becher J²

¹Royal Hospital for Children, ²Simpson Centre for Reproductive Health, ³Aberdeen Maternity Hospital, ⁴Princess Royal Maternity Hospital, ⁵Ninewells Hospital and Medical School, ⁶Public Services Delivery Scotland

405 Curriculum Mapping as a Quality Assurance Tool for Neonatal Education: Evaluation of a Tertiary Neonatal Teaching Programme

Ramlogan K¹, Rajkumar J¹, Abdalla S¹, Sasidharan L¹, Sodhi H¹, Okoye G¹

¹King's College Hospital

406 Timing Matters: A retrospective review evaluating the need for pre-emptive blood transfusion consent in infants <32 Weeks' Gestation

Philip E¹, Nallagonda S¹

¹Luton And Dunstable Hospital

411 Impact of changes to RSV immunisation protocol: experience of a tertiary neonatal unit

Hassim K¹, Chowdhury O¹

¹Queen Alexandra Hospital, Portsmouth Hospitals University NHS Trust

418 Are we managing the well, jaundiced baby as efficiently as we can?

Lu M¹, Rahman M¹

¹Royal Alexandra Children's Hospital, ²Brighton and Sussex Medical School, ³Royal Sussex County Hospital

420 Transfers to a Surgical NICU for Bilious Vomiting – Are We Following the BAPM Framework? A Service Evaluation

Elsefy A¹, Ramlogan K¹, Arthur J¹

¹Addenbrooke's Hospital

423 Outcomes and Neurodevelopmental Follow-up of Infants Born at 22 Weeks Gestation: A Six-Year Quaternary Unit Experience in North of England Following the BAPM Framework.

Dhugga L¹, Biddlecombe J², Hearn R¹, Harigopal S^{1,2}

¹Newcastle Upon Tyne NHS Foundation Trust, ²Newcastle University

431 Metabolic Bone Disease screening: raising the treatment threshold for PTH and treating hypophosphataemia regardless of PTH concentration was associated with no evidence of harm, and potential benefit

Levene I¹, Moreno M¹, Shine B¹, Molnar Z¹

¹John Radcliffe Hospital, Oxford

433 Point-of-Care Lung Ultrasound in Neonatal Respiratory Distress: A Local Neonatal Unit's Journey Towards Radiation-Free Diagnosis

Karthikeyan A¹, Thorn B², Walton C², Slough D², Narayanan S¹

¹Neonatal unit, West Hertfordshire Teaching Hospitals Nhs Trust, ²Clinical Radiography, West Hertfordshire Teaching Hospitals NHS Trust

435 Review of Practice: Use of Parenteral Nutrition in a Level Two Neonatal Unit against NICE guidelines

Lord A¹, Huggins R¹, Asoh U¹

¹Lincoln County Hospital

439 Trends in very preterm infants undergoing procedural management of patent ductus arteriosus over a 13-year period (2013-2025).

Premadeva I¹, Witter T¹, Cawley P¹, Jones M¹, Khan H¹, Lee G¹, Fox G¹

¹Evelina London Neonatal Unit

441 Launch-NOAH (Local Audits to Uncover Neonatal Care Habits for NOAH [Neonatal Oral Antibiotics at Home]): A Network-Wide Evaluation

Patrawala S¹, Patrawala S², Siddhi P, Moore H⁵, Young L⁴, Nath P³, Surana P¹, Paediatric Research Across the West Midlands P

¹University hospital Birmingham, NICU, ²Walsall Manor Hospital, Neonatal unit, ³University Hospital Coventry, ⁴Birmingham Women's Hospital, ⁵New Cross Hospital, NICU

442 Uninfected, Not Unaffected

Frew K², O'Shea O¹, Walsh K

¹Princess Royal Maternity Hospital, ²University of Glasgow

447 Safe to Wait: Impact of PDA Non-Intervention in the NICU

Lasokova M¹, Hallett F, Duffy D, Richards J, Shetty S, Kulkarni A

¹St George's University Hospital NHS Foundation Trust

452 Pulmonary Haemorrhage in Extreme Preterm Infants

Mcarthur C¹, Montasser M

¹NHS Lanarkshire

461 Impact of a Weekly Nutrition Ward Round on Breast Milk Fortifier Practice in a Level Two Neonatal Unit

Hammond D¹, Parmar M²

¹Watford General Hospital/ West Hertfordshire Teaching Hospitals NHS Trust, ²Watford General Hospital/ West Hertfordshire Teaching Hospitals NHS Trust

463 Bridging the Gap Between Surveillance and Management of Metabolic Bone Disease of Prematurity Through Weekly Multidisciplinary Nutrition Rounds - Oral presentation

Khalid M¹, Ntovolou A¹

¹William Harvey, East Kent Hospitals University NHS foundation trust

466 Patent Ductus Arteriosus Assessment in UK Neonatal Intensive Care Units: A National Survey of Current Practice

Hopper A¹, Lasokova M², Tolan A³, Kulkarni A², Noureldin M⁴, Heuchan A⁵, Battersby C⁶, Bhojnagarwala* B¹, Montasser* M⁷

¹Medway NHS Foundation Trust, ²St George's University Hospitals NHS Foundation Trust, ³Chelsea and Westminster Hospital NHS Foundation Trust, ⁴University Hospitals Birmingham NHS Foundation Trust, ⁵Royal Hospital for Children, Glasgow, ⁶Imperial College London, ⁷University Hospital Wishaw

468 Feeding The Forgotten Preterm Group: Short Term Outcomes In 33-34 Weeks Gestation: A 3 Year Retrospective Observational Study

Maharjan R¹, Raju R¹, Kalliath P¹, Omidiji M¹, Merchant N¹

¹West Hertfordshire Teaching Hospitals NHS Trust

471 GENTLE - Guiding Environmental Noise and Therapeutic Light Exposure.

Brock H², Hiney A², Brooks-moizer A¹

¹East Lancashire Hospitals Nhs Trust, ²NW foundation School

472 Evaluating the Changing Trends in Lumbar Puncture Practice and Impact of Sepsis Scoring Systems in Neonates in Post natal ward at St George's Hospital

Verma R¹, DUFFY D¹

¹St. George's University Hospital Nhs Foundation Trust

480 Midline catheters remain in situ three times longer than peripheral intravenous cannulas in neonates: a two-year tertiary Neonatal Intensive Care Unit study

Abifarin T¹, Chalia M, Bhayat S

¹Great Ormond Street Hospital

481 Optimising Neonatal IV Infusion Guidance: National Preferences for Safer Standard Concentration Infusion Monograph Design

Preston C¹, Hinton R², Chappell F¹, Hibberd S³, Gaze S⁴, Johnson B⁵, Gooding N⁶

¹Medusa NHS Injectable Medicines Guide, ²North West Neonatal Operation Delivery Network,

³Thames Valley and Wessex Neonatal Operational Delivery Network, ⁴London Neonatal Operational Delivery Network, ⁵West Midlands Perinatal Network, ⁶East of England Neonatal Operational Delivery Network

482 CONTINUOUS GLUCOSE MONITORING (CGM): THE NEW GLUCOSE GUARDIANS OF NICU

Singh K¹, Chaudhary N², Beardsall K^{2,3}

¹Department of Paediatrics, Wexham Park Hospital, ²Neonatal Unit, Cambridge University Hospitals NHS Foundation Trust, ³Department of Paediatrics, University of Cambridge

483 Enhancing Quality and Consistency in Antenatal Counselling: A Service Evaluation

Labib S¹, Olanrewaju O¹, Sanghera R¹, Kaur A¹, Pillay T¹, Javed R¹

¹Leicester Royal Infirmary Hospital

493 Timely Transition from Inpatient Neonatal Unit Care to Inpatient Paediatric Care and the Impact of Delays on Families and Regional Neonatal Capacity: an annual review

Harris K¹, Harris K

¹Jessop Wing (Sheffield Teaching Hospitals)

494 Title: Improving Central Safety in Neonates: Please Mind the Tip: Radiological Standardisation Group

Watson G¹, Thankachan D¹, Jones E¹, Morris R¹

¹Singleton Hospital

497 Assessment and Management of Neonatal Encephalopathy Secondary to Perinatal Asphyxia: Audit of the South West Neonatal Network Care Pathway

Rajabally S, Archibald J

¹Gloucestershire Nhs Foundation Trust

498 Auditing the accuracy of Badgernet records for parental presence on neonatal ward rounds

Moustafa H¹, Ikechukwu C², Tanney K²

¹Royal Bolton Hospital, ²Saint Mary's Oxford Road Campus

Establishing a Neonatal Research and Development Special Interest Group – A Year On

Knight R¹, Oliver C²

¹Royal United Hospitals Bath, ²Royal United Hospitals Bath

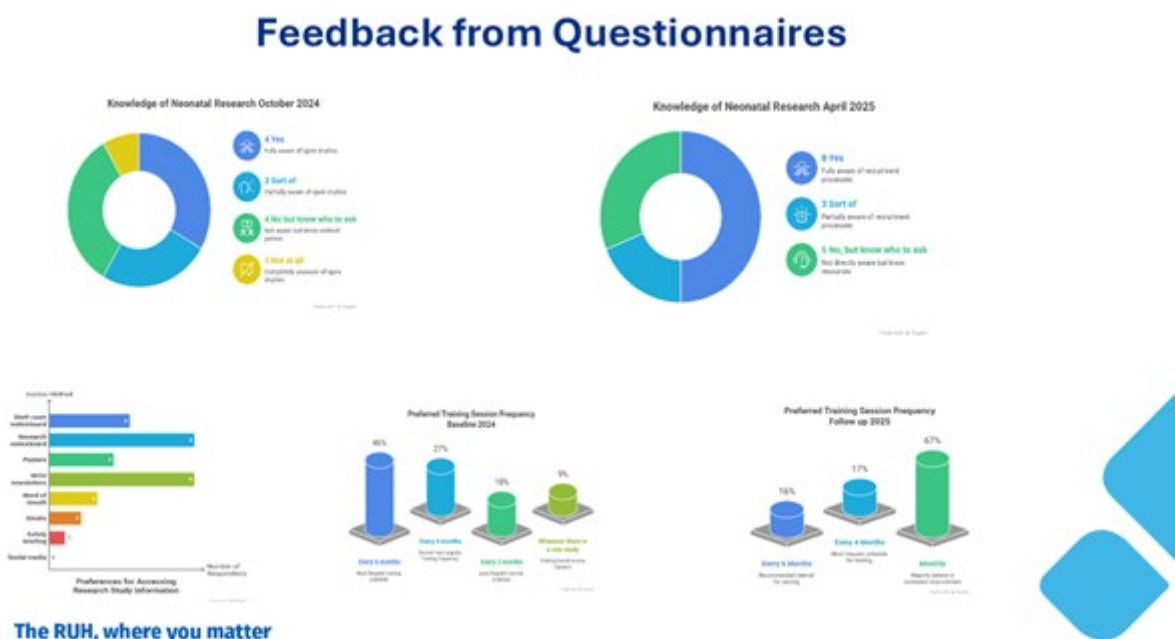
Degl et al. (2021) suggest there are considerable opportunities to improve communication with staff and parents about clinical trials in neonatal units. RUHB neonatal unit is increasingly active in clinical research. A way of disseminating information was established to empower the workforce to communicate and deliver robust, effective research.

The Neonatal Research and Development Special Interest Group was established in July 2024. Terms of reference were agreed with all research and neonatal unit staff invited to an inaugural meeting. Hybrid meetings were held bi-monthly to ensure they became embedded in unit culture and maximise attendance. A broad agenda covered aims and objectives, a highlight being celebrating successes. Meetings focus on individual studies, study staff providing updates and training sessions. A baseline questionnaire recorded research awareness amongst clinical staff. Impact of the group on research awareness was reviewed at 6 months.

Analysis of research awareness questionnaires demonstrated significant shifts in confidence and attitudes to research. The portfolio of studies evolved with capacity and capability to deliver more complicated and intensive studies. More staff from multiple disciplines have completed GCP certification with advanced neonatal nurse practitioners also completing the API scheme and taking on the PI role.

Questionnaire outcomes demonstrated clinical staff wanted to hear about research in small bite-size offerings. The group now hold regular short meetings in clinical spaces making the group flexible, sustainable and visible. Along with celebrating success, high on the agenda for the group is continuing to support staff develop research skills. Research delivery is now part of mandatory training for nursing staff and delivered annually. The group secured funding for a neonatal nurse research and development secondment. The next steps are to develop exposure and experience for junior doctors and work with other clinical teams to positively impact staff research awareness, capacity and ultimately patient care.

Graphs



What staff told us

As an ANNP research is one of our 4 pillars of practice. Managing aspects of implementation locally such as training and education, recruitment and randomisation has made the research pillar feel more substantial, and more accessible.

The API scheme is very straight forward, it helped to simplify conceptual and practical aspects of being involved in research.

Research is now part of the culture of the unit.

I am more research focused in general now.

I can't wait for the results and potentially change practice as a result.

If you are thinking about the API scheme choose a study you are passionate about.

The API Scheme worked really well for me because the whole team are passionate about research.

The RUH, where you matter



Impact of a Multidisciplinary Simulation-Based Program on Knowledge and Confidence in Neonatal Central Line Management.

Abdalla R¹, Halpin L¹

¹Maidstone And Tunbridge Wells NHS Trusts

Background:

Central Venous Access Devices (CVADs), including umbilical catheters and PICC lines, are essential in neonatal care but may cause serious complications, including CLABSI, extravasation, and cardiac tamponade. Correct radiograph interpretation and early recognition of complications are essential neonatal skills (BAPM, 2025). Simulation-Based Education (SBE) provides a safe environment for developing both technical and non-technical skills and supports training in neonatal CVAD management (Yousef, 2022).

Aim:

To assess whether a multidisciplinary SBE program measurably increases clinician knowledge and confidence in neonatal CVAD management.

Method:

A half-day neonatal SBE session was delivered at a UK district general hospital with a Level 2 neonatal unit. The programme covered CVAD positioning on radiographs, recognition of line complications, and appropriate escalation and management. Teaching included three high-fidelity full-immersive simulation scenarios with structured debriefing, along with teaching sessions on radiograph interpretation and CVAD complications, based on the 2025 BAPM CVAD Guidelines. Seven participants attended: five paediatric doctors and two neonatal nurses. Pre- and post-course questionnaires assessed confidence, educational value, and clinical relevance.

Results:

All participants reported increased confidence in interpreting neonatal CVAD position and recognising complications after the session. The multidisciplinary format supported collaborative learning and communication. Feedback was highly positive, particularly regarding the simulations, radiograph teaching, and structured debriefing. Participants felt better prepared to identify and manage central line complications in clinical practice.

Conclusion:

Simulation-based education can be an effective method for teaching neonatal CVAD management. Combining radiograph interpretation, immersive simulation, and debriefing improves clinician confidence, teamwork, and recognition of complications. Further programmes with larger participant groups are planned to assess long-term impact.

References:

British Association of Perinatal Medicine. Central Venous Access Devices in Neonates: A Draft BAPM Framework for Practice. London: BAPM; 2025. Available from: BAPM

Yousef N. Simulation in neonatal care: towards a change in traditional training? *Eur J Pediatr.* 2022;181(4):1429–1436. doi:10.1007/s00431-022-04373-3.

What Families Remember: The Lasting Impact of Relationships in Neonatal Care

Melia L¹

¹Thames Valley and Wessex Neonatal ODN

My twins were born at 27 weeks and spent 96 days in neonatal care.

Years later, I have forgotten most of the numbers, settings and clinical details. What I remember are people: a nurse's hand resting on my son's chest, the staff member who noticed I was struggling, the moments of laughter that made it possible to breathe again.

In this talk, I reflect on how families experience neonatal care not as a series of clinical interventions but as a relationship. Through personal stories from our NICU journey, I explore why moments of compassion, emotional steadiness and human connection often become the memories families carry long after discharge.

The session will offer a parent's perspective on the lasting impact of seemingly small interactions and consider what this means for professionals supporting families during one of the most psychologically vulnerable periods of their lives.

Multivitamin support for expressing parents on the neonatal unit

Whitfield-brown L¹, Storey Gould L²

¹RVI Newcastle, ²Northumbria University

Background

The type of fat consumed influences the quality of fatty acids in human milk. The water-soluble vitamins and iodine content of human milk depends on diet. The UK national diet and nutrition survey (NDNS) identified insufficient iodine status and reduced fruit/vegetable consumption in adult females. The Department of Health (DoH) recommend a daily 10 microgram vitamin D supplement when breastfeeding, assuming healthy eating.

Northern regions have poorer diet quality. Neonatal stay confers additional financial burden. Consuming a balanced healthy diet is challenging. Parents ask about appropriate supplements. Supplements use a European food labelling system to display percentage of nutrient requirements met. They do not compare provision with nutritional requirements for specific population groups. Supplements marketed for breastfeeding parents can be expensive.

Aim

Compare over the counter (OTC) supplements to identify affordable preparations for breastfeeding.

Methods

A spreadsheet was created comparing dietary recommendations (COMA 1991/WHO) for lactating adult females with multivitamin and mineral preparations or polyunsaturated fatty acid (PUFA) preparations from supermarkets and pharmacies. Dietary / faith considerations and cost were recorded.

Results

6 standard OTC multivitamin and mineral preparations were evaluated. Only 33% met the vitamin D recommendation and 16% met the iodine recommendation.

4 supermarket own brand multivitamins and mineral formulations for pregnancy met iodine, vitamin D and met over 80% of the requirement for water-soluble vitamins.

50% of omega supplements also supplied 300-400% of vitamin E requirement. Suitable OTC affordable omega 3 fish oil supplements were available for parent's requesting alternatives to food rich in omega 3.

83% of OTC supplements providing vitamin D alone supplied over 250% of the recommended requirement.

Conclusion

Healthy eating on the neonatal unit is challenging. Resources for expressing / breastfeeding parents to support selection of appropriate supplements to meet their dietary needs would be helpful (when not met by food).

"The BENefits of AHPs"

What is the impact on the family of having a team of Allied Health Professionals supporting them? A case study

Cruickshank H¹, Blair H¹, Johnson A¹, Baillie L¹

¹Nhs Lothian

Background: As the original neonatal Allied Health Professional (AHP) team in Scotland that has input from Dietetics, Occupational Therapy, Physiotherapy and Speech and Language Therapy, we wanted to explore the experience of one family who had a fully integrated AHP team involved in their patient journey.

AHPs provide unique specialist care within neonatal services that deliver many benefits for families.

The British Association for Perinatal Medicine (BAPM) recommend that all neonatal units have access to specialist neonatal AHPs.

Methods

This is a case study of a very complex extreme preterm infant, the AHP input he received during his 18-week neonatal stay, and his family's experience of the AHP support they received.

The team asked Ben's parents to tell them his story and how they felt supported by the team. Information was gathered during cot side conversations and written statements.

Results:

-Ben's start to life was not what we had expected. The support from the Allied Health Professionals at Simpsons has been invaluable in helping Ben's development.

-We know that the AHP input will not end when we leave the neonatal unit and are very grateful that Ben will have consistency in the ongoing care that he receives to reach his potential.

-The advice, guidance and resources from the AHP team have been invaluable in helping Ben to grow and develop.

We also created a timeline of every intervention Ben and his family had with any member of the AHP team.(fig1)

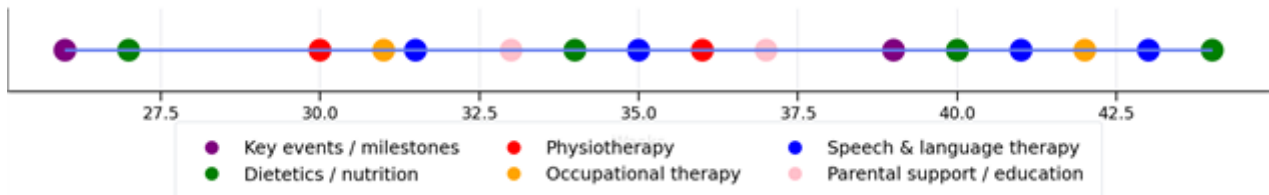
Conclusion:

- Every neonatal family should have access to a full AHP team
- AHPs improve short-, medium-, and long-term outcomes for high-risk infants
- Their work reduces long-term complications and enhances development
- They provide consistent, compassionate, family-centred care

An integrated AHP team is essential in neonatal care, not optional— they significantly improving both clinical outcomes and family experience.

Image

AHP Timeline Summary



Establishing a Dedicated Perinatal Team to Optimise Care Delivery and Outcomes in the NICU

Dunn E¹, Kemmish E, McDonnell S

¹Ashford & St Peter's Nhs Trust

Background: High-quality perinatal care relies on cohesive, multidisciplinary teamwork and standardised, evidence-based pathways. In January 2024, a dedicated Perinatal Working Team was established at our tertiary neonatal centre to drive quality improvement and enhance the care experience for families and infants admitted to the Neonatal Intensive Care Unit (NICU).

Methods: Guided by the NHS England "Prem 7+" care pathway, the team implemented a continuous quality improvement strategy. This involved monthly clinical data reviews, cross-departmental learning dissemination, including joint perinatal simulation with participants from obstetrics, maternity and neonatology. The creation of new evidence-based guidelines, including antenatal counselling guidelines and buccal colostrum guidelines, supports standardisation of care for families. We facilitated targeted staff education sessions and launched specific clinical initiatives, notably the administration of buccal colostrum in the delivery room during each baby's "birthday cuddle." To further promote maternal lactation, we designed and distributed bespoke antenatal counselling packs and expressing kits to expectant families.

Results: The interventions led by the team have successfully improved unit culture and enhanced care delivery. Data reviews and education significantly improved staff knowledge of perinatal best practices. Clinically, our outcomes have markedly improved: our unit achieved positive outlier status in the National Neonatal Audit Programme (NNAP) for providing delayed cord clamping, and we increased the administration of timely antenatal steroids. Furthermore, the combination of delivery-room buccal colostrum and antenatal expressing kits has successfully translated into improved long-term breastfeeding outcomes.

Conclusion: The establishment of a dedicated perinatal team effectively bridges the gap between obstetric and neonatal care. This is a continued project with ongoing outcomes; however, initial data demonstrate that data-driven reviews and targeted multidisciplinary education translate directly into tangible clinical improvements, empowering families and optimising early infant care.

Pilot of FiCare e-learning package 'An Introduction to Family Integrated Care'

MacLennan C¹, Whitfield Brown L¹, Collins C¹, Peacock C¹, Ashcroft C¹, Gair A¹

¹Newcastle Upon Tyne Hospitals

TITLE: Service Improvement Project

Pilot of FiCare e-learning package 'An Introduction to Family Integrated Care'

INTRODUCTION

Family Integrated Care (FIC) is being embedded into Neonatal Units nationwide, driven by strong evidenced short and long-term benefits for babies and families. For FIC to be successfully implemented, staff require training that supports both a shift in mindset and the development of key practical skills. Fostering a consistent team approach is essential. Historically the Allied Health professionals (AHPs) and Clinical Psychology Team delivered face-to-face FIC training. This was challenging due to the number of clinical staff requiring training (approx. 250 clinical staff members), limited AHP staffing and time for training / development due to clinical pressures, and lack of protected time to develop training resources. An on-line training package was developed (based on the BAPM framework and unit audit against framework by unit FiC team) and piloted in April 2026.

AIM

Evaluate the on-line training package with a range of learners to see if learning outcomes were achieved.

METHOD

A range of staff groups undertook the e-learning package. A survey was sent to staff upon completion of the e-learning module.

RESULTS

All learners agreed they had gained an understanding of FIC, felt confident with the approach and were aware of technology and resources available on the unit to support FIC. All agreed that they understood what trauma informed care was, the benefit of developmental care and were confident discussing grief and loss. The module was rated 4.5/5 and experienced staff felt it was a good summary.

CONCLUSION AND FUTURE PLANS

The e-learning module achieved the desired learning outcomes and was highly rated. It will be rolled out to

- All new Neonatal Staff (ANNP's/AHP's/Medics/Nurses)
- Existing Neonatal staff will be directed to this as a form of revalidation/re-accreditation or for a yearly update

A Muslim Faith Bereavement Pathway: Improving Family and Staff Experience

Osler S¹, Reid H¹, England F¹, McGrath J¹

¹St Peter's Hospital

Background:

At St Peter's we have been aware of the challenge with supporting end-of-life care rituals and requests for families from the Muslim faith. This had reduced staff confidence knowing what to offer and how to facilitate specifics for Muslim families during emotionally challenging end-of-life situations.

We were keen to implement a more robust pathway for care of Muslim families.

Methods:

- We sought input from stakeholders. This included our bereavement medical and nursing leads and wider neonatal teams, particularly requesting feedback from colleagues who share the Muslim faith.
- We reflected on challenging scenarios from previous neonatal deaths when clearer guidance or information would have been helpful.
- We sought specific support from a Muslim Registration & Nationality Service Manager from the local county council who has been a key contact.

Process:

A pathway was compiled based of our existing end-of-life bundle (EOL) with Muslim faith-specific considerations. Ideally, it will be used alongside our existing EOL bundle, however it will also support antenatal and anticipatory planning.

The pathway was circulated for feedback, amended, then presented at a guidelines meeting. It has subsequently been ratified for use. See extract.

Results:

Whilst undergoing development, the pathway assisted with antenatal discussions and parallel planning for a baby from a Muslim family with a significant antenatal diagnosis. There was positive feedback from the perinatal team and family regarding the ability to make specific plans for end-of-life care.

We are yet to use the pathway in its entirety since ratification but have received positive feedback from the neonatal community regarding its potential value.

Conclusion:

The pathway provides a structured source of end-of-life information to guide conversations with Muslim families during a very difficult time. It supports staff to feel empowered to give families culturally sensitive options at the end of their baby's life.

Image

Section C. Family support and additional things to consider during bereavement care.

Respect the family's faith and ascertain any wishes they may have.	You may wish to have a discussion with the family and document any wishes here: This will help to manage everyone's expectations.
Ascertain what the family will allow regarding the care of the baby after death. Who would they like to bathe the baby, memory making etc.	Document these discussions here:
Would parents like the baby to be blessed?	The family will usually have their own Imam that they will contact. Ask if they would like you to contact them on their behalf. Contact detail/name of Imam if applicable: N.B If families do not have a personal Imam, the hospital can arrange this. Please bleep switch and ask for the on-call Imam to attend for an end-of-life blessing. Please document any communication below.
Do parents need access to somewhere quiet to go and pray?	Ideally try to accommodate this as close to the baby as possible. Offer parents room/daffodil if available. Alternatively, consider the hospitals multi-Faith Centre (located on the main level 3 link corridor, near to the Duchess of Kent entrance at the rear of the hospital)

Enhancing Family Integrated Care (FiC) through consistent use of V-Create in the NICU

Pompa V¹, Pinnamaneni R¹, Padilha J¹, Pompa V

¹Cambridge University Hospital NHS Foundation Trust

Background:

Admission to the Neonatal Intensive Care Unit (NICU) can be highly stressful for families, with separation, uncertainty, and limited involvement in care affecting parental wellbeing, bonding, and confidence. FiCare, endorsed by the British Association of Perinatal Medicine, promotes partnership between families and healthcare professionals to support parental involvement in neonatal care. V-Create NICU Diaries provide a secure digital platform enabling healthcare professionals to share photographs, videos, and personalised updates with families.

Aim:

To improve consistency in the sign-up and use of V-Create within the NICU to enhance family engagement and support FiCare principles.

Methods:

Baseline observations identified variation in staff engagement, parent sign-up processes, confidence using the platform, and consistency of diary updates.

A quality improvement project using Plan–Do–Study–Act (PDSA) methodology was undertaken. Staff and family feedback was collected through surveys and informal discussions to identify barriers to uptake and use. Stakeholders included nursing staff, consultants, allied health professionals, ward clerks, families, and V-Create representatives.

Interventions included staff and family “how-to” guides, education sessions, awareness posters, one-to-one support, collaboration with V-Create representatives to simplify processes, and establishment of V-Create Champions to promote sustainability. A dedicated launch day increased awareness and staff engagement.

Results:

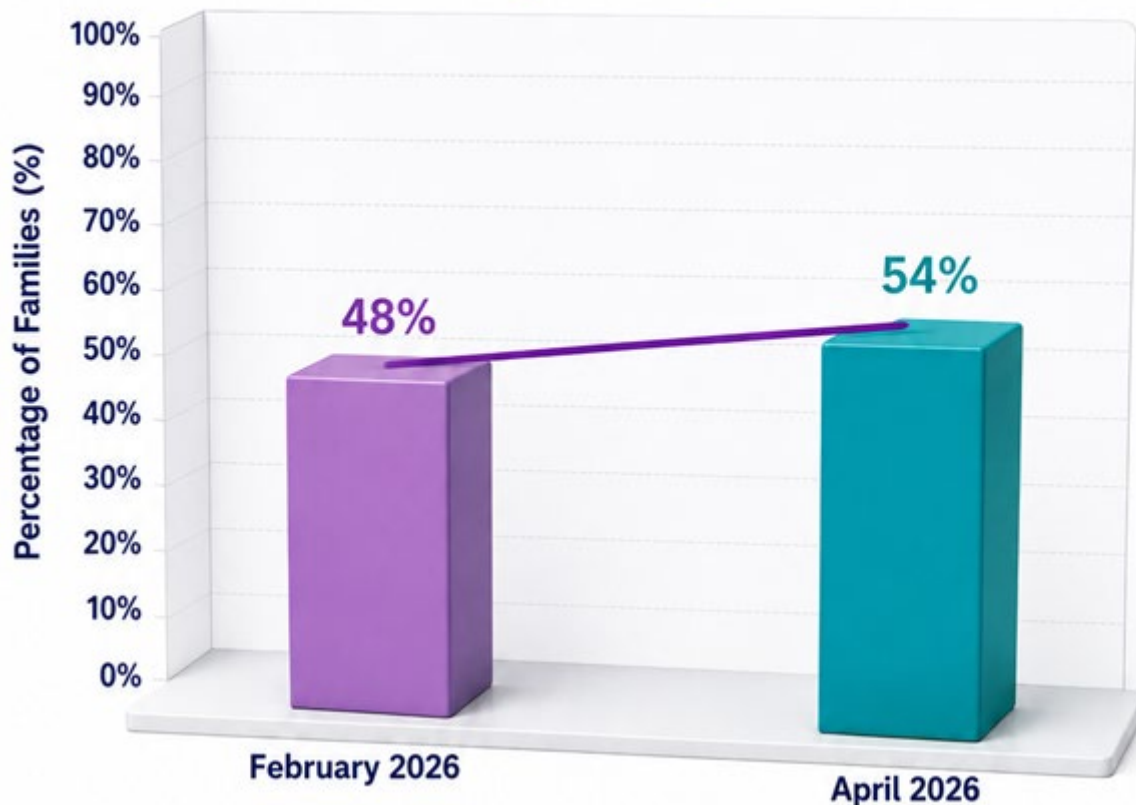
Staff reported improved confidence and awareness of the benefits of V-Create. Families described enhanced connection with their baby and emotional reassurance. Challenges included time pressures, competing clinical priorities, variable staff engagement and technical barriers.

Conclusion:

Small, targeted interventions improved consistency in the use of V-Create and supported FiCare principles within the NICU. Collaborative leadership, staff engagement, and family feedback were key to promoting sustainable change and improving family experience.

Image

Families Signed Up to V-Create



Feedback about V-Create

FAMILIES' FEEDBACK

- “ What may be an inconvenience to the nurses has such a positive impact. ”
- “ I got to see my baby when I was not able to move. ”
- “ Being apart from our baby is incredibly traumatic but this allows us to have a connection. ”
- “ Having a photo when I was expressing at 4am gave me a huge boost. ”
- “ Seeing your baby settled when you are not there means a lot. ”
- “ Thank you for the updates, it makes us feel calmer and gives us comfort. ”

STAFF'S FEEDBACK

- “ A great way to ensure family and baby stay connected. ”
- “ I love to send parents cute baby pictures. ”
- “ Sending updates to parents when they are not able to visit feels very fulfilling. ”
- “ I love sending pictures to parents when they can't visit so they can still see their baby. ”
- “ V-create always puts a smile on parents faces. ”
- “ Sending pictures to parents makes them feel calmer. ”
- “ It helps families feel closer from day one. ”

Improving timeline of ROP screening in a level 2 NICU. A quality improvement initiative

Ghouri M¹

¹Newham University Hospital, Barts Health NHS Trust

Background

Timely retinopathy of prematurity (ROP) screening is a key National Neonatal Audit Programme (NNAP) quality measure aimed at preventing avoidable visual impairment in preterm infants. NNAP data identified our Level 2 neonatal unit as an outlier for on-time ROP screening. Local review demonstrated that delays and missed screenings were predominantly related to system and process issues rather than individual clinical practice.

Aim

To improve compliance with NNAP standards by achieving $\geq 95\%$ on-time ROP screening for eligible infants within six months, while reducing early and late screening episodes and eliminating missed screenings.

Methods

A multidisciplinary quality improvement project was undertaken using a driver diagram to identify contributory factors to delayed screening. Key drivers included accurate identification of eligible infants, robust scheduling and tracking processes, effective communication with ophthalmology services, workforce awareness, and strengthened governance. Interventions were introduced through iterative Plan–Do–Study–Act cycles and included standardised eligibility checks, electronic flagging of eligible infants, a centralised ROP screening log with named ownership, agreed escalation pathways, targeted staff education, and routine review of screening compliance at governance meetings. Prospective data collection aligned with NNAP definitions was undertaken.

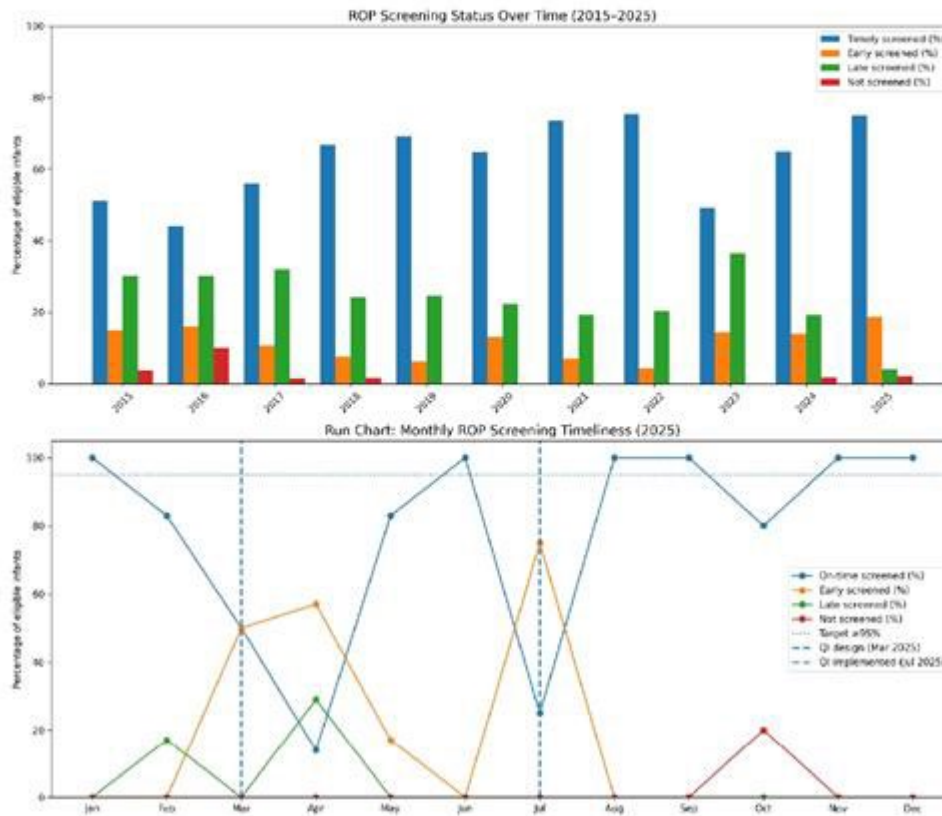
Outcomes

Following implementation, identification and tracking of eligible infants improved, screening was booked earlier, and escalation of delays became more reliable. Overall compliance with on-time ROP screening improved, with a reduction in delayed and missed screening episodes.

Conclusion

A system-focused quality improvement approach aligned to NNAP standards improved the reliability of ROP screening and provides a sustainable framework for addressing audit outlier status and improving neonatal patient safety.

Graphs



Image

Improving Timeliness of Retinopathy of Prematurity Screening in a Level 2 Neonatal Unit: A Quality Improvement Initiative

Dr Mahgul Ghouri, Resident neonatal doctor. Dr Imdad Ali, Consultant Neonatologist. Barts Health NHS Trust, London

Background:

Timely retinopathy of prematurity (ROP) screening is a key National Neonatal Audit Programme (NNAP) quality measure aimed at preventing avoidable visual impairment in preterm infants. NNAP data identified our Level 2 neonatal unit as an outlier for on-time ROP screening. Local review demonstrated that delays and missed screenings were predominantly related to system and process issues.

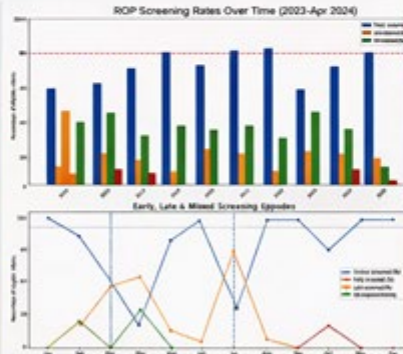
Aim

To improve compliance with NNAP standards by achieving $\geq 95\%$ on-time ROP screening for eligible infants within six months, while reducing early and late screening episodes and eliminating missed screenings.

Methods

A multidisciplinary quality improvement project was undertaken using a driver diagram to identify contributory factors to delayed screening. Key drivers included accurate identification of eligible infants, robust scheduling and tracking processes, effective communication performance, staff teamwork awareness, and strengthened governance. Interventions were introduced through iterative Plan-Do-Study-Act cycles and included verbal standard eligibility checks, electronic flagging of eligible infants, a cemented racecourse report sheet ownership, offering access, a formal pathway, target setting, and screening compliance at governance meetings was undertaken.

ROP Screening Improvement - Driver Diagram



Results

- Earlier booking of ROP appointments
- Improved tracking of eligible infants
- Reduction in delayed screenings
- Elimination of missed screenings
- Sustained improvement in on-time compliance

Conclusion

- A system-focused quality improvement approach aligned to NNAP standards improved the reliability of ROP screening.
- Addressed NNAP outlier status
- Strengthened patient safety
- Created a sustainable governance framework.

References:

1. Royal College of Paediatrics and Child Health (RCPCH). Guidelines for the screening and treatment of retinopathy of prematurity. London: RCPCH; 2015. URL: <https://www.rcpch.ac.uk/resources/guidelines-for-the-screening-and-treatment-of-retinopathy-of-prematurity>
2. British Association of Perinatal Medicine (BAPM). Framework for practice: normality of prematurity: screening and management. London: BAPM; 2013. URL: <https://www.bapm.ac.uk/wordpress/wp-content/uploads/downloads/2013/07/BAPM-Framework-for-practice-normality-of-prematurity-screening-and-management.pdf>

Process redesign – not individual blame – delivered meaningful improvement.

Reducing Unplanned Extubation in Neonatal Intensive Care Through a Systems-Based Approach to Inform Targeted Education

Dunne T^{1,2}, Slee S^{1,2}, Babarao S^{1,2}

¹Liverpool Women's Hospital, Liverpool Women's NHS Foundation Trust, ²NHS University Hospitals of Liverpool Group (UHLG)

Background

Unplanned extubation (UE) is a recognised neonatal safety concern associated with respiratory instability, airway trauma and reintubation, and therefore potential for harm. Following participation in the NeoTRIPs SAFE-Neo programme, local data at Liverpool Women's Hospital identified a UE rate reflecting numbers prior to a previous structured audit, alongside underreporting. Previous quality improvement (QI) work showed initial improvement; however, this was not sustained, likely due to gaps in audit cycles and limited system understanding.

Aim

To reduce UE rate through a systems-based QI approach.

Objectives

- Identify system-based contributory factors;
- Improve UE reporting completeness and accuracy.

Method

A 12-month QI project commenced in March 2025. Monthly reviews of BadgerNet identified intubated patients and classified extubations as planned or unplanned, which were compared with formal incident reports from Ulysses. Data on readiness for extubation, sedation/pain scoring and endotracheal tube (ETT) securement were submitted to SAFE-Neo for benchmarking.

Results

Eleven UE events were identified that had not been formally reported. Incident reports often lacked sufficient detail to determine contributory factors. Themes included UE during cares or procedures, patient transfer from cot, blocked ETT and self-extubation. These findings highlighted gaps in reporting and limited incident report detail to support targeted feedback and improvement. Documentation of readiness for extubation and pain scoring was generally good, but ETT securement documentation was frequently incomplete.

Conclusion

Engagement with a national QI programme identified gaps in UE reporting. A systems-based approach incorporating the Systems Engineering Initiative for Patient Safety (SEIPS) framework, and Patient Safety Incident Response Framework (PSIRF), has been developed to support structured multidisciplinary swarm huddles for enhanced incident analysis and contributory factor identification. Reintroduction of a validated UE risk assessment tool will support early identification of high-risk patients and guide targeted interventions, including staff education. This approach may be applicable to other neonatal safety events.

Image

Tools & Technology <i>(ET tube type/size/position, securement method/integrity, ventilator circuit connection, mode of ventilation, tubing tension/leak, monitoring/alarms function, burden on tubes/lines, blocked ET tube etc)</i>	Organisation <i>staffing levels, unit workload/safety, skill mix/experience, adherence to protocols, handover communication, escalation process etc</i>
Tasks <i>handling during care, repositioning/turning patient, suctioning, procedure in progress, transfer of patient outside unit/wardroom, facilitating parental outlets, replacing ET tube securement, interruptions from other clinical demands etc</i>	Person <i>patient agitation or movement, sedation/analgesia adequacy, staff at bedside, staff in room, designated senior responsibility, immediate support available, parent/carer presence etc</i>
External environment <i>risk assessment tools, trends of unplanned extubations etc</i>	Internal environment <i>bedspace layout, access around endotracheal, daytime or night shift, lighting/visibility, ET tube/securement visibility, clutter/equipment positioning, noise/distraction, emergency activity nearby etc</i>
Reflection & Learning <i>(improvement suggestions, what to do to prevent recurrence etc)</i>	

Incident No:

Date :

Brief description:

Completed by:

Umbilical Cord Sampling: Innovative Method to Reduce Blood Transfusions in Premature Infants

Gulati N¹, Bowler K, Crawley E, Castaldi S, Century H, Iyamabo D

¹Luton & Dunstable Hospital

Background:

- Preterm infants experience substantial iatrogenic blood loss from admission blood sampling (roughly 2.7ml), with circulating blood volume ~85-90ml/kg, this leads to early anemia and red-cell transfusions.
- Transfusions during fetal-to-neonatal transition have a significant effect on mortality and morbidity.
- Umbilical Cord Sampling (UCS) is a practical strategy to limit phlebotomy, thereby maintaining a higher volume of circulating blood at a critical time.
- This can prevent early hypotension, decrease the risk of IVH in VLBW infants.
- Research shows that umbilical cord hemoglobin closely matches venous samples.

Aim

- Identify if UCS for babies born <32 weeks gestation reduces the time to first transfusion, and reduces the number of transfusions required.

Method

- Raise awareness amongst staff about the benefits of UCS to drive initiative.
- Take pre-prepared sampling packs to preterm deliveries for midwives to obtain samples.
- Prospectively review data collected over a 14 month period, comparing babies who did/did not have UCS, and number of transfusions in the first week of life/ overall transfusions over course of admission.

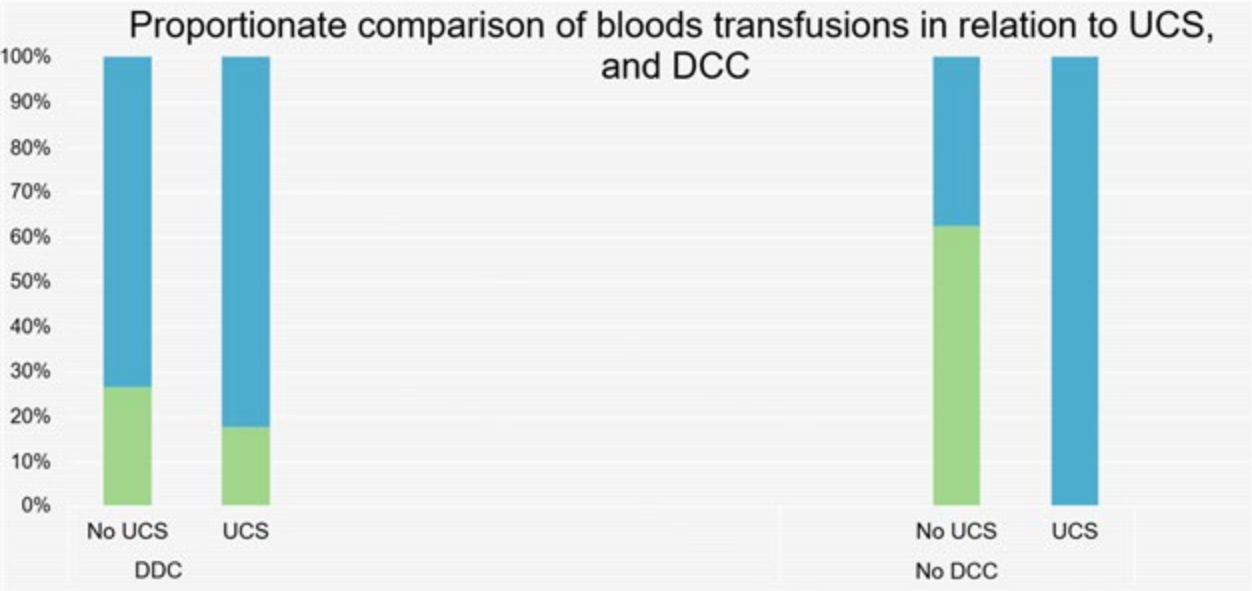
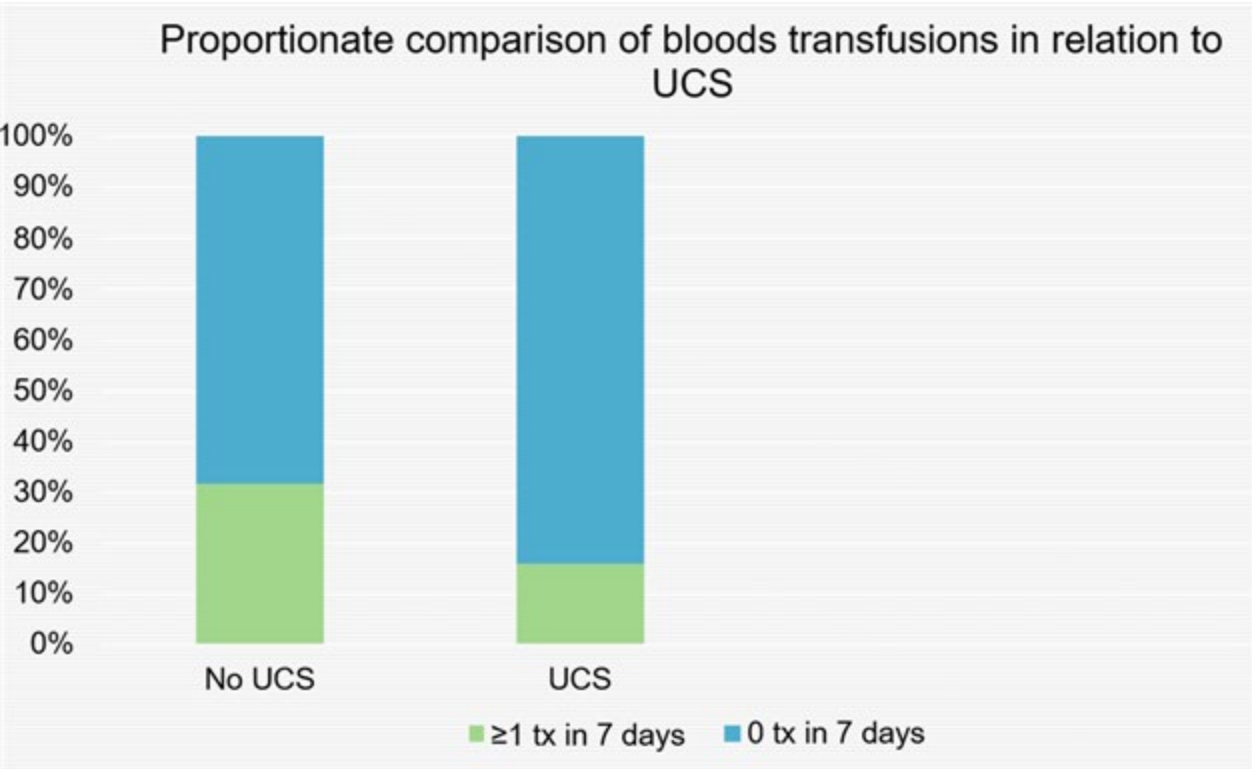
Results

- From 153 admissions, 69 were excluded for being ex-utero transfers, or being transferred elsewhere in the first week. 8 were excluded as samples clotted/ had spurious results. 76 cases remained for data review.

Conclusion

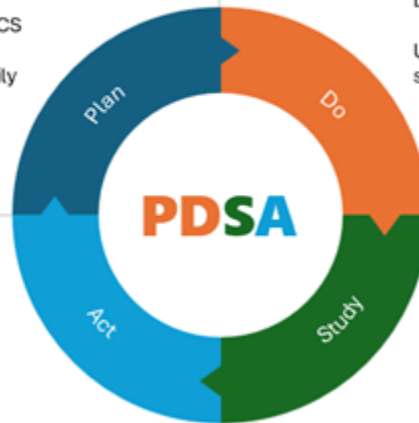
- Results demonstrate that UCS did reduce the number of transfusions in the first week by 10%, when compared proportionately.
- Results showed that babies who could not have DCC, but were able to have UCS, did not have blood transfusions in the first week, highlighting the impact UCS has on preserving the circulating blood volume. However, this sample size was small.
- Further data collection and analysis is ongoing. With a larger sample size, we aim to demonstrate a statistically significant reduction in transfusion and benefit in preterm neonates.

Graphs



Image

- Information sent out to the midwifery team about UCS.
- Teaching on UCS done for medical team in NICU.
- UCS packs prepared and added to resus trolleys.
- Posters created to raise awareness of UCS in NICU
- Information of UCS included in NICU daily huddle
- Resident doctor teaching on UCS
- UCS included in first hour of care documentation for data collections



Midwifery and obstetric team given syringe to collect cord blood after DCC and hand over to doctors to put in sample bottles for routine admission testing.

UCS ticked in first hour of care sheet to show it has been done.

Do results demonstrate a need to promote practice?

Data collected and analyzed looking for time to first transfusion

Achieving Nothing – Are zero unplanned extubations achievable?

Beh A¹, Maxwell S¹

¹Ashford And St Peter's NHS Foundation Trust

Background:

Unplanned extubation (UE), defined as any unintended removal or displacement of an endotracheal tube, is widely used as a quality and safety indicator for neonatal units. Most units benchmark performance against a target of less than 1 UE per 100 ventilator days, which is considered an achievable standard in high-performing NICUs.

Neonates are particularly vulnerable because of their small airway size, frequent handling, less routine use of sedation and prolonged periods of ventilation. UEs have a range of serious and significant short and long term consequences.

Methods:

Key contributing factors from relevant literature and review of local incidents were identified and monthly data, learning and reminders were shared.

A series of PDSA cycles were implemented.

'P' as part of PDSA cycles:

Non- judgemental documented reflection and discussion for staff involved in UEs

Teaching/simulation sessions based on review of events

Promotion of 2 person handling

Individualised airway plans

Raising awareness and implementation of NPASS use

New sedation guideline

NeoBar ward round

NeoBar change at least every 5-7 days

Set technique for NeoBar change

Gratitude 'Neo Bar' for staff every month with no UEs

Results:

Previous year's results showed high but steadily reducing rates: 2023 = 4.5/100 ventilator days, 2024 = 3.7/100 ventilator days, 2025 = 3.4/100 ventilator days.

Since introducing the NeoBar ward round and elective NeoBar changes in January 2026, there were zero UEs for 5 consecutive months.

Conclusions:

Zero UEs are achievable, however sustaining this requires a change in unit culture, regular assessment and timely replacement of ET fixation device, and meticulous attention to detail from all who care for intubated babies.

Further steps planned to maintain these rates:

- Ongoing unit education/sim
- 'NeoBar Champions'
- Care bundle for intubated babies
- Video of the suggested technique for NeoBar changes.

A Quality Improvement project assessing the use of role cards in creating more confident Foundation Year 2 doctors and contributing to safer patient care in Neonatology

Watt E¹, McNicholl L¹, Campbell K¹, Conetta H¹

¹Royal Alexandra Hospital

Background:

Foundation doctors transition to new roles regularly and must adapt swiftly. With our medical school training heavily centred around working with the adult population, commencing a new job within paediatrics can be daunting. Therefore, when working in a Level 2 neonatal unit, two colleagues and I wanted to create a tool to make this transition easier for incoming foundation year 2 (FY2) doctors.

Methods:

The population for this QI project comprised several cohorts of FY2 doctors. After working in the job for several months, we created role cards as our implemented change. These provided succinct important information on what to expect on each shift type, detailing the general itinerary, where to access information/guidelines, escalation policies and administrative tasks. We then surveyed doctors who had access to these role cards versus those who hadn't over 2 cycles. Specifically, to rate feelings of confidence and preparedness for their neonatal job and each individual shift type on a numerical scale correlating to levels of confidence.

Results:

Cycle 1 demonstrated a 16% increase in mean overall confidence following role card introduction. This was consistent in cycle 2 which demonstrated a 54% increase in mean overall confidence and improved confidence and preparedness in every shift type. Our QI project is limited in that the data collection involved small cohorts of FY2 doctors, however demonstrated consistent findings in both cycles.

Conclusions:

We can conclude that the introduction of these role cards positively impacted incoming FY2 doctors. It was successful in improving overall confidence and preparedness, therefore making the transition into working in neonatology easier. This will contribute to improved patient safety by ensuring the new doctors know what is expected of them and when to seek senior support. These role cards have subsequently been added to the unit's neonatal induction programme, completing the QI cycle.

Standardising Antenatal Counselling in a Special Care Unit: A Quality Improvement Project Using Concurrent Parent–Clinician Feedback

Bird S¹, Jose S¹, Qureshi M¹, Fawkner P¹

¹South Warwickshire Nhs Foundation Trust

Background

Antenatal counselling for preterm birth is a key perinatal intervention, yet delivery remains inconsistent, particularly in Special Care Units (SCUs), where most infants are managed. Evidence from NICU/LNU settings highlights variability in information provision and limited parental preparedness, while SCU data are scarce. We aimed to standardise counselling using a structured proforma aligned with PERIPrem and BAPM guidance. This project uniquely incorporated concurrent parent and clinician evaluation to assess alignment of experience, addressing a key gap in existing evidence.

Methods

A quality improvement project using two iterative Plan–Do–Study–Act cycles introduced a structured counselling proforma in a district general hospital SCU. Over 6 months, we assessed the proforma and key domains (feeding, SCU orientation, opportunity for questions). Outcome measures included parent reported understanding and preparedness, and clinician reported usability and confidence. Retrospective questionnaires were completed by parents of preterm infants (29–36 weeks gestation) and clinicians, enabling concurrent comparison. Of 74 eligible women, 69 were included; 30 consented, yielding 16 parent and 14 clinician responses.

Results

Baseline data demonstrated inconsistent counselling, with 44% of parents reporting receipt. Key components were variably addressed: breastfeeding (50%), SCU orientation (18%), and opportunities for questions. Parent reported experience varied, particularly regarding feeling informed and empowered. Clinicians reported high confidence (85%) but inconsistent access to standardised information and variable documentation practices. Following implementation, clinicians reported the proforma was easy to use and improved standardisation. Concurrent evaluation demonstrated discordance between clinician confidence and parent experience.

Conclusions

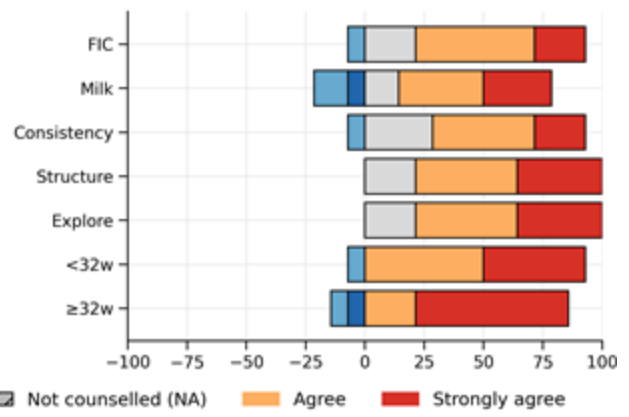
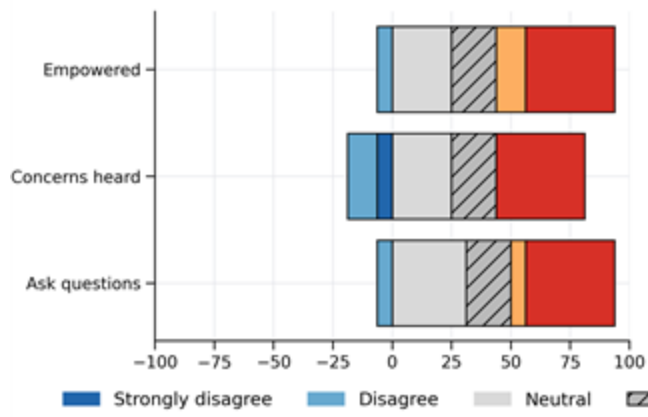
A structured proforma is a feasible and acceptable intervention to improve consistency of antenatal counselling in SCUs. This study demonstrates clinician perceived quality does not reliably reflect parental experience and highlights the value of embedding dual perspective evaluation within QI methodology. Limitations include small sample size and potential recall bias. Future projects aim to improve equity, documentation and alignment of experience.

Image

Antenatal Counselling: Clinician Practice vs Parent Experience

Parents (n=16; 94% ≥32w)

Clinicians (n=14)



Improving Early Maternal Milk Exposure in Preterm Infants <35 Weeks' Gestation Through Delivery-Room Buccal Colostrum: A Quality Improvement Project

Dunn E¹, Kemmish E, Smith M, Chui A

¹Ashford & St Peter's Nhs Trust

Background/Aims:

Premature infants are at increased infection risk and feeding complications due to immune immaturity and limited exposure to maternal milk. Maternal colostrum and breast milk are rich in immunoprotective factors, supporting gastrointestinal maturation and reducing the incidence of necrotising enterocolitis, late-onset sepsis and mortality. Buccal administration of colostrum allows delivery to the oropharyngeal mucosa, providing immunological stimulation in infants unable to tolerate enteral feeding. Although maternal colostrum is recommended within the first 6 hours of life (BAPM 2020), uptake remains variable and delivery-room administration is not routinely embedded in neonatal units. An early buccal colostrum initiative was introduced on a tertiary neonatal unit for babies admitted at less than 35 weeks' gestation. The impact of buccal colostrum on outcomes was assessed by comparing cohorts before and after implementation.

Method:

Data were retrospectively collected for babies under 35 weeks' gestation admitted to the neonatal unit before introduction of early buccal colostrum (April–July 2025) and after implementation (August–November 2025). Electronic patient records, including admission notes, stabilisation charts and feeding charts, were reviewed. Outcomes compared included rates of buccal colostrum administration, late-onset sepsis (LOS), necrotising enterocolitis (NEC), mortality, time to first milk feed, time to full enteral feeds, length of stay and breast milk feeding at discharge.

Results:

Following implementation, delivery-room buccal colostrum administration increased from 18.9% to 62.8%, with a reduction in time to first milk feed from 4.8 to 3.8 hours. Mortality remained stable, while exclusive breast milk feeding at discharge increased from 50.0% to 64.1%. Rates of LOS, time to full feeds and stay length did not change.

Conclusion:

This quality improvement project demonstrates that standardised delivery-room buccal colostrum pathways for preterm infants can significantly increase rates of maternal milk exposure in the newborn period and at discharge. The intervention is safe, feasible and successfully increased early colostrum exposure.

Image

Oral Immune Therapy: Buccal Colostrum

Expressing and giving early
breastmilk (colostrum) to your baby is
encouraged immediately after birth



**Ashford and
St. Peter's Hospitals**
NHS Foundation Trust



Benefits:

- 1 - Boosts the immune system and helps your baby to fight infections**
- 2 - Creates a shield in your baby's mouth that stops harmful germs from sticking inside it**
- 3 - Supports growth and development of your baby's tummy**

What is Colostrum?

Colostrum is the sticky yellowish milk produced by mothers in the first few hours & days after birth. It is produced in very small amounts that match the size of your baby's stomach.

It is full of important and special nutrients that help your baby grow, build their strength, and help protect against infections and complications of being born early.

No other medicine can protect & support your baby's development in this way.

Giving drops of colostrum directly into the mouth on the cheeks (buccal) helps baby in 3 main ways



St Peter's Hospital Neonatal Unit, 2025
With thanks to West Midlands Neonatal ODN



Time for CXR to Surrender: Lung Ultrasound as the First-Line Imaging Tool in a Tertiary NICU

Iacono D^{1,2}, Gowda H¹

¹University Hospitals Birmingham NHS Trust, ²Paediatric Clinic University Hospital of Udine

Background

Chest radiography (CXR) remains the first-line imaging modality for neonatal respiratory assessment in many UK units, despite increasing evidence supporting lung ultrasound (LUS). LUS provides radiation-free, real-time bedside imaging, with greater diagnostic accuracy for several neonatal respiratory conditions, and can be used for diagnosis and monitoring. We undertook a quality improvement project to implement a LUS-first approach. Our SMART aim was to reduce CXR use by 50% over a two-week pilot while maintaining safety and timely decision-making.

Methods

A prospective quality improvement project was conducted in a tertiary NICU over two weeks using a Plan–Do–Study–Act framework. Potential barriers were identified using fishbone analysis (Figure 1). LUS was introduced as the primary imaging modality for infants requiring respiratory assessment, while CXR was reserved for indications like tube or line position confirmation and hyperinflation assessment. Prospective data collection included LUS score, CXR utilisation, imaging findings and clinical outcomes. The primary outcome was reduction in CXR use; balancing measures included missed diagnoses, management delays and additional imaging.

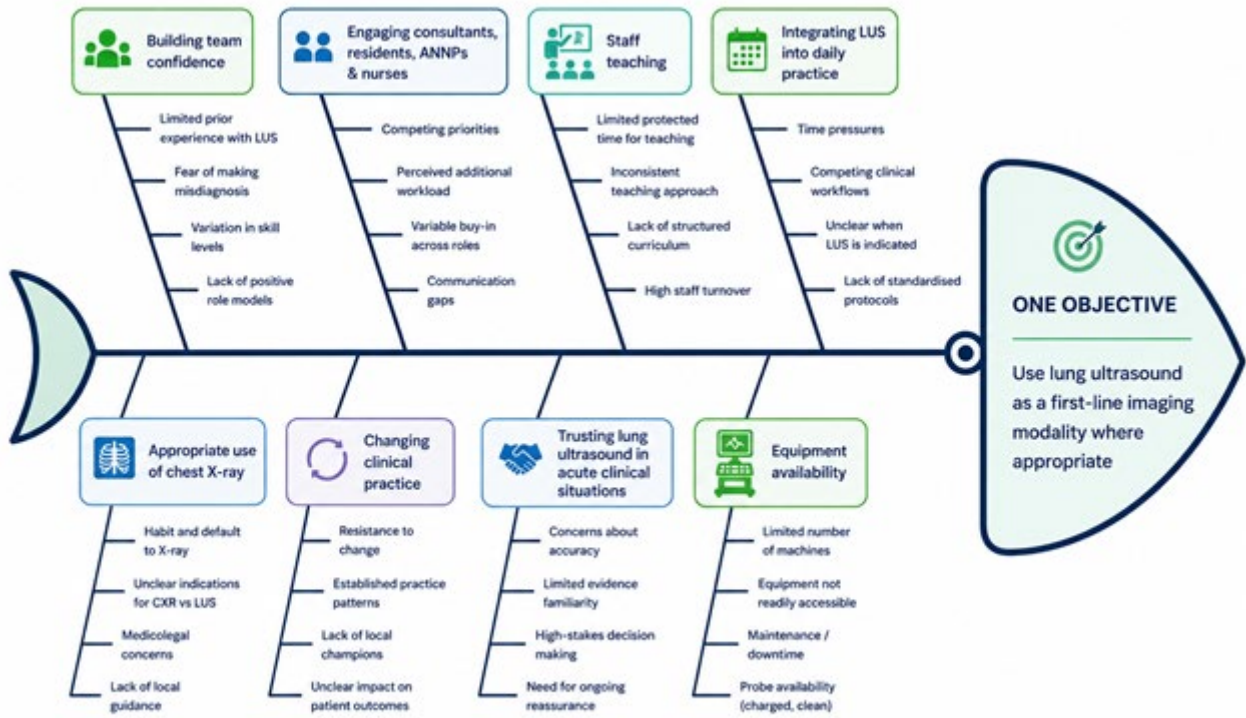
Results

Twenty-five LUS examinations were performed. Only seven CXRs were required, achieving a 72% reduction in CXR utilisation and exceeding the project aim. Most CXRs were performed overnight for tube or line position confirmation or hyperinflation assessment. LUS identified clinically relevant findings not demonstrated on subsequent CXR, including pleural effusion, fibrin deposits, pneumomediastinum and atelectasis. No additional findings were identified by CXR following LUS assessment. No missed diagnoses, adverse events or management delays were observed. In one infant with suspected pneumothorax, LUS enabled immediate bedside assessment despite a 15-minute delay in obtaining CXR.

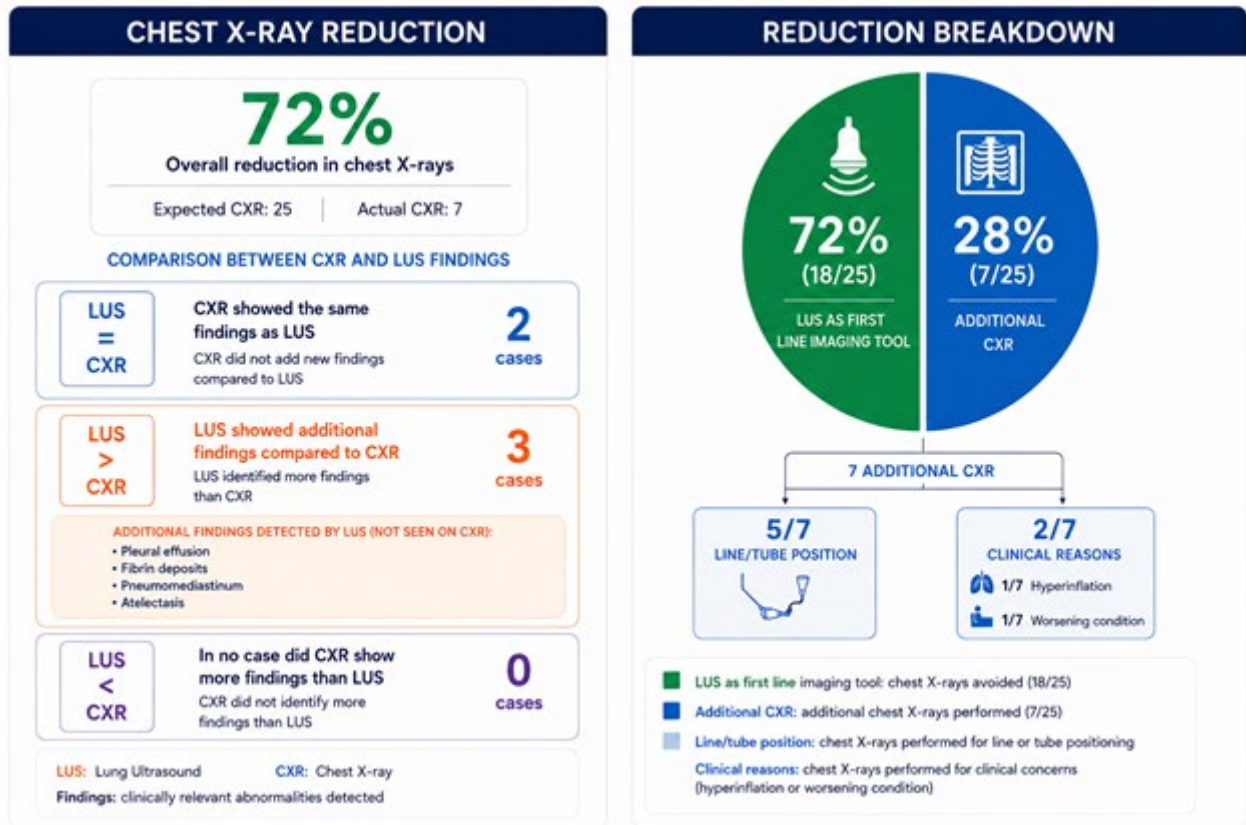
Conclusions

A LUS-first strategy safely reduced CXR use by 72% while enhancing bedside assessment and maintaining patient safety. These findings support wider adoption of LUS as a first-line tool for diagnosis, monitoring and decision-making in neonatal respiratory care.

Graphs



Image



Keeping babies warm - A quality improve project to improve compliance with NNAP Measure for Normothermia

Gibbons L¹, Krishnan A¹, Yadav K¹
¹University Hospitals Of Leicester NHS Trust

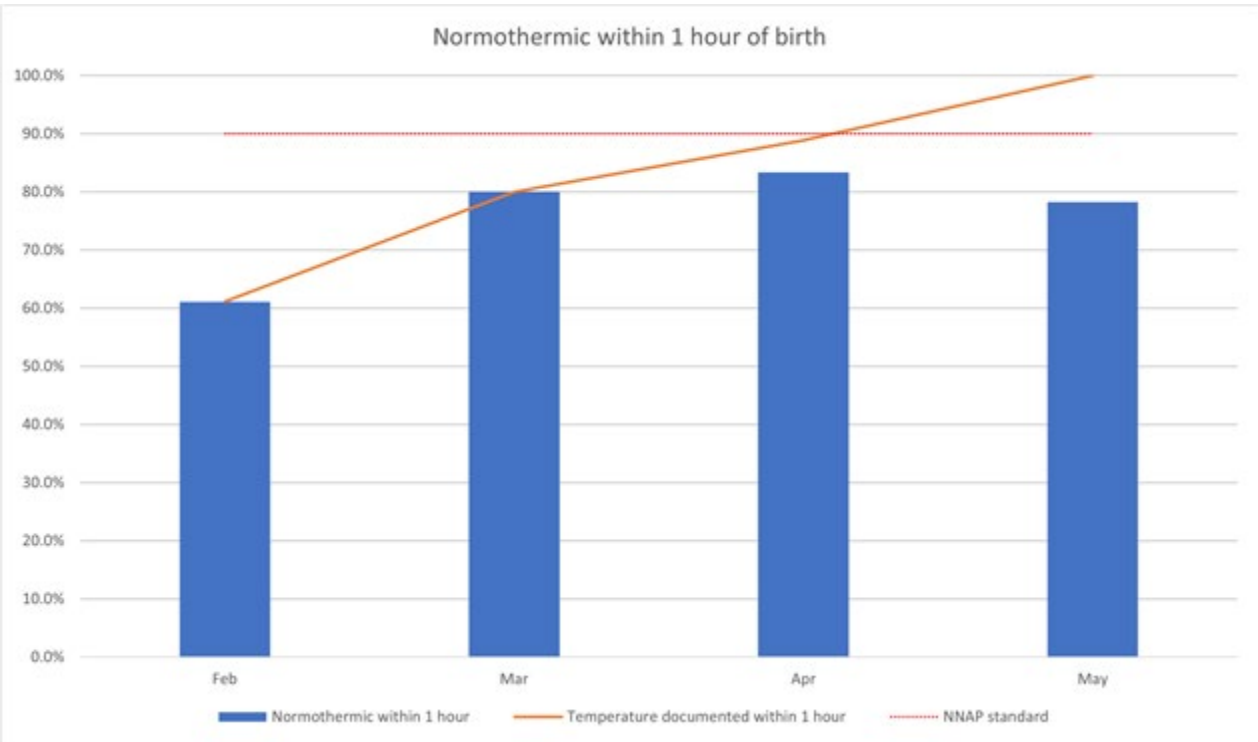
Purpose:
90% babies born <34 weeks gestation should be admitted with a temperature between 36.5 and 37.5°C and within 1 hour of birth (National Neonatal Audit Programme).
Since implementing BadgerNet EPR at our neonatal unit in 2024, the percentage of babies meeting this measure dropped from 78% in 2022 to 63% in 2024. A preliminary audit identified there may be an issue with documentation.
A quality improvement project was designed to improve documentation and work towards meeting the NNAP measure.

Methods:
Our quality improvement project took place at a tertiary neonatal unit and a special care unit with a total of 44 cots. We admit approximately 200 babies who are born less than 34 weeks per year. Our primary outcome was the percentage of these babies who were admitted with a temperature between 36.5 and 37.5°C and within 1 hour of birth.
Plan-do-study-act cycles addressed key issues: communication of the NNAP measure and raising awareness of poor documentation, implementation of a “5 in 5 minutes” initiative where babies are registered onto BadgerNet with their temperature recorded within 5 minutes of arrival to the neonatal unit.

Results:
At baseline, 11/18 (61%) had a normal temperature documented within 1 hour of birth. During the improved awareness cycle, 31/38 (82%) met this standard. Following the “5 in 5 minutes” initiative, 18/23 (78%) met the criteria. However, 100% of the temperatures were documented within 1 hour of birth.

Discussion:
The implementation of the “5 in 5 minutes” solved a documentation issue and highlighted areas for improvement in the NNAP measure. Further plan-do-study-act cycles are planned to improve the percentage of babies admitted with a temperature between 36.5 and 37.5°C.

Graphs



A Regional Cooling Collaborative Improves Therapeutic Hypothermia Practice Across Northwest Neonatal Network

Mahaveer A^{1,2}, Ollerenshaw R, Anders N², Nash C², Walsh C², Garr R², Dharmaraj S², Babarao S², Mishra A², Zipitis C²

¹Manchester University NHS Foundation Trust, ²Northwest Neonatal Operational delivery network

Background: Hypoxic-ischaemic encephalopathy (HIE) remains a significant cause of neonatal mortality and neurodisability. As HIE incidence falls, maintaining expertise and consistent application of therapeutic hypothermia (TH) guidance is challenging. In 2022, the North West Neonatal Operational Delivery Network established a multidisciplinary Cooling Special Interest Group including doctors, nurses, advanced neonatal nurse practitioners, allied health professionals and parent representatives. The aim was to improve compliance with national TH guidance.

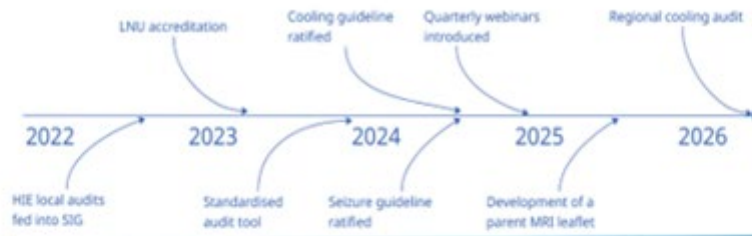
Methods: Using a quality improvement methodology, a regional dashboard was developed to identify variation in practice and monitor key outcomes over time. Baseline data identified three priority areas of improvement: cooling of infants <36 weeks' gestation, cooling of infants with mild or undocumented HIE and admission hypothermia. The cooling SIG adopted an iterative quality improvement approach, meeting regularly to review data, identify unwarranted variation and agree targeted interventions. These included local neonatal unit cooling accreditation, standardised cooling and seizure guidelines, quarterly educational webinars, exception reporting and parent co-produced educational resources. Outcome measures were monitored longitudinally through the dashboard and findings informed subsequent improvement initiatives.

Results: Comparison of network data before (2022) and after implementation of the cooling SIG (2026) demonstrated significant improvements in practice. Cooling of infants <36 weeks' gestation reduced from 8.8% to 2.5%, a 72% relative reduction. Normothermic admission temperature, 36.5–37.5°C, increased from 54% to 79%, a relative improvement of 46%. Cooling of infants with mild or undocumented HIE reduced from 66% to 38%. In addition, the programme established a sustainable network-wide infrastructure for education, audit, guideline implementation, accreditation and parent partnership, supporting consistent delivery of therapeutic hypothermia across a large geographical region.

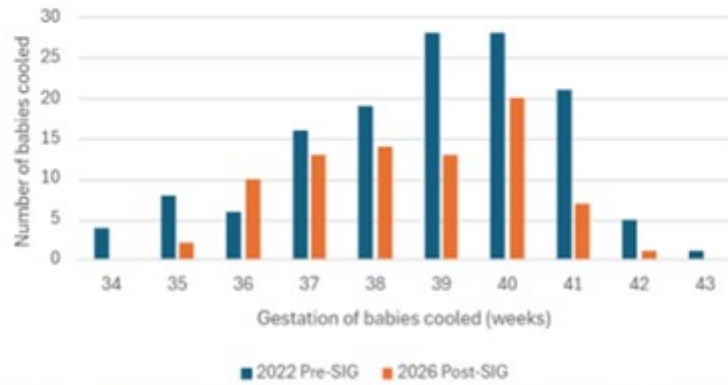
Conclusion: A multidisciplinary regional Cooling Special Interest Group, supported by continuous data review, education, guideline implementation and parent partnership, improved adherence and reduced variation in practice.

Image

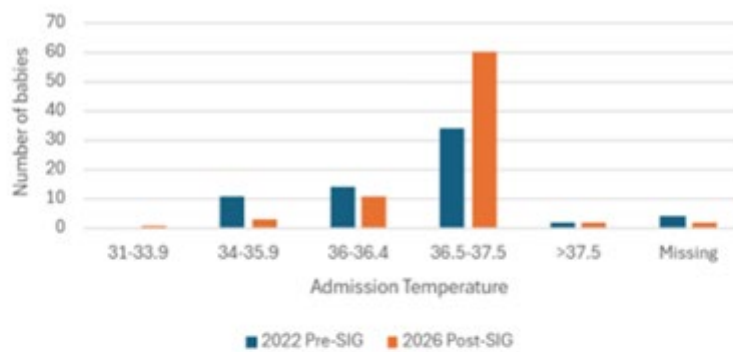
NWNODN Timeline



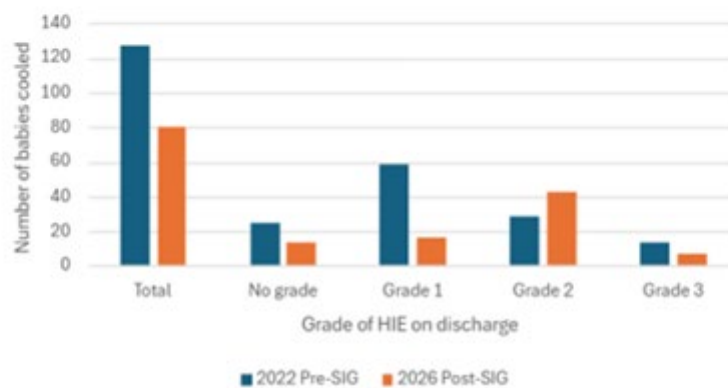
Gestation of cooled babies in the NWNODN



Admission Temperatures of babies cooled in the NWNODN



HIE Grade in the NWNODN



Bridging the Airway Training Gap: A Collaborative Theatre-Based Airway Exposure Programme for Paediatric Trainees

Saeed M¹, Ayeni K², Labib, ³, Millard ⁴, Sumal J⁵

¹Neonatal Department, University hospitals of Leicester NHS Trust, ²Neonatal Department, University hospitals of Leicester NHS Trust, ³Neonatal Department, University hospitals of Leicester NHS Trust,

⁴Neonatal Department, University hospitals of Leicester NHS Trust, ⁵Paediatric Cardiac Anaesthesia, East Midlands Congenital Heart Centre, University hospitals of Leicester NHS Trust

Background:

Airway management is a core competency in neonatal and paediatric practice, yet supervised intubation opportunities have declined significantly in routine clinical settings. Trainees in the Leicester Neonatal Department reported variable confidence levels, particularly in neonatal intubation. In response, a theatre-based airway training programme was developed by the Leicester Neonatal Department in collaboration with paediatric anaesthetic colleagues at the East Midlands Congenital Heart Centre (EMCHC), to enhance practical airway exposure and trainee confidence.

Methods: This quality improvement project ran from August 2025 to January 2026. Neonatal and paediatric trainees attended supervised operating theatre sessions focused on bag-mask ventilation, airway adjuncts, difficult airway assessment, video laryngoscopy, and supervised neonatal or paediatric intubation. Pre- and post-session questionnaires assessed confidence, perceived educational value, and acceptability. Neonatal Unit intubation data were prospectively collected and analysed during the same period.

Results: Baseline feedback from 11 trainees confirmed low confidence in advanced airway skills, with some trainees reporting minimal or no prior supervised intubation experience. Fifty-three neonatal intubations were documented. Following the introduction of regular theatre sessions in October 2025, trainee participation increased. Comparing pre-training months with post-training months, average attempts per intubation decreased from 1.31 to 1.18, while first-attempt success improved from 69% to 80%. October showed the strongest performance, with the lowest average attempts per case and the highest first-attempt success. Post-session feedback from six trainees was strongly positive: 83.3% rated sessions as highly useful to clinical practice, 83.3% reported opportunities to intubate, and 100% supported programme continuation. Qualitative comments highlighted improved confidence, difficult-airway exposure, and the value of cross-specialty learning.

Conclusion: A collaborative theatre-based airway exposure programme is feasible, well received, and associated with improved trainee participation and neonatal intubation performance. This model offers a sustainable approach to addressing airway training gaps through partnership between neonatology, paediatric anaesthesia, and congenital cardiac services.

Improving Compliance with BAPM Neonatal Airway Safety

Standards: A Quality Improvement Project at a Level Two Neonatal Unit

Geeson E¹, Atiya A¹, Cheruvalli V¹, ul Haq A¹

¹Humber Health Partnership Scunthorpe Hospital

Background

The BAPM Neonatal Airway Safety Standard (2024) defines the minimum capabilities for neonatal units across all networks. Scunthorpe General Hospital NICU, a level two centre, conducted a baseline audit (May 2024–May 2025), identifying four domains below standard; Video laryngoscope utilisation (38%; standard $\geq 90\%$), nasal high-flow oxygen therapy during oral intubation (75%; standard $\geq 90\%$), utilisation of intubation focused checklists (0%; standard 100%), and adherence to the three attempt escalation policy (50%; standard 100%). A structured quality improvement programme was initiated in response.

Aim

To improve departmental compliance with BAPM neonatal airway standards through targeted interventions and evaluate impact through formal reaudit.

Methods

Interventions included co-designed departmental checklists for intubation and difficult airway management, and repeated targeted education sessions for medical and nursing staff emphasising BAPM best practice. A reaudit was conducted nine months later (May 2025 – February 2026), reviewing 20 airway events for which complete clinical documentation was available, including six LISA procedures and 14 intubations, across 15 patients.

Results

All standards achieving 100% compliance at baseline were maintained. Of the four previously non-compliant domains, two achieved required standard; nasal high-flow therapy during NICU intubations improving from 75% to 100%, and three-attempt escalation policy adherence improving from 50% to 100%. Checklist completion improved substantially from 0% to 85.7% (standard 100%) and video laryngoscope utilisation from 38% to 64.2% (standard $\geq 90\%$). Identified barriers included frequent rotation of medical staff and incomplete contemporaneous documentation in acute scenarios, particularly for procedures performed in obstetric theatre.

Conclusions

Structured checklists and targeted education produced measurable and clinically meaningful improvements in BAPM airway standard compliance within a level two neonatal unit. Sustained progress requires embedded, recurring education, particularly at times of medical staff changeover, and a systems approach to documentation in acute out-of-unit settings. This project offers a replicable governance framework for comparable centres.

HO.ME (Hospital Near Me): Developing a Digital Tool to Improve Neonatal Repatriation Pathways

Coupland E¹, Khan H²

¹Guy's & St. Thomas' NHS Foundation Trust, ²Guy's & St. Thomas' NHS Foundation Trust

Background: NICUs, such as Evelina London, provide specialist care for critically unwell and premature infants. Once clinically stable, babies are repatriated to local neonatal units closer to home, supporting family integrated care. However, identifying appropriate receiving units is complex, time-consuming, and inconsistent, contributing to delays and capacity pressures across networks. This prompted development of a digital tool to standardise this process.

Aims: Design and pilot a digital tool to streamline identification of local neonatal units and reduce repatriation organisation time by 30% within a year of implementation.

Methods: Stakeholder engagement spanned nursing, medical, and operational teams to understand system challenges. A pre-implementation mixed-methods survey incorporating a Likert scale targeted nursing staff who organise repatriations, exploring current processes, time burden, and perceived value of a digital tool. A regional maternity provider map informed prototype development; the tool was then launched via email, a Sister away day, and alongside existing repatriation documentation, with iterative PDSA cycles guiding refinement.

Results: 26 of 49 nursing staff responded; 62% cited local hospital identification as a key barrier to efficient repatriation. Staff reported spending 30 minutes to over 2 hours coordinating transfers, relying on colleagues, internet searches, or contacting multiple units to identify local neonatal units. 100% agreed a tool would improve the process.

At 3-month follow-up, 86% reported improved workflow and 71% rated this as moderate to significant change. The proportion identifying local hospital identification as a main barrier fell from 62% to 21%. However, 50% reported receiving units disagreeing upon contact, and while 71% found the tool easy to use, others noted interface difficulties, highlighting room for development.

Conclusion: HO.ME demonstrates clear potential to reduce time burden, enhance communication, and standardise repatriation decision-making. Engagement with the London Neonatal Operational Delivery Network to validate data and explore wider standardisation will be essential to maximise impact.

Barriers to the Implementation of a Perinatal Optimisation Passport for Infants at Risk of Preterm Birth: A Quality Improvement Project

Estrera S¹, Chetcuti-Ganado C¹, Tuchlei Y¹, Burnell L¹

¹Luton And Dunstable University Hospital - Bedfordshire NHS Foundation Trust

Background and Aim

The Perinatal Optimisation Pathway aims to improve outcomes for preterm infants through evidence-based interventions that reduce mortality and brain injury. Despite introduction of a Perinatal Optimisation Passport in 2023, consistent implementation remained challenging. This project aimed to identify barriers and improve compliance with perinatal optimisation measures.

Methods

A multidisciplinary quality improvement programme involving obstetric, neonatal and midwifery teams was undertaken between April 2025 and March 2026. Outcomes were compared with the preceding two years and regional and national benchmarks. Barriers were identified through clinical performance review, staff feedback, multidisciplinary meetings and optimisation walk-arounds. Multiple Plan-Do-Study-Act cycles were undertaken. Interventions included perinatal optimisation passport revision, appointment of dedicated optimisation champions (midwives and nurse), perinatal optimisation walk-around feedback, implementation of optimisation packs and an optimal cord clamping diagram. The primary outcome was compliance with key optimisation measures.

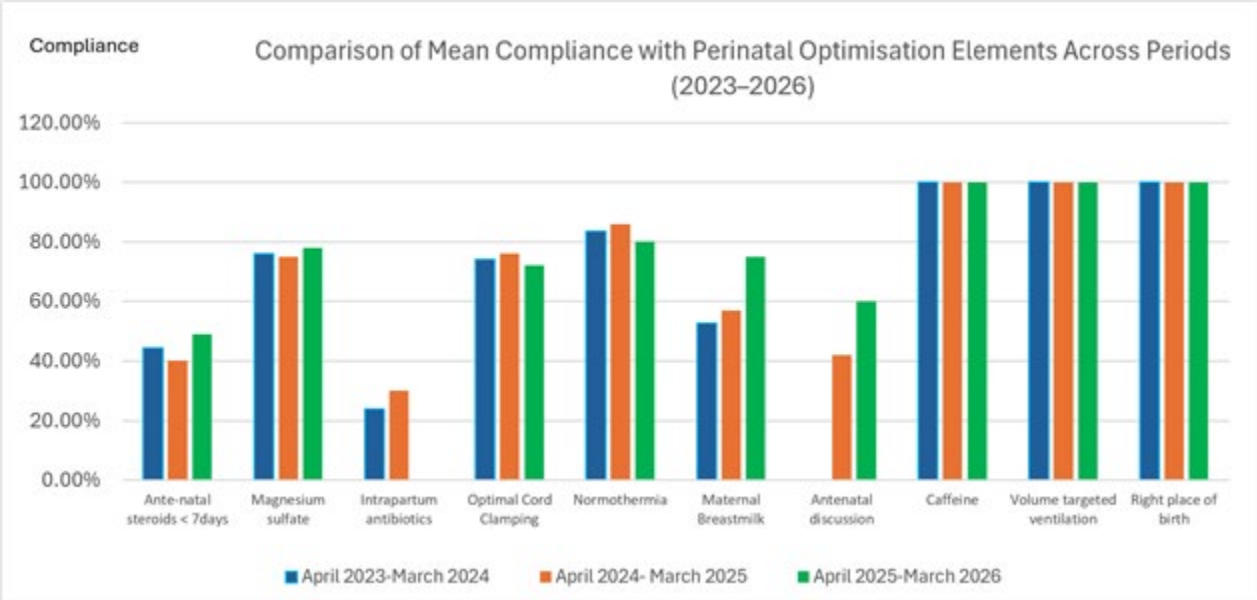
Results

Key barriers included inconsistent awareness and engagement with the passport, variable completion of documentation, time pressures during emergency situations, communication challenges between obstetrics, neonatal and midwifery teams, staff turnover, competing clinical priorities and workload and lack of integration of passport in Electronic Patient Records (EPR). Following identification of barriers and implementation of targeted interventions, compliance improved across several measures. Maternal breastmilk provision increased from 57% to 75%, antenatal counselling from 42% to 60%, antenatal steroid administration from 40% to 49%, and magnesium sulphate administration from 75% to 78%. Caffeine administration, volume-targeted ventilation and right place of birth maintained 100% compliance. Performance compared favourably with regional and national benchmarks. Optimal cord clamping decreased from 76% to 72% and normothermia from 86% to 80%, highlighting areas requiring further targeted intervention.

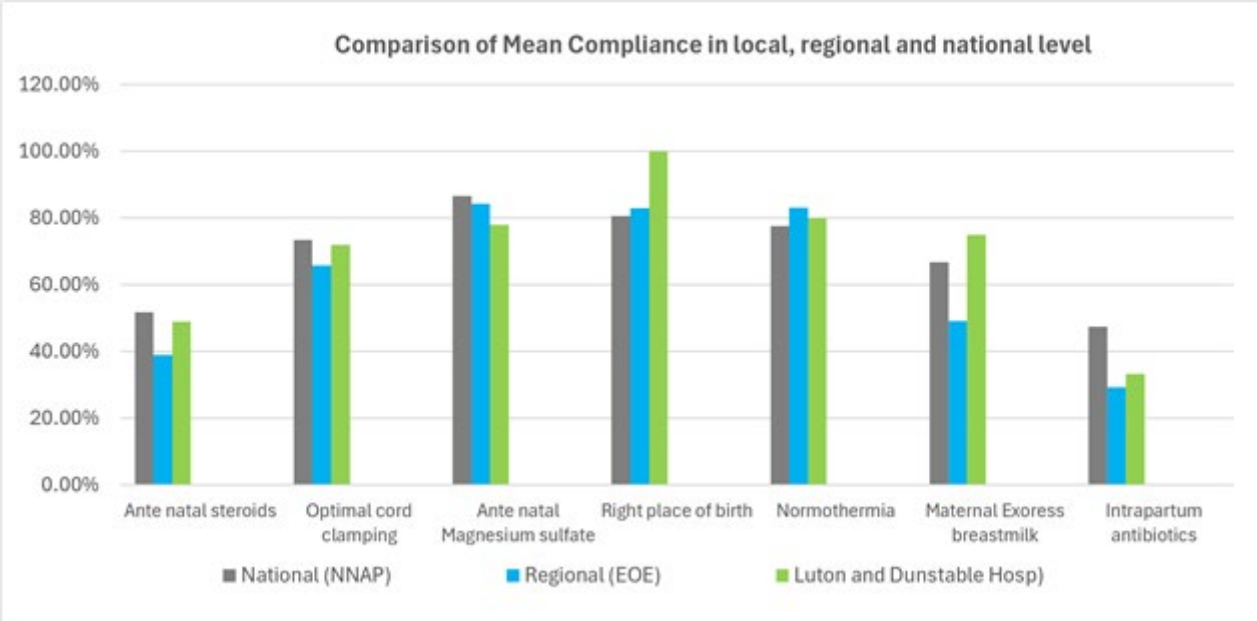
Conclusion

Targeted multidisciplinary interventions improved compliance with several evidence-based perinatal optimisation measures. Continued education, audit and feedback are required to sustain improvements and address remaining challenges.

Graphs



Image



Closing the Gap: Eliminating delays in continuous glucose monitoring in preterm neonates

Chaudhary N¹, Burgess H¹, Beardsall K¹

¹Cambridge University Hospital NHS Foundation Trust

Background: Preterm births in the UK have increased to 7.9% of live births in 2022. Hypoglycaemia and hyperglycaemia are particularly common in these neonates and are associated with increased mortality and morbidity. In our neonatal unit (NICU) Continuous glucose monitors (CGM) are used for neonates <1200g, those at risk of dysglycaemia and those on insulin treatment. Delayed CGM insertion leads to more heel pricks, causing avoidable pain and distress to babies.

Aim: To improve rate of CGM insertion from request to within the shift from 50% to 80%.

Methods: A quality improvement project using PDSA methodology conducted between October 2025 and February 2026. Baseline diagnostics and process mapping identified reasons for delay between CGM request and CGM protocol initiation, while staff survey explored barriers to timely insertion. PDSA cycles ran over the course of the QIP including interventions, which were introduced either in parallel or sequentially. A training log was introduced and maintained, targeted training was delivered to trainees and nurses, CGM champions were identified, and CGM equipment checks and insertion requirements were incorporated into the daily morning NICU huddle.

Results: A baseline survey was completed by 62 staff members and identified limited staff availability as the main cause of delayed CGM insertion (40%), followed by sensor dysfunction (25%). Interventions included targeted training, a staff training log, designated CGM champions, and incorporating CGM requests into daily morning huddles. These changes increased CGM insertion rate from request to within a shift from 50% to 70%. Run-chart analysis showed sustained improvement, with three runs of five or more consecutive points above the baseline median.

Conclusions: Regular PDSA cycles helped reduce delays in CGM insertion supporting management of glucose control in the NICU. Sustaining these gains will require ongoing staff training, regular monitoring, and continued support from CGM champions to maintain consistent practice.

Graphs

RUN CHART

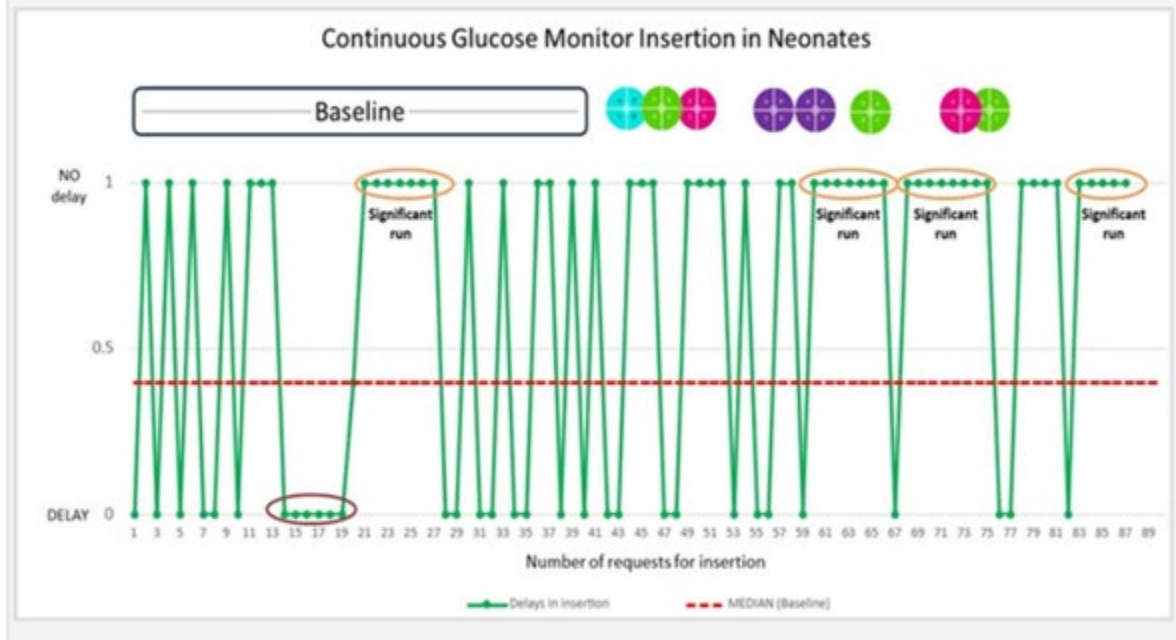


Figure 1: Run chart:  - Training log introduced;  - Nurses training days;  - Doctors training days;  - CGM champions and daily equipment check

Image

PDSA Summary Table:

PDSA Test	PLAN	Do	STUDY	ACT
1.1 	Training log – Establishing a log for trained and interested staff	Along with nursing staff lead, I created a training log for nurses and doctors	The nursing lead was very keen; we identified staff already trained and where the deficit was in training.	Email and encourage staff about training and develop training programme
1.2 	Continue to maintain the training log	Email sent to the team about CGM training	The number of staff trained increased on the training log; Interested staff members/ resident doctors approached us for training.	Adopt: Plan ad-hoc training sessions to suit staff availability
2.1 	Incorporate into the nursing training mandatory study day	Theory session on CGM insertion and trouble-shooting done on mandatory study days	Issues: Nurses fed back about lack of practical training and that it needs to be more frequent than 3 months. It helped identify staff who were interested in further training.	Adapt: Plan ad-hoc training for interested nurses and training of nurse practice educators
2.2 	Nursing training – ad-hoc/ monthly study day	The lead CGM nurse trained nurse practice educators and continued ad-hoc nurse training	3 nurse educators trained During these sessions more interested nurses were identified, positive feedback obtained from nurses	Adopt – Refresher for trained nurses and extend practical training to interested nurses and doctors
3. 	Incorporate training to Tier 1 and Tier 2 Doctors	We provided training at teaching sessions for doctors – 2 sessions	10 doctors were trained with most giving positive feedback. Since doctors changeover frequently, reflected the need to ensure that those that stay longer are trained	Adapt – Interested doctors staying longer identified for ad-hoc training
PDSA Test	PLAN	Do	STUDY	ACT
4.1 	To identify CGM champions to be available for insertion	Identified senior nurses and doctors as CGM champions and informed the team via email	Increased number of CGM insertion on the unit and CGM champions inserted CGM in babies looked after by other staff when busy. Some nurses and doctors not on the list requested training and showed interest	Extended: Discussion during huddle to identify trained staff and the babies who need CGM on every shift
4.2 	To include CGM equipment check and insertion requirement in morning huddle	Daily checks regarding equipment availability and need for CGM insertion done by nurse in charge	Helped identify number of CGMs currently in use and available. Early identification of babies needing CGM in morning, helped CGM champions to support insertion	Adopted to daily morning checks during the huddle
5.0 	Laminated guide for insertion and trouble-shooting steps	To develop a single page laminated guide instead of a current 3-page guide	Obtained feedback from staff that laminated guide won't be helpful as not using the current guide. All trained staff have insertion and trouble-shooting video in emails which they found helpful.	Adapt to develop a QR code with training videos to make it easily accessible to trained staff. Sustain – Nominate nurse lead and Neonatal consultant to oversee ongoing improvement.

Enhancing Delivery of Evidence-Based Care for Preterm Infants: A Closed-Loop Quality Improvement Project Using a Perinatal Optimisation Pathway.

Saad B¹, Thapa N², Douthwaite A³

¹St. George's University Hospitals NHS Foundation Trust, ²Guy's and St. Thomas NHS Foundation Trust, ³Croydon University Hospitals

Background

Preterm birth remains a leading cause of neonatal morbidity and mortality. Consistent delivery of evidence-based perinatal interventions, as outlined in the BAPM Perinatal Optimisation Toolkit, is critical to improving survival and long-term neurodevelopmental outcomes. A Perinatal Optimisation Passport was introduced in May 2024 to standardise multidisciplinary care across obstetric and neonatal teams. Early implementation revealed significant variability in compliance and documentation, limiting pathway effectiveness. This project aimed to evaluate baseline compliance, identify key areas of variation, and assess the impact of targeted multidisciplinary interventions on pathway adherence in infants born at less than 34 weeks' gestation.

Methods

A closed-loop quality improvement project was conducted at a large UK district general hospital. A retrospective audit (June–August 2024) examined eighteen infants born at less than 34 weeks' gestation across nine core pathway elements: place of birth, antenatal corticosteroids, magnesium sulphate, intrapartum antibiotics, breast milk counselling, early breast milk provision, cord management, thermal care, respiratory management, and caffeine. Interventions following gap analysis comprised teaching sessions, guideline dissemination, pathway relaunch, enhanced communication, and electronic documentation prompts. A re-audit using identical methodology followed.

Results

Baseline pathway compliance was 11.1%, rising to 77.8% following intervention. Significant improvements were observed: antenatal breast milk counselling (50% to 83.3%), colostrum administration within six hours (16.7% to 88.9%), early breast milk expression within two hours (16.7% to 44.4%), magnesium sulphate (71.4% to 80.0%), and full antenatal steroid course completion (72.2% to 77.8%). Intrapartum antibiotic administration declined (50% to 27.8%), flagged as a root-cause analysis priority. Physical passport utilisation remained suboptimal.

Conclusion

Targeted multidisciplinary interventions translated national guidance into consistent clinical practice, achieving a clinically meaningful improvement in perinatal optimisation pathway compliance. Residual variation and documentation challenges have informed ongoing system-level work, including development of a digital passport. This scalable model supports wider regional adoption of standardised perinatal optimisation strategies.

Graphs

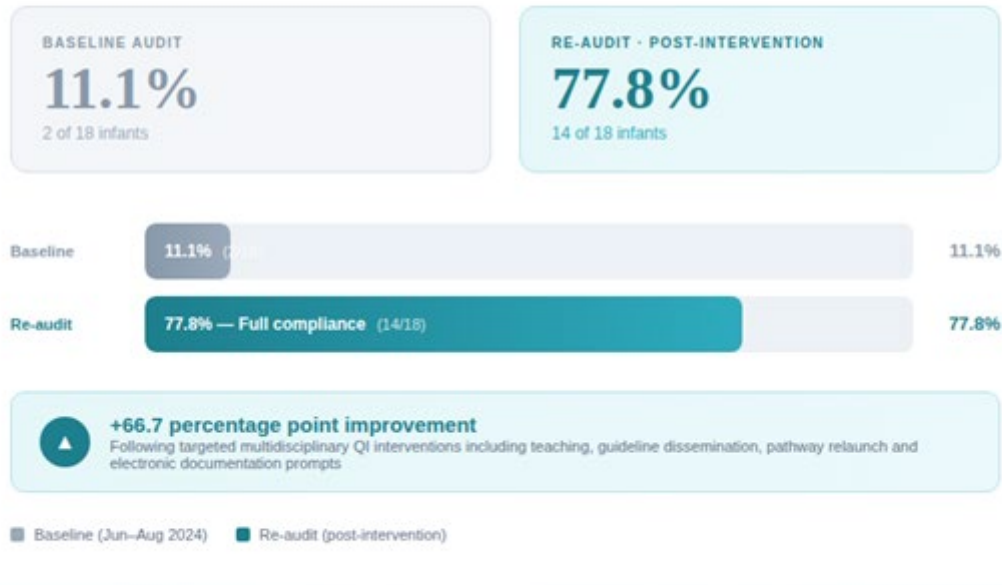
Enhancing Delivery of Evidence-Based Care for Preterm Infants

UK District General Hospital · n=18 per audit cycle · <34 weeks' gestation

FIGURE 1

Overall Pathway Compliance: Baseline vs. Re-audit

Proportion of infants achieving compliance with all applicable elements of the Perinatal Optimisation Pathway



Image

Enhancing Delivery of Evidence-Based Care for Preterm Infants

UK District General Hospital · n=18 per audit cycle · <34 weeks' gestation

FIGURE 2
Individual Pathway Domain Compliance: Baseline vs. Re-audit

Grouped comparison across core perinatal optimisation elements · Denominators vary by clinical applicability

■ Baseline (Jun–Aug 2024) ■ Re-audit (post-intervention) ■ Decline — priority for analysis

Antenatal Corticosteroids — Full Course

▲ +5.6pp

Baseline	13/18	72.2%
Re-audit	14/18	77.8%

Magnesium Sulphate Administration

▲ +8.6pp

Baseline	5/7	71.4%
Re-audit	8/10	80.0%

Antenatal Breast Milk Counselling

▲ +33.3pp

Baseline	9/18	50.0%
Re-audit	15/18	83.3%

Early Breast Milk Expression (<2 hours)

▲ +27.7pp

Baseline	3/18	16.7%
Re-audit	8/18	44.4%

Colostrum Administration (<6 hours)

▲ +72.2pp

Baseline	3/18	16.7%
Re-audit	16/18	88.9%

Intrapartum Antibiotics

▼ -22.2pp

Baseline	9/18	50.0%
Re-audit	5/18	27.8%

■ Priority for root-cause analysis — decline may reflect clinical delivery factors or documentation omissions. Further investigation ongoing.

pp = percentage points · Denominators vary by clinical applicability (e.g. magnesium sulphate eligible only where clinically indicated) · All data from electronic and physical patient records

Less Invasive Surfactant Administration (LISA) in a Local Neonatal Unit (LNU): Trials and Tribulations despite Progress Plus (2022–2025)

Narayanan S¹, Gopalakrishnan S¹, Karthikeyan A¹

¹West Hertfordshire Teaching Hospitals Nhs Trust

Background:

Less invasive surfactant administration (LISA) reduces chronic lung disease and mechanical ventilation in preterm infants, yet uptake in Local Neonatal Units (LNUs) has lagged, constrained by availability of robust guidelines, training and senior support. We describe how our LNU collaboratively built and sustained a LISA programme over four years, despite changes to Paediatric training curriculum and provide transferable lessons for comparable units.

Methods

Retrospective service evaluation of all neonates receiving LISA at a LNU (January 2022–December 2025). LISA programme was multi-pronged: a local guideline, simulation and bedside training, routine videolaryngoscopy (VL) as a shared teaching and safety tool, a procedural safety checklist, and supervised delivery by resident doctors and ANNPs. VL use, premedication, first-pass success, adverse events (desaturation <85% and/or bradycardia <100/min >30s), LISA failure (ventilation within 72h) and checklist use were analysed (Table 1).

Results:

67 infants received LISA (median gestation 34 weeks, IQR 31–36; birthweight 2176g). LISA numbers increased from 4 (2022) to 30 (2025), with growing use in late-preterm and term infants. Despite progressive devolution to trainees and ANNPs (88% of first attempts), LISA failure remained low (13%) and near-universal VL (97%) was maintained. First-pass success was 60%, declining from 81% (2023) as new trainee and ANNP operators were continually on boarded; surfactant was nonetheless delivered in 85% within two attempts, 97% within three. Adverse events occurred in 24%. Premedication use fell from 50% (2022) to 17% (2025) as confidence in awake LISA grew. Limitations include the single-centre, retrospective design.

Conclusion:

A LNU can build a high-volume, predominantly trainee-delivered LISA service despite Progress Plus driven challenges. Structured multidisciplinary training, near-universal VL and checklist use and governance arrangements were the key enablers and are readily transferable to other units. However, it requires close consultant supervision round the clock and has implications for consultant workload and wellbeing.

Image

Table 1: Less Invasive Surfactant Administration (LNU setting)

(Trials and Tribulations) – 2022 – 2025

Metric	2022 (n=4)	2023 (n=16)	2024 (n=17)	2025 (n=30)	Total (n=67)
Videolaryngoscopy use	3/4 (75%)	16/16 (100%)	17/17 (100%)	29/30 (97%)	65/67 (97%)
Trainee/ANNP first operator †	3/4 (75%)	13/16 (81%)	15/16 (94%)	27/30 (90%)	58/66 (88%)
First-pass success	1/4 (25%)	13/16 (81%)	10/17 (59%)	10/30 (33%)	34/67 (50%)
Premedication use	2/4 (50%)	4/16 (25%)	4/17 (24%)	5/30 (17%)	15/67 (22%)
Adverse events *	1/4 (25%)	6/16 (38%)	3/17 (18%)	6/30 (20%)	16/67 (24%)
LISA failure (Mechanical Ventilation ≤72h)	0/4 (0%)	2/16 (13%)	2/17 (12%)	5/30 (17%)	9/67 (13%)

† Operator grade not recorded in 1 case (2024). * Sustained desaturation <85% and/or bradycardia <100/min for >30s.

Safer Amikacin use in Neonates: Reducing Supratherapeutic Serum Levels Through Dosing Regimen Optimisation.

Eyo-Ita E¹, Sayeemuddin M², Nwokolo S¹, Menesez E¹, Bharania B¹, Gandhi R¹

¹Kings College Hospital Foundation Trust, ²St George Hospital

Background: Neonatal aminoglycoside dosing is challenging. Inaccurate dosing increases the risk of oto- and nephro-toxicity. Culture and sensitivity data of recent infections from our neonatal unit informed a change in practice to use Amikacin rather than Gentamicin, in line with the Southeast London Paediatric Formulary. Following introduction of Amikacin, there were significant numbers (63.63%) of supratherapeutic serum Amikacin levels (>5mg/L).

Aim: To reduce the incidence of supratherapeutic serum amikacin levels, by changing the dosing regimen.

Methodology:

After reviewing our findings, we proposed changing our dosing strategy; from a corrected gestational age-based regimen to a chronological age-based regimen, with earlier therapeutic drug level monitoring. (Figure 1). Thereafter, we undertook a Plan-Do-Study-Act (PDSA) cycle to investigate the changes' effects on serum Amikacin levels.

Participants were identified from electronic health records. Data was collected retrospectively for unit admissions treated with Amikacin between 20/10/25 and 22/01/26. Wrongly timed Amikacin levels were excluded. Data was analysed using Statistical Package for the Social Sciences (SPSS®). We compared serum Amikacin levels, CRP and renal status with Mann–Whitney U test, the proportion of infants with high levels, and participants' gestational ages pre and post intervention using, chi square test and independent t-test respectively. Statistical significance was set at $p < 0.05$.

Results:

Demographics and results are given in Table I. There was no difference in the gestational age, CRP and renal status of participants pre- and post-intervention. ($p = .574$, $.738$ and $.975$ respectively). Pre-intervention, the incidence of supratherapeutic serum Amikacin levels was 63.63%. This fell to 18.46% post-intervention. ($p = < 0.001$). Median Amikacin level fell from 5.7 to 3.0. ($p = < 0.001$). The revised dosing has been accepted as the Trust's neonatal antibiotic dosing regimen.

Conclusion: The PDSA driven dosing change significantly reduced supratherapeutic levels and improved patient safety, by reducing the risk amikacin-related oto- and nephro-toxicity.

Graphs

	Pre-intervention (n=77)	Post-intervention (n = 65)	p – value
	Median (IQR)	Median (IQR)	t - test
Gestational Age (Weeks + days)	36+0 (32+1 – 38+1)	36+4 (31+3 – 39+1)	.574
	n (%)	n (%)	χ^2
Supratherapeutic serum amikacin level	49 (63.63%)	12 (18.46%)	.000
	Median (IQR)	Median (IQR)	U-test
Serum Amikacin level (mg/ L)	5.7 (4.4 – 7.5)	3.0 (2.3 – 4.3)	.000
CRP (mg/ L)	2.0 (1.0 – 12.0)	3.00 (1.0 – 7.0)	.738
Serum Creatinine (Umol/ L)	62.0 (50.0 – 77.0)	61.50 (54.0 – 75.0)	.975

Image

Amikacin dosing Regimens

► **Corrected Gestational age-based dosing**
20/10/25 – 21/12/25

- <32 weeks CGA 15mg/kg 36 hourly
- >32 weeks CGA 15mg/kg 24 hourly
- Monitor serum level 6 hours before the 3rd dose.

► **Chronological age-based dosing**
(22/12/25 – 22/01/26)

- < 7 days: 15mg/kg IV 36 hourly
- > 7 days: 15mg/kg IV 24 hourly
- Monitor serum level 6 hours before the 2nd dose.

Unplanned Extubation: A QI project in a tertiary neonatal unit in West of Scotland.

Babur N¹, Briant E¹, Frew G¹, Duggan M¹

¹Nhs Greater Glasgow And Clyde

Background

An unplanned extubation (UE) is an adverse event that poses a significant risk to mechanically ventilated neonates. It is an important quality measure in NICU due to its negative impacts on neonates. The aim of the project was to reduce the rate of unplanned extubation in Level 3 neonatal unit.

Methods and Results

This QI project was carried out in neonatal unit in Princess Royal Maternity Hospital, Glasgow from January 2025 to December 2025 in 02 cycles. Patient demographics including gestational age, weight and corrected gestational age at time of extubation were noted in both cycles.

First Cycle

An audit was conducted from January to June 2025 using retrospective review of case notes. UE events, ventilator days, circumstances and contributing factors were recorded. Neofit was the ETT fixation method. 29 intubated infants were included, with gestational ages ranging from 24–41 weeks and mean weight 1364g (560–3460g). 14 UEs happened over 144 ventilator days, giving a rate of 9.7 per 100 ventilator days (ideal <1/100 ventilator days). Most events involved 2.5mm ETTs (11/14) and 57% occurred during handling. Findings were presented locally and recommendations were made.

Recommendations

Recommendations included two person handling, pause for skin to skin/cuddles, safety briefs during handovers, safety cross posters, staff education/training and changing ETT fixation from Neofit to Elastotape method.

Second Cycle

Prospective data from August–December 2025 included 20 infants (23+4–27+5 weeks; mean weight 847g). 5 UEs occurred over 265 ventilator days (rate 1.9/100 days). All involved size 2.5mm ETTs, with 60% occurring during handling.

Conclusion

Our quality improvement project demonstrated a significant reduction in UE rates over one year. Use of tape fixation technique was associated with fewer events. Lower birthweight and smaller ET tube increased risk, highlighting challenges. Overall, QI methodology achieved rates approaching national benchmark standards.

The Development of a National Standard Concentration e-learning Package

Hibberd S¹, Weddell J^{1,2}, Hinton R³, Adams J¹, Fudge E¹

¹Southampton Children's Hospital, University Hospital Southampton NHS Foundation Trust,

²Southampton Oxford Neonatal Transport team (SONeT), ³North West Neonatal Operational Delivery Network.

Background:

Neonatal standard concentrations for continuous intravenous infusions (SCIs) and a position statement regarding minimising inconsistent drug delivery via continuous IV infusions in neonates were published in 2024. GIRFT, (Get it right first time), recommends that all English neonatal units adopt SCI recommendations, which for many is a significant practice change.

Aim

To create a national, comprehensive e-learning package to support initial implementation of neonatal SCIs, ensure consistent drug delivery and provide an ongoing neonatal education resource.

Methods:

A multidisciplinary working group developed the first draft which was circulated to nursing and medical staff at a neonatal intensive care unit for review. After feedback, additional calculation practice was added and complimentary downloadable resources created. External review by a neonatal operational delivery network (ODN) pharmacist, with experience of implementing the change locally, led to further amendments. At each stage, governance processes were followed, (see image).

Results:

This work resulted in a national e-learning package that introduces SCIs, how to minimise inconsistent drug delivery and calculation practice to ensure staff feel confident prior to switching to SCIs.

Positive feedback was received throughout the process. Within one region, a staff survey regarding the implementation of SCIs included qualitative questions. Of the responses received (n=13), 46% mentioned that the e-learning was useful, improving their confidence in the calculations required and that it was useful to access shared resources when implementing the change in their own unit.

The e-learning package is now in use across several neonatal ODNs supporting the implementation of SCIs.

Conclusions:

Providing robust education when implementing significant changes in practice is essential. Creating standardised e-learning saves time, as the resource can be shared rather than units creating their own, and ensures that education provided is consistent. Future work includes getting further feedback from users and ensuring that information remains up-to-date.

Image



Implementing Video-Laryngoscopy to Enhance Neonatal Airway Management: A Quality Improvement Project

Abdalahy M¹, Khalid K, Ong T, Bogiatzopoulou A

¹Northwest Deanery- Northern Care Alliance

Background:

Airway management in neonates is high-risk, and first-attempt success is vital for patient safety. Video-laryngoscopy (VL) offers superior visualisation and teaching opportunities, yet its adoption in neonatal units remains inconsistent. We aimed to embed video-laryngoscopy as a standard of care to enhance safety, training, and clinical outcomes.

Aim:

To integrate video-laryngoscopy into routine neonatal practice by improving staff familiarity, confidence, and competence.

Objectives:

1. To build confidence via delivering structured training and hands-on exposure.
2. To enhance intubation training through real-time shared visualisation and feedback.
3. To establish the use of video-laryngoscopy as the default approach for less invasive surfactant administration (LISA) and neonatal intubation.
4. To embed video-laryngoscopy use into difficult airway management pathways.

Methodology:

A baseline survey revealed limited uptake: 64.7% of staff used the video-laryngoscope only occasionally, while 17.8% had never used it, with use mostly restricted to LISA (75%) than intubation. The challenges included equipment readiness and resistance to change. The data collected (July–August 2025) confirmed reduced video-laryngoscope use for intubation (0/22 cases).

Interventions (September 2025):

- Regular teaching sessions on video-laryngoscope set-up and safe use.
- Cultural reinforcement via “message of the week”, daily huddles, and departmental meetings.
- Video-laryngoscope champions across all tiers for continuous support.

Results:

As per further data collection in October–November 2025:

- 100% of staff trained and practised video-laryngoscopy under supervision.
- 80% of staff adopted video-laryngoscopy as first choice for routine procedures.
- Video-laryngoscopy use surged (intubation: 47% [8/17]; LISA: 88% [15/18]).

Conclusion:

Through targeted education and cultural change, video-laryngoscopy transitioned from underutilised to standard practice, improving safety and training quality. This initiative demonstrates how structured implementation can drive sustainable change and reduce risk in neonatal airway management.

GEM (Golden Early Milk): Improving Early Colostrum Provision – Lessons in Culture Change Across the Maternity–Neonatal Pathway

Chadwick C¹, Jain P

¹Walsall Healthcare NHS Trust

Background:

Mother's own milk (MOM), particularly colostrum, is the optimal first nutrition for preterm and sick newborn infants. Early administration is associated with reduced neonatal morbidity. Baseline National Neonatal Audit Programme (NNAP) data demonstrated Day 2 maternal breastmilk provision of 42%, below the national benchmark of 62%. We aimed to improve early colostrum and maternal breastmilk provision through a multidisciplinary quality improvement programme.

Methods:

A multidisciplinary team involving neonatal, maternity, obstetric and infant feeding services was established. The project was branded as GEM (Golden Early Milk), with staff- and parent-facing resources developed to promote early colostrum provision. Three Plan–Do–Study–Act cycles were undertaken: introduction of colostrum collection trolleys; implementation of a standardised colostrum harvesting pathway with escalation processes; and development of neonatal nursing champions with targeted staff education. Outcome measures included maternal breastmilk provision within 24 hours and the NNAP Day 2 breastmilk metric.

Results:

Maternal breastmilk provision within 24 hours remained variable throughout the project period, reflecting challenges sustaining practice change. Following introduction of colostrum trolleys and a structured early-expression pathway, improvement was observed but not consistently maintained. In contrast, Day 2 maternal breastmilk provision increased from 42% in March 2025 to 60% in May 2026, with a peak of 66% in February 2026, reducing the gap to the national benchmark from 20 percentage points to 2. The greatest improvement was observed among infants born at 28–31 weeks' gestation, where rates increased from 42% to 86%, exceeding the national benchmark.

Conclusions:

Multidisciplinary collaboration across maternity and neonatal services was associated with sustained improvement in Day 2 maternal breastmilk provision. Whilst simple interventions facilitated improvement, gains were difficult to sustain when reliant on individual champions. Sustainable improvement in timely colostrum provision requires cultural change across the maternity–neonatal pathway, with shared multidisciplinary ownership, consistent messaging and escalation of time-critical expression support.

Image



42% → 60%

March 2025
(Baseline)

May 2026
(Latest Data)

DAY 2 MATERNAL BREASTMILK PROVISION (NNAP)



Closing the gap to the national benchmark (62%)
from **20** to **2** percentage points

62%
National
Benchmark

OUR QUALITY IMPROVEMENT JOURNEY

Oct 2025



PDSA 1
GEM Launch &
MDT Re-established



Feb 2026



PDSA 2
Colostrum Trolleys
Introduced



Apr 2026



PDSA 3
Champions &
Education Programme

KEY OUTCOME



Gap to national benchmark

20 → 2
percentage points



KEY LEARNING

Whilst simple interventions facilitated improvement, gains were difficult to sustain when reliant on individual champions. Sustainable improvement in timely colostrum provision requires cultural change across the maternity-neonatal pathway with shared multidisciplinary ownership, consistent messaging and escalation of time-critical expression support.



GEM – Supporting every drop, for every baby.



Implementing Neonatal Standard Concentration Infusions across a Neonatal Transport Region

Hibberd S¹, Weddell J^{1,2}, Adams J¹, Fudge E¹

¹Southampton Children's Hospital, University Hospital Southampton NHS Foundation Trust,

²Southampton Oxford Neonatal Transport team (SONeT)

Background

Neonatal standard concentrations for IV continuous infusions (SCIs) was published by the Neonatal and Paediatric Pharmacy Group (NPPG) in 2024. This standardises preparation across neonatal units, improving efficiency and reducing inter-variability of the final product in comparison to weight-based continuous infusions.

Aim

To introduce national SCIs across nine units within a neonatal transport region, (two neonatal intensive care units (NICUs), two local neonatal units (LNU) and five special care baby units (SCU)) safely.

Method

A working group, (pharmacist, consultant nurse, transport lead nurse, clinical facilitator, trust clinical information team lead and neonatologist) identified SCIs as key in improving continuous IV infusion practice, (see image).

Informal staff feedback from teaching sessions, webinars and pre-implementation survey guided additional resources and targeted education. A post-implementation survey was sent out 2 months after the regional implementation.

Results

The change was implemented successfully in 8 of 9 units with no reported incidents.

Pre- (n =24) and post-implementation (n= 13) surveys assessed confidence in prescribing and preparing three infusions, (adrenaline, dinoprostone and morphine). Confidence in preparation increased for all three infusions. Whilst prescribing confidence increased for adrenaline and dinoprostone, it decreased by 6% for morphine with comments indicating this relates to choosing the appropriate concentration.

The post-implementation survey highlighted that helpful resources included the e-learning package, transport drug guide, local and national monographs, prompt cards and webinars.

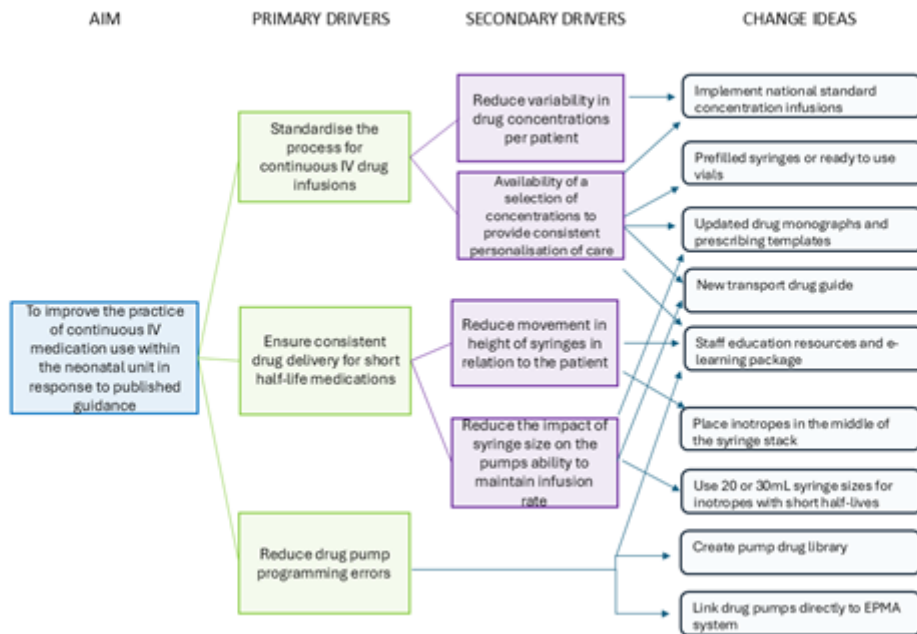
Conclusion

Successful SCI implementation within the transport region was achieved through multidisciplinary collaboration, training and shared resources. The neonatal transport team played a key role in regional implementation providing ongoing support during transfers.

The one hospital working towards implementation is part of a four-hospital trust which spans two neonatal transport regions adding complexity to governance processes.

Future work includes reducing drug wastage (e.g. pre-filled syringes or ready-to-use vials) and sustaining support for units with limited SCI exposure.

Image



Optimising Neonatal Imaging Using Incubator Trays to Promote Developmental Care in the Newborn: A Quality Improvement (QI) Project

Samanta S, Patel S^{Manchester University NHS Foundation Trust, Manchester, UK}, Varghese L^{Manchester University NHS Foundation Trust, Manchester, UK}, Nedungadi S^{Manchester University NHS Foundation Trust, Manchester, UK}, Greenwood B^{Manchester University NHS Foundation Trust, Manchester, UK}, Samanta S^{Manchester University NHS Foundation Trust, Manchester, UK}

Background:

X-ray imaging is integral to neonatal care. In our unit, the traditional approach involved lifting infants to position the image receptor beneath them, raising concerns regarding physiological instability, adverse events, and disruption of developmental care. Modern incubators incorporate built-in trays enabling image acquisition without handling the infant. A local survey demonstrated no perceived difference in image quality or clinical interpretation when using incubator trays with a strong clinician preference for tray use. A concurrent national survey found that 72% of NICUs in England routinely used incubator trays for imaging.

Aim:

Embed incubator tray use for imaging in ≥90% eligible infants without compromising image quality, within 6 months in a tertiary NICU.

Methods:

The QI project was undertaken using the Model for Improvement methodology. Root cause analysis was informed through stakeholder engagement, surveys, brainstorming sessions, and fishbone diagram. Interventions were prioritised using driver diagram and implemented through sequential PDSA cycles focused on communication and staff education. Incubator tray imaging was introduced as standard practice for all eligible infants. Outcome measures were compliance with tray use and staff/parent satisfaction. Balancing measures included repeat imaging due to image quality concerns and mean radiation dose per image.

Results:

Prospective data were collected in collaboration with the Radiology Department from November 2025. Mean compliance with incubator tray use reached 92.3%. Image artefacts were more frequently observed with tray-based imaging; however no clinically significant abnormalities were missed. Although repeat imaging rates increased following implementation, these improved with ongoing education and reinforcement. There was no increase in mean radiation dose following introduction of tray-based imaging.

Conclusions:

Incubator tray use was successfully embedded as standard practice in a tertiary NICU. High compliance was achieved without increased radiation exposure, demonstrating that tray-based imaging can reduce handling while maintaining diagnostic image quality with no adverse effect on image interpretation.

Table 1: Interim Results

Graphs

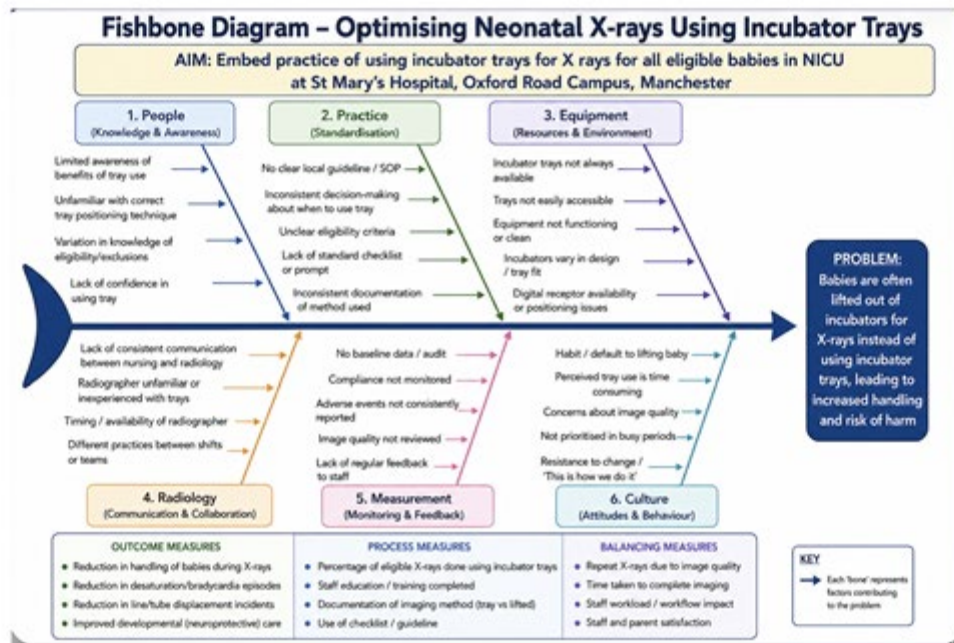
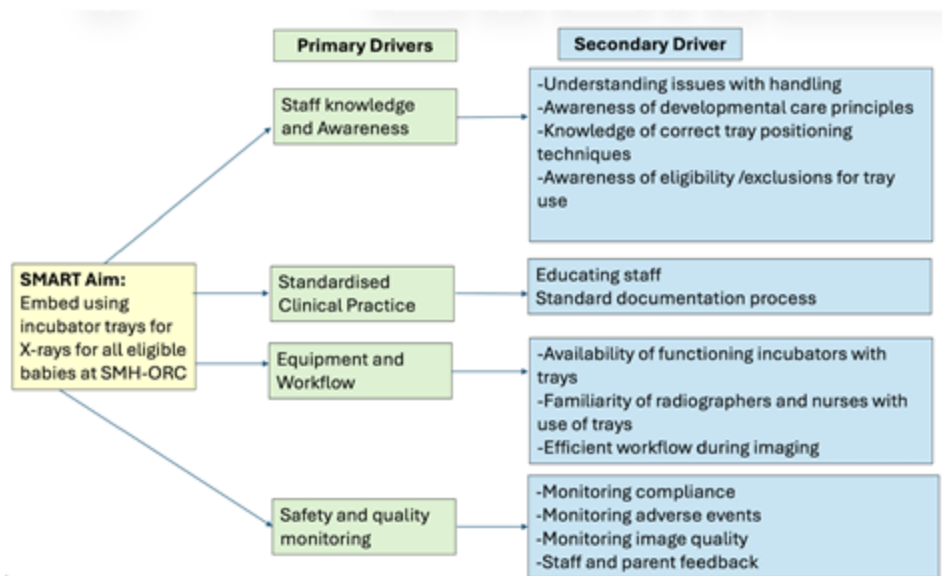


Table 1: Interim Results

	Pre-Intervention (n = 142)	Post Intervention (n = 385)			
	Jun 25	Nov 25	Dec 25	Jan 26	Feb 26
Artefacts (%)	21.1	77.8	80.7	65.9	67.1
Repeat X-ray (%)	6.3	15.6	8.9	11.9	5.1
Image capture not in Tray (%)	100	13.3	4.4	9.5	3.8
Image in Tray (%)	0	86.7	95.6	90.5	96.2
Mean radiation dose [range]	0.62 [0.07 – 2.54]	0.54 [1.74 – 1.0]	0.62 [0.08 – 4.64]	0.75 [0.11 – 3.91]	0.57 [0.1 – 1.87]



Assessment of Leak Performance in Eight Face Masks While Ventilating an Extremely Preterm Manikin

Patel N^{1,2}, Salgin B^{1,3}

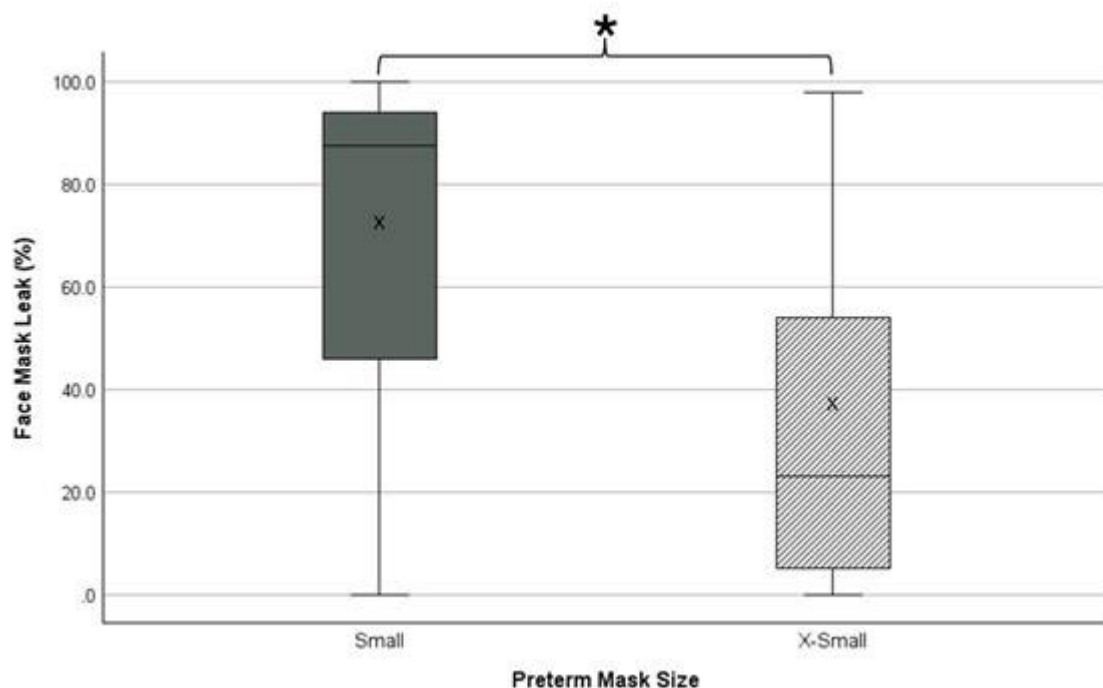
¹Barts Health NHS Trust, ²William Harvey Research Institute, Queen Mary University of London, John Vane Science Centre, Charterhouse Square, ³Centre for Genomics and Child Health, Blizard Institute, Queen Mary University of London, 4 Newark Street

Background: Face mask leak can reduce the effectiveness of positive pressure ventilation (PPV) in extremely preterm infants, resulting in inadequate tidal volume delivery. We compared leak among 5 Small (42–48 mm) and 3 X-Small (34–35 mm) preterm masks to determine which most effectively delivered PPV to an extremely preterm manikin.

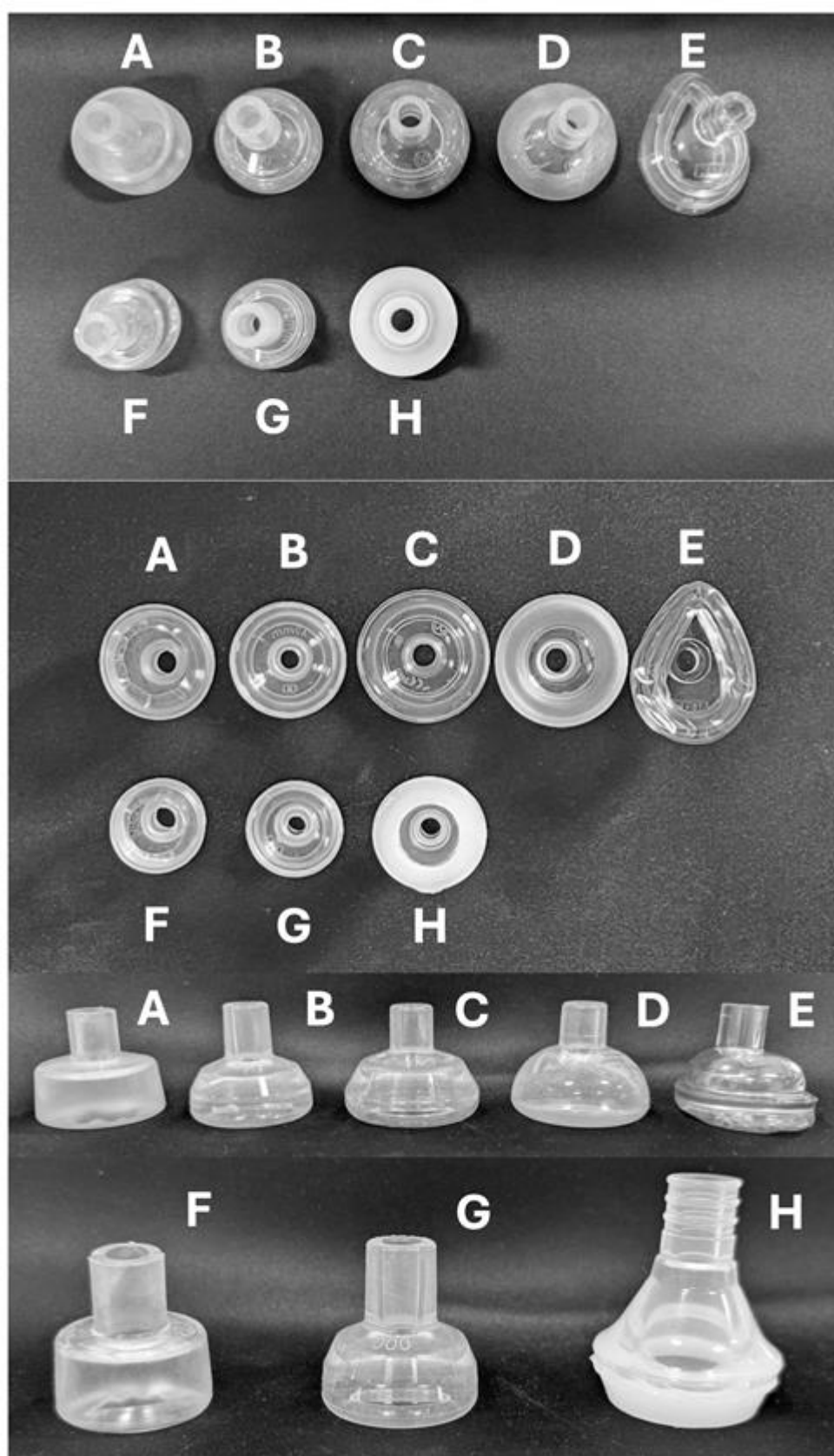
Methods: 48 neonatal healthcare professionals ventilated an extremely preterm manikin. Six participants were randomly allocated to each of the 8 masks, with the respiratory function monitor (RFM) display blinded. The RFM recorded mask leak percentage and expiratory tidal volume (VTe). **Results:** 1,200 breaths were analysed. Leak was higher with Small masks (adjusted mean 73.6%, 95% CI 63.3–83.9) than X-Small masks (adjusted mean 38.2%, 95% CI 24.9–51.5) ($F(1, 46) = 17.9$, $p < 0.001$). No differences were observed between brands within the Small ($F(4, 25) = 1.7$, $p = 0.176$) or X-Small ($F(2, 15) = 0.08$, $p = 0.924$) groups. However, masks measuring 42 mm demonstrated lower leak than >42 mm ($F(1, 28) = 6.3$, $p = 0.018$). Leak was not associated with VTe ($\beta = 0.00$, 95% CI -0.003–0.002, $p = 0.71$).

Conclusion: Masks measuring 34–35 mm were associated with significantly lower leak than those measuring 42–48 mm. Among the larger masks, increasing diameter was associated with greater leak. These findings highlight the importance of mask size selection during neonatal resuscitation and may have implications for optimising PPV delivery in extremely preterm infants.

Graphs



Image



Transition to school from a parents' perspective for children with neonatal encephalopathy

Chakkarapani E^{1,2}, Warren A

¹UHBW, ²University of Bristol

Background: Children who received therapeutic hypothermia (TH) for moderate to severe neonatal encephalopathy (NE) are at risk of developing cognitive, socioemotional and communication difficulties at early school age in the absence of cerebral palsy (CP) (1). These difficulties may not be evident during early developmental assessments, leading to delayed recognition when routine follow-up is no longer standard practice (2). There is limited evidence describing parents' perspectives on the challenges these children and their families face during the transition to school, recognising an important gap in the literature.

Method: We conducted semi-structured interviews after receiving consent from 23/36 parents of children aged 4-7 years treated with TH for NE.

We focused on the child's needs, interventions and progress to date; alongside open-ended discussion to capture broader parental experiences, concerns and successes regarding school transition, support and service provision.

Results: All children attended mainstream school. Most highly reported parental concerns were regarding socioemotional and intellectual development. Additional concerns included communication, attention, hearing, autistic spectrum disorder, dyslexia, fine motor skills, fatigue, sensory processing and motor planning. Many children required reasonable adjustment plans in school to support learning and inclusion. Parents reported a high level of stress during the transition or early school journey compounded by unresolved trauma from the birth and neonatal period. Parents expressed a desire for further follow up beyond 2 years. They informed us of a lack of appointments with health visitors, alongside perceived gaps in understanding of NE within primary care.

Conclusion: Parents report ongoing challenges regarding their child's development. Many children require ongoing support at school despite the majority having a typical developmental assessment at 2 years.

Improved links between health and education, education programs for health visitors and improved Allied Health Professional and Psychology provision in longitudinal follow up clinics are needed.

1. 10.1038/s41390-025-03986
2. 10.1038/s41390-025-04152

Doxapram for Apnoea of Prematurity: Single-Centre Retrospective Cohort Analysis

Labaeka A¹, Loganathan P¹

¹James Cook University Hospital

Background:

Caffeine is first-line therapy for apnoea of prematurity; however, some infants continue to experience significant apnoeic episodes despite optimal caffeine dosing and non-invasive respiratory support. Doxapram is used as rescue therapy in this setting, yet evidence on its efficacy and safety remains limited. This study evaluated doxapram's effect on apnoea burden, respiratory support requirements, oxygen needs and adverse effects.

Methodology

This retrospective audit included preterm infants <34 weeks' gestation admitted into a tertiary neonatal unit (January 2017–February 2026) who received doxapram. Eligible infants were identified from databases and case notes. Primary outcomes were apnoeas requiring stimulation or increased supplemental oxygen and maximum fraction of inspired oxygen at 24 and 48 hours before and after doxapram initiation. Hypertension was defined as BP >95th centile, and tachycardia as heart rate >180/min on ≥2 readings.

Results:

Twenty-one preterm infants were included. Median birth weight was 840 g (IQR 685–900). Median postmenstrual age at doxapram initiation was 28 weeks (IQR 27–30), with median weight at initiation 930 g (IQR 860–1075) and median day of life at initiation 26 days (IQR 17–33). Median treatment duration was 10 days (IQR 3–16). Most infants received concurrent caffeine (20/21, 95.2%), with a median dose of 10 mg/kg (IQR 5–10). Doxapram significantly reduced apnoeas requiring stimulation or increased oxygen at 24 hours, $p = 0.018$, and reduced maximum FiO_2 at 24 and 48 hours. Invasive ventilation decreased descriptively at 24 hours and 48 hours. Tachycardia (48%) and hypertension (21%) were the most common adverse effects.

Conclusions:

Doxapram use was associated with a significant reduction in apnoeas requiring stimulation/increased oxygen at 24 hours and in maximum FiO_2 at both 24 and 48 hours, with a descriptive reduction in invasive respiratory support after treatment. These findings support cautious, selective use with close monitoring and justify prospective evaluation in further studies.

Image

Table 1: Clinical outcomes before and after doxapram

Outcome	Before doxapram	After doxapram	p value
Apnoeas needing stimulation/increased oxygen, 24 h	3 (1–5)	1 (0–2)	0.018
Apnoeas needing stimulation/increased oxygen, 48 h	0 (0–3)	0 (0–2)	0.574
Apnoeas needing PEEP/PPV, 24 h	0 (0–1)	0 (0–0)	0.210
Apnoeas needing PEEP/PPV, 48 h	0 (0–1)	0 (0–0)	0.450
Maximum FiO ₂ , 24 h	39 (30–46)	33 (26–49)	0.039
Maximum FiO ₂ , 48 h	40 (27–50)	29 (25–43)	0.044
Invasive ventilation, 24 h	5/21 (23.8%)	1/21 (4.8%)	—
Non-invasive ventilation, 24 h	8/21 (38.1%)	10/21 (47.6%)	—
CPAP, 24 h	8/21 (38.1%)	10/21 (47.6%)	—
High-flow, 24 h	0/21 (0%)	0/21 (0%)	—
Invasive ventilation, 48 h	7/21 (33.3%)	3/21 (14.3%)	—
Non-invasive ventilation, 48 h	4/21 (19.0%)	8/21 (38.1%)	—
CPAP, 48 h	9/21 (42.9%)	10/21 (47.6%)	—
High-flow, 48 h	1/21 (4.8%)	0/21 (0%)	—

Data are median (IQR) or n/N (%). P values from paired Wilcoxon signed-rank test for continuous/count outcomes. Respiratory support data are descriptive.

Gestational heat exposure reshapes early-life gut microbiome development: evidence from a human cohort and cross-fostering mouse model

Xiong T¹, Liu D¹

¹Department of Pediatrics, West China Second University Hospital, Sichuan University

Abstract

Background

With accelerating global warming, pregnant women are increasingly exposed to extreme heat, yet its impact on early-life gut microbiome development remains unknown.

Methods

We integrated deep metagenomic sequencing from a longitudinal human mother–infant cohort (28 dyads, 245 samples) with a cross-fostering mouse model (120 samples) to investigate the effects of gestational heat exposure on maternal and offspring gut microbiome development.

Results

In humans, heat exposure was linked to maternal gut signatures with low-grade inflammatory potential and altered developmental trajectories of the infant microbiome, rather than changes in static microbial composition. By six months of age, heat-exposed infants had no overt clinical abnormalities but displayed persistent enrichment of microbial functional pathways associated with inflammation and virulence. Cross-fostering mouse experiments further demonstrated that such microbial shifts were predominantly driven by intrauterine heat exposure, which disrupted mother–infant microbial coupling and impaired the temporal development of the offspring microbiome.

Conclusions

Gestational heat exposure may reprogram the early-life intestinal ecosystem via prenatal mechanisms, potentially increasing long-term susceptibility to adverse health outcomes. In the context of global warming, our study provides microbiome-based evidence linking gestational heat exposure to adverse maternal and offspring outcomes, and supports future efforts to develop microbiome-targeted interventions during pregnancy.

Graphs

```
graph TD; A[A longitudinal mother-infant cohort of pregnant women and their children] --> B[Baseline Data Collection and Questionnaires]; B --> C[Group C  
Late gestational control group  
(gestational week 28 to delivery occurred during non-high-temperature months)]; B --> D[Group H  
Late gestational heat exposure group  
(gestational week 28 to delivery occurred during high-temperature months)];
```

A longitudinal mother-infant cohort of pregnant women and their children

Baseline Data Collection and Questionnaires

Group C
Late gestational control group
(gestational week 28 to delivery occurred during non-high-temperature months)

Group H
Late gestational heat exposure group
(gestational week 28 to delivery occurred during high-temperature months)

The timeline illustrates the study design with sampling points for mothers (M1-M6) and infants (O1-O4). M1 is at 28 weeks, M2 is pre-delivery, M3 is Day 1 postpartum, M4 is 1 month, M5 is 3 months, and M6 is 6 months. Infant sampling points O1, O2, O3, and O4 correspond to the maternal sampling points M3, M4, M5, and M6, respectively.

	M1 28 weeks	M2 Pre-delivery	M3 Day 1 postpartum	M4 1 month	M5 3 months	M6 6 months
Control mothers	14	10	14	13	13	13
Heat-exposed mothers	13	5	12	14	14	14
Control infants			8	13	14	14
Heat-exposed infants			5	14	14	14

Sequencing

DNA
Extraction

Library
Preparation

Metagenomic
Sequencing



22±1°C, 24h

Control Dam Gestation (E14-Delivery)

Pregnant C57BL/6J Mouse (E12)

Prenatal Heat Exposure Group

37±1°C, 8h/d

Heat-exposed Dam Gestation (E14-Delivery)

HH Group

Nursing

Control Dams nursed Control Pups

CH Group

Nursing

Heat-exposed Dam nursed Heat-exposed Pups

HC Group

Cross-fostering

Control Dams nursed Heat-exposed Pups

CC Group

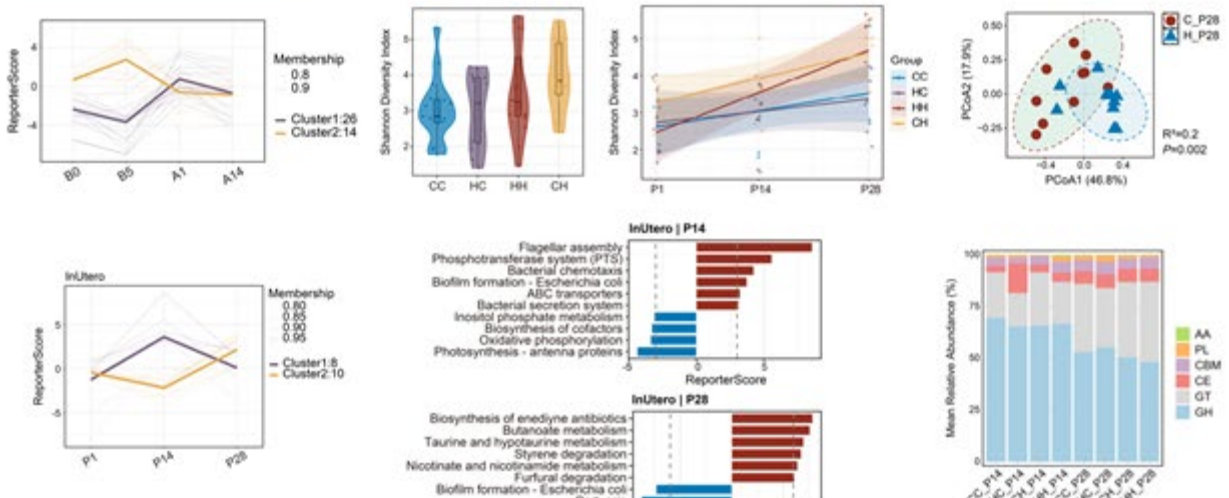
Cross-fostering

Heat-exposed Dams nursed Control Pups

The diagram illustrates the experimental timeline and workflow. The timeline at the top shows key events: Maternal Sampling (Pre-mating, 5 days of modeling), Postnatal Day 1, Postnatal Day 14, and Feces collection. Below this, Offspring Sampling is shown at P1, P14, and P28, including fecal content-containing intestine collection. Offspring Growth Monitoring is shown from P1 to P8w, including length and weight measurements. The Metagenomic Sequencing workflow is shown at the bottom, from Sample Collection to DNA Extraction, Library Preparation, and Metagenomic Sequencing.

Experimental Timeline:

- Maternal Sampling:** Pre-mating, 5 days of modeling, Postnatal Day 1, Postnatal Day 14, Feces collection.
- Offspring Sampling:** P1, P14, P28. Fecal content-containing intestine collection.
- Offspring Growth Monitoring:** Length P7-P8w, Weight P1-P8w.
- Metagenomic Sequencing:** Sample Collection, DNA Extraction, Library Preparation, Metagenomic Sequencing.



Hypertensive disorders of pregnancy and the risk of kidney outcomes in the offspring: A systematic review and meta-analysis

Xiong T¹, Xiong L¹

¹Department of Pediatrics, West China Second University Hospital, Sichuan University

Background Hypertensive disorders of pregnancy (HDP), including preeclampsia (PE), have been associated with adverse offspring health outcomes, but their implications regarding offspring kidney disease remain unclear. We systematically synthesized the evidence on maternal HDP and offspring kidney outcomes.

Methods PubMed, EMBASE, Cochrane library, Wanfang Data, and China National Knowledge Infrastructure were searched from inception to October 2025 for cohort and case–control studies evaluating maternal HDP (including PE) and offspring kidney outcomes. We analyzed both overall offspring kidney disease (as defined in the primary studies) and specific outcomes, including chronic kidney disease (CKD), acute kidney injury (AKI), and congenital anomalies of the kidney and urinary tract (CAKUT). Two reviewers independently screened studies and extracted data. Random-effects meta-analysis pooled effect estimates, prioritizing the most fully adjusted estimates. Certainty of evidence was assessed using GRADE approach.

Results Thirty-one studies (21 cohort and 10 case–control; 11,819,734 participants) were included. In adjusted analyses, maternal HDP was associated with increased risk of overall offspring kidney disease (pooled adjusted effect estimate 1.26, 95% CI 1.17–1.37; low certainty). Maternal PE was associated with increased risk of offspring CKD (1.29, 95% CI 1.18–1.42; low certainty). Evidence for offspring AKI was inconsistent and largely unadjusted, with substantial heterogeneity. For CAKUT, the association attenuated after adjustment (1.07, 95% CI 0.87–1.31).

Conclusions Maternal HDP is associated with a higher risk of overall offspring kidney disease, with the clearest evidence for CKD after PE exposure. Evidence for offspring AKI remains inconclusive. Prospective studies with harmonized outcome definitions and robust confounding control are needed to clarify causality and guide risk-based follow-up strategies.

Maternal Gestational Weight Gain and Offspring Internalizing-Externalizing Comorbidity in Adolescence: a BMI-Stratified Analysis in ALSPAC

Yang T¹, Xiong T¹

¹West China Second University Hospital, Sichuan University

Background: Adolescent internalizing-externalizing comorbidity is a major public health concern. Maternal gestational weight gain (GWG) and pre-pregnancy body mass index (BMI) are potentially modifiable prenatal factors, but BMI-stratified and nonlinear associations with offspring comorbidity remains unclear. This study examined these associations in offspring at age 13.

Methods: A total of 6810 mother-child pairs from the Avon Longitudinal Study of Parents and Children, a UK cohort of women who delivered between April, 1991 and December, 1992, were included. Internalizing-externalizing comorbidity at age 13 was defined as co-occurring emotional disorders (anxiety or depression) and disruptive behavior disorders (oppositional defiant disorder or conduct disorder), assessed using the Development and Well-Being Assessment. Cox proportional hazards models and restricted cubic splines were used to evaluate associations, stratified by maternal pre-pregnancy BMI and adjusted for prespecified confounders.

Results: Internalizing-externalizing comorbidity was identified in 337 adolescents (4.95%). Maternal pre-pregnancy obesity was associated with higher offspring comorbidity risk (HR: 2.06, 95%CI: 1.43, 2.99). In spline analyses, GWG among mothers with pre-pregnancy obesity showed evidence of an overall association with offspring comorbidity, and the curve suggested a possible U-shaped association, with the lowest estimated risk at approximately 13.5 kg. Predicted risk decreased from 4.7% at 8.0 kg to 3.2% at 13.5 kg, then increased to 3.7% at 18.0 kg.

Conclusions: Among mothers with pre-pregnancy obesity, GWG showed a possible U-shaped association with adolescent internalizing-externalizing comorbidity. These findings support further evaluation of BMI-stratified GWG management in relation to long-term offspring mental health, particularly in pregnancies complicated by maternal obesity.

Graphs

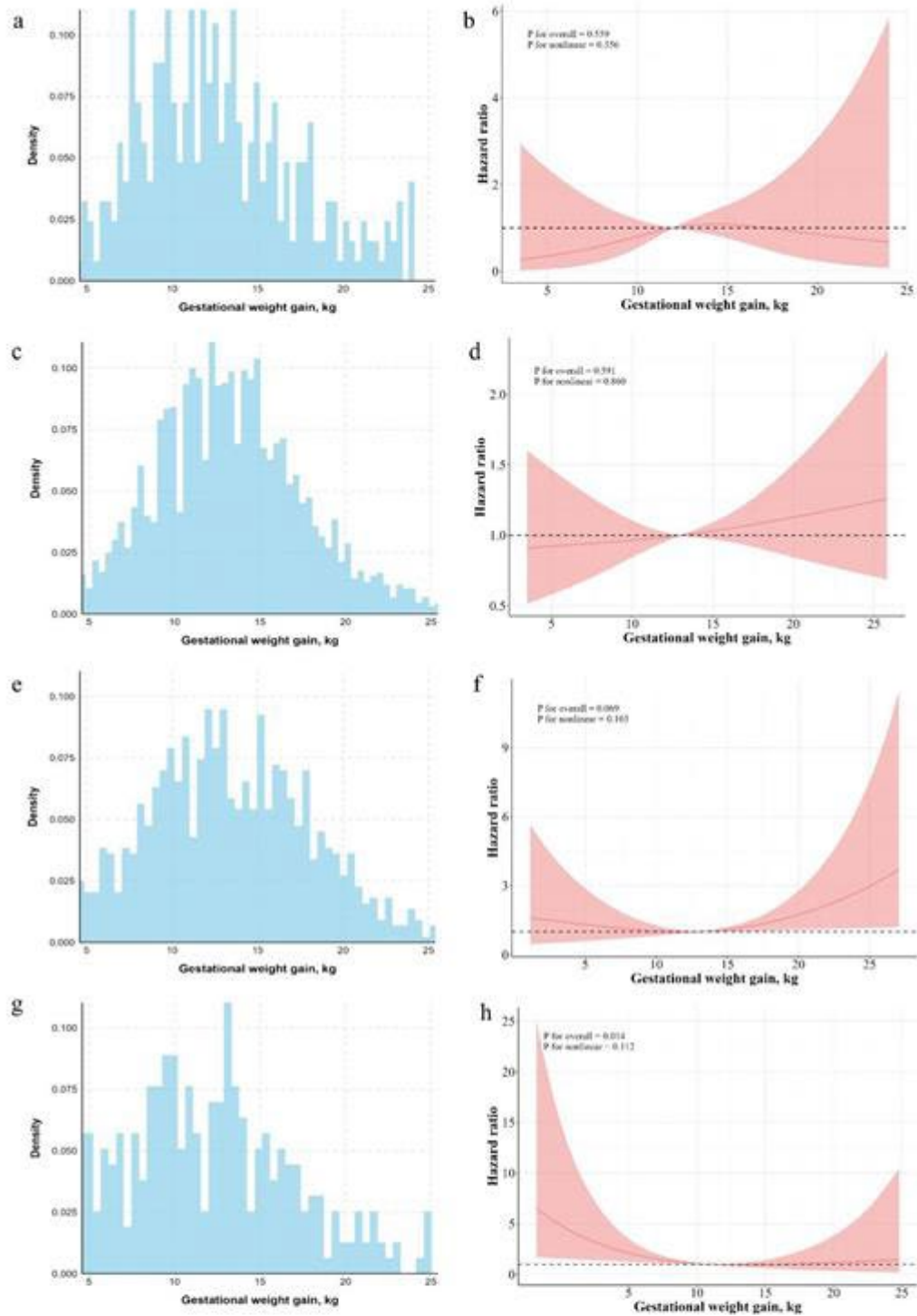


Figure 4: Association between the maternal GWG and the risk of offspring internalizing-externalizing comorbidity, stratified by maternal pre-pregnancy BMI, underweight (a, b), normal (c, d), overweight (e, f), and obese (g, h). Histograms illustrate the distribution of GWG for those included in analysis. In RCS curve plot, the solid line indicates the *HR* through restricted cubic spline with 3 knots, the red shaded band represent the 95%*CI*, and a reference line is included for a *HR* of 1.00. The models are adjusted for age at delivery, education level, socioeconomic status, smoking during pregnancy, pregnancy-induced hypertension, and gestational age.

Cumulative Maternal Socioeconomic Disadvantage and Neurodevelopmental Disorders in Offspring: Dose-Response Associations and Prenatal Mediating Pathways in a UK Birth Cohort

Yang T¹, Xiong T¹

¹West China Second University Hospital, Sichuan University

Background: Maternal socioeconomic position (SEP) has been associated with offspring neurodevelopmental disorders (NDDs), but most evidence used single SEP indicators and examined individual diagnoses. Whether cumulative SEP disadvantage is associated with NDD risk in a dose-response pattern, and which prenatal pathways may explain, remains unclear.

Methods: This study used data from the Avon Longitudinal Study of Parents and Children. The primary exposure was a cumulative maternal SEP index integrating occupational social class, educational attainment, and employment status. The primary outcome was DAWBA-assessed offspring NDDs at age 13, and the secondary outcome was longitudinal NDD trajectory patterns derived from ages 13, 18, and 22. Associations were examined using modified Poisson regression and multinomial logistic regression, and prenatal pathways were assessed using mediation analysis.

Results: Two or more SEP disadvantages were associated with higher NDD risk (RR: 1.45, 95%CI: 1.07, 1.96), with risk increasing by 21% per additional SEP disadvantage (RR: 1.21, 95%CI: 1.06, 1.38).

Manual occupational class and basic educational attainment were each associated with higher offspring NDD risk, whereas employment status was not. SEP index was not associated with NDD trajectory patterns. Antenatal depression and smoking mediated 20.1% and 17.5% of the occupational social class and NDDs association, antenatal infection showed no mediation.

Conclusions: Cumulative maternal SEP disadvantage was associated with offspring NDD risk at age 13 in a dose-response pattern, mainly driven by occupational social class and educational attainment.

Antenatal mental health support and smoking cessation may reduce part of this risk, but prevention strategies should also consider the broader socioeconomic conditions reflected by occupation and education.

Graphs

Table 2. Association of maternal SEP index and three SEP dimensions with offspring NDDs at age 13

Variables	n (%)	Model 1 ^a		Model 2 ^b		Model 3 ^c	
		RR (95%CI)	P	RR (95%CI)	P	RR (95%CI)	P
SEP index							
0	168 (4.40)	Ref		Ref		Ref	
1	115 (5.50)	1.25 (0.99, 1.57)	0.059	1.19 (0.95, 1.51)	0.135	1.07 (0.83, 1.38)	0.577
2	55 (6.90)	1.57 (1.17, 2.11)	0.003	1.45 (1.07, 1.96)	0.015	1.51 (1.09, 2.11)	0.014
SEP score		1.25 (1.10, 1.42)	0.001	1.21 (1.06, 1.38)	0.006	1.22 (1.05, 1.42)	0.010
Occupational social class							
Non-manual	263 (4.69)	Ref		Ref		Ref	
Manual	75 (6.84)	1.46 (1.14, 1.87)	0.003	1.40 (1.09, 1.80)	0.010	1.37 (1.06, 1.76)	0.014
Education							
Higher	251 (0.46)	Ref		Ref		Ref	
Basic	87 (6.97)	1.51 (1.20, 1.92)	0.001	1.45 (1.14, 1.84)	0.002	1.39 (1.10, 1.76)	0.007
Employment							
Yes	264 (5.02)	Ref		Ref		Ref	
No	74 (5.11)	1.02 (0.79, 1.31)	0.896	1.03 (0.80, 1.32)	0.826	1.03 (0.80, 1.33)	0.800

SEP index, socioeconomic position disadvantage index; NDDs, neurodevelopmental disorders; RR, relative risk; CI, confidence interval; Ref, reference.

^a Model 1: Unadjusted.

^b Model 2: Poisson regression adjusted for age at delivery and race.

^c Model 3: Poisson regression adjusted for age at delivery, race, alcohol during pregnancy, hypertension, diabetes, pre-pregnancy BMI, gestational age, and birth weight.

Table 3. Association between maternal SEP index and NDD trajectory patterns in offspring^a

NDD Pattern ^b	SEP index	Model 1 ^c		Model 2 ^d		Model 3 ^e	
		RRR (95%CI)	P	RRR (95%CI)	P	RRR (95%CI)	P
Early-onset NDD	0	Ref		Ref		Ref	
	1	0.91 (0.54, 1.53)	0.715	0.91 (0.54, 1.52)	0.708	0.88 (0.52, 1.49)	0.646
	2	1.18 (0.53, 2.66)	0.685	1.16 (0.51, 2.62)	0.720	1.15 (0.51, 2.60)	0.741
Later-onset NDD	0	Ref		Ref		Ref	
	1	0.87 (0.67, 1.14)	0.319	0.87 (0.66, 1.14)	0.301	0.87 (0.67, 1.15)	0.330
	2	1.14 (0.74, 1.74)	0.559	1.09 (0.71, 1.68)	0.687	1.11 (0.72, 1.70)	0.649

SEP index, socioeconomic position disadvantage index; NDDs, neurodevelopmental disorders; RRR, relative risk ratios; CI, confidence interval.

^a Based on the number of offspring with complete follow-up data at the ages of 13, 18, and 22.

^b Never NDD as reference.

^c Model 1: Unadjusted.

^d Model 2: Multinomial logistic regression adjusted for age at delivery and race.

^e Model 3: Multinomial logistic regression adjusted for age at delivery, race, alcohol during pregnancy, hypertension, diabetes, pre-pregnancy BMI, gestational age, and birth weight.

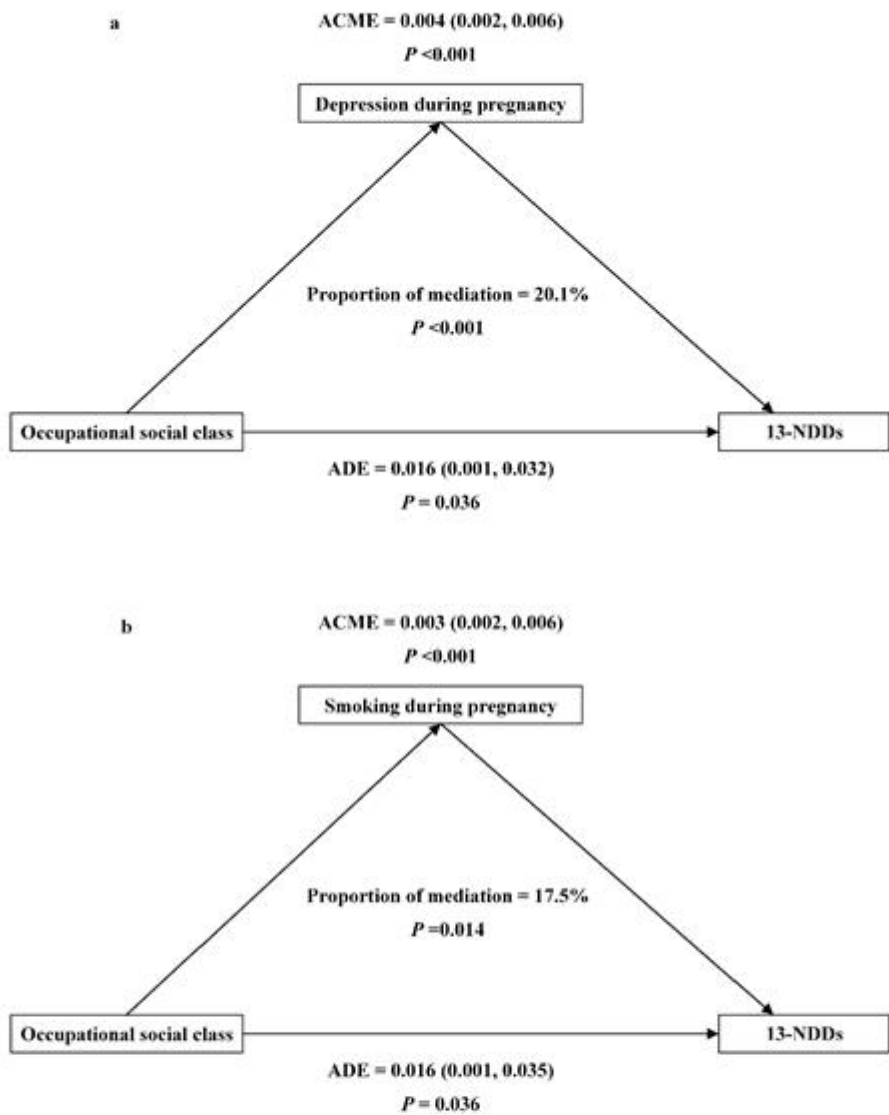


Figure 1. Mediating effect of depression during pregnancy and smoking during pregnancy on the association between maternal occupational social class and the risk of NDDs at age 13. (a) depression during pregnancy as a mediator; (b) smoking during pregnancy as a mediator. The model adjusted for age at delivery, and race. NDDs, neurodevelopmental disorders; ADE, average direct effect; ACME, average causal mediation effect.

Hypertensive Disorder Subtypes Differentially Influence Small Vulnerable Newborn Phenotypes: A Large Cohort Study and Preterm SGA Prediction Model

Xiong T¹, Wu J¹

¹Department Of Pediatrics, West China Second University Hospital, Sichuan University

Introduction:

According to the recent Lancet Small Vulnerable Newborn (SVN) Series, SVN comprises preterm small-for-gestational-age (SGA), term SGA, and preterm non-SGA phenotypes. Whether hypertensive disorders of pregnancy (HDP) subtypes differentially influence these phenotypes remains unclear. We aimed to evaluate phenotype-specific associations between HDP subtypes and SVN presentations and develop a prediction model for preterm SGA.

Materials & Methods:

We conducted a retrospective cohort study of 88,729 singleton pregnancies delivered between 2020 and 2024. HDP was classified as gestational hypertension (GHTN), preeclampsia/eclampsia (PE/E), chronic hypertension (CHTN), and superimposed preeclampsia (SP). SVN phenotypes were categorized as preterm SGA, term SGA, and preterm non-SGA. Multivariable logistic regression models adjusted for maternal demographic and pregnancy characteristics estimated phenotype-specific adjusted odds ratios (aORs). A temporal split created training (2020–2022) and validation (2023–2024) cohorts. Random forest and LASSO were used for predictor selection, and a nomogram was developed for preterm SGA prediction.

Results:

Marked heterogeneity was observed across SVN phenotypes. PE/E showed the strongest association with preterm SGA (aOR 17.49, 95% CI 12.79–23.88), followed by SP (aOR 9.19, 95% CI 4.86–17.13). Associations with term SGA were modest, whereas PE/E and SP remained important risk factors for preterm non-SGA. Key predictors included maternal BMI, maternal age, HDP subtype, placenta previa, premature rupture of membranes, oligohydramnios, and placental abruption. The preterm SGA nomogram achieved good discrimination, with AUCs of 0.825 and 0.835 in the training and validation cohorts, respectively.

Conclusions:

HDP subtypes exert heterogeneous effects across SVN phenotypes. PE/E and SP are strongly associated with preterm SGA, supporting phenotype-specific risk assessment. The validated nomogram may facilitate early identification of pregnancies at high risk for preterm SGA.

Prenatal Pre-eclampsia Exposure Is Associated with Impaired Left Ventricular Feature-Tracking Strain and Altered Serum Metabolomic Profiles in Childhood

Mao Y¹, Xiong T¹

¹四川大学

Objective: To assess long-term alterations in cardiac structure and myocardial function in offspring prenatally exposed to pre-eclampsia (PE), and further explore potential associations between cardiac functional parameters and circulating serum metabolites.

Methods: In this cohort study, offspring aged 7–13 years (born 2009–2016) with prenatal exposure to PE were recruited, and age-matched offspring from normotensive pregnancies served as controls.

Cardiac structure, ventricular function, and myocardial strain were quantified using cardiac magnetic resonance (CMR). Non-targeted serum metabolomics was performed in a subset of participants.

Multivariable linear regression, mediation analysis, and metabolite–phenotype association analyses were conducted by using Stata 18.0 and R software.

Results: Compared with controls, PE-exposed offspring demonstrated significantly impaired left ventricular global longitudinal strain (LV GLS) (adjusted $\beta = 3.00$; 95% CI 0.61 to 5.38) and reduced left ventricular radial global strain (LV RGS) (adjusted $\beta = -14.68$; 95% CI -24.94 to -4.41), despite preserved ventricular volumes and ejection fraction. Mediation analysis indicated that small gestational age partially mediated the association between PE exposure and LV RGS, with significant indirect and interaction effects. Serum metabolomic profiling identified significant enrichment of beta-alanine, pyrimidine, and tryptophan metabolism pathways ($p < 0.05$). Furthermore, LV GLS was positively associated with menadione ($\beta = 5.441$; 95% CI 0.083 to 10.799) and N-palmitoyltaurine ($\beta = 4.363$; 95% CI 1.091 to 7.631), while LV RGS was positively associated with 3,4-dihydroxymandelic acid ($\beta = 12.522$; 95% CI 1.946 to 23.097) and inversely associated with 2-oleoyl-1-palmitoyl-sn-glycero-3-phosphocholine ($\beta = -14.172$; 95% CI -27.445 to -0.899).

Conclusion: Prenatal exposure to PE was associated with subclinical LV strain impairment in childhood, partially mediated by SGA. Metabolic signatures converged on a hypothesis-generating framework linking intrauterine PE exposure, growth restriction, metabolic phenotype, and early myocardial mechanical vulnerability.

Keywords: cardiac magnetic resonance (CMR), myocardial strain, feature tracking, pre-eclampsia, offspring, metabolomics

Birth Head Circumference and Adolescent Total, Verbal, and Performance IQ: Associations Across the Full Distribution in the ALSPAC Birth Cohort

Mao Y¹, Xiong T¹

¹Department of Pediatrics, West China Second University Hospital, Sichuan University, 610041, Chengdu, China.

Introduction: To examine associations between birth head circumference Z-score and IQ at 15.5 years.

Materials and Method: A secondary analysis was conducted based on data from 4,019 participants of the prospective birth cohort of the Avon Longitudinal Study of Parents and Children (ALSPAC) in the United Kingdom. Multiple linear regression was used to analyze the association between birth head circumference Z-score and IQ, with stepwise adjustment for potential confounders. Restricted cubic splines were employed to evaluate the dose–response relationship and nonlinear trends.

Results: Compared with the –1SD to 1SD group, head circumference <–2SD was associated with lower total IQ (–3.39, 95% CI: –6.64 to –0.15, $P = 0.040$) and performance IQ (–4.73, 95% CI: –8.10 to –1.37, $P = 0.006$). Head circumference 1SD–2SD was associated with modest increases in total, verbal, and performance IQ by 1.36 (95% CI: 0.39 to 2.33, $P = 0.006$), 1.63 (95% CI: 0.34 to 2.92, $P = 0.014$) and 1.10 (95% CI: 0.10 to 2.10, $P = 0.031$), while ≥ 2 SD was associated with higher total and performance IQ. Restricted cubic spline analysis suggested that nonlinear associations were observed, with steeper IQ decline at the severely small head circumference end

Conclusion: Birth head circumference was possibly nonlinearly associated with adolescent cognitive ability, though causality cannot be inferred. Birth head circumference may serve as an accessible auxiliary indicator for early neurodevelopmental risk assessment, but its clinical application should be interpreted in conjunction with perinatal factors, postnatal family environment, and educational resources.

Keywords: cardiac magnetic resonance (CMR), myocardial strain, feature tracking, pre-eclampsia, offspring, metabolomics

Validation of NICHD 2011 and 2022 Broncho-pulmonary dysplasia prediction calculator in a UK tertiary neonatal unit

Karima M¹, Loganathan P¹, Bailes E¹

¹The James Cook University Hospital, ²The James Cook University Hospital, ³The James Cook University Hospital

Background: Early prediction of bronchopulmonary dysplasia (BPD) could support management and parental counselling, but no BPD prediction tool is established for UK use. The National Institute of Child Health and Human Development (NICHD) 2011 calculator uses the older consensus definition; the NICHD 2022 calculator uses a contemporary cohort and Jensen-style grades.

Objective: To evaluate NICHD 2011 and 2022 calculators for predicting any BPD, grade 2–3 BPD, and death or grade 2–3 BPD in a UK tertiary neonatal unit.

Methods: Retrospective single-centre study over one year (2024) including infants born at 23+0 to 28+6 weeks' gestation. Data were extracted from the neonatal database. ROC curves were generated at postnatal days 1, 3, 7, 14 and 28 for any BPD, grade 2–3 BPD, and death or grade 2–3 BPD. Discrimination was assessed using area under the curve (AUC), and paired ROC curves were compared using the DeLong test.

Results: Fifty-three infants were included. Median gestation was 26+4 weeks (IQR 25+2 to 28+0) and median birth weight 790 g (IQR 630–970); 42/53 (79.2%) were White. Outcomes were any BPD in 38/53 (71.7%), grade 1 BPD in 13/53 (24.5%), grade 2 BPD in 24/53 (45.3%), grade 3 BPD in 0, and death in 5/53 (9.4%). For death or grade 2–3 BPD, both calculators showed acceptable discrimination (NICHD 2011 AUC 0.737–0.786; NICHD 2022 AUC 0.717–0.809) (Table 1). Discrimination for grade 2–3 BPD alone was modest (2011 AUC 0.670–0.745; 2022 AUC 0.642–0.764). No paired ROC comparison was statistically significant (all $p > 0.05$).

Conclusions: Both NICHD calculators were able to predict the clinically relevant composite outcome of death or grade 2–3 BPD with acceptable accuracy in this UK cohort, suggesting potential value for risk stratification and parental counselling; however, neither model showed clear superiority.

Graphs

Table 1: Expanded ROC comparison of NICHD 2011 and NICHD 2022 calculators												
Outcome	Day	N	Events	NICHD 2011 AUC	SE	95% CI	NICHD 2022 AUC	SE	95% CI	Δ AUC (2022–2011)	95% CI for Δ AUC	DeLong p
Death or grade 2–3 BPD	1	53	29	0.782	0.063	0.658 to 0.906	0.777	0.065	0.649 to 0.905	-0.004	-0.047 to 0.038	0.843
	3	52	28	0.786	0.065	0.658 to 0.913	0.766	0.067	0.636 to 0.897	-0.019	-0.049 to 0.010	0.200
	7	49	25	0.746	0.070	0.609 to 0.883	0.717	0.076	0.568 to 0.865	-0.029	-0.086 to 0.028	0.317
	14	49	25	0.738	0.074	0.593 to 0.882	0.720	0.077	0.570 to 0.870	-0.018	-0.058 to 0.023	0.400
	28	46	24	0.774	0.070	0.636 to 0.911	0.809	0.066	0.679 to 0.938	0.035	-0.017 to 0.087	0.185
Grade 2–3 BPD alone	1	53	24	0.670	0.076	0.520 to 0.819	0.642	0.078	0.489 to 0.795	-0.027	-0.153 to 0.099	0.671
	3	52	24	0.717	0.073	0.573 to 0.861	0.650	0.078	0.498 to 0.803	-0.067	-0.173 to 0.039	0.217
	7	49	24	0.697	0.077	0.547 to 0.847	0.678	0.080	0.522 to 0.835	-0.018	-0.106 to 0.069	0.681
	14	49	24	0.673	0.081	0.513 to 0.832	0.663	0.083	0.501 to 0.826	-0.009	-0.064 to 0.046	0.743
	28	46	23	0.745	0.073	0.601 to 0.888	0.764	0.072	0.623 to 0.905	0.019	-0.049 to 0.087	0.588
Any BPD	1	53	38	0.758	0.081	0.600 to 0.916	0.693	0.088	0.521 to 0.865	-0.065	-0.205 to 0.075	0.363
	3	52	38	0.779	0.087	0.609 to 0.950	0.675	0.105	0.469 to 0.881	-0.104	-0.253 to 0.045	0.170
	7	49	38	0.754	0.108	0.542 to 0.965	0.775	0.082	0.614 to 0.936	0.022	-0.155 to 0.199	0.812
	14	49	38	0.816	0.090	0.639 to 0.992	0.823	0.080	0.666 to 0.980	0.007	-0.142 to 0.157	0.925
	28	46	37	0.755	0.104	0.551 to 0.959	0.766	0.108	0.554 to 0.978	0.011	-0.119 to 0.140	0.873

Abbreviations: AUC, area under the receiver operating characteristic curve; BPD, bronchopulmonary dysplasia; SE, standard error. Δ AUC = NICHD 2022 – NICHD 2011. p values are from the paired DeLong test.

Exploring Outcomes for Infants with Surgical Necrotising Enterocolitis: A Systematic Review of Surgical Interventions and Patient Characteristics Associated with Mortality.

Guillot Lozano A¹, Laviola A¹, Hosking J¹, Walker K¹, Bunn L¹

¹University of Plymouth

Background: Surgical necrotising enterocolitis (sNEC) and spontaneous intestinal perforation (SIP) remain leading causes of neonatal morbidity and mortality. However, evidence on the optimal surgical strategy and the combined impact of clinical and surgical factors remains limited.

Objective: To systematically assess the association between surgical approach, timing, indications, gestational age, birthweight, and SIP diagnosis on mortality in infants undergoing surgery for sNEC or SIP.

Methods: A systematic review following PRISMA guidelines was conducted, using a registered protocol. Databases were searched to February 2025. Twenty-nine studies (two randomised controlled trials, twenty-seven observational) were included. Mortality data were synthesised through random-effects meta-analyses when appropriate; otherwise, narrative synthesis was applied.

Results: Laparotomy was the most frequent surgical approach. Pooled analysis indicated higher mortality with peritoneal drainage than with laparotomy (hazard ratio, 4.28; 95% CI, 1.62–11.27; $p=0.0033$). Dichotomous mortality also favoured laparotomy (log risk ratio -0.68; 95% CI -1.47 to -0.12). However, interpretation was limited by substantial heterogeneity and likely confounding by indication. Surgical timing data available for synthesis (<48h vs >48h) showed no significant difference (log odds ratio 0.32; 95% CI -0.58 to 1.22). Nonetheless, timing constructs varied across studies and were not clinically equivalent, limiting more extensive synthesis. Suspected necrosis and failed medical treatment were associated with higher mortality. Lower gestational age and birthweight consistently predicted poorer outcomes.

Conclusion: Current evidence does not establish the superiority of one operative strategy over another. Rather, it suggests that mortality in sNEC and SIP is influenced by interacting patient, disease, and operative factors that were inconsistently reported across studies. Gestational age and birthweight remain strong prognostic indicators. Standardised definitions and data collection are therefore needed to support future adjusted analyses and more informative comparative evidence.

Graphs

sNEC Figure 2 v2 - surgical approach meta analysis.pdf (could not be inserted)

Image

sNEC Figure 3 - indications for surgery.docx (could not be inserted)

Clinician experiences of neurological examination for hypoxic ischaemic encephalopathy in the Northwest region

Ollerenshaw R¹, Anders N², Mahaveer A^{1,2}

¹St Mary's Hospital, Manchester University Nhs Foundation Trust, ²North West Neonatal Operational Delivery Network

Background:

Affecting 1-3.5/1000 births, hypoxic-ischaemic encephalopathy (HIE) is a major cause of neurodisability and mortality. Therapeutic hypothermia (TH) is an evidence-based treatment only for moderate-severe HIE. National guidance states: "TH for... mild HIE is not recommended outside clinical trials." However, in 2023–2024, 98 infants across the Northwest neonatal operational delivery network (NWNODN) were treated with TH; 24% were subsequently classified as having mild HIE. This raises concern about misclassification at presentation or overtreatment, both of which expose infants and families to avoidable procedures, transfers, and distress. We hypothesised that variation in neurological examination for HIE is a driver of this drift.

Methods:

A questionnaire investigating clinicians' knowledge and experience of neurological examination for HIE was distributed via email to the Northwest deanery and 22 NWNODN units for onward dissemination to clinicians. Engagement with the survey was boosted by posters and social media promotion.

Results:

Despite 66 of 78 (84.6%) respondents being aware of a standardised neurological examination, 29% of tier-2s and 25% of tier-1s reported using non-standardised assessment for babies with HIE. Over 2/3 of respondents reported they had not had chance to practice a neurological examination with feedback; 33% of these respondents used a non-standardised examination vs only 4% of respondents who had had a chance to practice. Practice was associated with a higher confidence in ability to conduct a neurological examination and to grade HIE (see table). Of those who commented on the style of teaching half had local ad-hoc teaching and half had formalised teaching as part of a research study.

Conclusions:

Although not powered for significance, trends in data suggest that practicing a neurological examination for HIE with feedback improves confidence and use of standardised assessment in grading HIE. The authors plan to improve network use of standardised assessment through delivery of a teaching package.

Image

Demographics					
<i>Respondents</i>	<i>Consultant</i>	<i>Paediatric trainee</i>	<i>Locally employed doctor</i>	<i>Advanced neonatal nurse practitioner</i>	<i>Physicians associate</i>
78 (100%)	25.6%	55.1%	7.7%	10.3%	1.3%
Rota worked					
<i>Respondents</i>	<i>Tier 1</i>	<i>Tier2</i>	<i>Tier 3</i>	<i>Hybrid rota tier2/3</i>	
78 (100%)	25.6%	48.7%	24.4%	1.3%	
<i>Aware of a standardised neurological examination</i>	90%	74%	100%	100%	
<i>Use of a standardised examination to assess babies with HIE</i>	70%	63%	89%	100%	
Confidence					
1= not confident at all 5= extremely confident	Those who had practiced a neurological examination with feedback (average)		Those who had not practiced a neurological exam with feedback (average)		
<i>Confidence in ability to conduct a neurological examination for HIE</i>	4.28		3.7		
<i>Confidence in ability to assign grade to a baby with HIE</i>	4.12		3.46		
<i>Proportion of respondents</i>	32.5%		67.5%		

Congenital Complete Atrioventricular Block in a 25+2 Week, 827 g baby: Limitations of Pacing at the Extreme Limits of Viability

Atyia A¹, Mohamed A¹

¹Diana Princess Of Wales Hospital, NLaG

Background: Congenital Complete Heart Block (CCHB) is a rare foetal and neonatal conduction disorder, most frequently linked to maternal anti-SSA/Ro or anti-SSB/La antibodies. Antenatal identification may allow planned delivery and postnatal pacing; however, presentation as foetal bradycardia can create diagnostic uncertainty between acute foetal compromise and established heart block, directly influencing delivery timing and subsequent management options.

Case Report: A female infant was delivered at 25+2 weeks' gestation with a birth weight of 827g following an emergency caesarean section for sudden foetal bradycardia identified during a routine antenatal review. At the presentation, the underlying diagnosis was uncertain, and acute foetal distress was initially suspected rather than CCHB.

At birth, the infant required extensive resuscitation, including chest compression, for bradycardia. The heart rate remained at 60 bpm even though the ET tube was in the correct position and adequate oxygenation was provided. An ECG recording at this point confirmed the CCHB.

Echocardiogram showed a structurally normal heart.

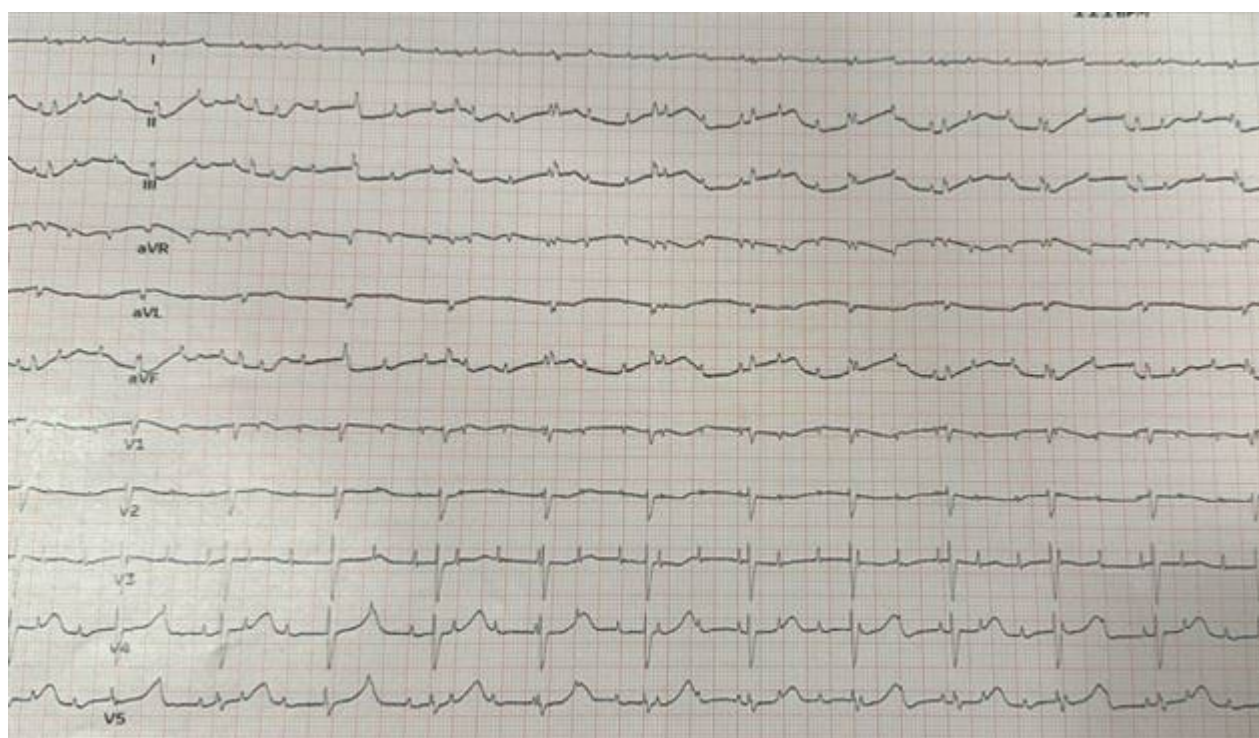
Despite early inotropic support with isoprenaline and transfer to a tertiary cardiac centre within 9 hours of life, the infant developed rapidly progressive ventricular dysfunction with refractory low cardiac output and multi-organ failure.

Multidisciplinary meeting with the cardiology team determined that permanent pacing was not feasible due to extreme prematurity, very low birth weight, and profound physiological instability. Care was redirected to palliation, and the infant died on day 3 of life.

Conclusion: This case highlights how diagnostic uncertainty between foetal distress and CCHB at 25+2 weeks can critically alter the timing of delivery and eliminate potential eligibility for pacing.

Subsequent maternal anti-Ro positivity confirmed immune-mediated disease. The report underscores the importance of improving the antenatal recognition of foetal arrhythmias to guide delivery decisions and expand therapeutic options within the limits of viability.

Image



Collodion Baby Presenting at Birth: A Case Report and Review of Early Neonatal Management

Pathan S¹, Ghias S¹, Mushtaq S¹

¹Pilgrim Hospital ULTH

Background

A collodion baby is a rare neonatal phenotype characterized by the presence of a taut, shiny membrane covering the skin at birth. It is most commonly associated with autosomal recessive congenital ichthyosis (ARCI) and may result in significant neonatal morbidity due to impaired epidermal barrier function. Potential complications include dehydration, electrolyte imbalance, hypothermia, respiratory compromise, infection, feeding difficulties, and ocular abnormalities.

Case Presentation

We report the case of a female infant delivered at 37+3 weeks' gestation by category 2 caesarean section for breech presentation. Antenatal imaging was unremarkable. At birth, she was noted to have generalized ichthyotic skin changes with a taut collodion membrane involving the scalp, face, trunk, and limbs. Associated findings included bilateral ectropion, eclabium ("fish-mouth" appearance), and absence of eyelashes. Shortly after birth, she developed oxygen desaturation requiring supplemental oxygen and admission to the Special Care Baby Unit.

Discussion

Collodion baby is a rare but important neonatal dermatological emergency. Although it represents a transient phenotype rather than a definitive diagnosis, most affected infants ultimately receive a diagnosis within the spectrum of inherited ichthyosis disorders. Mutations involving genes such as TGM1, ABCA12, ALOX12B, ALOXE3, and NIPAL4 have been implicated in disease pathogenesis.

The principal clinical concern during the neonatal period relates to severe impairment of epidermal barrier function. Excessive transepidermal water loss predisposes infants to dehydration, electrolyte disturbances, hypernatraemia, hypothermia, and poor weight gain.

Conclusion

Collodion baby is a potentially serious neonatal presentation associated with significant morbidity arising from impaired skin barrier function. Early diagnosis, supportive care, vigilant monitoring for complications, and multidisciplinary management are critical to achieving favourable outcomes. This case demonstrates successful management of a collodion baby with respiratory compromise, severe ectropion, transient coagulopathy, and renal dysfunction. In addition to optimizing neonatal outcomes, family-centred care, parental education, and psychological support remain essential components of management.

Image



Neonatal Hydrocolpos Secondary to Imperforate Hymen: A Rare Cause of Vulval Mass and Urinary Obstruction

Mohammed A¹, Awad O, Awad O¹

¹Diana Princess Of Wales Hospital

Background:

Imperforate hymen is a rare congenital anomaly, with an estimated incidence of 0.014–0.1%, most commonly presenting during adolescence with primary amenorrhoea. Neonatal presentation with hydrocolpos is uncommon but may lead to significant complications, including urinary tract obstruction and sepsis.

Case Presentation:

A term female infant was born at 41 weeks' gestation and initially appeared well after birth. She underwent septic screening and was started on antibiotics because of maternal sepsis. At 13 hours of age, she developed recurrent non-bilious vomiting. She did not pass urine but did pass meconium. Examination revealed a cystic bulge protruding from the vulva and the bladder was palpable. The patient was discussed with the paediatric surgical team at tertiary care due to possible bladder obstruction from the cyst and was transferred for further management.

Ultrasound imaging demonstrated a large hydrocolpos measuring 4.5 × 9 × 3.8 cm, with an estimated volume of 80 mL, associated with partial uterine distension. The bladder was compressed anteriorly, while the kidneys appeared normal without hydronephrosis. Initial catheterisation was performed, followed by hymenotomy on day 2 of life, with a good clinical outcome, and the patient was subsequently discharged home.

Hydrocolpos results from the accumulation of secretions within an obstructed vagina under the influence of maternal oestrogen. This condition may be evident in the antenatal scan as a midline cystic mass with echogenic debris. Apart from obstructive uropathy, it can cause serious complications like inferior vena cava syndrome by obstructing the venous return.

Conclusion:

This case highlights the importance of careful newborn examination and awareness of rare neonatal presentations of imperforate hymen. A hydrocolpos should be considered one of the differentials in a female infant presenting with obstructive uropathy and a mass in the vaginal orifice. Prompt diagnosis and surgical management result in an excellent outcome.

Image



Respiratory Outcomes Following Antenatal Corticosteroid Exposure in Planned Caesarean Births at 35+0 to 38+6 Weeks Gestation: A Cohort Comparison of 2021 and 2025

Campbell C¹, Foreman K²

¹Princess Royal Maternity Hospital, ²Princess Royal Maternity Hospital

Background:

Antenatal corticosteroids (ACS) have been shown to reduce the incidence of respiratory problems in babies born by planned caesarean birth (PCB). The requirement for respiratory support has also been shown to be lower in babies who received ACS compared to those who did not. In 2022, guidance from the Royal College of Obstetricians and Gynaecologists changed from recommending ACS administration to all PCBs below 39 weeks, to advising that administration should be considered at gestations of 35+0 to 38+6 weeks and the potential benefits and risks be discussed with families.

Aims:

The aim of this study is to evaluate the correlation between ACS use and respiratory morbidities/length of time required on respiratory support and length of stay in the NNU in a cohort before the guidance change compared to a cohort after the guidance change.

Methods:

Data was extracted from BadgerNet regarding the birthweight, sex, reason for PCB, respiratory diagnoses, length of time and type of respiratory support used, and length of time in the NNU. The course status of ACS each of these babies received was also noted. This data was collected for a total of forty-five babies from the years 2021 and 2025.

Results:

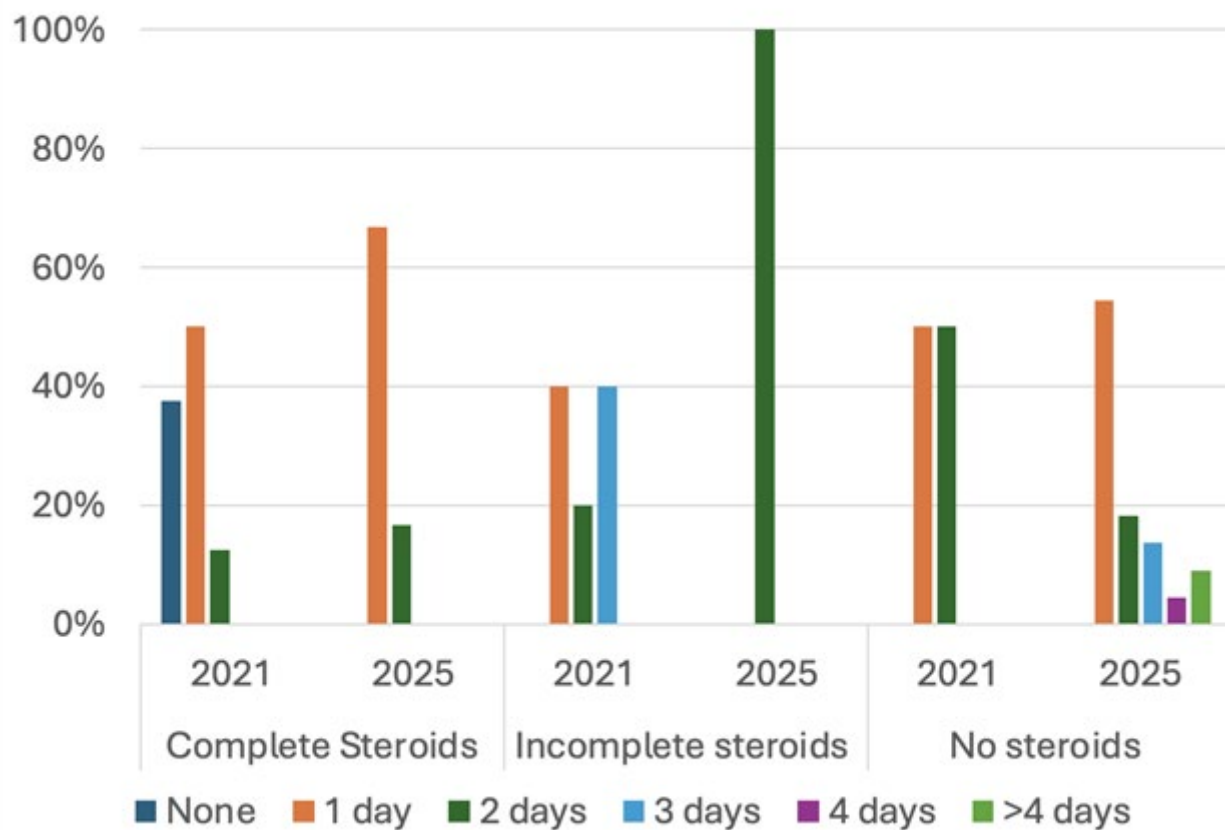
The two different cohorts were similar in number of infants at each gestation and overall numbers of PCBs. In 2021, 86% of all PCBs received a complete course of ACS, whereas in 2025 this fell to 29%. In 2021, 15 (5%) of infants were admitted compared with 30 (9%) in 2025.

Conclusions:

This small study shows trends that suggest a complete course of ACS can improve respiratory outcomes for babies born by PCB between 35+0 and 38+6 weeks. It is important to consider the benefits of ACS when having a PCB between 35+0 and 38+6 weeks to reduce the incidence of respiratory morbidities.

Graphs

Steroid Use + Length of Respiratory Support



SURVIVE 2-Trial - Sustained inflation and chest compression versus 3:1 chest compression to ventilation ratio during cardiopulmonary resuscitation of asphyxiated newborns – a multi-centre, international cluster randomized control trial

Quine D¹, Monnelly V¹, Rorhr C², Schmolzer G³

¹Nhs Lothian, ²North Bristol NHS Trust, ³Royal Alexandra Hospital Canada

Background: 0.1% of term newborns and up to 15% of preterm newborns receive cardiac compressions at birth. Worldwide 2 million newborns receive chest compressions (CC) and ~1 million newborns die annually. Newborns receiving CC have a high incidence of morbidity. Current guidelines suggesting coordinated 3:1 compression to ventilation (C:V) ratio, are extrapolated from adult trials, while highlighting the urgent need for further research. This trial is designed to see if improved cardiopulmonary resuscitation (CPR) methods specifically tailored to the newborn could improve outcomes. CC with 3:1 (C:V) ratio causes de-recruitment of the lung with reduced mean tidal volume loss of 4.1mL/kg per 3:1 C:V cycle compared with chest compression superimposed with sustained inflation (CC+SI). This impairs oxygenation and delays return of spontaneous circulation (ROSC). Animal and small human studies have variously demonstrated that combining CC with ventilations improves ROSC, reduces mortality and improves neurological outcomes.

Methods: This multi-centre cluster randomized clinical trial (PICUT) P In newborns between 28 to 43 weeks presenting with cardiac arrest at birth I does providing CC+SI C compared to 3:1 C:V O decrease the incidence of neonatal mortality T within initial hospital stay?

Primary hypothesis: The hypothesis for this study is that the incidence of neonatal mortality within initial hospital stay of life will be lower with CC+SI compared 3:1 C:V in newborns at birth. **Secondary hypotheses:** The benefits associated with CC+SI will reduce time to return of spontaneous circulation and improve short- and long-term outcome.

In the trial, participating centres will change their local hospital policy to either 3:1 C:V or CC+SI as per randomization to enrol up to 12 infants for up to two years. To enrol the next 12 infants for up to 2 years, participating centres will change their local hospital policy to the other arm with CC+SI or 3:1 C:V.

Respiratory distress and congenital hypothyroidism as a presentation of Brain-Lung-Thyroid Syndrome in monochorionic premature twins

O'Neill C¹, Becher J^{1,2,3}, Campbell J^{1,4}, Miles H^{1,5}

¹NHS Lothian, ²Simpson Centre for Reproductive Health, ³University of Edinburgh, ⁴South East Scotland Clinical Genetics Service, ⁵Royal Hospital for Children and Young People

Background

Brain-Lung-Thyroid syndrome is a rare autosomal dominant condition with a variety of clinical phenotypes due to pathogenic variants in the Thyroid Transcription Factor (NKX2-1) gene. Its presentation varies but includes hypothyroidism, infant respiratory distress syndrome, and neurological manifestations including chorea.

We describe preterm monochorionic twins diagnosed with Brain-Lung-Thyroid syndrome following an initial presentation with suspected respiratory distress syndrome. Written parental consent was given for this submission.

Presentation

Monochorionic twin girls were born via emergency C-section at 34 weeks following a reduction in fetal growth velocity. Despite an optimal course of maternal antenatal steroids, both twins required respiratory support and surfactant for presumed respiratory distress syndrome. They showed an ongoing, atypical requirement for respiratory support over several weeks which was attributed to bronchopulmonary dysplasia in the first instance.

Routine newborn screening revealed congenital hypothyroidism. In view of dual respiratory and endocrine pathologies, genetic analysis was undertaken which identified a de novo NKX2-1 gene mutation (c.464-1G>A p.(?)). A diagnosis of Brain-Lung-Thyroid syndrome was made.

Cranial ultrasound scans were normal in both. One twin had an MRI scan which showed an isolated slender corpus callosum.

They required home oxygen until 10 and 20 months of age respectively. At 27 months of age, both have faltering growth, hypotonia, and significant developmental delay. Each has had two short hospital admissions with respiratory illness, and one twin has developed early onset scoliosis requiring bracing.

Discussion

This case highlights the challenges in considering the differential diagnosis of infant respiratory distress, particularly in preterm infants where signs are likely to be attributed to immature lung development. While phenotypic variation within the same family is commonly described in this condition, both the presentation and trajectory have been largely similar in these genetically identical twins.

Changes in surgical approach to necrotising enterocolitis and spontaneous intestinal perforation in preterm infants

Clachers M¹, Walker G, Simpson J

¹Nhs Greater Glasgow And Clyde

Background: Surgery for necrotising enterocolitis (NEC) or spontaneous intestinal perforation (SIP) involves bowel resection ± creation of a temporising enterostomy or re-anastomosis. More recently an earlier, staged approach has been advocated, aiming to preserve bowel and improve outcomes. We review changes over time in surgical approach to NEC and SIP in a single surgical centre.

Methods: Retrospective review of infants born <32 weeks gestation with surgical NEC or SIP over a 14 year period. Data collected from Badgernet and medical records with local Caldicott Guardian approval. The cohort was split into two time epochs, 2012-2018 and 2019-2025 for comparative analysis.

Results: In the NEC cohort there was a significant reduction in single laparotomies and a concomitant increase in repeat/re-look procedures over the two time epochs (Table 1). Contemporaneously there was a reduction in enterostomy formation and increase in primary anastomoses (Table 1). There was a non-significant increase in survival over time, although in both time epochs 20-25% of cases were deemed to have non-viable bowel by the time they underwent surgery.

In the earlier SIP cohort the majority (82.5%) had an enterostomy created at a single laparotomy, none had a primary anastomosis and three were managed conservatively, all of whom survived (Table 1). In the later group 62.5% had an enterostomy and a quarter had a primary anastomosis, all at a single laparotomy. None were managed conservatively.

Conclusions: Our data demonstrate changes in surgical practice over time, with more repeat / re-look procedures in the NEC group and an increase in primary anastomoses in both NEC and SIP groups. Notably in a significant number of NEC cases the bowel was already unsalvageable by the time of surgery. Further research is required to explore the impact of evolving surgical practice on survival and longer term bowel / neurological outcomes.

Image

Table 1. Differing approaches to surgery for NEC and SIP over 2 time epochs

NEC			
	2012-2018 (n=40)	2019-2025 (n=43)	P value
Survival	23 (57.5)	28 (65.1)	0.479
Single definitive laparotomy	33 (82.5)	17 (39.5)	0.0001
Repeat "re-look" laparotomies	6 (15)	23 (53.5)	0.0003
Enterostomy creation	27 (67.5)	16 (37.2)	0.006
Primary anastomosis	2 (5)	15 (34.9)	0.0008
Bowel deemed non-viable at surgery	10 (25)	9 (20.9)	0.659
Abdominal drain only	0	2 (died)	NA
Unfit for any intervention (PM diagnosis)	1	1	NA
SIP			
	2012-2018 (n=23)	2019-2025 (n=24)	P value
Survival	19 (82.6)	19 (79.2)	0.769
Enterostomy creation	19 (82.6)	15 (62.5)	0.128
Primary anastomosis	0 (0)	6 (25)	0.011
Over sewn	1	0	NA
Abdominal drain only	1 (survived)	0	NA
No intervention	2 (both survived)	3*	NA

Data presented as number (percent)

* Decision not to offer surgery in view of co-existing preterm morbidities

Understanding sibling support experience at Nottingham University Hospitals' Neonatal Units

Beckham L¹, Kruger R¹, Thompson B¹, Hay N¹, Waterfall J¹, Partridge M¹, Nash P¹, Sharma A¹

¹Nottingham University Hospitals NHS Trust

Background:

Having a baby admitted to a neonatal unit (NNU) is highly stressful for parents (Lean et al., 2018). Supporting older siblings adds further pressure, as they experience separation from parents (Trajkovski, 2025), disruption to routines, and loss of familiar coping mechanisms and peer support. These challenges can negatively affect siblings' mental wellbeing and development (Milozzi, 2025). Despite this, effective sibling support remains underexplored (van Wyk, 2024). Family Integrated Care (FiCare) improves neonatal and parental outcomes, but often overlooks sibling involvement. Having no nationally agreed framework, there is variable provision between NNUs, with Nottingham lacking structured sibling support.

Aim:

To evaluate staff and family experiences of sibling support at Nottingham University Hospitals (NUH) NNUs.

Method:

A multi-professional working group was established at NUH with involvement from Maternal Neonatal Voices Partnership. Questionnaires were developed for staff and families to explore experiences of sibling support, and voluntary participation advertised via social media and staff email groups. Questionnaires were completed individually by staff or collaboratively by family units. Thematic analysis of the narrative data was performed.

Results:

Ten staff members and ten families participated, including 17 siblings aged 1–20 years (median 5 years). Thematic analysis identified 8 themes. Three positive features included: (1) importance of staff support, (2) value of family-friendly spaces and (3) enabling sibling-sibling connection. Five key areas for development were identified: (4) limited resources and engagement for siblings, (5) lack of guidance and education tailored to siblings, (6) environmental and logistical barriers, (7) staff resource constraints, and (8) the emotional impact of family separation.

Conclusions:

Staff support, family-friendly environments, and opportunities for sibling connection positively influence experiences and should remain priorities. However, significant barriers persist. A more comprehensive approach to family-centred care is needed, with increased investment and sharing of good practice at individual, organisational and national levels.

Image

Illustrative Quotes from Thematic Analysis of Sibling Support Experience at NUH Neonatal Units

Theme	Subtheme	Illustrative Quotes (Participant)
1. Importance of staff support	Compassionate interpersonal care	"Staff was very welcoming" (Parent) "The nurses are kind" (Sibling)
	Individualised engagement	"N was amazing bringing them small toys... and talking to them!" (Parent)
	Role modelling and communication	"We need to remember that how we say things... makes an impression" (Staff)
2. Family-friendly spaces	Non-clinical environments	"He also enjoyed the books in the family room." (Parent) "Room with a kitchen/seating area... didn't feel so medical" (Parent)
	Outdoor and flexible spaces	"small walks outside and to the local park" (Parent) "Private garden... helped us to reconnect as a family" (Parent)
3. Enabling sibling-sibling connection	Facilitating interaction with baby	"Lower incubator... clear view of their sick sibling" (Staff) "I like holding my sister." (Sibling)
	Shared activities and memory-making	"Putting a teddy I'd bought for my sister into her incubator" (Sibling) "Craft trolley... adding to memory book" (Parent)
3. Limited resources and engagement for siblings	Lack of age-appropriate activities	"There wasn't much for older children and teens" (Parent)
	Poor-quality resources	"Toys are old and bits missing" (Parent)
	Boredom and disengagement	"I was bored most of the time" (Sibling)
	Inconsistent provision	"other than that there wasn't anything" (Parent)
4. Lack of guidance and education tailored to siblings	Limited child-focused explanations	"Kids: someone to explain what neonatal was about" (Parent)
	Parental uncertainty	"Ideas for how to involve our children" (Parent)
	Need for practical instruction	"Checklist how to handle my baby brother" (Sibling)
	Informal staff explanations	"Simple explanations on the attachments" (Staff)
5. Environmental and logistical barriers	Space and layout limitations	"Not much space... felt intrusive for other families" (Parent)
	Supervision challenges	"Impossible to take my toddler whilst I was by myself" (Parent)
	Behavioural restrictions	"Keep them quiet... which was hard" (Parent)
	Hospital environment	"Hospitals are scary places anyway" (Staff)
6. Staff resource constraints	Workload pressures	"Not much capacity" (Staff) "Depends on the workload" (Staff)
	Lack of formal roles/processes	"This sort of capacity is not in the shift work pattern" (Staff)
	Safeguarding concerns	"Safeguarding issue... looking after a stranger's child" (Staff)
7. Emotional impact of family separation	Parental distress and guilt	"Heartbreaking... only able to see my baby for an hour a day" (Parent)
	Trauma and disruption	"Exceptionally traumatic... forced separation" (Parent)
	Sibling fear and avoidance	"She did not like seeing her in the incubator" (Parent)
	Divided parental attention	"Parents have to split their attention" (Staff)
	Separation distress in siblings	"Leaving mum" (Sibling)

Post-operative Use of Neurally Adjusted Ventilatory Assist (NAVA) in Infants with Congenital Diaphragmatic Hernia

Choudhary R¹, Ganguly S¹, Duffy D¹, Kulkarni A¹, Shetty S^{1,2}

¹St George's University Hospitals NHS Foundation Trust, London, United Kingdom, ² City St George's University of London, London, United Kingdom

Background: Neurally adjusted ventilatory assist (NAVA) synchronises ventilatory support with the patient's neural respiratory drive, potentially improving patient–ventilator interaction, reducing asynchrony, and facilitating weaning. Its postoperative use in infants with congenital diaphragmatic hernia (CDH) has shown promise, but evidence of real-world clinical outcome benefit remains limited

Objective: To determine whether the postoperative use of NAVA improved clinical outcomes in infants with CDH compared to a historical cohort managed with conventional ventilation strategies.

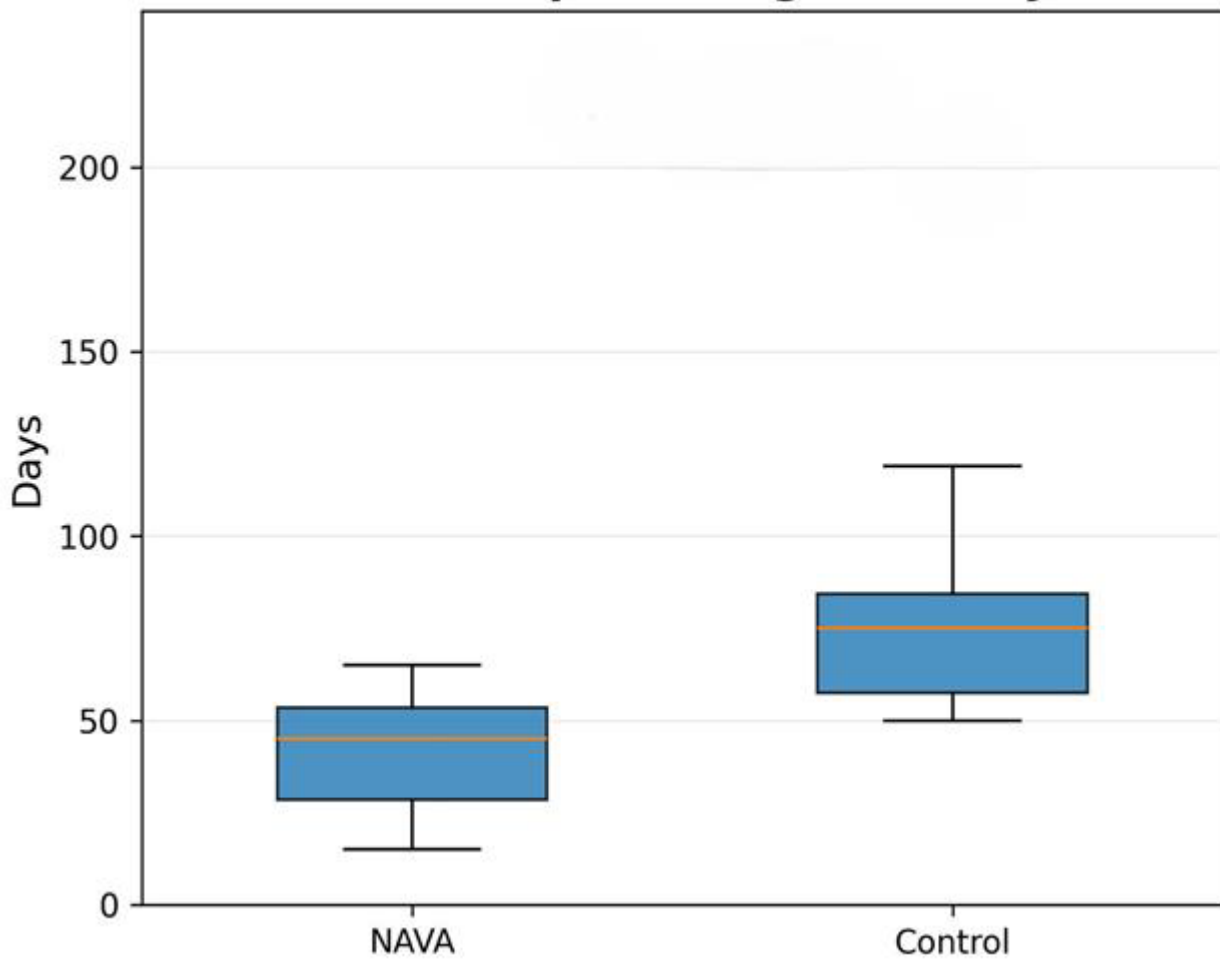
Methods: A retrospective cohort study was conducted at St George's University Hospitals NHS Foundation Trust, London, involving 21 infants with CDH (NAVA, n=7; controls, n=14). NAVA was introduced in 2019; infants managed with NAVA between 2021 and 2025 were matched with two historical controls managed with conventional invasive and non-invasive ventilation between 2015 and 2021. Controls were matched for gestational age, birth weight, sex, lung-to-head ratio (LHR), and CDH laterality. Use of inhaled nitric oxide, milrinone, and inotropic support was also similar, suggesting comparable pulmonary hypertension severity. CDH management protocols remained unchanged throughout the study period.

Results: Infants managed with NAVA had a significantly shorter median total hospital LOS compared to controls (45 vs 75 days; $p = 0.038$), representing a 40% reduction. The median overall duration of ventilatory support was significantly shorter in the NAVA group (37 vs 46 days; $p = 0.038$), representing a 20% reduction. The duration of invasive ventilation was lower but did not reach statistical significance (12 vs 20 days; $p = 0.079$). The median duration of non-invasive ventilation was 15 days in the NAVA group compared to 24.5 days in the control group ($p = 0.056$).

Conclusion: Postoperative NAVA was associated with significantly shorter hospitalisation and reduced duration of ventilatory support in infants with CDH, suggesting improved respiratory recovery and earlier discharge readiness. Larger prospective multicentre studies required to confirm these findings.

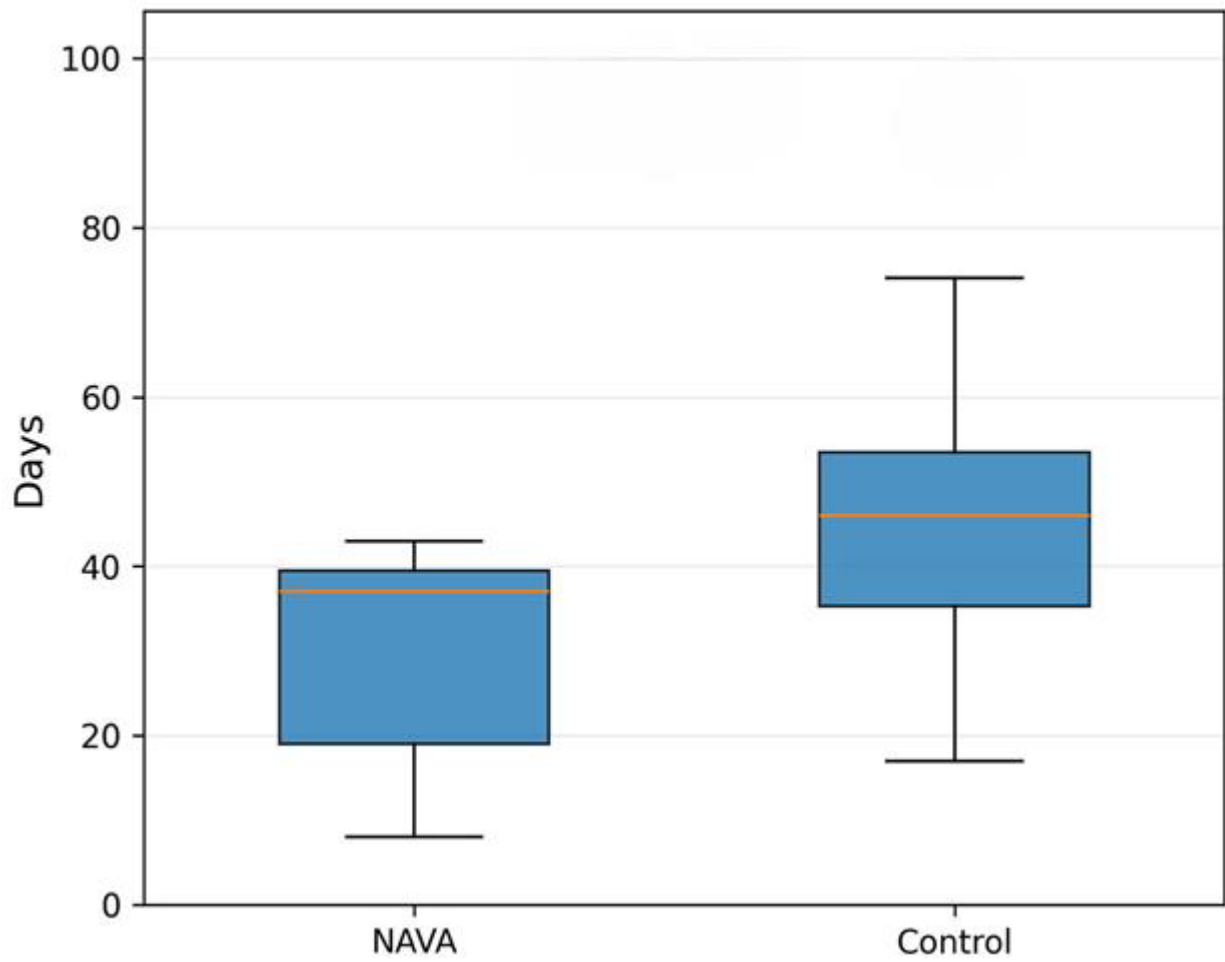
Graphs

Total Hospital Length of Stay



Image

Overall Ventilation Duration



Rapid Expansion of Less Invasive Surfactant Administration in England: A National Survey

Patrawala S¹, Gowda H¹, Sakaya Stephen Ray N¹, Gray H¹, Smidy - Wallis B¹, Smidt-wallis B, Turner M¹
¹Birmingham Heartlands Hospital, NICU

Background and Aim:

Less invasive surfactant administration (LISA) enables surfactant delivery to spontaneously breathing preterm infants on non-invasive respiratory support and is recommended in international guidelines for respiratory distress syndrome. A national survey in England (2018) demonstrated limited uptake. This study aimed to evaluate current practice and assess how LISA use has evolved over six years.

Methods:

A national survey of neonatal units in England was conducted between January and June 2025. The questionnaire closely replicated the 2017–2018 survey to allow direct comparison. Data collected included current use of LISA, gestational age eligibility, oxygen thresholds for surfactant administration, availability of guidelines, analgesia practices, and procedural setting. Responses were analysed descriptively and stratified by neonatal unit type.

Results:

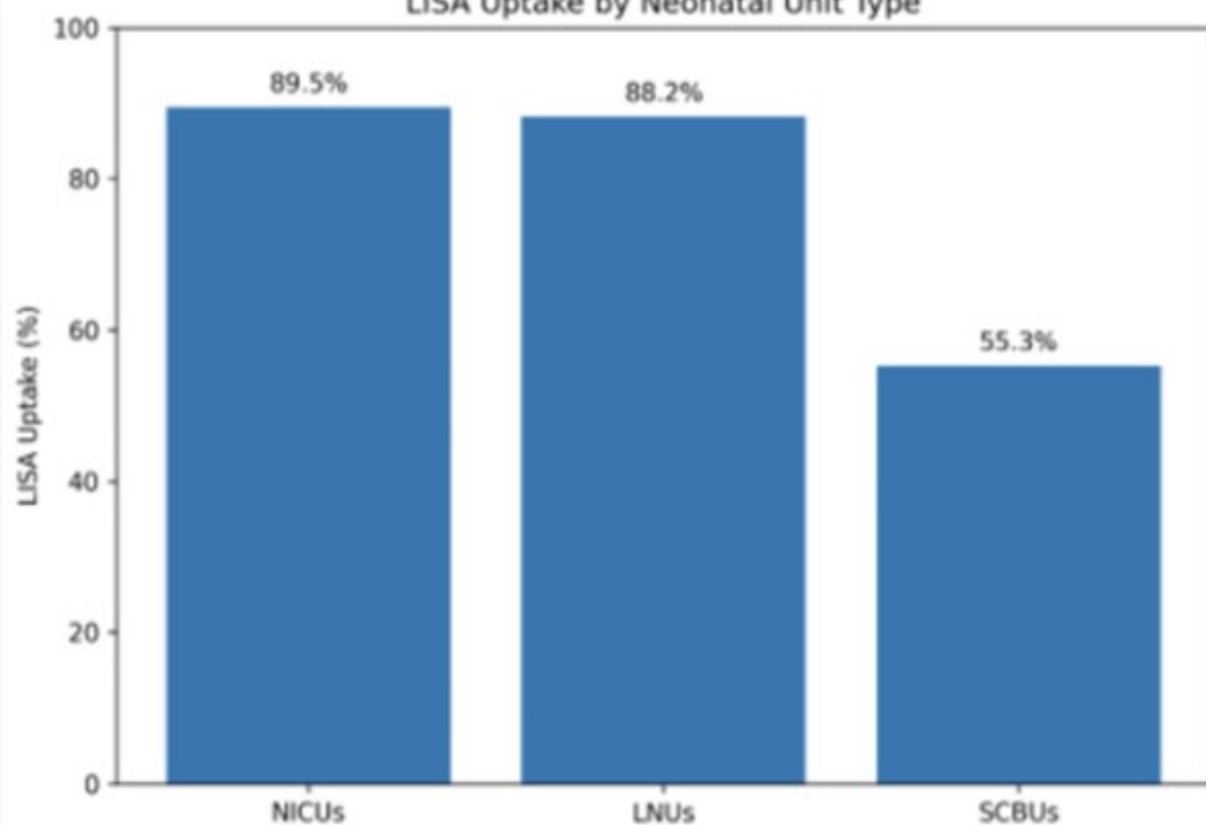
Responses were received from 146 neonatal units, with 144 included in analysis. Overall, 115/144 units (79.9%) reported current use of LISA, representing a substantial increase from 11% in 2018. Uptake was highest in neonatal intensive care units (NICUs) (34/38, 89.5%) and local neonatal units (LNUs) (60/68, 88.2%), with lower adoption in special care baby units (SCBUs) (21/38, 55.3%). Most units reported having local or regional guidelines in place. LISA was most commonly offered to infants born at $\geq 26/27$ weeks' gestation. Surfactant administration during non-invasive respiratory support was typically initiated at an inspired oxygen fraction (FiO_2) between 0.30 to 0.40. There was marked variation in analgesia practices, with non-pharmacological approaches most frequently used, pharmacological strategies differed widely. The procedure was most often performed on the neonatal unit.

Conclusion:

Use of LISA has increased substantially across neonatal units in England over the past six years, reflecting growing adoption of evidence-based practice. However, significant variation persists in eligibility criteria, analgesia use, and procedural setting. Development of national guidance and standardised protocols may help reduce variability and support consistent, high-quality implementation across all neonatal unit types.

Graphs

LISA Uptake by Neonatal Unit Type



Extubation Readiness in Extremely Preterm Neonates: Expanding the Predictive Framework Beyond Respiratory Parameters

Rafaqat A^{1,2}, Kopuri A¹, Susnerwala S¹

¹Neonatology Department, Latifa Women's and Children's Hospital, ²MBRU- Mohammed Bin Rashed University

Background: Extubation failure in extremely preterm neonates is associated with significant mortality, bronchopulmonary dysplasia, and prolonged ventilation. While existing prediction models routinely incorporate gestational age, respiratory severity score (RSS), and pre-extubation blood gas parameters, there is a need to better understand the combined impact of other clinical determinants. This study evaluates how haemodynamically significant patent ductus arteriosus (hsPDA), surfactant dose burden, antenatal steroid receipt, haemoglobin, pre-extubation CPAP trial outcome, sepsis, and airway colonisation interact as combined predictors in neonates born at less than 29 weeks gestation.

Methods: Retrospective cohort study of all neonates born at less than 29 weeks gestation, intubated and extubated at a tertiary NICU between 2023 and 2025. Extubation failure was defined as reintubation within 72 hours. Variables examined included gestational age, RSS in the first 6 hours of life, pre-extubation pH, pCO₂, haemoglobin, hsPDA status, surfactant doses received, antenatal steroid receipt, pre-extubation CPAP trial outcome, sepsis status, and airway colonisation.

Results: One hundred and nineteen extubation attempts were analysed. Median gestational age was 26 weeks (range 22 to 28). Antenatal steroids were received by 94 infants (77.7%). A pre-extubation endotracheal CPAP trial was performed in 20 infants (16.5%). Overall extubation success rate was 92.6% (n=112). Seven neonates failed extubation (5.8%). Failure rates were highest at 23 and 24 weeks (14.3% and 13.3% respectively). Infants without antenatal steroids had a higher failure rate (11.1% vs 4.3%). hsPDA carried a failure rate of 19.0% versus 4.5% without PDA. Median haemoglobin was lower in failures (11.2 vs 13.0 g/dL). Pre-extubation pH was lower in failures (7.31 vs 7.36) and RSS markedly higher (418 vs 291).

Conclusions: This study expands on traditional respiratory metrics by comprehensively evaluating the concurrent influence of hsPDA, surfactant burden, antenatal steroid receipt, haemoglobin, CPAP trial outcome, sepsis, and airway colonisation in exclusively extremely preterm neonates. The absence of antenatal steroids, presence of hsPDA, lower haemoglobin, and higher RSS demonstrated associations with extubation failure, highlighting the clinical utility of incorporating a broader multivariable prediction framework prior to extubation.

Graphs

BAPM_Abstract_Extubation study revised version (1).pdf (could not be inserted)

Accuracy of Standard Endotracheal Tube Positioning Formulas in Neonates with Congenital Diaphragmatic Hernia: A 16 years Retrospective Cohort Study

Haggag R¹, Elsaddig M¹, Fletcher J¹, Mankarious M¹, Shetty S^{1,2}, Kulkarni A¹

¹St George's Hospital, ²City St George's University of London

Background: Congenital diaphragmatic hernia (CDH) alters thoracic anatomy complicating airway management. Standard gestational age (GA), birth weight (BW), and Neomate based formulas are widely used, but their accuracy in CDH is uncertain.

Aim: To evaluate whether GA, BW, and Neomate based formulas accurately predict optimal ETT insertion depth in neonates with pre repair CDH.

Methods: A retrospective study of infants with CDH admitted between 2010–2026. Outborn infants, second admissions, and incomplete records were excluded. Initial intubation followed a GA based formula. ETT tip position was assessed radiographically, with optimal placement defined as 1 cm above the carina.

Primary outcomes: Accuracy of the different ETT depth prediction formulas and the proportion of optimal placements.

Secondary outcomes: Clinical factors associated with optimal positioning.

Predicted and adjusted depths were compared using the Wilcoxon test. Associations with clinical characteristics were analysed using χ^2 and Mann Whitney U tests.

Results: Of 123 infants identified, 92 met inclusion criteria. Standard formulas consistently underestimated required ETT depth. Median predicted lengths were 8.5 cm (8–8.5) for GA based, 9.06 cm (8.58–9.4) for BW based, and 8.5 cm (8.5–9) for Neomate formulas. The adjusted depth was significantly greater at 9.5 cm (9–10) (all $p < 0.001$). Mean underestimation was 1.15 cm (GA based), 0.53 cm (BW based), and 0.94 cm (Neomate based). Only 22/92 infants (23.9%) achieved optimal positioning, while 76.1% were suboptimal. Prenatal diagnosis was associated with malposition ($p = 0.018$), whereas GA, BW, and laterality showed no significant association.

Conclusion: These data show that standard formulas underestimate ETT length in pre-repair CDH, consistently producing high ETT positions and risking clinical instability. Carina-referenced placement may offer a more accurate target than absolute vertebral level. The link between prenatal diagnosis and malposition warrants further study, as it may reflect differences in intubation context or transport logistics.

Predictive Value of Delivery Suite SpO₂/FiO₂ Ratio for Mortality and Duration of Ventilation in Neonates with Congenital Diaphragmatic Hernia: A 16-Year Retrospective Study

Haggag R¹, Fletcher J¹, Mankarious M¹, Elsaddig M¹, Shetty S^{1,2}, Kulkarni A¹

¹St George's Hospital, ²City St George's University of London

Background: Congenital diaphragmatic hernia (CDH) is characterised by pulmonary hypoplasia and persistent pulmonary hypertension. While standard prognostic markers often require invasive sampling, the SpO₂/FiO₂ (S/F) ratio offers a non invasive alternative reflecting early oxygenation status. Recent studies suggest that oxygenation indices may predict outcomes in CDH.

Objective: To determine whether the best delivery suite S/F ratio (highest recorded) predicts mortality and duration of mechanical ventilation in neonates with CDH.

Methods: A retrospective cohort study of infants with CDH admitted between 2010–2026. Outborn infants, second admissions, and incomplete records were excluded. The highest delivery suite S/F ratio was analysed, with mortality assessed using the Mann Whitney U test and ventilation duration using Spearman's rho.

Primary outcome: Association between the best delivery suite S/F ratio and mortality.

Secondary outcome: Correlation between the best delivery suite S/F ratio and total duration of mechanical ventilation.

Results: Of 123 infants, 92 met inclusion criteria. The median best delivery suite S/F ratio was 99 (IQR 89–236). Seventeen infants (18.4%) died and 75 (81.6%) survived. Non survivors had markedly lower S/F ratios (89; IQR 75.5–96) than survivors (187; IQR 105–329) ($p < 0.001$). Survivors overall had a median S/F ratio of 143 (IQR 91.5–244). The S/F ratio showed good discrimination for mortality (AUC = 0.781) and was associated with mortality (OR = 0.988 per unit increase). There was a significant correlation between S/F ratio and ventilation duration ($\rho = -0.420$, $p < 0.001$). Median ventilation duration was 10 days (IQR 6.75–15).

Conclusion: The delivery suite S/F ratio is a valuable, non-invasive predictor of survival in neonates with CDH but does not reliably forecast ventilation duration. These findings support the use of delivery suite S/F ratio as an early non-invasive prognostic marker and may assist risk stratification and family counselling.

Perforated Neonatal Appendicitis: A 21-Year Retrospective Case Series

Elemam H¹, Varik R², Glen K², Schiff A², Mohammedi A¹

¹Royal Sussex County Hospital, Trevor Mann Baby Unit (TMBU), ²Royal Alexandra Children's Hospital
Background

Neonatal Appendicitis is a rare condition accounting for 0.04%-0.2% of all paediatric appendicitis. It has a non-specific presentation, which increases the risk of perforation to approximately 85% of cases. This case series describes three cases of perforated appendicitis presenting with abdominal signs.

Methods:

A retrospective case series analysis between 2005 to 2026 was done. Data was collected from BadgerNet and health board clinical records.

Case 1(2026)

33+2 weeks DCDA male twin born by caesarean section for abnormal CTG. On Day 5, he developed abdominal distension with clear aspirates. Abdominal X-ray was suspicious of pneumatosis intestinalis; he was transferred to the surgical center. Repeat X-ray showed pneumoperitoneum. Intraoperative findings revealed a necrotic, perforated appendix. Appendicectomy and stoma were performed. D65 stoma closure done, and on D72, he was fully fed and transferred to the local hospital.

Case 2(2015)

27+2 weeks female born by caesarean section. On Day 51 she developed abdominal distension and non-bilious vomiting. X-ray showed distended, thickened bowel loops with no perforation. She was transferred to the surgical center. Laparotomy revealed a gangrenous appendix, which was resected, and lavage was performed. Day 4 postoperatively, she was fully fed and transferred back to the local hospital.

Case 3(2010)

32+5 weeks male born by caesarean section. On Day 9, with abdominal distension and non-bilious vomiting, he was transferred to the surgical center for suspected NEC. The X-ray was inconclusive. Laparotomy revealed a perforated appendix with purulent peritonitis; appendicectomy with lavage was performed. By Day 15, he was fully fed and transferred back to the local hospital.

Discussion:

Neonatal appendicitis is a rare but important diagnosis presenting with signs like NEC with inconclusive investigations. Some case reports have shown an association with Hirschsprung's disease and cystic fibrosis. Further studies are needed to evaluate associations and long-term prognosis.

Real-world oscillatory frequency and amplitude use during rescue HFOV on the Dräger Babylog VN500: a longitudinal ventilator data analysis.

Bhat S¹, Belteki G¹

¹Cambridge University Hospitals NHS Trust

Background

Real-world continuous ventilator data during rescue neonatal HFOV are almost absent from the literature, particularly in extremely preterm infants with complex rescue indications.¹ As a hybrid ventilator, the Babylog VN500 carries frequency-dependent power limitations identified in bench studies,² the clinical relevance of which remains unknown.

Aim

To describe real-world oscillatory frequency and amplitude use during rescue HFOV on the Dräger Babylog VN500 across different gestation and weight groups using longitudinal ventilator-recorded data, and to contextualise findings against current theoretical guidance and known device performance characteristics.

Methods

Retrospective observational study of neonates receiving rescue HFOV at the NICU, Cambridge University Hospitals NHSFT. Ethical approval was obtained and all data were anonymised at the point of collection prior to analysis. Continuous Babylog VN500 ventilator data were analysed and categorised by weight and gestation group. Rescue indications included severe RDS in preterm or term infants, pulmonary haemorrhage, pulmonary hypoplasia, meconium aspiration syndrome, congenital diaphragmatic hernia, and primary or secondary PPHN.

Results

89 neonates, 63 analysed, 5828 hours of real-world HFOV data. The median oscillatory frequency was 12Hz in infants less than 28 weeks postmenstrual age, 10Hz in infants less than 1500g, 9Hz in infants greater than 1500g and 10Hz overall. The ventilator was only able to deliver large tidal volumes at low frequencies. A large diffusion coefficient of carbon-dioxide could also only be achieved at low (<11Hz) frequencies.

Conclusion

Frequency selection broadly reflected theoretical guidance,¹ with the highest frequencies used in the most immature infants. The power limitations of the Babylog VN500 potentially constrain application of physiological principles regarding optimal HFOV frequency during clinical care. These findings, derived from longitudinal real-world ventilator data, offer a uniquely powerful lens through which to understand current HFOV practice and provide a foundation for prospective studies examining optimal frequency and amplitude selection in rescue neonatal HFOV.

Graphs

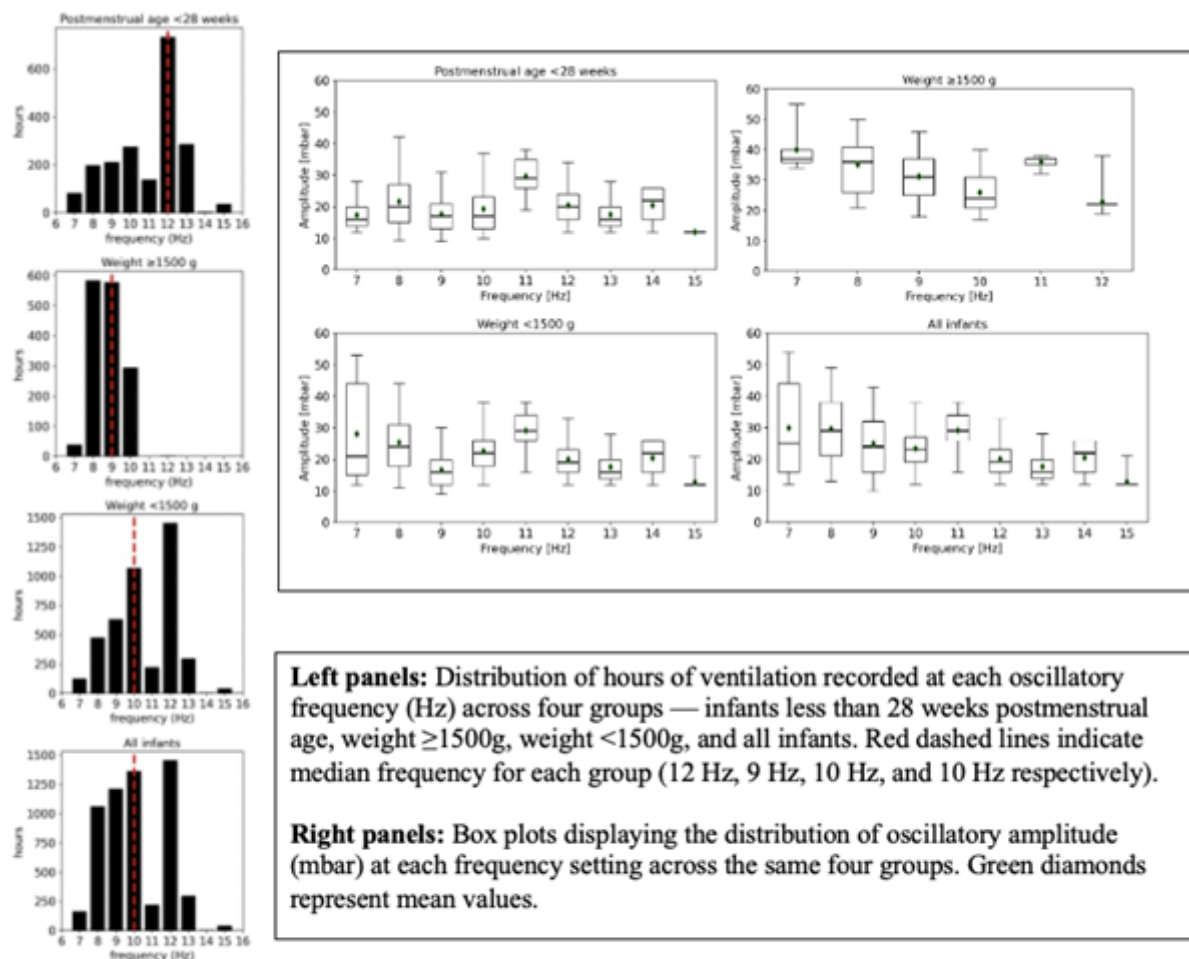


Figure 1. Real-world oscillatory frequency and amplitude use during rescue HFOV with Volume Guarantee on the Dräger Babylog VN500 (September 2015 – March 2026; 63 infants; 5828 hours of analysed data).

Image

References

1. Pillow JJ. High-frequency oscillatory ventilation: theory and practical applications. Lübeck: Dräger Werk AG & Co. KGaA; 2016.
2. Grazioli S, Karam O, Rimensberger PC. New generation neonatal high frequency ventilators: effect of oscillatory frequency and working principles on performance. *Respir Care*. 2015;60(3):363–70.

The 22 Week Study National Survey: Variation in clinical practice across UK Neonatal Intensive Care Units

McDermott H¹, Howarth C⁴, Tombling M⁵, Evans K⁶, McKinnon K^{7,8,9}, Gandhi R¹⁰, Fitzpatrick S¹¹, Harous A¹², Battersby C^{13,14}, NeoTRIPS 22 Week Group¹⁵

¹Kids Intensive Care and Decision Support/Neonatal Transfer Service (KIDSNTS), Birmingham Women's And Children's NHS Trust, ²Neonatal Department, New Cross Hospital, The Royal Wolverhampton NHS Foundation Trust, ³Imperial College London, ⁴Neonatal Department, Homerton Healthcare NHS Foundation Trust, ⁵Neonatal Department, Derriford Hospital, University Hospital Plymouth, ⁶Neonatal Department, Ashford and St Peters NHS Foundation Trust, ⁷Department of Child and Adolescent Psychiatry, Institute of Psychiatry, Psychology & Neuroscience, King's College London, ⁸Department of Early Life Imaging, School of Biomedical Engineering & Imaging Sciences, King's College London, ⁹Neonatal Department, Royal London Hospital, Barts Health NHS Trust, ¹⁰Neonatal Department, Kings College Hospital NHS Foundation Trust, ¹¹Neonatal Department, Lancashire Teaching Hospitals NHS Trust, ¹²Neonatal Department, Leeds Teaching Hospitals NHS Trust, ¹³Chelsea and Westminster Hospital NHS Foundation Trust, ¹⁴Section of Neonatal Medicine, School of Public Health, Faculty of Medicine, Imperial College London, ¹⁵Neonatal Trainee-Led Research and Improvement Projects (NeoTRIPs)

Background

The 22 Week Study consists of a national tertiary unit-level survey and prospective baby-level data collection across the UK, aiming to describe clinical management and short-term outcomes of babies born at 22 weeks.[1] We report findings from the survey.

Methods

The 70-question REDCap survey was completed 1st June 2025 - 31st May 2026 by the principal investigator or local lead, recruited through the neonatal resident doctors research network, NeoTRIPs. The study is registered in the UK, IRAS 346626.

Results

In total, 47/51 (92%) UK maternity NICUs completed the survey.

Departmental consensus on approaching survival-focused care (SFC) provision was reported in 30 (64%), most commonly guided by BAPM guidance alongside parental wishes. Approaches to parallel care planning varied.

There were specific unit protocols or guidance specifically for clinically managing babies born at 22 weeks in 10 (21%) units.

Figure 1 demonstrates variation in care practices and equipment. The most consistent practices were in administration of surfactant before chest xray, caffeine loading, incubator care and minimal use of routine echocardiography. Higher variation was seen in fluid and nutritional management, including starting fluid volumes, parenteral nutrition composition and timing of probiotics.

Equipment challenges were reported by 25 (53%) units, including lack of availability of the smallest laryngoscope blades, suction and umbilical catheters and nasal prongs for non-invasive ventilation, impacting practice including prolonging invasive ventilation.

Conclusions

This first UK-wide report for babies born at 22-weeks includes all tertiary neonatal units and highlights variation in practice alongside limited unit-specific guidance, reflecting the paucity of evidence in this population. These findings provide an important baseline for future evaluation and

highlight practical challenges within current service provision. Ongoing collaborative initiatives such as the BAPM Nanopreterm Group will help facilitate research and shared learning.

References

1. <https://neotrips.org/research/the-22-week-study/>

All collaborators shown online

Are neonates born with congenital gastrointestinal anomalies (CGIA) at greater risk of developing neurodevelopmental impairment (NDI) compared to neonates without CGIA? - A Systematic review

Kuttikottayil Joy O²

¹Nottingham University Hospitals, ²University of southampton

Background

Evidence regarding neurodevelopmental outcomes in neonates with congenital gastrointestinal anomalies (CGIA) remains inconsistent; while systematic reviews and older cohort studies suggest increased risks of NDI, learning difficulties and motor deficits, smaller single-centre studies frequently report predominantly normal developmental outcomes, creating uncertainty regarding the need for routine neurodevelopmental surveillance.

Aim

To evaluate the risk of early neurodevelopmental impairment in neonates born with CGIA and identify factors associated with adverse outcomes.

Methods

A systematic review was conducted in accordance with PRISMA 2020. Searches of PubMed, CINAHL, Web of Science, Google Scholar, the Cochrane Library and clinical trial registries identified studies published between 2015 and 2025. Following critical appraisal using JBI and CASP tools, eight studies met the inclusion criteria, comprising four mixed CGIA cohorts, three oesophageal atresia (OA) studies and one gastrointestinal atresia study.

Results

Higher-level evidence demonstrated increased rates of neurodevelopmental impairment in children with CGIA, particularly affecting motor and language domains, compared with controls. In contrast, cohort studies reported largely normal developmental outcomes, suggesting that risk may be concentrated within a clinically vulnerable subgroup. OA was consistently associated with poorer outcomes, with developmental deficits reported in 44–75% of infants and longitudinal studies demonstrating worsening motor performance with age. Short bowel syndrome, jejunoileal atresia and OA appeared to carry the highest neurodevelopmental risk. Factors associated with adverse outcomes included prolonged hospitalisation, respiratory support, multiple surgical procedures, feeding difficulties, prolonged parenteral nutrition and poor growth, while higher birth weight and breastfeeding at discharge appeared protective.

Conclusion

Although the evidence base remains limited, neonates with CGIA appear to be at increased risk of neurodevelopmental impairment, with risk driven by overall clinical complexity rather than anomaly type alone. Further prospective longitudinal studies focusing on individual anomaly groups are required to inform follow-up pathways and determine whether routine neurodevelopmental surveillance should be implemented.

Image

Clinical implications and way forward

Examine the current follow-up pathway for neonates with COA in the neonatal and surgical services.

Map out existing surveillance (like growth monitoring, physiotherapy, or speech referrals) and find what gaps lie in neurodevelopmental screening.

Audit- Retrospective review of infants with oesophageal atresia managed in the local unit for last 5 years.

Collect data on perinatal and postnatal factors (gestational age, birth weight, duration of ventilation, surgical procedures, length of hospital stay) and follow-up outcomes including growth (weight/height), speech and language therapy referral and physiotherapy involvement.

Dissemination of findings-
Multidisciplinary Discussion
(Neonatal + Surgical + AHP Teams)



Role of Human Milk Fortification in Achievement of Gut Autonomy Before Stoma Closure in Preterm Infants <32 weeks

Flower A¹, Saad B¹, Umasankar D¹, Shetty S¹, Kulkarni A¹, Fatima T¹

¹St Georges Hospital

Background

Parenteral nutrition (PN) dependency in preterm infants with intestinal stoma carries significant morbidity, including central-line associated bloodstream infection (CLABSI) and PN-induced liver disease. Gut autonomy represents a key outcome in neonatal intestinal adaptation. This study aimed to characterise factors, including breast milk fortifier (BMF) use, associated with gut autonomy.

Methods

This retrospective single-centre cohort study included infants ≤ 32 weeks corrected gestation undergoing laparotomy with stoma formation between January 2020 and March 2026. Primary outcome was gut autonomy, defined as no PN for >7 consecutive days within 56 days of stoma formation. Secondary outcomes included PN-duration, long-line days, CLABSI, PN-induced liver disease, and BMF use.

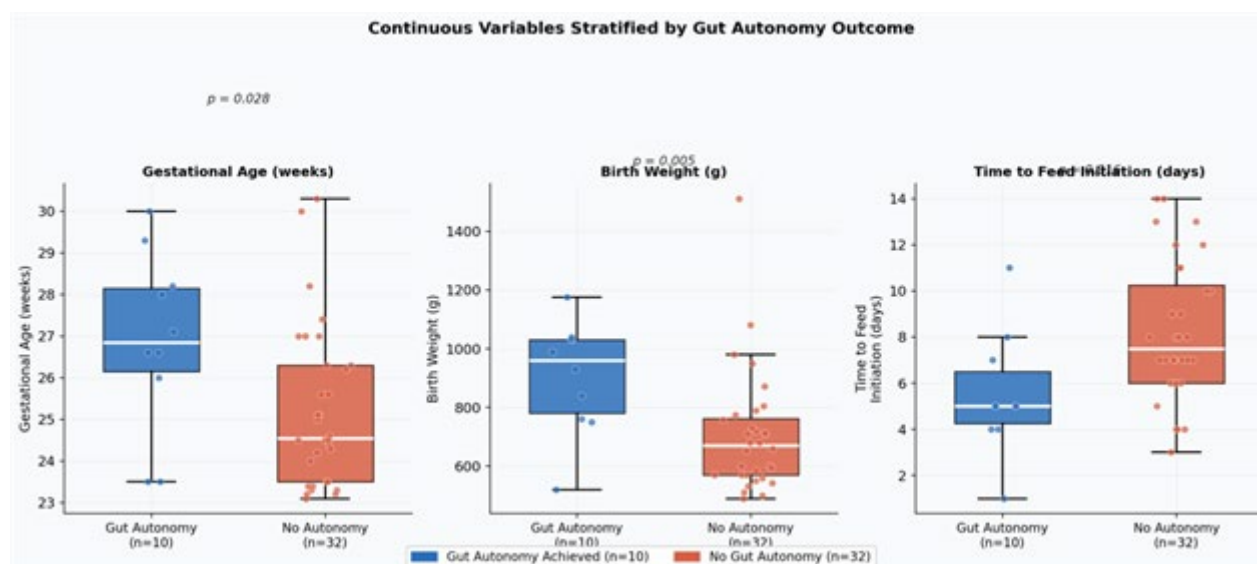
Results

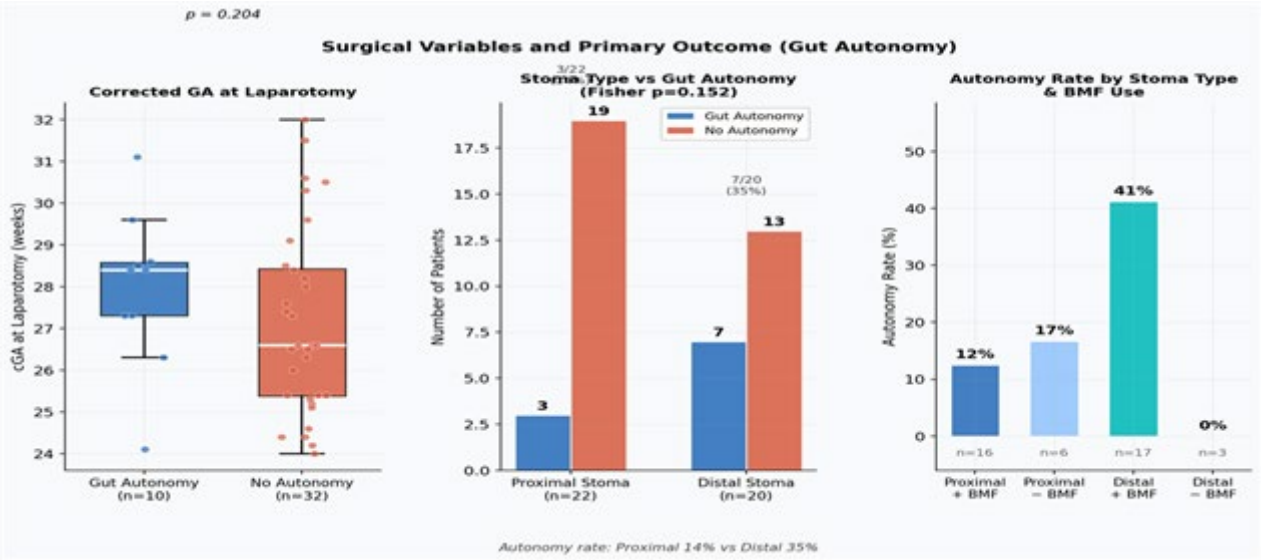
Seventy-one infants underwent laparotomy with stoma formation of which 42 were included (excluded: laparotomy >32 weeks cGA, death pre-closure, short gut, high stoma). Gut autonomy was achieved in 10/42 infants (24%). Infants achieving autonomy had higher gestational age (26.9 vs 25.2 weeks, $p=0.028$), birth weight (906 vs 705g, $p=0.005$), and earlier feed initiation (5.5 vs 8.2 days, $p=0.016$) (figure 1). Distal stoma was associated with a higher autonomy rate (35% vs 14% for proximal, $p=0.152$). BMF use was not significantly associated with gut autonomy (90% vs 75%, OR 3.00 [0.33–27.5], $p=0.416$); notably, no proximal stoma infant receiving BMF achieved autonomy (0/16) (figure 2). On multivariable analysis, earlier feed initiation was the only independent predictor (OR 0.62/day, 95% CI 0.40–0.98, $p=0.041$). Gut autonomy was associated with significantly shorter PN duration (30 vs 70 days, $p<0.001$) and fewer long-line days (31 vs 69, $p<0.001$).

Conclusions

Earlier enteral feed initiation was independently associated with gut autonomy. BMF use was not significantly associated with the primary outcome overall and showed no benefit in proximal stoma infants. These findings may inform selective BMF prescribing. Prospective adequately-powered studies are needed to confirm BMF's role in promoting intestinal adaptation.

Graphs





Antenatally undetected Sacrococcygeal Teratoma presenting as a subtle sacral swelling in a term neonate

Akinnusi F¹

¹Tunbridge Wells Hospital/maidstone And Tunbridge Wells Nhs Trust

Background:

Sacrococcygeal teratoma (SCT) is the most common congenital tumour in neonates and is frequently detected antenatally or presents as an obvious external mass at birth. However, lesions with significant intrapelvic extension and only a small external component may be difficult to recognise clinically and may be overlooked on routine antenatal imaging. We present a case of a large type II SCT identified following detection of a subtle sacral swelling on routine newborn examination in an otherwise well term infant.

Case:

A female infant was born at 39+2 weeks' gestation via spontaneous vaginal delivery following an uncomplicated labour. Apgar scores were normal and no resuscitation beyond routine care was required. Pregnancy was complicated by pregnancy-induced hypertension treated with labetalol; and iron deficiency anaemia requiring iron supplementation and transfusion. A previous pregnancy had been complicated by pre-eclampsia and delivery of a small-for-gestational-age infant. There was no maternal history of diabetes.

Routine antenatal ultrasound scans were reported as normal.

Newborn examination identified a small, firm midline swelling in the sacrococcygeal region. There were no overlying skin abnormalities, neurological deficits, or concerns regarding bowel or bladder function. The infant was otherwise well and remained clinically stable.

Ultrasound imaging demonstrated a complex septated cystic mass measuring approximately 64×31×41 mm arising from the presacral region. The lesion had a large intrapelvic component with only a small external caudal component and was consistent with a type II sacrococcygeal teratoma. There was no evidence of sacral bony involvement, and the spinal cord and surrounding structures appeared normal. The infant was referred to a tertiary paediatric surgical centre for further management.

Conclusion:

This case demonstrates how significant sacrococcygeal pathology may present with subtle external findings despite normal antenatal imaging. Careful examination of the sacrococcygeal region is essential for early diagnosis, timely imaging, and appropriate specialist referral in newborn infants.

Image



Is this UVC safe to use? Using ultrasound to detect UVC malposition and hepatic extravasation

Flockton H¹, Oh S¹, Meena V¹

¹John Radcliffe Hospital

Background

Umbilical venous catheters (UVCs) are frequently used for central venous access in neonates. Current practice assessing UVC tip position using X-rays or point of care ultrasound (POCUS) varies widely between and within individual units depending on expertise.

We present a case series of different stages of hepatic extravasation from UVCs identified by ultrasound.

Methods

Retrospective notes review of three patients forming a case series and literature review.

Results

Three neonates born at 24+6 weeks' gestation (700 g), 29+0 weeks' gestation (1.31 kg) and 41+3 weeks' gestation (3.4 kg) underwent UVC insertion on the first day of life. The first baby's UVC tip was projected at T10 on initial X-ray, the second baby's UVC tip was projected between T9-T10 on serial X-rays and the third baby's UVC tip was projected at T8.

The first baby developed abdominal distension and ascites aged two days old and they were initially managed for suspected necrotising enterocolitis. POCUS demonstrated a malpositioned UVC adjacent to the ductus venosus with associated echogenic hepatic parenchymal change and ascites. The second baby had an echocardiogram aged 4 days old which incidentally identified a large hepatic abscess around the UVC tip, which was misplaced in a portal vein. The baby was asymptomatic. The third baby had a routine POCUS which demonstrated a small echogenic area around the UVC tip, which was in a portal vein. They were also asymptomatic.

All three UVCs were removed and there were no long-term complications from these extravasations.

Conclusions

Ultrasound identified malpositioned UVCs, even when they appeared appropriately sited on X-ray, and hepatic extravasation even when asymptomatic.

Incorporating routine ultrasound at UVC insertion and at regular intervals may reduce extravasation injuries and associated morbidity.

Postnatal Outcomes and Predictors of Significant Pathology Following Antenatal Detection of Microcephaly: A Five-Year Dual-Centre UK Cohort Study

Chadwick C¹, Storey I, Rehal A

¹University Hospitals Birmingham NHS Foundation Trust

Background

Antenatally detected microcephaly presents challenges for counselling, investigation and follow-up. Despite associations with genetic, structural and neurodevelopmental disorders, there is limited UK guidance regarding postnatal management. We reviewed outcomes following antenatal detection of microcephaly to identify factors associated with significant underlying pathology and inform neonatal investigation pathways.

Methods

A retrospective cohort study was undertaken across two neonatal units within a large UK trust. The Viewpoint ultrasonography database was interrogated for cases containing “HC” or “microceph” between January 2018 and April 2023. Cases with head circumference z-score ≥ -2 , multiple pregnancy, fetal demise, gestation <18 weeks or major structural anomalies were excluded. Maternal and neonatal records were reviewed to determine postnatal head circumference, investigations, associated diagnoses, specialist follow-up and documented developmental concerns. Associations between clinical features and significant diagnoses were explored using Fisher’s exact test.

Results

One hundred and eight antenatally suspected cases were identified. Postnatal microcephaly was confirmed in 66 infants (61%), of whom 71% were symmetrical and 29% asymmetrical. Significant underlying pathology was identified in six infants (9%), including genetic syndromes, neuronal migration disorders, craniosynostosis and holoprosencephaly. All affected infants had severe microcephaly (<0.4 th centile). Dysmorphic features were present in 60% of infants with significant pathology compared with 7.6% of the overall cohort and were significantly associated with an underlying diagnosis ($p < 0.001$). Eighty-three percent of diagnosed infants had abnormal neuroimaging and 50% had a confirmed genetic diagnosis.

Conclusions

Antenatal suspicion of microcephaly had a positive predictive value of 61% for postnatal microcephaly. Significant pathology was uncommon but concentrated in infants with severe microcephaly and additional clinical abnormalities. Dysmorphic features were strongly associated with underlying diagnoses and may assist risk stratification. These findings support development of a standardised neonatal investigation pathway and may improve antenatal counselling and postnatal management.

Image

Outcomes Following Antenatal Detection of Microcephaly

108 antenatal
microcephaly cases



66 (61%) confirmed
postnatal microcephaly



6 infants with
significant pathology



60% dysmorphic features
22% abnormal MRI

Antenatally Diagnosed Pleural Effusions: Natural History and Outcomes of Neonatal Chylothorax

Lasokova M¹, Pang R¹, Rosa C, Kortsalioudaki C

¹Institute for Women's Health, University College London

Background and Aims

The management of severe cases of pleural effusion requiring substantial fluid drainage remains challenging due to the lack of standardised guidance. Furthermore, the existing literature predominantly focuses on post-operative chylothorax.

The aim of this audit was to characterize the clinical course, management strategies, and outcomes of infants with chylothorax admitted to a tertiary neonatal intensive care unit.

Methods

We used our electronic health records (EPIC) to identify infants born between June 2020 and February 2025 with an antenatal diagnosis of pleural effusion and collected data on their management, morbidity, and mortality. Cases requiring drainage postnatally (cohort 1) were compared with cases not requiring postnatal drainage (cohort 2).

Results

We identified 24 infants with an antenatal diagnosis of chylothorax; twelve in cohort 1 and twelve in cohort 2 (see table 1). The two cohorts differed in gestation (cohort 1: median 33.9 weeks, cohort 2: 38 weeks) and birthweight (cohort 1: 2.45kg vs cohort 2: 3.29kg) ($p < 0.05$). All babies in cohort 1 survived the neonatal course.

Cohort 2 were characterised by a mortality rate of 33.4% (4/12) with 70% (3/10) occurring in the first week of birth. Genetic diagnoses were made in 4/12 (33.3%), hydrops was present in 28.6% of cases, pleural effusions requiring chest drains bilaterally occurred in 7/12 (58.3%) cases. Drainage volumes varied considerably, reaching up to 1439 mL/day and 12,236 mL per admission. Octreotide administration was started in 4/12 (33.3%) of cases. Of the 8 babies surviving the neonatal course, 3 (37.5%) required transfer for surgical management at median 43 days.

Conclusion

Neonatal pleural effusions remain challenging to manage, with outcomes potentially influenced by gestational age and genetic diagnoses. National collaboration and larger datasets are needed to inform future management strategies.

Graphs

Table 1: Neonatal characteristics and clinical course of infants with antenatal diagnosis of pleural effusion

	Cohort 1 Required Postnatal Drainage	Cohort 2 Did not require postnatal drainage	P value
Number of cases	12	12	
Sex (male, %)	10/12 (83.4%)	7/12 (58.3%)	0.3707*
Gestation at birth (median, IQR)	33.9 (32.0 to 37.0)	38 (37.3 to 38.5)	0.0052^
Birth weight	2.45kg (2.06 to 2.88)	3.29kg (2.66 to 3.66)	0.0139^
Genetic diagnosis	4/12 (33.3%)	1/12 (8%)	0.3168*
Hydrops	4/12 (33.3%)	0/12	0.0932*
Antenatal drainage	10/12 (83.3%)	2/12 (16.7%)	0.0002*
Mortality	4/12 (33.3%)	0	0.0932*
Postnatal pleural effusion	Bilateral 9/12 (75%) Unilateral 3/12 (25%)		
Drainage volumes			
Day 1 drainage (median)	105mls (6-415 mls)		
Max drainage/day (median)	329mls (6-1439mls)		
Total drainage (median)	1761mls (6-12 236mls)		
MCT	5/12		
Albumin	9/12		
Lowest lab albumin	(6-17)		
Pleural fluid triglycerides (median)	0.6		
Discharge			
Home	3/12 (28.5%)		
Other hospital: ongoing management	3/12 (28.5%)		
Died	2/12 (14.2%)		
repatriation	4/12 (33.3%)	0/12	

*fisher exact test

^Mann-Whitney U test

Outcome of in-utero transfers of extreme premature infants in a tertiary centre

Ganguly S¹, Kulkarni A², Shetty S²

¹St. Thomas Hospital, ² St George's University Hospitals NHS Foundation Trust

Background: The London Operational Delivery Network (ODN) connects 27 London hospitals to streamline specialised care pathways and ensure timely, appropriate treatment closer to home.

Focus is on the right place of birth, guided by British Association of Perinatal Medicine (BAPM)

Passport, emphasising in-utero transfers (IUTs) to tertiary neonatal units, as postnatal transfers carry twice the risk of severe brain injury and higher mortality [1].

Methodology: Retrospective audit (2021–25) of IUTs in women with extreme preterm gestation accepted to St George's Hospital was conducted. Data from South-West and Pan-London networks were analysed to assess delivery rates, length of stay (LOS), and discharge outcomes using Badger, maternity, and delivery suite records.

Results :Amongst 126 IUTs, 50% of women were under 26 weeks gestation at transfer. The main indications for IUT were preterm labour (55.5%), sepsis (31%), and antepartum haemorrhage (21.4%). Delivery rates averaged 10% per day to five days post-transfer. Transfers from outside the ODN showed higher delivery rates within 24 hours (18%). Lower gestational age (22-24 weeks) had reduced delivery rates compared to above 25 weeks (32% versus 50%). Among the 42% who delivered, transfer-to-delivery interval was median 2(1-21) days. The rest (58%) who did not deliver had LOS of 4 (1-40) days. Lower gestation and maternal sepsis were associated with longer time intervals to delivery.

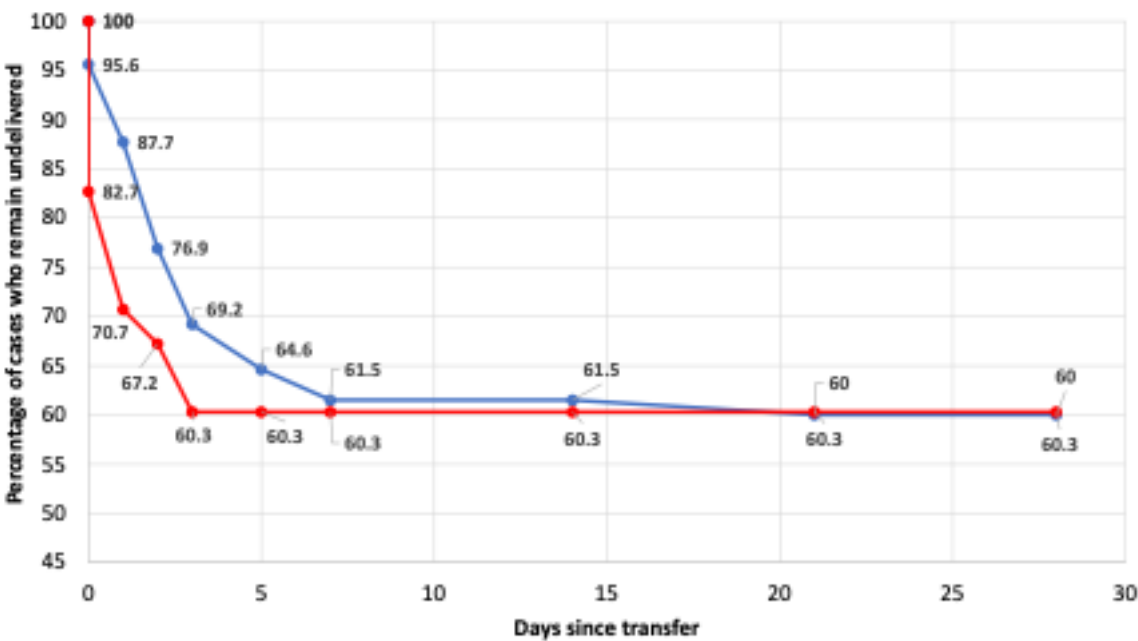
Conclusion:More than half of IUTs to a tertiary hospital don't result in delivery within five days of transfer. IUT's not delivering by day four were discharged. These findings support a liberalised approach to IUT acceptance, considering gestation, referral indication, and expected delivery timing to optimise outcomes and resource allocation.

Keywords: In-utero transfers, BAPM passport, network transfers

Reference: 1. Helenius K, et al; Association of early postnatal transfer and birth outside a tertiary hospital with mortality and severe brain injury in extremely preterm infants. BMJ. 2019.

Graphs

Outcome of in-utero transfers from in network (Blue) and from out of network (Red)



Total number of in-utero transfers within network: 68
Total number of in-utero transfers outside network: 58

Evaluation of Decision-to-Delivery Interval Performance, Documentation, and Causes of Delay Across Caesarean Section Categories (1–3): A Multi-Site Re-Audit in Somerset NHS Foundation Trust

Egagifo O¹, Mak S¹, Rae D¹

¹Somerset NHS Foundation Trust, ²Somerset NHS Foundation Trust

Background

Decision-to-delivery interval (DDI) is a recognised measure of timeliness in emergency obstetric care and is used in clinical governance to assess performance. Accurate documentation and reliable processes are essential for meaningful evaluation. Previous audit findings within the service identified variability in documentation and delays in care delivery.

Aim

To assess compliance with DDI standards across caesarean section categories (1–3), identify causes of delay, and evaluate change compared with previous audit findings within an ongoing audit programme.

Methods

A retrospective multi-site re-audit was conducted across Yeovil District Hospital and Musgrove Park Hospital using BadgerNet data (01/04/2025–30/06/2025). A total of 243 cases were analysed. Standards included Category 1 DDI <30 minutes, Category 2 <75 minutes, Category 3 as clinically appropriate, and documentation of indication, delay, and consultant involvement. Following a previous audit within the service, improvement measures included reinforcement of documentation, multidisciplinary feedback, and process-focused recommendations.

Results

Category 2 accounted for the majority workload (63%) and delays (87%). Category 1 performance improved from 73% to 86%, Category 2 from 76% to 78%, and Category 3 remained 100%. Delay documentation improved from 48% to 71%, and consultant involvement from 50% to 53%. All cases were appropriately categorised (100%).

Overall delays occurred in 16% (39/243), most frequently due to undocumented reasons (33%), theatre availability (26%), anaesthetic delay (15%), transfer delays (13%), and other factors (15%).

Conclusion

This re-audit demonstrates measurable improvement in documentation and selected performance indicators. Category 2 caesarean sections remain the principal source of delay, reflecting system pressures. Continued audit cycles are required to achieve full compliance with standards.

Use of point of care bowel ultrasound (BUS) for diagnosis of suspected necrotizing enterocolitis (NEC):

A feasibility study

Sur A¹, Gopinathansarasa N¹

¹East Lancashire Hospital NHS Trust

Background: Plain radiographs (AXRs) have long been the gold standard for diagnosis of NEC but are limited by well documented inter-observer variability and low specificity. BUS offers superior soft tissue detail without radiation exposure but its use by the neonatologist has been hampered by lack of training and radiology support. Ours is a tertiary non-surgical NICU and currently surgical referrals are via conference calls depending heavily on clinical history and remote review of AXRs.

Aim: To pilot a service development initiative to support neonatologist-performed BUS for confirmation of suspected NEC.

Methods: Project was led by consultant radiologist with 1 PA job planned and neonatologist with prior training. A study protocol(graph1)and scanning proforma were developed .

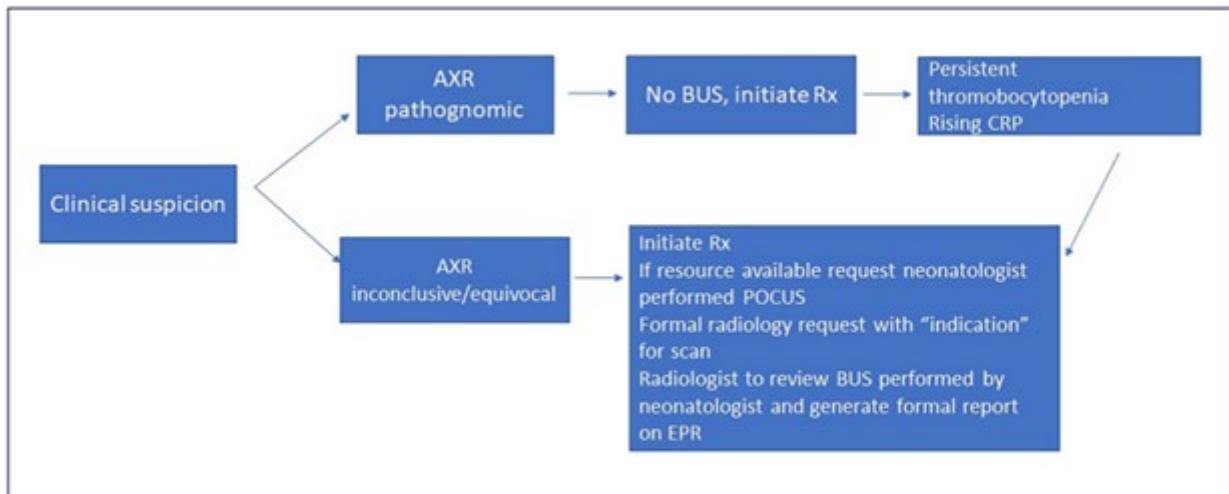
Results: 32 scans were undertaken over 24 months for 28 preterm infants - mean gestational age of 28.4weeks. All scans had a concurrent AXR reported independently by neonatologist and the radiologist. 11/ 32 (34.3%) were pathological scans. Only 5 (45.4%) of the concurrent 11 AXRs were reported to have "definite NEC" with presence of pneumatosis, rest were reported "non-specific". 6/32 AXRs were reported as "suspected NEC" but had negative BUS. In all these antibiotics were stopped within 72 hours and feeds were safely restarted. The sensitivity and PPV for AXR in our cohort were both 45.4% and the specificity was 77.78%.

Raised C-reactive protein showed highest correlation with a positive likelihood ratio of 1.73 of having NEC when associated with a positive BUS.

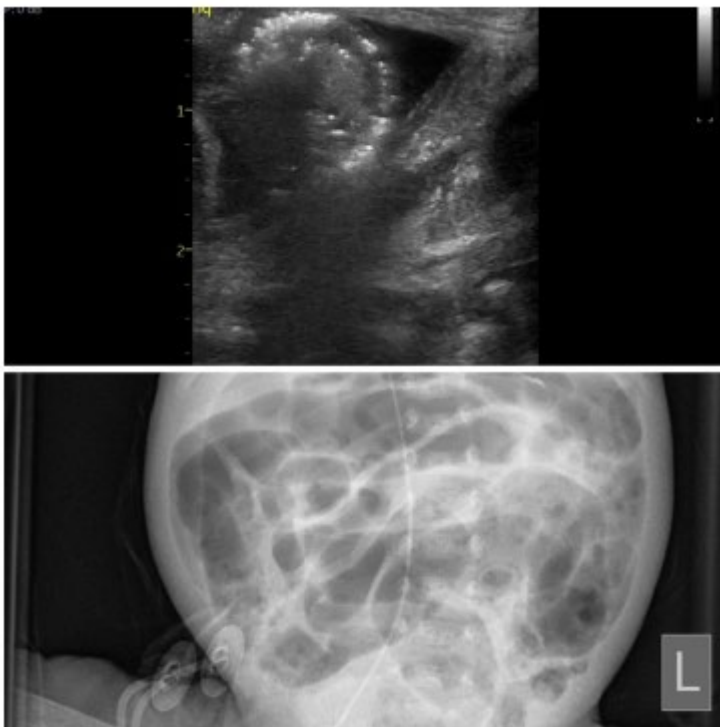
All pathological scans demonstrated poor or absent peristalsis. Abnormal vascularity was present in 7/11. Only 54% of the abnormal scans demonstrated pneumatosis indicating, although pathognomonic, it can be a transient sign. 3/11 demonstrated complex fluid pockets and all 3 had positive laparotomy.

Conclusions: Although limited by single-centre nature, our data establishes superiority and safety of BUS especially where AXRs are non-specific.

Graphs



Image



Implementation of Neonatal Oral Antibiotics at Home (NOAH) in a Non-Co-Located Neonatal Unit: A Quality Improvement Project

Dunne T^{1,2}, Brophy H^{1,2}, Taggart R^{1,2}, Westhead R^{1,2}, De Alwis D^{1,2}, Daniels L^{1,2}, Hoyle E^{1,2}

¹Liverpool Women's Hospital, Liverpool Women's NHS Foundation Trust, ²NHS University Hospitals of Liverpool Group (UHLG)

Background

Prolonged intravenous antibiotic therapy for suspected early-onset neonatal infection increases hospital stay, invasive procedures and parent-infant separation. The Neonatal Oral Antibiotics at Home (NOAH) programme enables early IV-to-oral switch in selected infants and is safe and effective. Implementation in a non-co-located unit presents challenges around governance, follow-up and care coordination.

Aim

To implement a NOAH pathway in a tertiary neonatal unit not co-located with children's services, and establish a rolling audit to evaluate outcomes.

Methods

A multidisciplinary quality improvement project was undertaken using Royal Devon University Healthcare NHS Foundation Trust NOAH guidance. A local guideline defined eligibility (≥ 37 weeks' gestation, clinically well, CRP ≤ 50 , negative cultures) and transition to oral amoxicillin to complete a 7-day course at home.

Interventions included guideline development, parent information, governance approval, and MDT engagement across neonatology, pharmacy, midwifery and obstetrics. Due to non-co-location with paediatric services, enhanced safety processes were introduced. Follow-up and post-discharge advice are provided by Liverpool Women's Hospital, with families directed to their local emergency department (Children's Hospital) if required. Local tertiary and district hospitals were informed of the pathway and shared electronic record documentation supports readmission tracking.

A prospective audit will collect demographics, CRP trends, culture results, pathway adherence and readmissions within and beyond 28 days. Data will contribute to national evidence on safety, efficacy, CO₂ reduction and cost savings.

Results

The NOAH pathway has been developed with multidisciplinary engagement and governance approval. Implementation is planned for May 2026, with systems in place and prospective data collection commencing at rollout.

Conclusion

Implementation of NOAH in a non-co-located unit is feasible with robust governance and MDT collaboration. This pathway may reduce hospital stay, improve family experience and deliver environmental and economic benefits. Ongoing audit will assess safety and wider applicability.

Every Minute Matters: Reducing System Delays in Antibiotic Delivery for Suspected Neonatal Sepsis in a Tertiary Neonatal Network

Anwar M¹, Ayeni K, Ikhayere E, Ababio E

¹University Hospitals Of Leicester

Background:

Neonatal sepsis is a time-critical condition in which delays in antibiotic administration are associated with increased morbidity and mortality. Guidance from the National Institute for Health and Care Excellence and the British Association of Perinatal Medicine recommends intravenous antibiotics within one hour of clinical decision (“golden hour”). This audit evaluated compliance with this standard and identified key points of failure within a tertiary neonatal network.

Methods:

A retrospective audit was conducted over two months (November-December 2025). All neonates commenced on intravenous antibiotics for suspected sepsis were identified using BadgerNet and cross-checked with drug administration records. Recorded timepoints included sepsis screening, clinical decision to treat, antibiotic prescription and administration. The primary outcome was antibiotic delivery within 60 minutes of decision. Secondary analysis examined decision-to-prescription and prescription-to-administration intervals to identify bottlenecks. Exclusions included incomplete time documentation and infants already receiving antibiotics at transfer. Descriptive statistics and subgroup analysis by clinical area were performed. Early Plan-Do-Study-Act interventions targeted escalation pathways and prescribing workflow reliability.

Results:

Twenty-six neonates met inclusion criteria. Overall compliance with the golden hour standard was 65.4% (17/26); 34.6% (9/26) received antibiotics beyond one hour. In delayed cases, mean time to antibiotics was 3.2 hours, with a maximum delay of 3.5 hours. The dominant bottleneck occurred between clinical decision and prescription, with additional delays at administration. Compliance varied across clinical areas, from 40% on the LRI postnatal ward to 66.7% in the LGH neonatal unit.

Conclusion:

Most neonatal sepsis delays occur after recognition, driven by prescribing and workflow failures rather than diagnostic delay. These findings identify a modifiable patient safety risk. Targeted quality improvement interventions have been implemented to improve golden hour compliance. Marked inter-ward variation highlighted inconsistent escalation processes, with lowest compliance on postnatal wards, suggesting that standardised sepsis pathways and prescribing prompts may reduce delays and improve treatment.

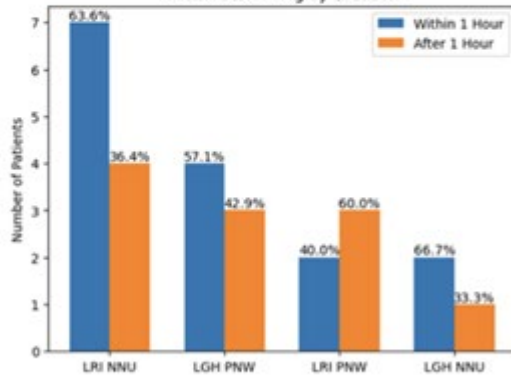
Graphs

Antibiotics Timing (Total Cases: 26)

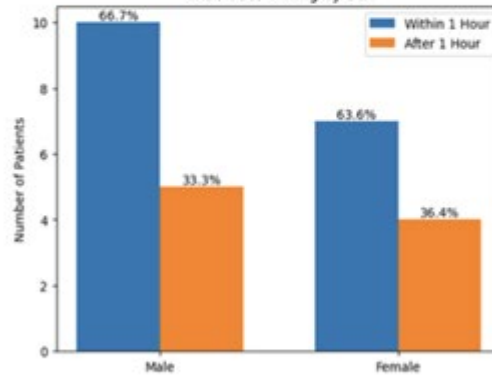


Image

Antibiotics Timing by Location



Antibiotics Timing by Sex



Does a routine 36-week antenatal ultrasound detect additional significant renal tract abnormalities not identified at the 20-week scan?

Lethaby D¹, Gudichuttu V¹, Myint Shein M¹, Bashir H¹, Misra D²

¹Broomfield Hospital, Mid and South Essex NHS Foundation Trust, ²Royal London Hospital

Background

Antenatal ultrasound plays a key role in detecting congenital anomalies. At many UK centres, including Broomfield Hospital, a routine 36 week scan is performed primarily to confirm fetal presentation. However, this late pregnancy scan may also detect renal tract abnormalities missed earlier in pregnancy. The extent to which these findings offer added clinical value beyond the 20 week anomaly scan remains uncertain.

Aim

To determine whether routine 36 week ultrasound identifies significant renal tract abnormalities not detected at the 20 week scan, and to evaluate their clinical relevance.

Methods

A retrospective review of all babies under one year of age who underwent a postnatal renal ultrasound between February 2024 and February 2025 in our unit was undertaken, the associated 20 and 36 week antenatal ultrasound reports were also reviewed. Data included antenatal findings, postnatal imaging outcomes, interventions, referrals, and follow up outcomes.

Results

Fifty nine infants were identified; 30 infants had both 20 and 36 week scans available to review.

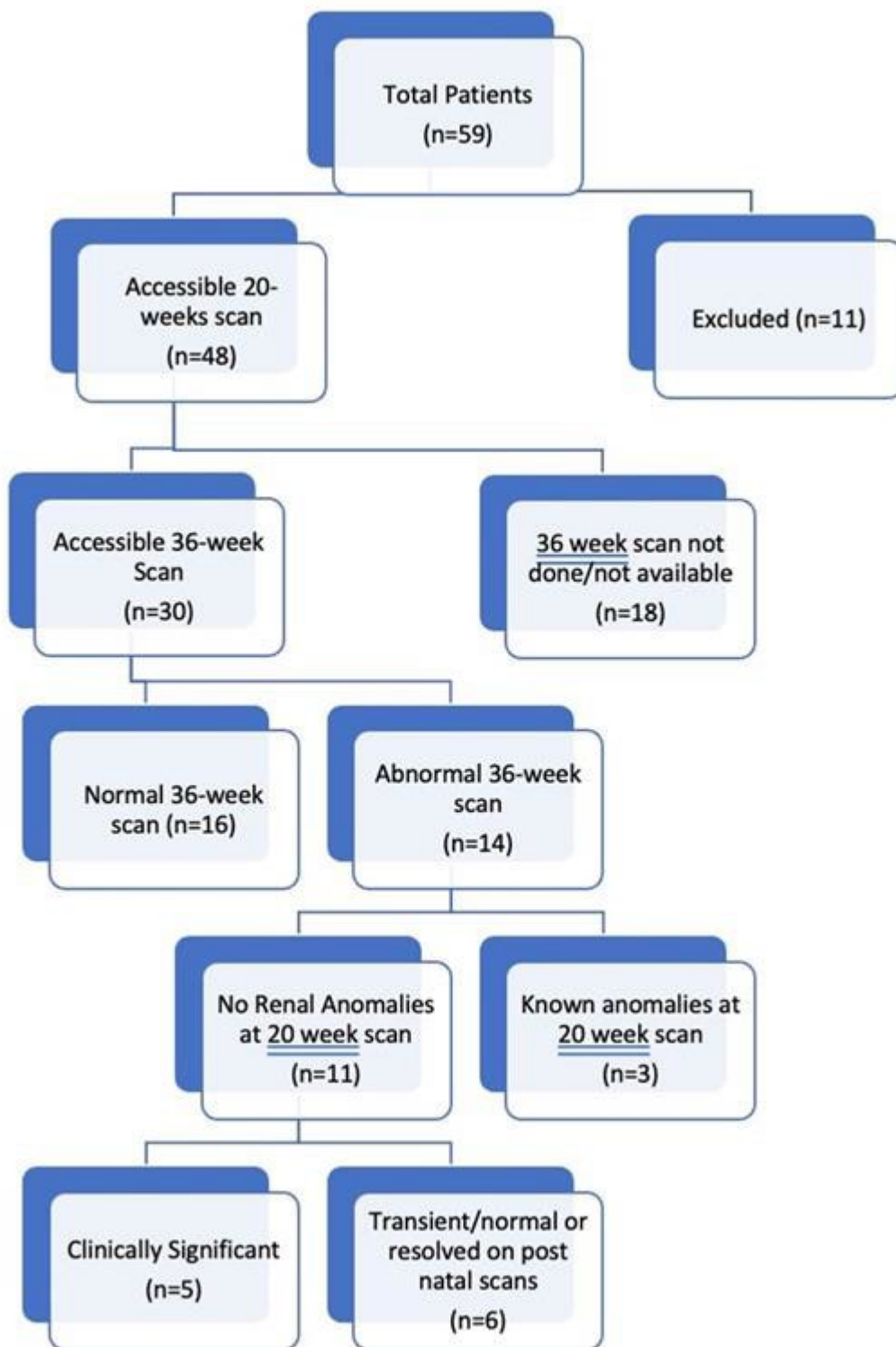
At the 36-week scan, 16 scans were normal, 14 were abnormal. 11 abnormalities (37%) were newly identified at 36 weeks, following normal 20 week scans.

Of these, 5 (45%) were clinically significant including hydronephrosis, hydroureteronephrosis, bilateral cortical cysts and an ectopic ureter. The remaining 6 (55%) suspected abnormalities were found to not be significant during follow up.

Conclusion

Although not routinely recommended nationally, a 36-week ultrasound identified additional clinically significant renal tract abnormalities missed at 20 weeks. This suggests potential benefit for earlier diagnosis and prevention of urinary tract infection or renal damage. However, increased postnatal workload from incidental findings must be considered when evaluating wider implementation.

Image



Benchmarking BPD Outcomes to Drive Quality Improvement: A Denominator-Aware NNAP Unit-Level Analysis (2020–2024)

Hawley J¹, Loganathan P¹

¹James Cook University Hospital

Background:

Bronchopulmonary dysplasia (BPD) remains a major morbidity of prematurity. Our tertiary neonatal unit has higher-than-average BPD rates, making prevention a quality-improvement (QI) priority.

Aim:

Using UK National Neonatal Audit Programme (NNAP) we identified UK units with consistently low BPD rates, examined key interventions, and compared these with our centres practice. We aimed to use this benchmarking to identify QI priorities.

Methods:

We performed an ecological benchmarking study using NNAP unit-level data for infants <32 weeks' gestation (2020–2024). Units were ranked annually by risk-adjusted BPD treatment effect (lower/more negative = better). We derived a consistency score (top-5/top-10 performance and outperforming James Cook University Hospital [JCUH], weighted by eligible volume). Primary outcomes were risk-adjusted treatment effects for BPD and BPD/death; secondary outcomes included antenatal steroids, magnesium sulphate, admission temperature, infection (treatment effect), necrotising enterocolitis (NEC), intraventricular haemorrhage (IVH) and periventricular leukomalacia (PVL).

Results:

JCUH showed positive BPD treatment effects across all years (e.g., +40.5 in 2020; +3.6 in 2024), while several units demonstrated sustained favourable (negative) effects over multiple years and consistently outperformed JCUH for BPD and BPD/death. Table-1 shows multi-year consistent high performers identified using a denominator-aware consistency score. Compared with shortlisted units, JCUH performed favourably for risk-adjusted infection and similar for IVH/PVL, however NEC rates were higher than most units; NIV-related metrics were inconsistent. In 2024, JCUH's observed BPD and BPD/death rates were above the national mean but within funnel-plot control limits.

Conclusion:

NNAP benchmarking identified consistently better-performing "learning units" and confirmed sustained opportunity for BPD improvement at JCUH. Secondary outcomes did not identify a single factor to explain the BPD signal; in particular, NIV performance was not consistently aligned with BPD outcomes, reinforcing that BPD reduction is unlikely to be achieved through one lever. This prompts us to identify transferable practices and target education and QI locally.

Image

Table 1: Multi-year consistent high performers were identified using a denominator-aware consistency score.

Unit	BPD_TE median (IQR)	BPD_TE years better than JC	BPDdea th_rate median (IQR)	BPDdea th_rate years better than JC	ANS_pct median (IQR)	ANS_pct years better than JC	Temp_pct median (IQR)	Temp_pct years better than JC	Infect_TE median (IQR)	Infect_TE years better than JC	NEC_pct median (IQR)	NEC_pct years better than JC	IVH_pct median (IQR)	IVH_pct years better than JC	PVL_pct median (IQR)	PVL_pct years better than JC	NIV_TE median (IQR)	NIV_TE years better than JC
Unit QA	-3.40 (-5.10–3.30)	5/5	0.41 (0.38–0.42)	5/5	56.60 (53.00–93.80)	3/5	90.00 (89.90–92.40)	5/5	-0.75 (-1.52–0.35)	1/4	4.90 (1.90–5.00)	4/5	6.80 (5.78–7.28)	4/4	7.10 (6.90–7.65)	2/3	25.70 (20.55–27.10)	0/3
Unit SP	-4.00 (-4.10–3.20)	5/5	0.45 (0.44–0.46)	5/5	60.90 (57.80–92.00)	3/5	83.30 (83.10–84.10)	5/5	2.10 (0.25–4.05)	0/4	6.10 (5.80–6.80)	4/5	16.40 (14.40–17.35)	0/4	11.10 (10.95–12.40)	0/3	-25.80 (-27.45–23.70)	3/3
Unit NN	-7.65 (-8.12–1.77)	4/4	0.39 (0.38–0.39)	4/4	66.85 (50.67–83.90)	1/4	92.90 (91.60–93.60)	4/4	-2.20 (-2.75–1.05)	2/3	4.10 (3.20–4.80)	3/4	17.60 (15.40–21.15)	0/3	13.15 (12.03–14.28)	0/2	-8.00 (-8.05–7.95)	2/2
Unit LD	-2.30 (-5.20–17.65)	3/3	0.44 (0.40–0.45)	3/3	49.60 (46.10–72.20)	2/3	77.70 (77.20–78.25)	2/3	1.30 (1.05–1.55)	0/2	10.60 (5.33–10.75)	1/3	17.05 (16.88–17.22)	0/2	15.80 (15.80–15.80)	0/1	2.20 (0.75–3.65)	0/2
Unit RS	-3.85 (-5.88–7.88)	4/4	0.38 (0.37–0.39)	4/4	78.55 (57.45–96.25)	4/4	66.60 (63.60–70.88)	2/4	1.00 (0.20–1.80)	0/3	2.05 (0.98–3.55)	4/4	12.50 (7.60–13.40)	1/3	8.50 (5.60–11.40)	1/2	-8.20 (-9.50–6.90)	2/2
Unit QC	-5.80 (-5.80–5.80)	1/1	0.51 (0.51–0.51)	0/1	67.70 (67.70–67.70)	1/1	91.40 (91.40–91.40)	1/1	-1.60 (-1.60–1.60)	0/1	7.00 (7.00–7.00)	0/1	11.60 (11.60–11.60)	0/1	12.30 (12.30–12.30)	0/1	-15.00 (-15.00–15.00)	1/1
Unit SM	-0.55 (-1.70–8.57)	4/4	0.49 (0.48–0.51)	4/4	71.65 (52.38–90.53)	2/4	73.10 (64.58–80.62)	2/4	-1.80 (-3.15–1.70)	2/3	3.00 (1.66–.67)	4/4	17.80 (17.45–20.20)	0/3	5.65 (4.67–6.62)	1/2	-6.50 (-7.50–5.50)	2/2
Unit NW	-11.60 (-13.25–9.95)	2/2	0.26 (0.22–0.31)	2/2	56.00 (53.90–58.10)	1/2	65.55 (62.88–68.23)	0/2	-0.45 (-0.88–0.02)	0/2	2.93 (1.50–4.37)	1/2	11.95 (10.68–13.22)	0/2	12.25 (11.78–12.72)	0/2	6.45 (2.33–10.57)	0/2
James Cook	3.80 (3.60–12.00)	0/5	0.51 (0.48–0.51)	0/5	55.20 (47.30–93.90)	0/5	70.80 (60.90–83.00)	0/5	-2.10 (-2.62–1.73)	0/4	6.20 (2.50–7.10)	0/5	10.05 (8.77–11.12)	0/4	7.50 (6.90–8.75)	0/3	-2.00 (-2.60–1.50)	0/3

Footnote: Values are shown as median (IQR) across available years. "Years better than JC" = x/y, where y is the number of years with data for both the unit and James Cook, and x is the number of those years the unit performed better than James Cook (direction-defined). Higher is better for process measures (antenatal steroids, magnesium sulphate, admission temperature in range); lower is better for adverse outcomes and treatment effects (BPD treatment effect, infection treatment effect, necrotising enterocolitis, intraventricular haemorrhage, periventricular leukomalacia, and BPD-or-death rate). These comparisons are descriptive and not hypothesis tests. Abbreviations: BPD bronchopulmonary dysplasia; NEC necrotising enterocolitis; IVH intraventricular haemorrhage; PVL periventricular leukomalacia; JC James Cook University Hospital; TE treatment effect; % (pct) percentage of infants with the specified outcome among the relevant NNAP denominator.

Closing the Care Gap in Late Preterm Infants

Basha M¹, Manoharan S¹, Manur S¹, Al-Muzaffar I¹

¹Prince Charles Hospital / Cwm Taf Morgannwg University Health Board

Background:

Late preterm infants (34–36+6 weeks) account for the majority of preterm births yet are often managed alongside term infants, despite distinct care needs, including susceptibility to jaundice, feeding difficulty and readmission. The BAPM 2023 framework defines specific discharge standards, including multivitamin supplementation for breastfed infants. We evaluated whether late preterm infants are consistently managed as a distinct group in routine practice.

Methods:

Retrospective service evaluation of all late preterm infants born January–October 2025 (n=134). Data were extracted from neonatal and maternity records and validated against a master dataset. Outcomes included neonatal unit (NNU) admission, feeding at discharge, supplementation practice, follow-up arrangements, and 7- and 30-day readmissions. Findings informed a structured quality improvement programme with defined measures, a driver diagram and planned PDSA cycles.

Results:

Of 134 infants, 43.3% required NNU admission, mainly for respiratory distress (72.4%). Readmissions were high: 23.1% within 7 days and 33.6% within 30 days; jaundice accounted for 48.8% of cases. Breastfeeding at discharge was low (11.2%), with none at 34 weeks. No breastfed infants received BAPM-recommended multivitamin supplementation (0/15), and no infants discharged from the postnatal ward received any supplementation. Follow-up was arranged for 17.2% overall, lowest in 36-week infants (12%), who had the highest readmission rate (38.7%).

Conclusions:

Care delivery did not consistently reflect the distinct needs of late preterm infants, with variation in feeding support, supplementation, and post-discharge follow-up. A multidisciplinary quality improvement programme has been introduced, including a discharge checklist, standardised supplementation pathway and structured early post-discharge review, with outcomes monitored using run charts and PDSA cycles. This approach provides a practical, scalable model for aligning care with need and reducing avoidable readmissions in late preterm populations.

Closing the Gap: Insulin Safety Variation Across London Neonatal Units

Gaze S¹

¹London Neonatal ODN

Insulin is a high-risk medication in neonatal care, where dosing and administration errors can lead to significant harm. The Getting It Right First Time (GIRFT) Neonatology guide to safe insulin use outlines key recommendations to improve prescribing, storage, administration, and governance.

Understanding baseline variation across a regional network is essential to support standardisation and improve safety.

Objectives:

To evaluate current practice against GIRFT insulin recommendations across London neonatal units and identify priorities for improvement.

Methods:

A structured self-assessment survey mapped to GIRFT recommendations was distributed to all 27 neonatal units in the London Neonatal Operational Delivery Network (ODN). Responses were collated and analysed across domains including storage, access control, clinical guidance, training, governance, and closed-loop systems. Primary outcome was self-reported adherence to GIRFT insulin safety recommendations, measured as the proportion of units meeting each recommendation.

Results:

All 27 units responded (100% response rate). Significant variation in adherence to GIRFT recommendations was identified across all domains. Most units reported secure storage and two-person checking of insulin. However, only one-third of units had local policies covering insulin handling, storage, and disposal. Structured training processes were implemented in a minority of units. While most reported clinical guidelines and sliding scale protocols, variation in interpretation and implementation was evident. Adoption of digital and closed-loop safety systems, including EPMA integration and controlled access, was inconsistent. Fewer than half of units reported established processes for auditing insulin use. Workforce data suggested ongoing challenges in meeting recommended pharmacy staffing standards.

Conclusions:

This evaluation demonstrates unwarranted variation in insulin safety practices across London neonatal units, representing a potential risk to patient safety. Key priorities include standardising policies, expanding training, strengthening audit processes, and increasing adoption of digital safety systems. A coordinated network approach, supported by regular re-audit and targeted feedback, is required to reduce variation and improve safety.

Correlation of Transcutaneous Temperature Monitoring with Conventional Temperature Measurement in Extremely Premature Infants

Oo C¹, Shetty S^{1,2}, Duffy D², Richards J², Kulkarni A²

¹St George's City University, ²St George's Hospital NHS Foundation Trust

Introduction

Transcutaneous temperature monitoring provides continuous, non-invasive measurements and is widely used in neonatal intensive care units, but its accuracy in extremely preterm infants remains uncertain. This study evaluated the correlation and agreement between transcutaneous and axillary temperature measurements and explored factors affecting measurement performance.

Methods

A retrospective observational study was conducted at St George's Hospital NHS Foundation Trust, a tertiary neonatal surgical centre in the UK. Preterm infants born at <28 weeks' gestation who underwent transcutaneous temperature monitoring were included. Paired transcutaneous and axillary temperatures were obtained from routine clinical records. Correlation was assessed using Pearson's correlation coefficient and agreement using Bland–Altman analysis. The effects of gestational age, birth weight, postnatal age, and incubator humidity were examined.

Results

Ninety-two patient encounters and 661 paired temperature measurements were analysed. Overall, transcutaneous and axillary temperatures showed weak correlation ($r = 0.35$). Correlation improved with increasing gestational age, from $r = 0.30$ at 22–24 weeks to $r = 0.71$ at 27–28 weeks, and with increasing birth weight, from $r = 0.26$ – 0.29 in infants weighing <800 g to $r = 0.59$ – 0.66 in those weighing 800–1500 g. Axillary temperatures were, on average, 0.55°C higher than transcutaneous temperatures, with wide limits of agreement (-1.00°C to $+2.09^{\circ}\text{C}$). Differences were greater at lower temperatures and decreased as temperature increased. Agreement improved with increasing gestational age and birth weight but worsened at higher incubator humidity. At 80% humidity, transcutaneous temperatures frequently exceeded axillary measurements, potentially masking hypothermia.

Conclusion

Transcutaneous temperature monitoring showed limited agreement with axillary measurements in extremely preterm infants. Accuracy improved with increasing gestational age and birth weight but was poorer in smaller, less mature infants and under high-humidity conditions. Transcutaneous measurements should therefore be interpreted cautiously, particularly in the most vulnerable infants.

Breathe Together with ARC: Admission Reduction through CPAP

Al-Muzaffar I¹, Gowen A¹, Smith H¹, Barnes K¹

¹Prince Charles Hospital / Cwm Taf Morgannwg University Health Board

BACKGROUND

Late preterm and term infants commonly develop transient respiratory distress after birth, often leading to avoidable neonatal unit (NNU) admission and mother–infant separation. The Breathe Together with ARC (Admission Reduction through CPAP) project standardised delivery-room respiratory stabilisation for infants born at ≥ 34 weeks' gestation, with mask CPAP used initially and transition to high-flow nasal prong CPAP via a T-piece resuscitaire at 10 minutes if support was still required. This enabled clinician-led triage to NNU or the postnatal ward. The project was registered and approved by CTMUHB Research and Development.

METHODS

This prospective before-and-after service evaluation compared pre-ARC (October 2025–January 2026; $n=20$) and post-ARC (March–May 2026; $n=38$) cohorts. The primary outcome was NNU admission rate. Secondary outcomes included birth-room skin-to-skin contact, nasal trauma, and postnatal ward escalation to NNU. Statistical process control using a p-chart was used to assess change over time and sustainability, while Fisher's exact test and the Mann–Whitney U test were used for categorical and continuous outcomes, respectively.

RESULTS

NNU admission fell from 85.0% (17/20) pre-ARC to 36.8% (14/38) post-ARC (Fisher's exact $p=0.0007$; OR 9.71, 95% CI 2.41–39.12). All three post-ARC months fell below the lower control limit on the SPC p-chart, confirming a sustained special-cause improvement. Birth-room skin-to-skin contact was achieved in 15.8% of post-ARC infants. No deaths or nasal trauma occurred in either cohort. Post-ARC postnatal ward escalations to NNU were non-respiratory (2/24, 8.3%; hypoglycaemia and neonatal abstinence syndrome), whereas pre-ARC escalations were both respiratory (2/3, 66.7%).

CONCLUSIONS

ARC was associated with a marked and sustained reduction in NNU admission without an apparent safety signal. This standardised delivery-room nasal CPAP pathway is a practical and scalable service development, supporting respiratory stabilisation, preserving NNU bed capacity, and facilitating mother–infant togetherness. Prospective evaluation at scale is warranted.

A 11 year Retrospective analysis of Laparotomy outcomes in neonates less than 800 grams and more than 800 grams: A single centre study

Verma R¹, FATIMA T¹, Shetty S², KULKARNI A¹

¹St. George's University Hospital Nhs Foundation Trust, ²City St George's, University of London

Background:

During NICU stay, many neonates undergo laparotomy for various surgical reasons. This can significantly prolong and complicate their hospital course.

Aim:

Our aim was to evaluate and compare outcomes in neonates who underwent laparotomy in our unit.

Method

We retrospectively reviewed data from January 2015 to December 2025, grouping neonates by surgical weight: Group A ≤ 800 g and Group B > 800 g. We analysed demographic data and outcomes such as indications for laparotomy, stoma versus primary anastomosis, mortality, severe intraventricular hemorrhage (IVH $\geq$ Grade 3), length of stay in hospital (LOS), and parenteral nutrition (PN) duration. Mann Whitney and Odd's Ratio (OR) used for analysis.

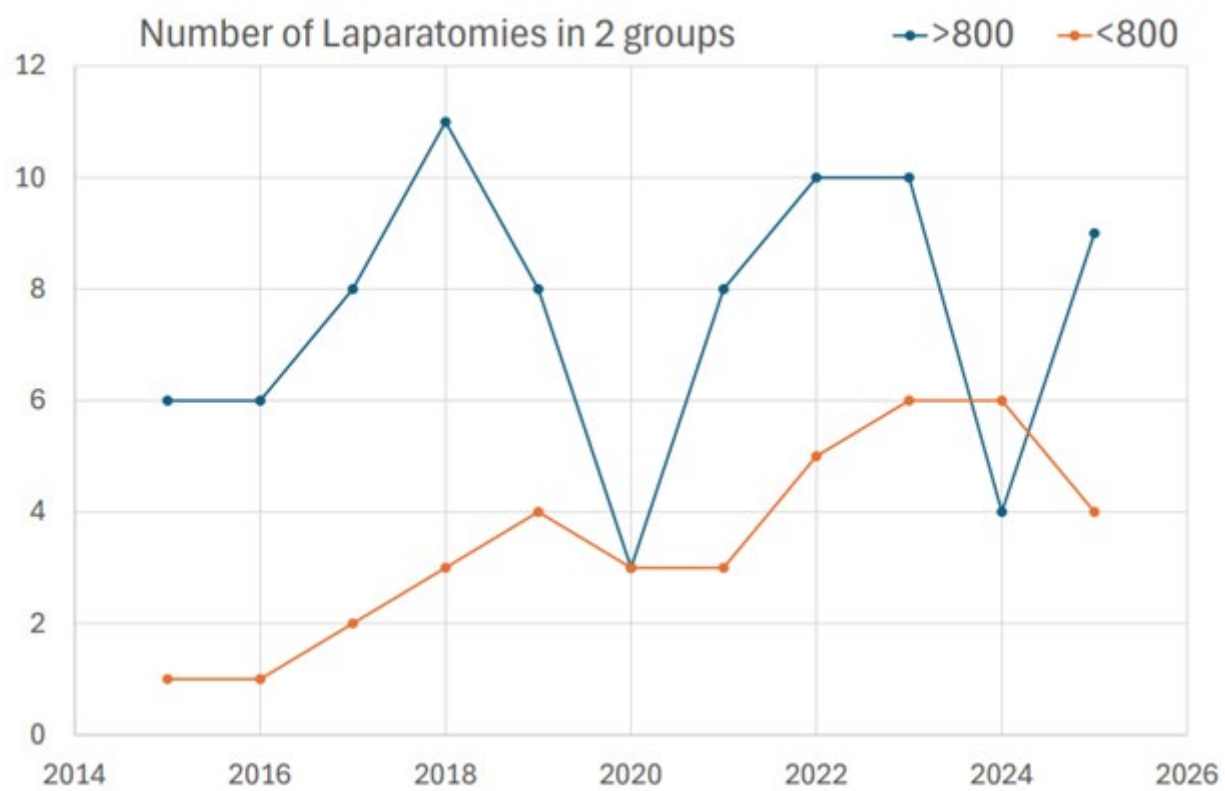
Result

We included 122 neonates (Group A = 39; Group B = 83). Median gestation at surgery (28 vs 29+2 weeks) and day of life at surgery (14 vs 12 days) were similar. NEC incidence 51% of Group A and 59% of Group B, while SIP (spontaneous intestinal perforation) in Group A 41% vs 22% in B. Stoma formation 36% vs 73%, and primary anastomosis 10% vs 17%. Mortality (28% vs 27%; OR 1.02, 95% CI 0.44–2.34; $p=0.95$), Length of stay (123 vs 110 days; $p=0.418$) and PN duration (71 vs 59 days; $p=0.32$) were similar. Severe IVH was higher in Group A (46% vs 25%; OR 2.5, 95% CI 1.1–5.6; $p=0.02$).

Conclusion

In our study, we concluded that there was no significant difference in the length of stay, mortality and the PN duration amongst the 2 groups. The incidence of IVH was higher in Group A.

Graphs



Image

	Group A (N=39)	Group B (N=83)	p-value
Birth Weight	680(460-805)	782(540-2000)	<0.001
Gestation at birth	25(23-29+3)	26+3(23+3-37+1)	<0.001
Male	24 (61.5%)	56 (67.5%)	NS
Inborn	15(38.5%)	27(32.5%)	NS
Singleton	35(89.7%)	69(83%)	<0.001
Gestation at surgery	28 (23+5-29+6)	29+2 (26+3-41+6)	<0.001
DOL at surgery	14 (2-22)	12 (1-111)	<0.001
Anastamosis	04 (10%)	14 (17%)	NS

	Group A (N=39)	Group B (N=83)	p-value
Stoma formation	31 (79%)	61 (73%)	NS
NEC	20 (51%)	49 (59%)	<0.001
SIP	16(41%)	19(22%)	<0.001
Other causes for laparotomy	3 (8%)	15 (19%)	0.0038

	Group A (N=39)	Group B (N=83)	p-value
LOS (median)	123 (7-211)	110 (7-298)	0.418
Death	11 (29%)	23 (27%)	0.95
Line infection (per 1000 line days)	8 (20.5%) (2.33)	13 (15.7%) (2.34)	0.51
Liver affected	13 (33.3%)	38 (45.8%)	0.19
PN use days (median)	6-198(71)	0-200 (59)	0.32

Skills and Drills: An approach to enhance confidence and readiness for critical neonatal procedures

Buckle A¹, Jamieson J¹, O'Neill C¹, Becher J¹

¹NHS Lothian

Introduction

The combined use of short educational videos and simulation improves procedural skill acquisition by enhancing content comprehension through a standardised approach, improving procedural performance, and reducing procedure time.

In response to learner reports of reduced opportunities to observe and practise high-acuity, low-occurrence (HALO) critical neonatal procedures, we developed a free, accessible learning resource called “Skills and Drills”.

Aim

To improve learners’ confidence and readiness to perform key neonatal procedural skills, thereby improving safety and success.

Methods

High-quality “Skills and Drills” boxes were created for a range of neonatal practical skills. Each box included all necessary equipment, training instructions and videos accessed via QR codes. Manikins were funded by the Simpsons Special Care Baby Charity. Data were collected anonymously on procedure type, prior experience, support of an experienced person, and confidence before and after using the resource. Confidence was measured using a 5-point Likert scale ranging from 1 (“I don’t feel confident”) to 5 (“I am highly confident”).

Results

Over a one-month period, 14 participants accessed the “Skills and Drills” boxes. Five of the eight boxes were used with meconium aspirator the most popular.

Reported confidence prior to use ranged from 1 (“I don’t feel confident”) to 3 (“I have a reasonable level of confidence”), with a median score of 1.5, demonstrating low baseline confidence. All participants reported an increase in confidence following use of the boxes, with a median increase of 2 points on the Likert scale.

Conclusion

The “Skills and Drills” initiative improved user confidence and readiness to perform high-stakes neonatal procedures and removed common barriers to training. This resource is currently being expanded to paediatric and neonatal units within and beyond the South East Scotland Deanery.

Graphs

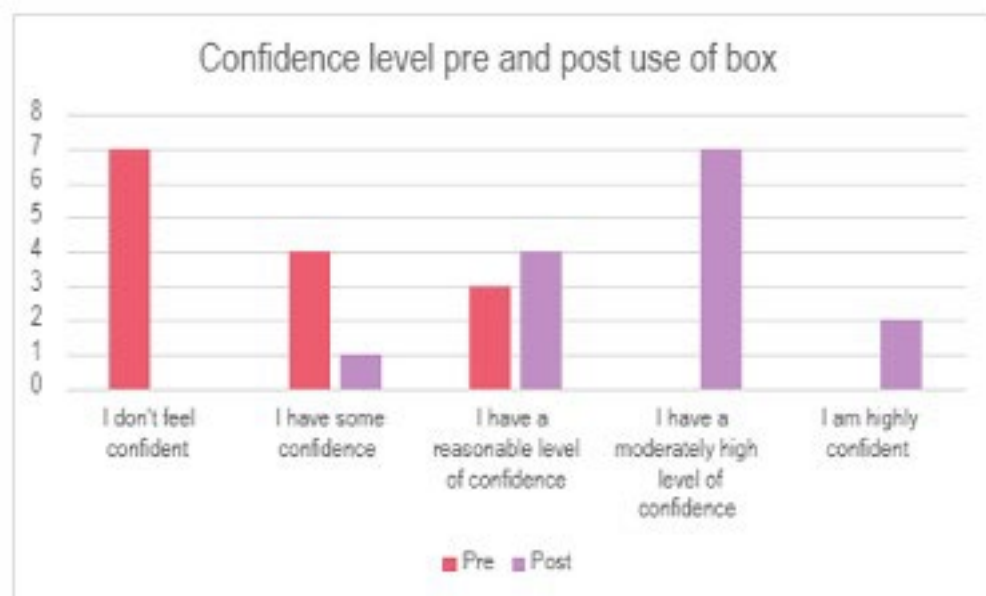


Figure 1. Reported confidence levels pre- and post-use of box

Thermoregulation on T2 recovery ward – The TOTz Trial

Presswala D¹, Hayward R¹, Tector G¹, Reeves A¹, Thomas A¹, Maria Piccione R, Course K, Hampson K

¹University Hospital Of Wales

Background

In 2025, around 60% of babies unexpectedly admitted to NICU from T2 were hypothermic on admission, accounting for 90 NICU cot days and an average mother–baby separation of five days. T2 cares for mothers recovering from Caesarean section, many requiring enhanced post-operative monitoring, which may challenge optimal newborn thermal care. Prevention of hypothermia is essential to reduce neonatal medical interventions and mother-baby separation.

Aim

To evaluate temperature variation across maternal recovery ward (T2) bedspaces and identify areas falling below recommended thermal conditions for newborn care.

Methods

This QI project was conducted between 23 March and 11 May 2026. Bedspace temperatures were recorded over 24 hours using standard mercury thermometers, with digital thermometers used for cross-checking. Data were analysed by time of day to assess mean temperature, range and variation between bedspaces.

Results

Ward temperatures ranged from 19°C - 26°C, with most readings between 21°C - 23°C, below WHO recommendations. Bedspace E had the highest mean temperature (23.9°C), while bedspace 6 was the coolest (20.1°C).

Marked variability was seen in bedspaces A (18 - 26°C) and B (19 - 25°C), with overnight falls across multiple areas. Persistent coldspots in bedspaces 3, 6 and 7 may place late-preterm and LBW infants at higher risk. Thermal mapping has been used to visualise and analyse temperature variations across T2 to understand heat distribution and identify coldspots [Figure 1].

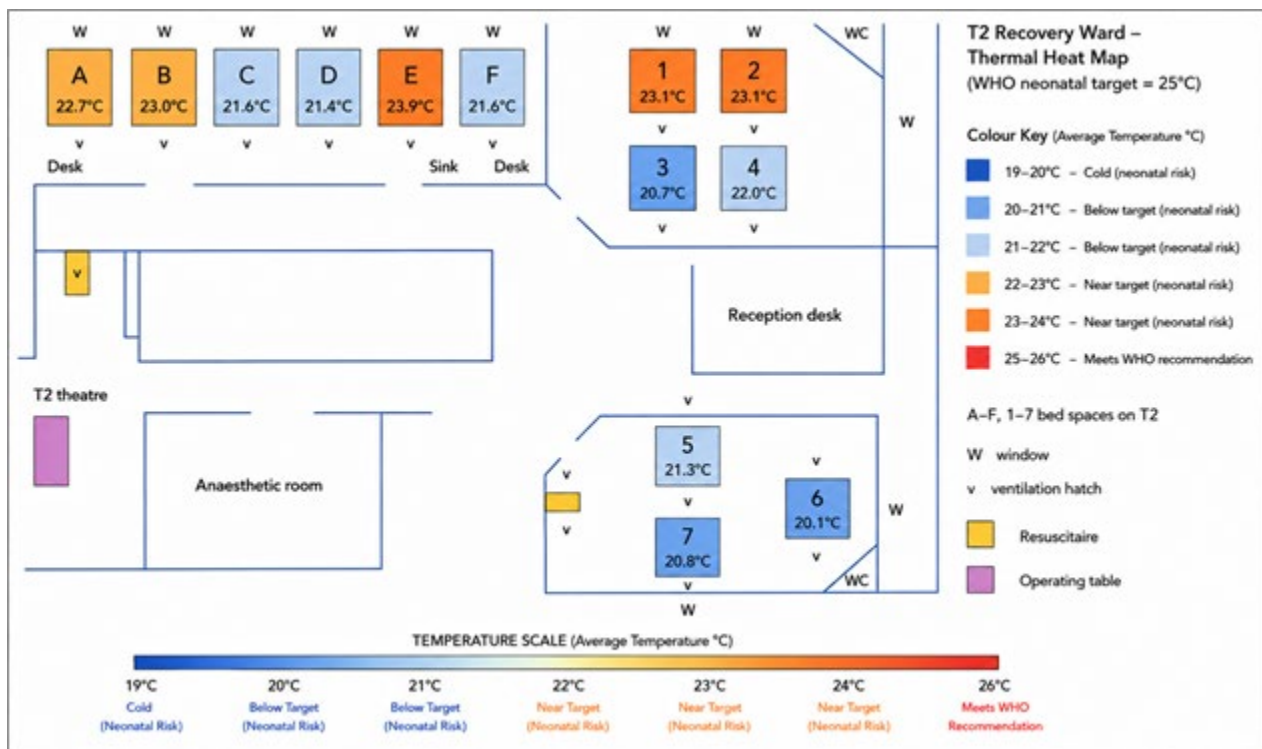
Conclusions

Most T2 bedspaces were below recommended thermal standards. Identifying persistent coldspots enabled targeted cot allocation, improved thermal care planning and earlier escalation for higher risk infants. Routine environmental temperature monitoring should form part of neonatal safety and quality improvement work. Enhancing T2 conditions will support safer care and more efficient use of specialist resources.

Further Developments

This includes parent information on thermal care and wider monitoring across postnatal areas to inform standardised safety recommendations.

Image



Safe Transitions Home: Redesigning Neonatal Nasogastric Discharge Pathways

Cogswell E¹, Al-Muzaffar I¹

¹Prince Charles Hospital, Cwm Taf Morgannwg University Health Board

Background:

Home nasogastric (NG) feeding supports earlier neonatal discharge and family-integrated care. While established programmes report low rates of readmission and NG tube-related harm, local outcomes are often unmeasured, creating an evidence gap. This service evaluation quantified outcomes for infants discharged home on NG feeds, benchmarked findings against published literature, and identified safety signals requiring pathway redesign.

Methods:

This study included a retrospective service evaluation of all infants discharged home on NG feeds from Prince Charles Hospital (January 2020–December 2024). Anonymised data was extracted from BadgerNet and electronic health records. The primary outcome was 30-day readmission (all-cause and NG-related). Secondary outcomes included NG tube-related complications including displacement, duration of home NG feeding, and escalation to gastrostomy. Due to the small, skewed cohort, we reported medians and interquartile ranges (IQR) to describe central tendency and spread.

Results:

The cohort (n=14) was clinically complex: 71.4% were preterm and 57.1% required home oxygen. Median gestational age was 29.7 weeks (IQR 25.6–36.1) and median NG feeding duration was 237 days (IQR 168–950). We identified significant safety signals in the cohort: 30-day all-cause readmission occurred in 42.9% (6/14), with NG-related readmissions in 21.4% (3/14). Furthermore, 42.9% (6/14) experienced NG tube displacement. Two infants (14.3%) were referred for gastrostomy (7.1% completed). All key outcome rates exceeded published benchmarks. Infants with a primary diagnosis of a congenital disorder experienced longer NGT duration and higher complication rates compared to those with a primary diagnosis of prematurity.

Conclusions:

Our evaluation identifies a high burden of readmission and device-related complications, highlighting areas where the current NG discharge pathway can be strengthened. The findings support the development of a structured quality improvement programme focused on caregiver training, pathway standardisation and enhanced community support, providing a useful baseline for our unit, and potentially others, to review and monitor discharge safety.

Benchmarking clonidine use for neonatal analgesia and sedation across UK tertiary NICUs

Cosgrove E¹, Wyllie T¹

¹University Hospital For Wales

Background:

The BAPM Management of Neonatal Pain framework recommends consideration of clonidine for analgesia and sedation, representing a change for some units. In our tertiary surgical NICU, clonidine is not part of existing guidelines. We undertook a benchmarking exercise across UK tertiary neonatal units to inform guideline development.

Methods:

A structured survey was distributed to UK tertiary NICUs to evaluate clonidine use, place in therapy, presence of guidance, and dosing strategies. Responses were analysed descriptively. Subgroup comparison between surgical and non-surgical units was undertaken.

Results:

Twenty-three tertiary units responded, 14 surgical, 9 non-surgical. Clonidine was used in 19/23 (83%) units. Use was similar between surgical and non-surgical units (table 1), with no clear difference in place in therapy.

Clonidine was consistently positioned as an adjunct, typically introduced after morphine and often following escalation or cycling with fentanyl. Indications included inadequate sedation with opioids, opioid-sparing strategies, and facilitation of weaning.

Local or regional guidance was reported in 16/19 (84%) of units using clonidine. Where local policies were not yet established, units relied on PICU or national guidance, or pharmacist advice.

Dosing varied widely. Intravenous starting doses were most commonly 0.2-0.5 micrograms/kg/hour (range 0.1-1). Dose increments for IV infusion were typically 0.1-0.5 micrograms/kg/hour. Enteral starting doses ranged from 0.5-3 micrograms/kg per dose. No consistent differences in dosing strategy were observed between surgical and non-surgical units.

Conclusions:

Clonidine is widely used across UK tertiary NICUs as a second- or third-line adjunct to opioids, with consistent placement in therapy but variable dosing. No meaningful differences were identified between surgical and non-surgical centres. The small sample size and potential response bias, with under-representation of non-users, limit generalisability. These findings support the need for standardised guidance and will directly inform the safe and consistent implementation of clonidine use in our NICU through new local guidelines.

Image

	Use clonidine	Don't use clonidine	Total	% of units using clonidine
Surgical NICU	12	2	14	86
Non-surgical NICU	7	2	9	78
Total	19	4	23	83

NeoSIT: A National Neonatal Survey of Intubation for Transfer

Kershaw M¹, Harrison C^{1,2}, Adams E³

¹Embrace, Sheffield Children's NHS Foundation Trust, ²Leeds Centre for Newborn Care, Leeds Teaching Hospitals NHS Trust, ³Newborn Care Services, Oxford University Hospitals NHS Foundation Trust

Background

Neonatal intubation is life-saving but risks adverse tracheal intubation-associated events (TIAEs). Most published data come from neonatal intensive care units (NICUs), not special care units (SCUs) or local neonatal units (LNUs), where intubation is less frequent. The 2024 BAPM Neonatal Airway Safety Standard recommends premedication, checklists, video laryngoscopy (VL), high-flow nasal cannula (HFNC) oxygen, and availability of experienced staff. No prospective national UK data exists.

Methods

Prospective multicenter service evaluation. Questionnaire data on intubated infants referred to UK transport services was collected February to September 2025. Ten transport services contributed, including Scotland and Wales. Data was analysed by referring unit/team and by non-emergency versus emergency intubations. Measures included resident-doctor first attempts, consultant or advanced-practitioner presence, success within two attempts, TIAEs, and significant desaturation ($\text{SpO}_2 < 85\%$ for > 2 minutes).

Results

481 episodes were included; LNUs referred more infants $< 1000\text{g}$ (23.4% vs 8.3% SCU). For non-emergency intubations, LNUs had the lowest success: 40.7% on first attempt and 65.8% within two attempts, versus 45.6%/72.1% (SCU), 55.3%/89.5% (NICU) and 70.8%/87.5% (transport). Eventual success was $\geq 94\%$ across all units. Residents made most first attempts. LNUs also used premedication (70.8%) and checklists (67.4%) less frequently in non-emergency intubations. VL and HFNC were used infrequently nationally (28.9-38.8% and 6.3-22.1%). TIAEs and significant desaturation rose with each attempt (TIAEs to 37.5-51.2% beyond two attempts). Consultant or advanced-practitioner presence was high (80.0-98.0% non-emergency; 58.3-100% emergency); intubation was advised but not performed before transport arrival in only five cases.

Conclusions

Across the UK, neonatal intubation for transfer showed high senior presence and eventual intubation success. Success within 2 attempts was lower in LNUs and SCUs with lower use of premedication and checklists in LNUs. VL and HFNC use was low nationally. Encouraging checklists, premedication, video laryngoscopy, HFNC and resident airway skill training could improve intubation success and reduce complications.

Graphs

Table 1. Neonatal intubation practice and outcomes by unit level / transport team, non-emergency versus emergency, n (%).

Measure	SCU		LNU		NICU		Transport	
	Non-Emergency	Emergency	Non-Emergency	Emergency	Non-Emergency	Emergency	Non-Emergency	Emergency
Referral demographics								
Total referrals	192 (41.8%)		209 (45.5%)		58 (12.6%)		n/a	
Birth gestation < 27 weeks	10 (5.3%)		33 (15.8%)		13 (22.4%)		n/a	
Weight at transfer < 1000 g	16 (8.3%)		49 (23.4%)		12 (20.7%)		n/a	
Practice and outcomes (by performing team; n = 481)								
Intubation episodes	142 (81.1%)	33 (18.9%)	124 (65.3%)	66 (34.7%)	41 (74.5%)	14 (25.5%)	49 (80.3%)	12 (19.7%)
Premedication	116 (86.6%)	16 (55.2%)	80 (70.8%)	14 (24.6%)	34 (89.5%)	5 (38.5%)	45 (91.8%)	8 (66.7%)
Intubation checklist	91 (86.7%)	10 (50.0%)	58 (67.4%)	11 (28.9%)	29 (85.3%)	3 (37.5%)	41 (85.4%)	7 (63.6%)
HFNC	8 (6.3%)	2 (6.9%)	23 (22.1%)	2 (3.5%)	8 (21.6%)	1 (9.1%)	9 (18.4%)	0 (0.0%)
Video laryngoscopy	37 (28.9%)	6 (22.2%)	38 (37.3%)	14 (26.9%)	13 (36.1%)	2 (16.7%)	19 (38.8%)	4 (33.3%)
Success on first attempt	62 (45.6%)	18 (58.1%)	46 (40.7%)	26 (41.9%)	21 (55.3%)	8 (57.1%)	34 (70.8%)	8 (66.7%)
Success in ≤2 attempts	98 (72.1%)	24 (77.4%)	75 (65.8%)	41 (66.1%)	34 (89.5%)	10 (71.4%)	42 (87.5%)	11 (91.7%)
First attempt by resident doctor	85 (59.9%)	17 (51.5%)	78 (62.9%)	39 (59.1%)	21 (51.2%)	10 (71.4%)	27 (55.1%)	8 (66.7%)
Consultant / advanced practitioner present	117 (88.6%)	26 (81.3%)	99 (85.3%)	44 (71.0%)	32 (80.0%)	7 (58.3%)	48 (98.0%)	12 (100%)
Any TIAE	26 (20.5%)	9 (29.0%)	16 (14.8%)	19 (31.7%)	3 (7.7%)	3 (21.4%)	3 (6.1%)	2 (16.7%)
Significant desaturation	19 (15.0%)	9 (29.0%)	13 (11.7%)	13 (21.7%)	6 (15.4%)	2 (14.3%)	6 (12.2%)	4 (33.3%)

SCU, special care unit; LNU, local neonatal unit; NICU, neonatal intensive care unit; HFNC, high-flow nasal cannula; TIAE, adverse tracheal intubation-associated event. Significant desaturation = SpO₂<85% for >2 minutes. Percentages exclude unknown or not-known responses from denominators.

Building the Future Neonatal AHP Workforce in Scotland: A National Approach to Equity, Innovation & Integration

Cruickshank H¹, Blair H¹, Whyte Z¹

¹Nhs Lothian

Background:

The Scottish Government (SG) are currently working towards implementation of the Best Start programme for maternity and neonatal care in Scotland. Improvement and transformation of the neonatal allied health professional (nAHP) workforce is fundamental as part of the multidisciplinary team for both acute care and follow on care.

In May 2022, a nAHP workforce team funded by SG, highlighted a large gap in service provision for all nAHPs across the country.

Methods

Site visits to all 14 Neonatal Units across Scotland

Pre- and post visit questionnaires distributed to all AHPs, specifically targeting those likely to be involved in or impacted by gaps in specialist nAHP provision

Engagement with AHPs, neonatal & paediatric teams, parents, finance & management

Review of staffing, supervision, education, and service challenges

Results

1. Repatriation: nAHPs have an essential role to play in the consistency of communication in this area to ensure optimal baby and family outcomes.
2. Funding: Most nAHP roles are often funded by paediatric and not neonatal services making them vulnerable to be pulled when stretched.
3. Wellbeing: Staff frequently commented on being stretched/working over their hours and feeling undervalued. Temporary funding creating a lack of job security and anxiety in the workforce.
4. Education: Due to insufficient funding of nAHPs the ability to provide education, supervision and training is severely limited.

Conclusions

-A fully funded, integrated nAHP workforce is essential for delivering safe, equitable, high-quality neonatal care

- Investment in nAHPs supports early intervention, improves outcomes, and aligns with public health priorities

-Early engagement by nAHPs creates a lifelong difference to families and their babies

-A fully funded nAHP workforce is essential for transformational care enabling Best Start to be successfully implemented

-By investing in nAHPs, Scotland can lead in providing exemplary care and support to its youngest and most vulnerable citizens

Developmental Dysplasia of the Hip: Evaluating Compliance with the Newborn and Infant Physical Examination Cymru (NIPEC) Screening Standards at the University Hospital of Wales

Subba S¹, Eriksen P¹, Hayward R¹

¹Neonatal Intensive Care Unit (NICU), University Hospital Of Wales

Background/Introduction: Developmental Dysplasia of the Hip (DDH) is a key component of the NIPEC examination, which recommends selective ultrasound screening for infants with recognised risk factors, ideally by ≤ 8 weeks. NIPEC uses a broader referral approach than the English NIPE criteria; incorporating additional mechanical, neuromuscular, and positional factors to maximise early detection. This expanded scope reflects local clinical practice and orthopaedic priorities. This service evaluation assessed performance against NIPEC DDH ultrasound standards at the University Hospital of Wales.

Aim: To determine whether infants referred for DDH screening received hip ultrasound scans within the NIPEC-recommended timeframe of ≤ 8 weeks, and to assess compliance across gestational groups.

Methods: A sample of 991 referrals from 2024–2025 was analysed. Extracted variables included referral date, gestational age, corrected gestation at scan, scan date, referral indication, and ultrasound outcome. Compliance with the NIPEC standard was assessed, with subgroup analysis for infants < 34 weeks and ≥ 34 weeks gestation, including reason for referral and scan outcomes.

Results: Data from 991 infants were analysed. Only 69 were scanned by 8 weeks (7.59% compliance). The median age at scan was 20.4 weeks, and the median referral-to-scan interval was 141 days. Compliance was 3.85% in infants < 34 weeks and 6.6% in those ≥ 34 weeks. A total of 126 infants had > 1 risk factor, contributing to 1,117 recorded risk factors. Common referral indications included breech presentation (38%), talipes (17%), clicky hips (17%), and family history (9%). 1.7% ($n=17$) of referred infants had abnormal scans. Of 41 infants referred with a positive Ortolani or Barlow sign, only 3 had abnormal findings (92% false-positive rate).

Conclusion: Compliance was poor with delays across all gestations. High referral volumes from our broad screening approach have strained radiology capacity. Low yield and inconsistent examination findings support the need for more capacity, better training, and pathway review.

Golden Hour Antibiotics: Identifying and Reducing Delays to Antibiotic Administration in Suspected Neonatal Sepsis

Simmons L¹, Patel P¹, Morris J

¹Croydon University Hospital

Background:

NICE recommends neonates requiring antibiotic treatment receive this as soon as possible and always within one hour of the decision to treat. Delayed antibiotic administration is associated with increased 14- and 30-day mortality. In July 2025, 38 infants were commenced on antibiotics across the neonatal and postnatal wards. Only 42% (16/38) received antibiotics within one hour of the decision to treat. Furthermore, documentation of decision-making time was frequently absent, limiting accurate identification of delays. To improve awareness of the need for efficiency and data capture, standardised templates were introduced for nursing documentation of antibiotic administration and for neonatal team documentation at delivery attendance, including when decisions to treat were made.

Methods:

Following introduction of these templates, data was collected between February -March 2026 for neonates commenced on antibiotics across the neonatal and postnatal wards. Time of decision to treat and time of antibiotic administration were recorded and analysed and any reasons for delay in antibiotic administration. The primary outcome examined was administration of antibiotics within one hour of decision to treat.

Results:

Data was collected for 41 neonates. Overall, 63% (26/41) received antibiotics within one hour of the decision to treat, compared with 42% (16/38) in the previous audit cycle. Where documented, difficult intravenous access was identified as the reason for all delays exceeding one-hour.

Conclusions:

Introduction of documentation templates was associated with improved capture of decision-making and treatment timings, enabling more reliable identification of delays. Compliance with the NICE one-hour standard also improved compared with the previous audit cycle. However, a substantial proportion of neonates continued to receive antibiotics beyond the target timeframe. Difficulty intravenous access was consistently identified as the principal barrier, providing a clear target for future quality improvement work, including cannulating on labour ward strategies and the potential for first antibiotic doses to be intramuscular.

A Service Evaluation (10 year) of Blood Culture positive Neonatal Sepsis

Aston E¹, Orr D², Dharmaraj S²

¹University Of Manchester, ²Lancashire Teaching Hospitals NHS Foundation Trust

Background: Neonatal sepsis remains a significant cause of neonatal morbidity and mortality worldwide. Using neonatal blood culture data, this service evaluation aimed to study the incidence, microbiology, and short-term clinical outcomes of neonatal sepsis at a tertiary NICU (neonatal intensive care unit) over a 10-year period.

Methods: As part of Infection Prevention and Control monitoring, blood culture data were collected from babies screened for suspected sepsis (Postnatal ward and NICU admissions) between 2016 and 2025. Babies with true positive blood cultures were identified from this prospectively maintained dataset. Demography, clinical characteristics, causative organisms, and short-term outcomes were reviewed.

Results: Of 7,210 blood cultures taken during the study period, 312 (4.3%) were positive for growth of an organism/organisms and 6,898 (95.7%) were negative. Of the positive cultures, 171 (54.8%) were contaminants. 126 (excluding 15 repeat cultures from the same episode) true positive cultures were evaluated, comprising 31(24.6%) Early Onset Sepsis (EOS) and 95 (75.4%) Late Onset Sepsis (LOS) cases. Overall sepsis rates demonstrated a downward trend over the study period (Figure 1), with mean rates of 0.73/1000 live births (LB) for EOS and 2.24/1000 LB for LOS. EOS was commonly caused by Group B Streptococcus and Escherichia coli, while LOS by Staphylococcus epidermidis, E. coli, and Staphylococcus haemolyticus, frequently linked to central line use. Prematurity and low birth weight were strongly associated with LOS and were characterised by longer hospital stays and higher rates of comorbidities. EOS cases had shorter admissions and fewer comorbidities. Mortality was 23% for EOS and 16% for LOS.

Conclusions: Neonatal sepsis rates at Royal Preston Hospital are lower than published UK national averages. LOS continues to disproportionately affect premature and low birth weight infants, highlighting the importance of targeted preventive measures, particularly in relation to Central Line Infections. Reducing blood culture contaminant rates remains a priority.

Graphs

Figure 1 - EOS and LOS Rates per 1000 Live Births over a 10-year period



Preventing prescribing errors in neonatal intensive care through pharmacist integration in ward rounds

Wyllie T¹, Miles T¹

¹University Hospital Of Wales

Background

Medication prescribing in neonatal intensive care is complex and high risk, particularly in critically unwell infants receiving multiple therapies. Pharmacists are increasingly embedded within multidisciplinary teams (MDTs), but the potential clinical impact of their role at the point of prescribing is not well described for a broader neonatal audience.

Methods

A prospective service evaluation was conducted over eight weeks in a 32-cot tertiary neonatal unit. Pharmacists recorded medication-related interventions during routine clinical practice using a structured electronic tool. Drug-related problems (DRPs) were classified using a modified Pharmaceutical Care Network Europe framework and categorised as manifest (reaching the patient) or potential (identified before administration). Intervention characteristics, clinical context, and outcomes were analysed descriptively.

Results

Pharmacists reviewed 91 patients on 789 occasions over the study period. Fifty-one interventions were recorded (6.4/week), with 76% occurring in intensive care. Most interventions took place during consultant-led ward rounds (71%).

DRPs were classified as manifest (53%) or potential (47%). Of 36 ward round interventions, 19 (53%) addressed potential prescribing errors prior to administration, including near-miss events.

Treatment effectiveness issues were most common (59%), frequently due to suboptimal dosing or untreated indications. Dose selection was the leading underlying cause (49%). High-risk medicines, including antibiotics, analgesia and cardiovascular therapies, were frequently involved.

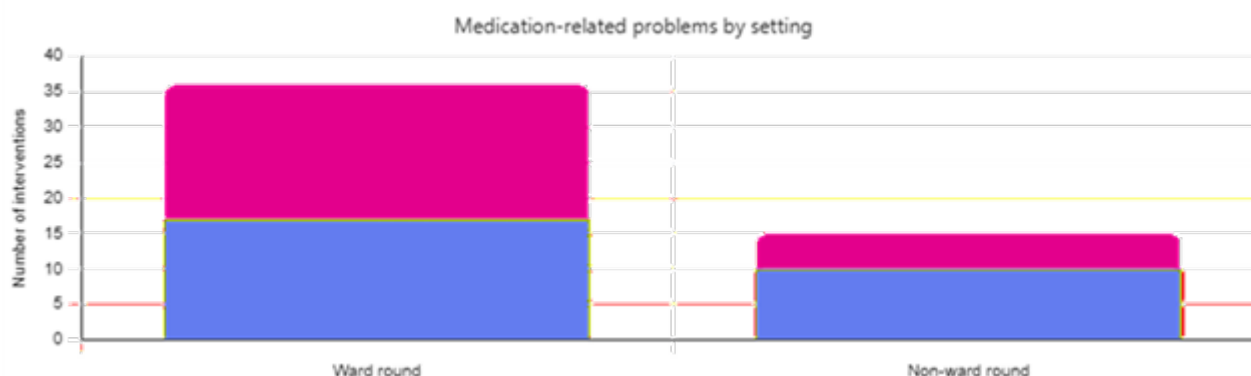
Ninety percent of interventions were accepted, with 4% accepted with modification.

Conclusions

Integration of pharmacists into neonatal ward rounds enables real-time identification and interception of prescribing errors, including near-miss events, at the point of decision-making. Although all identified events were low or no harm, their frequency and involvement of high-risk medicines highlight ongoing prescribing risk in neonatal care.

These findings demonstrate that pharmacist participation in MDT ward rounds supports safer prescribing, optimises treatment, and provides a proactive safety layer within high-risk neonatal populations.

Graphs



High Risk Neurodevelopmental Follow Up Clinic Pilot Project: 3-month Corrected Age (CGA) Outcomes

Evans R¹, Brennan L, Davis A, Mantle K, Hotze M

¹Royal Wolverhampton NHS Trust

Background: Our Level 3 Neonatal Unit has an established and embedded Inpatient Allied Health Professional (AHP) Team. The focus has now moved to considering multidisciplinary neurodevelopmental follow up (NICE, 2017). With no additional funding, the AHP Team were keen to explore whether some form of follow up could be provided, balancing this with existing inpatient provision.

Method: A pilot project was established; 16 infants born <28 weeks between September 2024-2025, to be assessed at the following time points; 3 months CGA, 12 months CGA and 24 months CGA. The results shared are following the 3-month CGA assessments.

The NEOEat Questionnaire and the Prechtl General Movement Assessment (GMA) Assessment were carried out by a Neonatal Speech and Language Therapist (SLT) and/or a Neonatal Physiotherapist (PT)/ Neonatal Occupational Therapist (OT).

Results:

14 out of the 16 infants invited attended. Of these:

- 4/14 scored absent fidgety on Prechtl GMA (identified as high risk for Cerebral Palsy)
- 1/14 scored abnormal exaggerated fidgety
- o 6/14 infants were already known to Community PT, a further 7 were referred following clinic
- 3/14 were identified with feeding needs
- o 2 were offered advice and 1 home visit was carried out (no onward referrals to Community SLT required)
- 3/14 were identified with growth concerns; subsequently referred to Community Dietitian
- All were provided with anticipatory weaning guidance, developmental OT advice and EISMART resources

Conclusion: Multidisciplinary neurodevelopmental follow up with a specialist Neonatal AHP workforce is key for early identification of neurodevelopmental concerns and early intervention.

Once the pilot project has been completed, there will be a full data set regarding infant outcomes, family feedback and the impact of the clinic on existing inpatient provision. This will be supportive for determining feasibility of on-going clinics, future business case planning within our own unit and more widely.

Addressing Gaps in Breastfeeding Expertise: Development of a Clinician-Led Breastfeeding Clinic

Busuttil S¹, Bland R¹

¹Royal Hospital For Children

Background

Breastfeeding training for medical staff is limited, leading to inconsistent advice that may conflict with guidance from infant feeding advisors (IFA). To address this, we established a novel consultant-led breastfeeding clinic.

Methods

A retrospective review of infants referred to the clinic (January 2021–July 2025). Data were extracted from BadgerNet and medical records, under Caldicott approval, including perinatal factors, feeding intentions, referral indications, diagnoses, management and feeding outcomes at 3-6 months.

Results

277 infants were referred (including 74% from GPs and 12.3% from IFA) mainly for poor weight gain (PWG) (51.3%), gastro-oesophageal reflux (15.7%), breastfeeding difficulties (8.3%), and cow's milk allergy (7.1%). Of these, 264 intended to breastfeed at birth; 238 had early skin-to-skin contact, and 126 initiated feeding within the first hour.

At first clinic review (FCR), 42.6% were exclusively breastfeeding (EBF), 36.5% mixed feeding (MF), 6.9% formula feeding (FF), and 13% weaning. Among those intending to breastfeed, 61.4% had introduced formula before FCR. Prior to referral, 59 infants were reviewed in hospital, 149 were started on medication or had formula changes, and 5 were advised routine formula top-ups.

At 3-6 months (n=254 with available data), 56.7% were EBF, 4.7% breastfeeding with high calorie formula supplementation, 22.4% MF, and 16.1% FF; 29.3% of those FF had planned this from birth. Among those intending to breastfeed but FF at 3-6 months, most had already transitioned to FF or MF at FCR. Follow-up ranged from 0–30 contacts (median 1). 12 (4.3%) used a nursing supplementer. Only 1.2% of infants referred with PWG had an underlying medical diagnosis.

Conclusions

This medically-led infant feeding clinic demonstrates that timely, accessible support can reduce unnecessary medicalisation of feeding issues and improve breastfeeding outcomes. Over half of participants remained EBF at 3-6 months despite early difficulties, substantially exceeding the UK national average (~1-17%).

Graphs

Feeding Prior to Clinic.pdf (could not be inserted)

Image

Clinic Referrals.pdf (could not be inserted)

Understanding Neonatal Pain Management Practices across two neonatal ODNs

Chadwick C¹, Silva M², Hibberd S³, Lawes A⁴

¹University Hospitals Sussex Nhs Foundation Trust, ²Kent Surrey & Sussex Neonatal ODN, ³University Hospital Southampton NHS Foundation Trust, ⁴Thames Valley and Wessex Neonatal ODN

Background:

Publication of the BAPM (British Association of Perinatal Medicine) framework for neonatal pain management and anecdotal reports of varied practice prompted a review of current practice across two neonatal operational delivery networks (ODNs). The aim was to quantify variation and identify opportunities for standardisation to support best practice.

Method:

A survey was distributed to multidisciplinary staff across all neonatal units in both ODNs. The survey included quantitative and qualitative questions, exploring pain management guidelines, assessment tools, non-pharmacological and pharmacological interventions and staff education.

Results:

Eighty-six responses were received, representing 24 of 27 neonatal units. Respondents included nurses (56%), doctors (18%), allied health professionals (9%), advanced neonatal nurse practitioners (7%), pharmacists (6%) and others (5%).

Most respondents (71%) reported having a local pain guideline; 16% reported none, and 13% were unsure.

Pain assessment tools varied: N-PASS (28%) was most common, followed by SCREAMS (19%), CRIES (9%), ALPS-Neo (7%) and other (13%). Notably, 12% reported no pain assessment scale in use, and 13% were unsure.

Descriptions of pain assessment practice were inconsistent, but with general themes: scheduled, as required, variable, or unclear.

Pain management interventions offered are described in Table 1: Pain management interventions in routine use at the respondent's neonatal unit

Non-pharmacological strategies were commonly reported for cannulation, heel pricks and lumbar punctures, while analgesia was reported primarily for intubation, chest drain insertion, and post-surgical pain.

Most respondents had received local training; however, only 33% of respondents had received accredited training, and 21% reported no training.

Conclusion:

Substantial variation exists across neonatal pain management, including guideline availability, assessment, intervention, and staff training. A co-ordinated regional approach is required to standardise practice and support equitable, evidence-based care. In response, a regional neonatal pain group has been established to support standardisation and best practice, aligned with the BAPM framework.

Image

Pain management intervention	Respondents who/whose unit would provide the intervention (%)
Non-pharmacological interventions	
Non-nutritive sucking	99
Swaddling	93
Sucrose	92
Positioning	91
Expressed breast milk	90
Skin-to-skin care	89
Parent involvement	87
Sensory environment optimisation	85
Breastfeeding	67
Hand hug	57
Two-person cares	41
Facilitated tucking	41
Containment holding	3
Pharmacological interventions (analgesia)	
Morphine	95
Paracetamol	94
Fentanyl	66
Clonidine	41
Ketamine	10
Gabapentin	9
Dexmedetomidine	1
Others	16

Table 1: Pain management interventions in routine use at the respondent's neonatal unit

Low sugar, high efforts: a retrospective analysis of hyperinsulinism admissions in a tertiary neonatal unit.

D'Silva N¹, Hassim K¹, Wanigasekara R¹, Wai P¹, Dubus M¹

¹Queen Alexandra Hospital, Portsmouth Hospitals University NHS Trust

Background:

Hyperinsulinism (HI) is the commonest cause of persistent hypoglycaemia in infancy. Maternal diabetes impacts 2-5% of pregnancies, and infants of diabetic mothers (IDM) are at risk of transient hyperinsulinism (tHI). Research focuses on persistent HI, however a large burden to neonatal services is the rising proportion of tHI.

Aim:

The abstract reviews the proportion of tHI in our tertiary neonatal unit, seeking to understand if this is linked to rising rates of IDM, whilst highlighting the concurrent burden to neonatal services and families.

Methodology:

We performed a retrospective analysis of infants with HI admitted in a UK tertiary neonatal unit over 5 years (January 2021 – December 2025). Cases were identified from two electronic databases (Badgernet, and Minestrone – local database). HI was defined by levels of blood glucose <3.0mmol/ml and insulin >12pmol/L or 2mu/L. Statistical analysis was undertaken with Microsoft Excel.

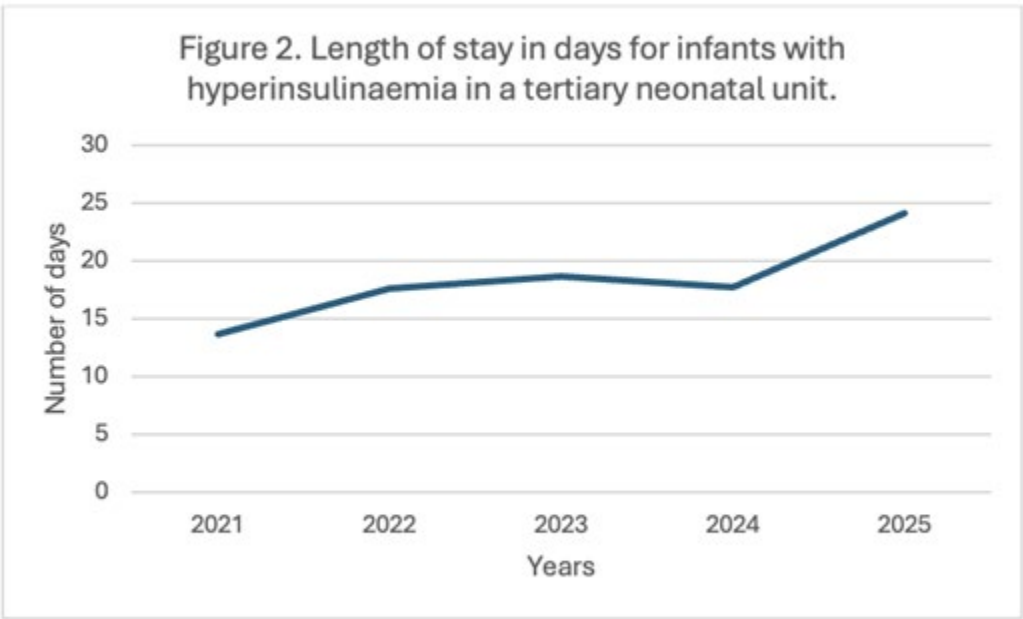
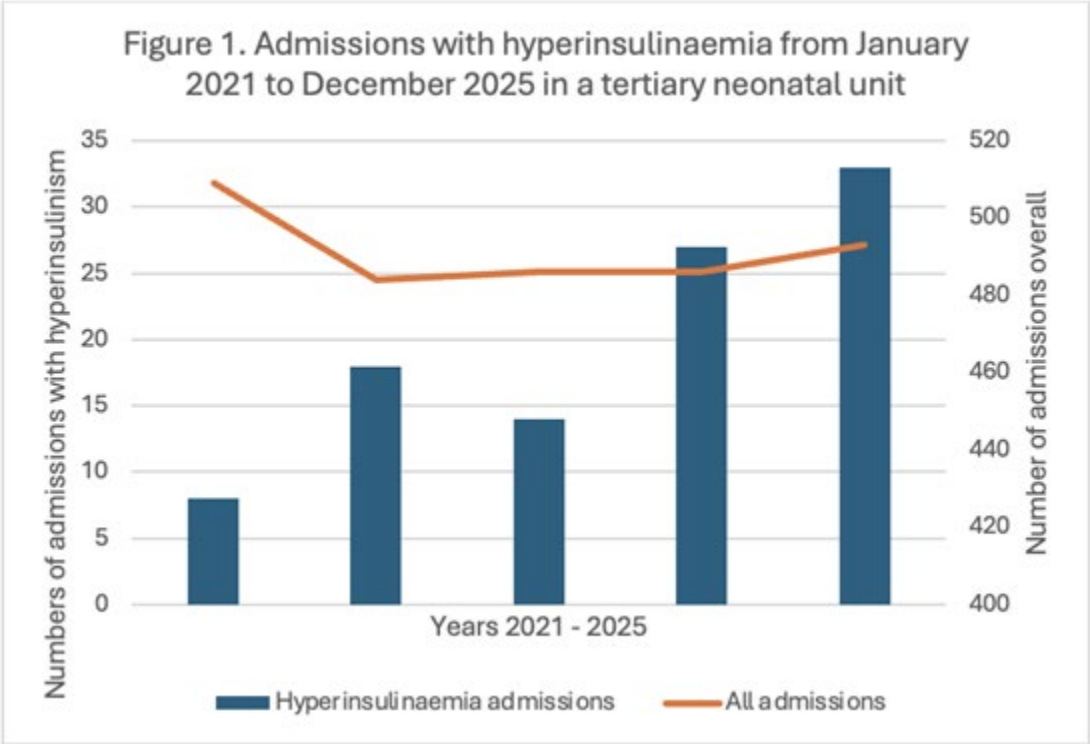
Results:

Over 5 years, 100 infants were admitted with HI. There is a trend of increasing admissions with HI when overall admissions remained similar (Figure 1). Of the babies with HI, 95% were born locally and 5% were regional transfers. 88 infants had at least one positive hypoglycaemia screen (HS), of which 82.9% were taken <24 hours age. There is an increasing average length of stay over time (Figure 2). It is unclear if this reflects increasingly challenging HI or changing management. The proportion of IDM was similar year on year, as the overall admission numbers were increasing- this reflects the increasing incidence of IDM.

Conclusion:

Our study highlights the increasing proportion of tHI admissions, and the challenges in diagnosis and management. Given the average length of stay, we recommend incorporating counselling to set familial expectations. Further work might include analysing if HS at >24hours' age might better characterise clinical course and severity of HI.

Graphs



Image

Results summary	
n=100	
Gestation age: Mean (IQ1, IQ3)	36+3 (34+1,37+4)
Birth weight: Mean (IQ1, IQ3)	3154g (2414g-3807g)
% of babies born locally: Regional transfers	95%:5%
Lenth of stay: Mean (IQ1, IQ3)	19.6 (11,23)
% Large for gestation age (LGA), Small for gestation age)	50%, 26%
% term, preterm (Late preterm, very preterm)	38%, 62% (95%, 5%)
% of babies who had the first <u>hyposcreen</u> <24hrs, >24hrs	82.9%, 17%
Number of <u>hyposcreens</u> per baby: Mean, IQ3	1.5, 2
% babies with >1 <u>hyposcreen</u> during admission	21%
% babies born to diabetic mothers	49%
% babies who were discharged on diazoxide	4%
% babies who had genetic testing performed due to hyperinsulinism (% positive genetics)	4% (75%)

Understanding the Role of Point-of-Care Ultrasound (POCUS) in Neonatal Transport.

Forsyth S¹, Rajaraman N², Montasser M³

¹NHS Greater Glasgow and Clyde, ²West Midlands School of Paediatrics, ³University Hospital Wishaw, ScotSTAR Neonatal Transport Service

Background:

Point-of-care ultrasound (POCUS) is increasingly used in neonatal intensive care, yet its application in neonatal transport settings remains poorly characterised. No national data previously existed describing POCUS practice across all UK neonatal transport services (NTS). We aimed to characterise the current use, governance, training, and clinician perceptions of POCUS across UK NTS.

Methods:

A national cross-sectional online survey was distributed to clinicians of all grades working within all 13 UK NTS between March and May 2026. Domains included current POCUS use, indications, equipment, governance, training, documentation, and clinician belief in POCUS value. Descriptive statistics and thematic analysis of free-text responses were applied.

Results:

Eighty-one responses were received, representing all 13 UK NTS. Ten services (76.9%) reported POCUS use by at least one clinician. The most common current indications were cranial ultrasound (78.7%), central line confirmation (76.6%), cardiac POCUS (68.1%), and lung POCUS (66.0%). Scanning was performed at the referring unit prior to departure in all cases. Over half (52%) of POCUS-using services had no formal guideline or standard operating procedure. Nearly two thirds of operators (62.9%) had completed a formal accredited course; however, training routes were heterogeneous. Image archiving was absent in almost all services; 94% of operators documented findings in handwritten notes only. The mean clinician belief score for POCUS in transport was 8.3/10. Over 80% of respondents endorsed cardiac POCUS, cranial ultrasound, and line confirmation as future indications; lung POCUS was supported by 77.8%. Key barriers identified were training, governance, equipment, and documentation infrastructure.

Conclusions:

POCUS is widely adopted across UK neonatal transport services, with strong clinician support for further expansion. A nationally coordinated framework – encompassing transport-specific indications, credentialing pathways, and electronic image governance – is urgently needed. This survey provides the first national baseline from which such developments can be measured.

The Scottish Cooling Group: Eight year audit of a National Neuroprotection Pathway

Farquharson S¹, Dunn L², Smee N³, Psiouri L³, Jackson A⁴, Jackson L¹, Bhushan S⁵, Boyd D¹, McEwan T⁶, Becher J²

¹Royal Hospital for Children, ²Simpson Centre for Reproductive Health, ³Aberdeen Maternity Hospital, ⁴Princess Royal Maternity Hospital, ⁵Ninewells Hospital and Medical School, ⁶Public Services Delivery Scotland

Background: The Scottish Cooling Group (SCG) was established in 2009 to support implementation of therapeutic hypothermia (TH). The SCG facilitates delivery of standardised, high-quality, timely care, supported by education and audit of performance annually.

Methods: The SCG developed a national Neuroprotection Care Pathway (NCP) supported by resources for use throughout TH. The SCG supports education through national training days and online video resources which were created with PEEPS charity and NHS Education Scotland, including neurological examination, parental communication and practical equipment aids.

The National Neonatal Network and National Services Scotland, on behalf of the SCG, undertook procurement processes so all units now employ servo-controlled TH and CFM monitoring. All cases of TH have been audited annually from 2017 against performance standards (Table 1) and noncompliant cases reviewed nationally. Data from 2017-2024 is presented.

Results (See Table 1 for full):

- 358 infants were cooled following perinatal asphyxia. 56 infants died.
- All infants identified as eligible by 6hrs of age were cooled. No infants without encephalopathy were cooled.
- Median time to target temperature was 226 minutes. 57/358 (16%) reached target temperature >6hrs of age.

Conclusion:

As a result of high-quality educational resources and a standardised national framework, Scotland has shown universal access to TH. The cohort has low rates of overcooling and there has been increasing compliance with imaging in the target timeframe. The majority of babies reach target temperature by six hours of age, with challenges persisting in outborn infants. The rate of cooling in mild HIE has remained low and stable over time in contrast with other reported literature, demonstrating how a standardised framework has resulted in minimal therapeutic creep. The SCG plays a key national role in the provision of timely, appropriate and safe TH, and is committed to providing evidenced-based care for babies with HIE.

Image

Table 1: Findings of National TH audit

Audit standard	Total	2017	2018	2019	2020	2021	2022	2023	2024
All infants identified as eligible should have access to cooling	358/358	52/52	60/60	40/40	37/37	44/44	45/45	40/40	40/40
A target temperature of 33-34°C is reached within 6 hours of life*	293/350* 84%	46/51* 90%	47/58* 81%	35/38* 92%	28/36 78%	38/43* 88%	38/45 84%	30/40 75%	31/39* 79%
- Infants born within a cooling centre*	229/266* 86%	36/38* 95%	32/39 82%	23/24* 96%	19/24* 79%	33/38 87%	35/40 88%	25/33 76%	26/30* 87%
- Infants born outside of a cooling centre*	62/82* 76%	9/12 75%	15/19* 79%	12/14* 86%	8/11* 73%	5/5* 100%	3/5 60%	5/7 71%	5/9 56%
Infants are not overcooled (lowest temp not below 32.5°C)*	316/342* 92%	44/52 85%	55/58* 95%	39/40 98%	33/36* 92%	36/41* 88%	44/44* 100%	34/37* 92%	31/33* 94%
MRI undertaken at day 5-14 (excluding deaths)	269/302 89%	36/47 77%	43/52 83%	32/35 91%	26/31 84%	30/33 91%	36/38 95%	32/32 100%	34/34 100%
Number cooled without evidence of hypoxia ischemia at birth	16/358 4%	3/52 6%	5/60 8%	3/40 8%	1/37 3%	0/44	0/45	1/40 3%	3/40 8%
Infants cooled with mild encephalopathy only	52/358 15%	6/52 12%	9/60 15%	6/40 15%	9/37 24%	5/44 11%	3/45 7%	8/40 20%	6/40 15%
Infants undergo neurodevelopmental follow-up at 2 years	Data collection ongoing at time of submission								

*Infants with missing data excluded, total babies born in cooling centre: 271, born outside of a cooling centre: 87

Curriculum Mapping as a Quality Assurance Tool for Neonatal Education: Evaluation of a Tertiary Neonatal Teaching Programme

Ramlogan K¹, Rajkumar J¹, Abdalla S¹, Sasidharan L¹, Sodhi H¹, Okoye G¹

¹King's College Hospital

Background

The RCPCH Progress+ curriculum places increasing emphasis on capability-based training and demonstration of curriculum coverage. In high-acuity neonatal units, service pressures may influence exposure to curriculum competencies and educational opportunities. Curriculum mapping offers a structured approach to evaluating educational provision and identifying gaps within the learning environment.

Methods

A retrospective service evaluation of a tertiary neonatal teaching programme was undertaken over a six-month period (March–August 2025). Teaching activities recorded within a departmental database were mapped to RCPCH Progress+ Neonatal Curriculum learning outcomes and key capabilities using a structured curriculum mapping tool. Teaching modality, faculty type and curriculum coverage were analysed using descriptive statistics. Mapping was limited to a maximum of two learning outcomes and two key capabilities per session in accordance with Neonatal CSAC guidance.

Results

108 teaching activities were identified. Perinatal meetings (22.2%), consultant-led teaching (18.5%) and Grand Rounds (16.7%) accounted for most sessions. Broad curriculum coverage was demonstrated across all curriculum learning outcomes, with greatest representation within clinical care of the critically ill neonate. Strong coverage was identified in maternal and fetal medicine, communication and counselling, and multidisciplinary follow-up. However, no sessions addressed neonatal transport and haematology. Practical skills teaching accounted for only 1.9% of sessions, with limited simulation-based learning opportunities. Registrar-led teaching represented 4.6% of activities and was inconsistently delivered. The programme was predominantly didactic in format.

Conclusions

Curriculum mapping demonstrated good overall alignment between the teaching programme and the RCPCH Progress+ Neonatal Curriculum while identifying important gaps in transport medicine, haematology, simulation, procedural skills and trainee-led education. The findings informed targeted educational planning and highlight the value of curriculum mapping as a practical quality assurance tool for neonatal training programmes. This methodology is readily transferable to other neonatal units seeking to evidence curriculum coverage and optimise educational provision within a capability-based training framework.

Timing Matters: A retrospective review evaluating the need for pre-emptive blood transfusion consent in infants <32 Weeks' Gestation

Philip E¹, Nallagonda S¹

¹Luton And Dunstable Hospital

Introduction: Informed parental consent for blood transfusion is a legal and ethical requirement before administering blood components to neonates, except in life-threatening emergencies.

National standards (NICE, NHSBT guidance) recommend clear documentation of consent with discussion of risks and benefits in the medical record.

It is routine practice in neonatal units to take pre-emptive consent for transfusion on admission (or during antenatal counselling) for infants <32 weeks. However, research shows that parents do not fully retain or understand information given during this period due to acute stress, fear and information overload, which affects the validity of their consent.

Aim: To evaluate the frequency of transfusions and timing of 1st transfusion in neonates ≤32 weeks gestation, to analyse if pre-emptively consenting for transfusion remains best practice or if consent taking can be delayed until transfusion is necessary.

Methods: Retrospective review of Badgernet data over 6 months (1st Dec 2025- 31st May 2026), and blood transfusions records. **Eligibility criteria:** All neonates born between 22+0 and 32+6 weeks gestation. **Data collected:** 1. Number of babies undergoing red cell, platelet or FFP transfusion during hospital stay (Exchange transfusions excluded) 2. Mean day of life (DOL) when first transfusion occurred.

Results: 72 babies admitted during defined data collection period. 26 babies underwent transfusion.

- 100% of babies ≤24 weeks required transfusion, 90% occurred in week 1
- 55.5% of babies between 25-28 weeks gestation required transfusion in Week 1
- 37.5% of 29-30 weekers required transfusion, Average day of life during 1st transfusion 21
- 0% of 31-32 weekers required transfusion

Conclusion: Only a small proportion of neonates ≥29 weeks require transfusion during admission. We suggest neonatal units consider delaying taking prospective consent in age groups where transfusion does not often take place in the first week of life, allowing greater opportunity for informed consent and reduction in parental anxiety and information overload during initial days of admission

Impact of changes to RSV immunisation protocol: experience of a tertiary neonatal unit

Hassim K¹, Chowdhury O¹

¹Queen Alexandra Hospital, Portsmouth Hospitals University NHS Trust

Introduction:

Respiratory syncytial virus (RSV) is a pathogen which commonly causes lower respiratory tract infection in the paediatric population. In 2023 the UK JCVI issued statements supporting Nirsevimab (long-acting monoclonal antibody) rather than previously-used Palivizumab for RSV immunisation (1). There were subsequent changes made in 2025 to neonatal eligibility criteria for the RSV vaccination (2).

Methods:

This was a retrospective review of electronic medical records of babies eligible for RSV immunisation in the 2024/25 and 2025/26 seasons at Queen Alexandra Hospital (QAH), Portsmouth. Data was gathered separately relating to full course of immunisation, costs and significant RSV infection post-immunisation.

Results:

At QAH there was a nearly three-fold increase in the number of babies eligible for RSV immunisation with Nirsevimab versus Palivizumab (32 vs 94). If eligibility criteria had remained the same it would have been only 11 additional babies, representing annual fluctuations. There were two recorded cases of RSV in the immunised population in 2024/25 and one case recorded in 2025/26 (6% vs 1%), with one of the cases in 2024/25 season requiring PICU admission. The direct medicine-related costs showed a 139.4% increase (£79,267 vs 189,833). However, there was a decrease in cost per immunised baby from £2642.23 in 2024/25 to £2157.19 in 2025/26, an 18% cost-reduction per baby. There was an increase in complete immunisation course being administered from 50% in 2024/25 to 96% in 2025/26.

Conclusion:

There has been an increase in the number of babies requiring immunisation given new guidelines, but better coverage related to single dosing. There appear to be reduced rates of both RSV infection and associated PICU admission in the very first season of Nirsevimab roll-out.

References:

- (1) Respiratory syncytial virus (RSV) immunisation programme for infants and older adults: JCVI full statement, 11 September 2023 - GOV.UK
- (2) Green Book Chapter 27a RSV

Are we managing the well, jaundiced baby as efficiently as we can?

Lu M¹, Rahman M¹

¹Royal Alexandra Children's Hospital, ²Brighton and Sussex Medical School, ³Royal Sussex County Hospital

Neonatal jaundice is common and usually self-limiting. However, prolonged jaundice (PJ) may indicate underlying metabolic, endocrine, or hepatobiliary disease requiring timely investigation. The National Institute for Health and Care Excellence (NICE) provides guidance for the assessment of infants with PJ. Biliary atresia (BA), although rare, is a serious cause of neonatal cholestasis and the leading indication for paediatric liver transplantation. A nurse-led PJ clinic was established at the Royal Alexandra Children's Hospital (RACH) in 2018 and has refined protocols for assessing PJ cases, improving diagnosis and management in line with updated guidelines.

The study aims to evaluate the effectiveness of the RACH nurse-led PJ clinic by determining the proportion of infants reviewed within the recommended timeframe, the proportion completing recommended investigations at the first visit, and the identification of infants requiring further assessment for BA or other significant pathology between January 2022 and October 2024.

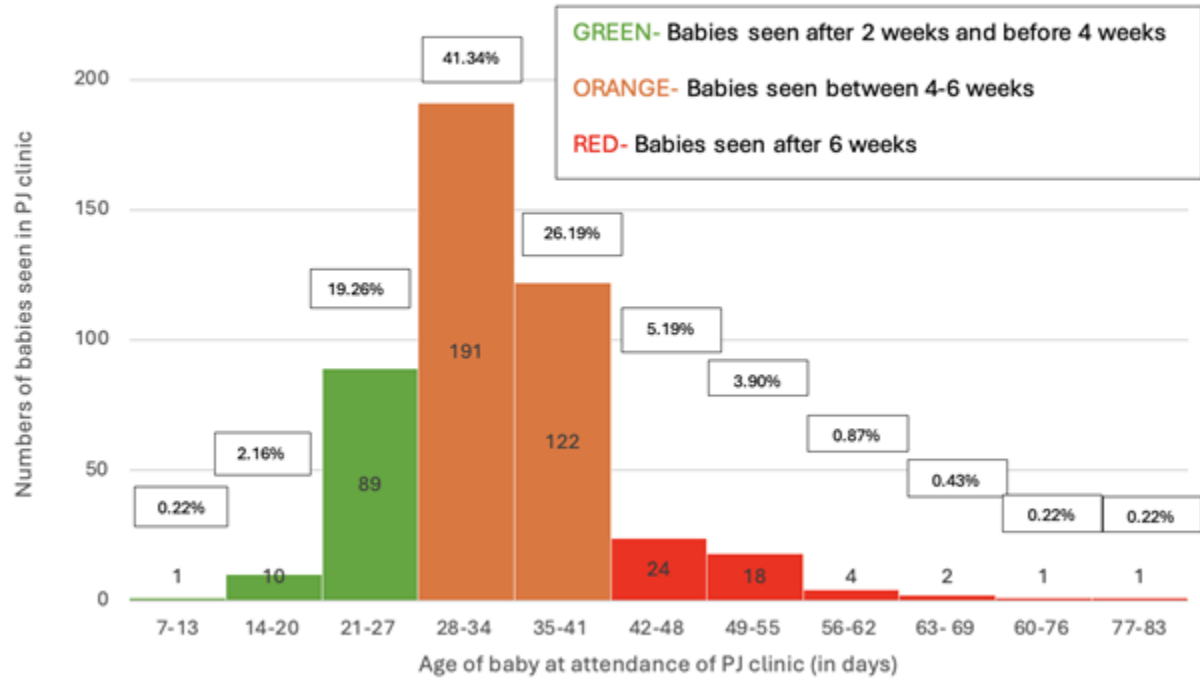
A retrospective service evaluation was conducted of infants attending the nurse-led PJ clinic over 33 months (January 2022–October 2024). Clinical records and laboratory results were reviewed using the Trust's electronic systems. Descriptive statistics were used to analyse age at assessment, investigation completion rates, and clinical outcomes.

Of the infants reviewed, 21.6% were seen before 4 weeks of age, 67.5% between 4-6 weeks, and 10.8% after 6 weeks. The highest proportion attended between 28 and 34 days of age. Recommended investigations were completed at the first visit in 52% of cases. Infants with conjugated bilirubin >25 µmol/L underwent further assessment. No cases of BA or other significant pathology were identified.

The nurse-led PJ clinic effectively assessed infants with prolonged jaundice and appropriately identified those requiring further investigation. Opportunities for improvement include increasing reviews by 4 weeks of age, improving first-visit investigation completion rates, and implementing a two-tier investigation pathway to reduce unnecessary testing and follow-up visits.

Graphs

Distribution of age of baby (in days) attending the nurse-led PJ clinic.



Image

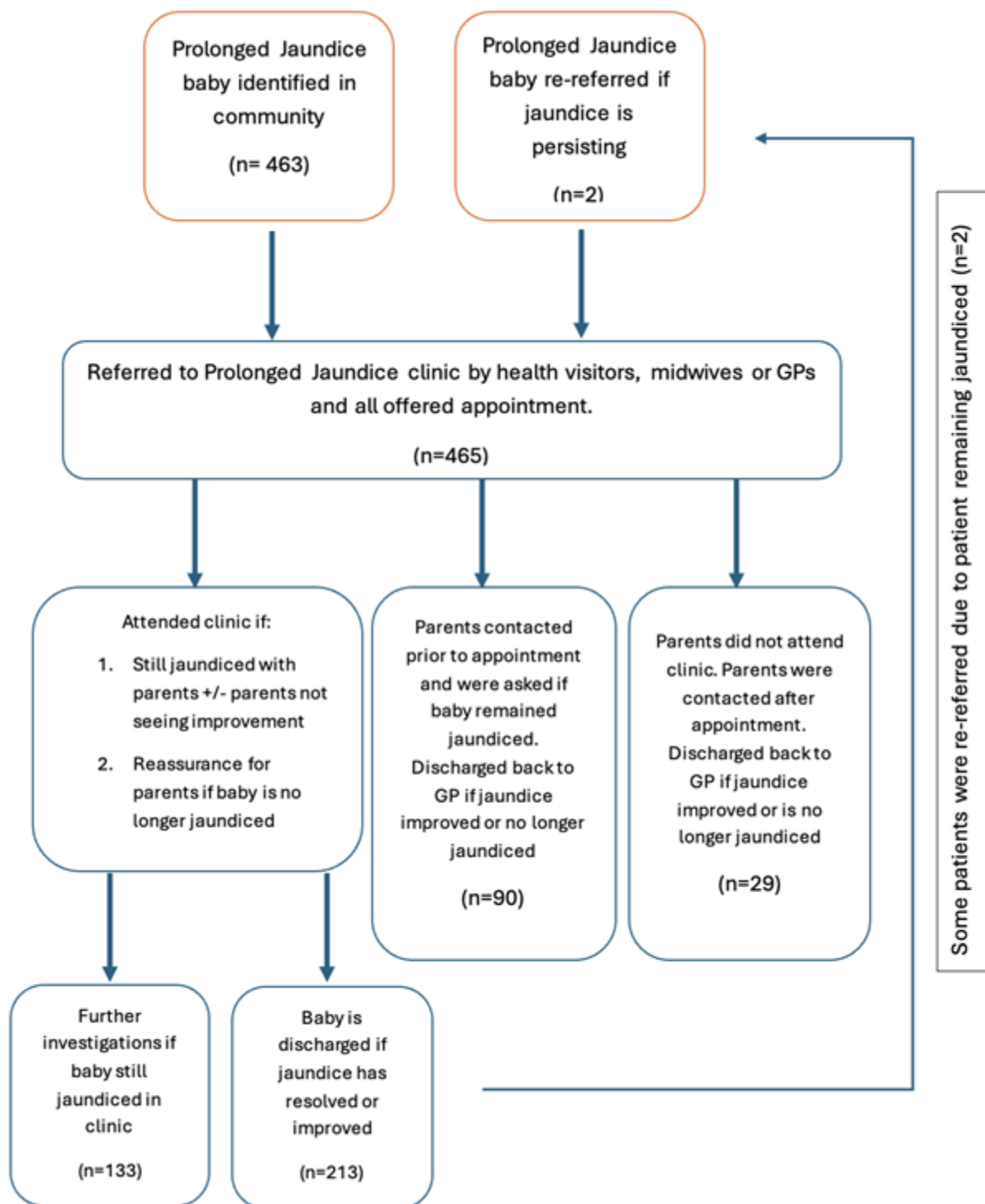


Figure 3- Patient flow diagram illustrating the flow of patients through PJ clinic between January 2022- October 2024

Transfers to a Surgical NICU for Bilious Vomiting – Are We Following the BAPM Framework? A Service Evaluation

Elsefy A¹, Ramlogan K¹, Arthur J¹

¹ Addenbrooke's Hospital

Background

In newborns, bilious vomiting can indicate intestinal obstruction, specifically malrotation with volvulus. In many UK centres, infants are often transferred to surgical neonatal intensive care units (NICUs) for exclusionary upper gastrointestinal (UGI) contrast studies. The BAPM framework on bilious vomiting recommends prompt repatriation after a normal study. This service evaluation investigates our unit's post-transfer pathway, focusing on imaging performed, clinical outcomes, timeliness of repatriation and reasons for delay.

Methods

A retrospective audit was undertaken of outborn infants ≥ 34 weeks' gestation transferred to a tertiary surgical NICU between March 2024 and September 2025 with bilious vomiting. Data were collected from EPIC and BadgerNet using a standardised tool and analysed by two clinicians.

Results

The evaluation included 46 outborn neonates (34+4 to 42+1 weeks' gestation). Contrast studies were the primary imaging modality for 84.8% (n=39), comprising 37 upper gastrointestinal (UGI) studies and 2 contrast enemas. Pathology was identified in 16 cases (34.8%), most frequently Hirschsprung's disease (n=6) and duodenal anomalies (n=3). Of 11 pathological cases undergoing contrast, the diagnostic success rate was 54.5% (n=6/11). UGI contrast identified 1 case of malrotation with volvulus. The remaining 5 diagnoses relied on clinical assessment, plain films, biopsies and ultrasound. Among infants without surgical pathology and normal contrast, median time to repatriation was 3 days, however, 40% experienced delays beyond this. Delays fell under 4 main themes: 1. Secondary suspicions & additional investigations, 2. Differing inter-unit expectations around discharge criteria, 3. parental anxiety/logistics and 4. Cot availability & transfer logistics

Conclusions

Most infants transferred with bilious vomiting did not have surgical pathology. While contrast imaging remains essential to exclude volvulus, it demonstrated low sensitivity for other pathologies. Additionally, while the BAPM framework on bilious vomiting advises early repatriation following a normal contrast study, delays in repatriation are common and largely driven by non-clinical factors.

Outcomes and Neurodevelopmental Follow-up of Infants Born at 22 Weeks Gestation: A Six-Year Quaternary Unit Experience in North of England Following the BAPM Framework.

Dhugga L¹, Biddlecombe J², Hearn R¹, Harigopal S^{1,2}

¹Newcastle Upon Tyne NHS Foundation Trust, ²Newcastle University

Background: Since the introduction of the BAPM perinatal framework, survival-focused care has increasingly been offered to infants born at 22 weeks gestation using a collaborative, risk-stratified approach. To understand the impact of this practice shift, we reviewed six years of data from a quaternary neonatal centre.

Methods: All infants born at 22 weeks between 01/01/2020 and 31/12/2025 were included. Data was extracted from BadgerNet and electronic medical records.

Results: 20 infants were identified– 17 inborn (8 male, 9 female), 3 outborn. Four families (24%) chose comfort care, 13 (76%) received active care.

Antenatal optimisation for the active care group included complete maternal steroids in 3 and magnesium sulphate in 7.

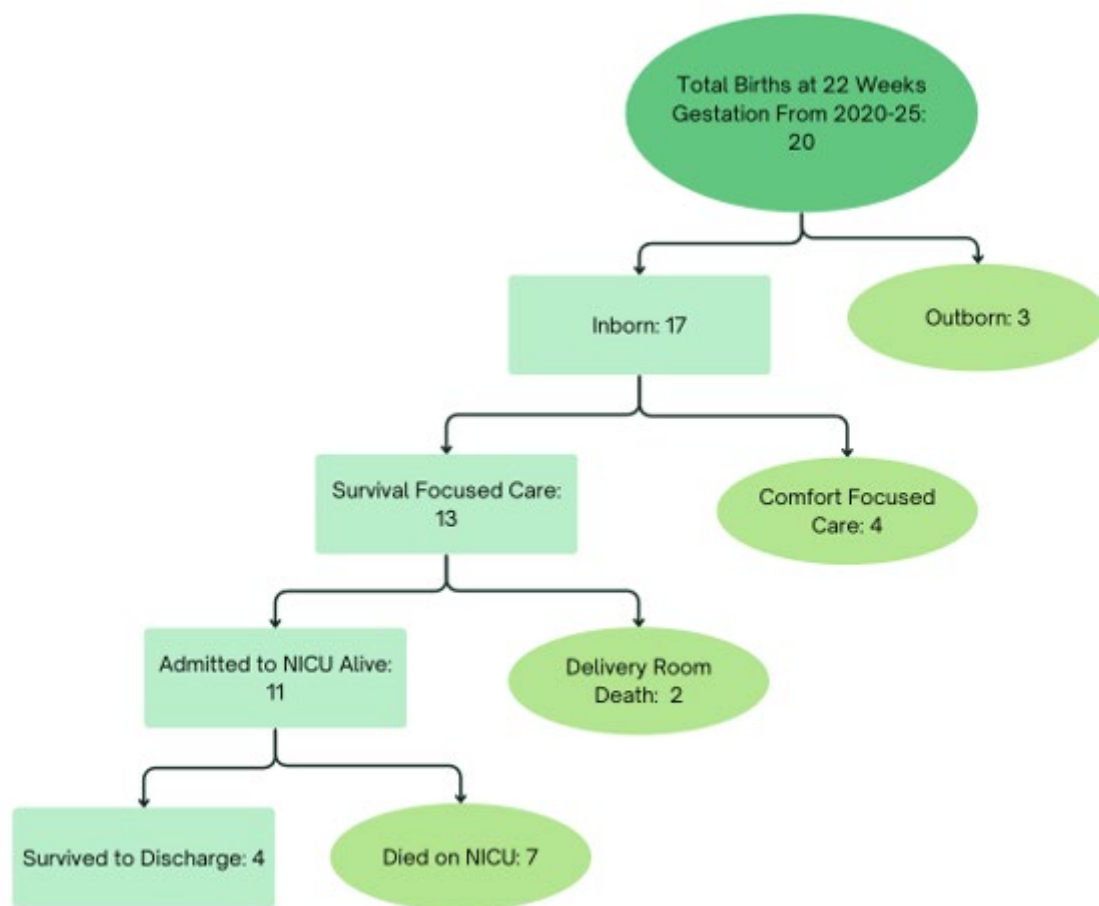
Two active care infants died in delivery room, and 11 (85%) were admitted to NICU. Seven unit-deaths occurred: 4 on day 1, and remainder between day 6- 43. Survival to discharge was 31% (4/13) for those receiving active care and 36% (4/11) for those admitted to NICU (3 female, 1 male).

Discharge ranged between 40+2 and 46+3 weeks CGA. All 4 survivors were discharged home on oxygen, 3 had ROP 1 had NEC and 1 had significant brain injury. None required tube feeds/NIV at discharge.

At 2 years, 2 had cerebral palsy, 1 autism and 1 on low flow oxygen. None had PICU admissions. 3 outborn babies were born before arrival at hospital. They died at 0, 13, 187 days of life.

Conclusions: A proactive approach at 22 weeks resulted in 36% NICU survival rate, demonstrating survival at the absolute limit of viability is achievable. However, survival alone represents an incomplete metric of success. Extremely poor outcomes for outborn infants remain. Furthermore, scarcity of long-term data masks the true neurodevelopmental cost. Future efforts must shift from focusing solely on immediate survival to optimising inborn delivery and care and tracking long-term outcomes.

Image



Metabolic Bone Disease screening: raising the treatment threshold for PTH and treating hypophosphataemia regardless of PTH concentration was associated with no evidence of harm, and potential benefit

Levene I¹, Moreno M¹, Shine B¹, Molnar Z¹

¹John Radcliffe Hospital, Oxford

***Background*:** Metabolic bone disease strategy has moved towards targeted calcium supplements, using parathyroid hormone (PTH). Specific protocols are not evidence-based, including the recommendation to avoid phosphate supplements when PTH is raised. Recent observational evidence suggests that acceptable PTH in very preterm infants is nearer 12pmol/L.

***Methods*:** Eligibility, demographic and prescription information were taken from Badgernet. Eligible infants were born <28 weeks PMA or with birthweight <1.5kg.

Three one-year cohorts were compared (2021/2, 2022/3 and 2024/5), where PTH thresholds were 7pmol/L, 10pmol/L and 12pmol/L. In cohort 3 we gave phosphate when <1.4mmol/L, regardless of PTH. Vitamin D prophylaxis was iteratively increased due to frequent deficiency. In cohort 3, infants received 600 IU buccal vitamin D from birth. 25-hydroxyvitaminD and intact PTH analysis: Abbott i2000 (chemiluminescent microparticle immunoassay).

Mann Whitney, t test, chi-square and multilevel regression were used as applicable (Stata v18.0).

***Results*:** The cohorts contained 110, 109 and 115 infants. There were no differences in baseline characteristics. Mean gestation was 28 weeks' and birthweight 960g.

As shown in the table, highest PTH was 4.9pmol/L lower in cohort 3; lowest phosphate was 0.18mmol/L higher ($p<0.05$). Infants with an indication for calcium supplementation at first PTH reduced from 58% to 46% to 26% as the threshold changed. There was an increase in calcium prescriptions and a reduction in phosphate prescriptions.

First Vitamin D was 10.8nmol/L higher in cohort 3, with an increase in Vitamin D prescriptions. Regression suggested that lower PTH was partially mediated by Vitamin D (repeated measures PTH - 6.3pmol/L, reducing to -3.9pmol/L after adjusting for Vitamin D).

***Conclusions*:** Increasing PTH threshold and prescribing phosphate independently of PTH were associated with lower PTH and no evidence of harm. Some PTH improvement was likely due to improved Vitamin D prophylaxis. Iterative audit-driven guideline change can be valuable in the absence of randomised evidence.

Image

Table 1:

	Cohort 1: 2021/2	Cohort 2: 2022/3	Cohort 3: 2024/5
Any vitamin D prescription (prophylaxis or treatment)	31 (29.0%)	56 (53.3%) *	103 (90.4%) *
Any calcium prescription	25 (23.4%)	31 (29.5%)	15 (13.2%) *
Any phosphate prescription	3 (2.8%)	7 (6.7%)	19 (16.7%) *
Lowest Vitamin D, nmol/L (mean, SD)	30.5 (25 – 37)	28 (23 – 35)	42 (34 – 52) *
Lowest Vitamin D:			
Sufficient (≥ 50 nmol/L)	10 (11%)	4 (4%)	30 (28%) *
Insufficient (30 to <50 nmol/L)	42 (45%)	44 (44%)	60 (55%) *
Deficient (<30 nmol/L)	42 (45%)	53 (52%)	19 (17%) *
Vitamin D tests sent (median, IQR)	2 (1 – 3)	2 (1 – 3)	1 (0 – 2) *
Highest PTH, pmol/L (median, IQR)	11 (6.6 – 17.8)	13.4 (7 – 18.8)	8.5 (5.7 – 13.7) *
Seen on what day (median, IQR)	21 (16 – 35)	22.5 (15 – 34)	15 (13 – 28) *
Highest PTH:			
< 1.6 pmol/L (suppressed)	2 (2%)	0	3 (3%)
>1.6 to <7 pmol/L (normal)	28 (29%)	26 (25%)	43 (39%) *
> 7 to <12 pmol/L	23 (24%)	20 (19%)	29 (27%)
> 12 pmol/L	43 (45%)	58 (56%)	34 (31%) *
PTH tests sent (median, IQR)	2 (1 – 4)	3 (1 – 4)	1 (1 – 3) *
Highest adjusted calcium (mean, SD)	2.82 $\pm$ 0.2	2.74 $\pm$ 0.2 *	2.67 $\pm$ 0.2 *
Highest adjusted calcium:			
>2.8 mmol/L	44 (42%)	25 (23%) *	16 (17%)
>3 mmol/L	14 (13%)	7 (6%)	3 (3%)
Lowest phosphate (mean, SD)	1.51 $\pm$ 0.5	1.45 $\pm$ 0.5	1.63 $\pm$ 0.5 *
Lowest phosphate <1.0mmol/L	17 (17%)	21 (19%)	9 (9%) *
Bone profiles sent (median, IQR)	7 (3 – 14)	7 (3 – 16)	5 (1 – 9) *

* $p < 0.05$ compared to prior cohort. Data is n (%) unless otherwise stated. Prescription documentation was as mentioned within routine clinical data entered into national audit (Badgernet, CleverMed), not directly from prescription charts.

Point-of-Care Lung Ultrasound in Neonatal Respiratory Distress: A Local Neonatal Unit's Journey Towards Radiation-Free Diagnosis

Karthikeyan A¹, Thorn B², Walton C², Slough D², Narayanan S¹

¹Neonatal unit, West Hertfordshire Teaching Hospitals Nhs Trust, ²Clinical Radiography, West Hertfordshire Teaching Hospitals NHS Trust

Background

Chest X-ray (CXR) is the standard diagnostic tool for neonatal respiratory distress but involves ionising radiation with a small but measurable cancer risk in the long-term. Lung ultrasound (LUS) offers superior diagnostic accuracy for neonatal respiratory conditions; Transient Tachypnoea of Newborn (TTN), Respiratory Distress Syndrome (RDS), and Meconium Aspiration Syndrome (MAS). Our LNU introduced LUS in 2022 and scaled to routine practice over three years. This study evaluates CXR and LUS utilisation and radiation exposure during this period.

Methods

Retrospective study of term neonates (≥ 37 weeks) with respiratory distress requiring supplemental oxygen (January 2021 – December 2025). CXR and LUS use were recorded for each admission. Annual rates were compared using chi-squared analysis and Cochran-Armitage test for trend. CXRs avoided were calculated against 2021 pre-LUS baseline rate (96.7%). Estimated radiation dose saved was calculated using a standard effective dose of 0.02 mSv/neonatal CXR.

Results

380 term infants were admitted with respiratory distress and required oxygen over the 5 year study period. Diagnoses - TTN (62%), RDS (23%), MAS (9%), and other conditions (6%). LUS use increased from 0% (2021) to 64.4% (2025) - $p < 0.01$. CXR use fell significantly from 96.7% (2021) to 49.4% (2025) - $p < 0.001$. Neonates investigated with LUS alone (CXR avoided) rose from 0% to 43.7% by 2025 (Figure 1). 58 patients received LUS as their sole imaging modality in 2023–2025. Against 2021 baseline rates, an estimated 68 CXRs were avoided, corresponding to cumulative radiation dose reduction of 1.36 mSv across the cohort.

Conclusion

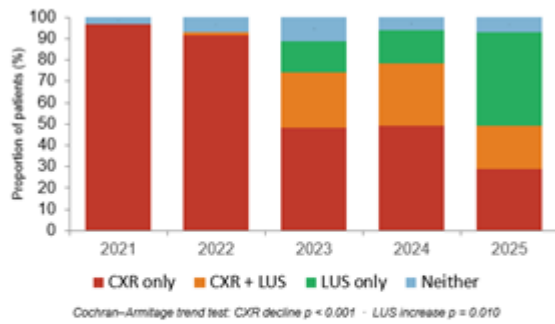
Systematic introduction of LUS resulted in significant, progressive reduction in CXR use. CXR use halved in three years with measurable radiation dose savings. This supports LUS as a safe and effective diagnostic tool. Our replicable model could serve as a catalyst for neonatal units to adapt this innovation and reduce early-life radiation exposure.

Image

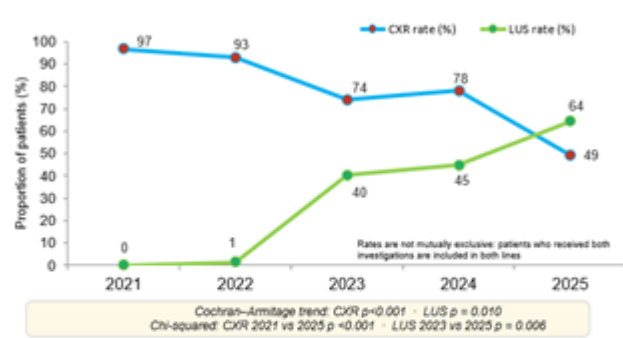
Figure 1: Impact of Point-of-Care Lung Ultrasound on Chest Radiography Use in Term Neonatal Respiratory Distress

Retrospective cohort · $n=380$ · ≥ 37 weeks gestation · 2021–2025

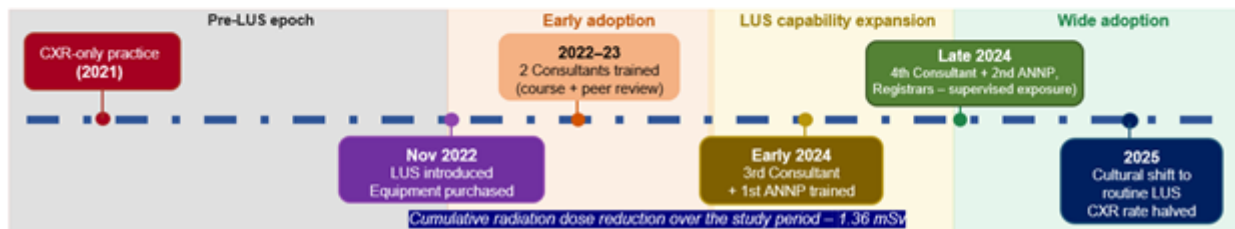
A Imaging type by year



B CXR vs LUS utilisation over time



C LUS implementation timeline



Review of Practice: Use of Parenteral Nutrition in a Level Two Neonatal Unit against NICE guidelines

Lord A¹, Huggins R¹, Asoh U¹

¹Lincoln County Hospital

Background: Parenteral nutrition (PN) is widely used in the neonatal unit, providing vital nutritional support to infants who are unable to tolerate enteral feeds. Due to practicality, standardised bags are widely used, with many centres unable to access facilities for bespoke PN.

Objectives: To evaluate adherence to NICE guidelines, which provides recommendations on indications for starting PN, monitoring requirements, nutritional requirements, stopping PN and communication with parents/carers.

Methods: A retrospective cohort study including all babies who received PN on the neonatal unit over a one-year period between 2024 and 2025 for any indication. The Badgernet database, paper notes and local IT systems were reviewed for data collection.

Results: 39 babies were audited. For babies below 31 weeks' gestation, 78% received PN. The most common reason for starting PN was gestation, followed by sepsis and IUGR. 48.5% of babies did not start PN within the recommended 8 hours due to line insertion delays. All babies met or exceeded recommended macronutrient requirements and met the requirements for calcium, though none met the minimum requirements for phosphate using standardised bags. As vitamins are not included in standardised PN bags, babies only met requirements when establishing oral feeds. Babies established on PN had adequate monitoring, except for triglyceride measurement, with only 11% compliance. Compliance was lower when increasing PN due to increased monitoring frequency. Parent communication was good overall, with areas for improvement around discussing risks and expected timeframes.

Conclusion: Local areas for action include education around PN monitoring, especially for lipid measurement, improved parent communication and prompt commencement of PN for all babies below 31 weeks. Wider areas for action include a review of the nutrient content for standardised bags to consider a possible higher phosphate content and possible recommendations for vitamin administration where an oral route is unavailable.

Trends in very preterm infants undergoing procedural management of patent ductus arteriosus over a 13-year period (2013-2025).

Premadeva I¹, Witter T¹, Cawley P¹, Jones M¹, Khan H¹, Lee G¹, Fox G¹

¹Evelina London Neonatal Unit

Background: The procedural management of haemodynamically significant patent ductus arteriosus (PDA) has evolved over time, driven by advancements transcatheter procedures and related devices, as well as studies on long-term outcomes (1–3).

Methods: Retrospective cohort analysis of very preterm neonates (less than 32 weeks gestation), undergoing procedural management of PDA between 2013 and 2025, in a single neonatal cardiac referral centre. Patients were identified using NICOR (national institute for cardiovascular outcomes research) and data collected using the Badger-net and EPIC IT systems.

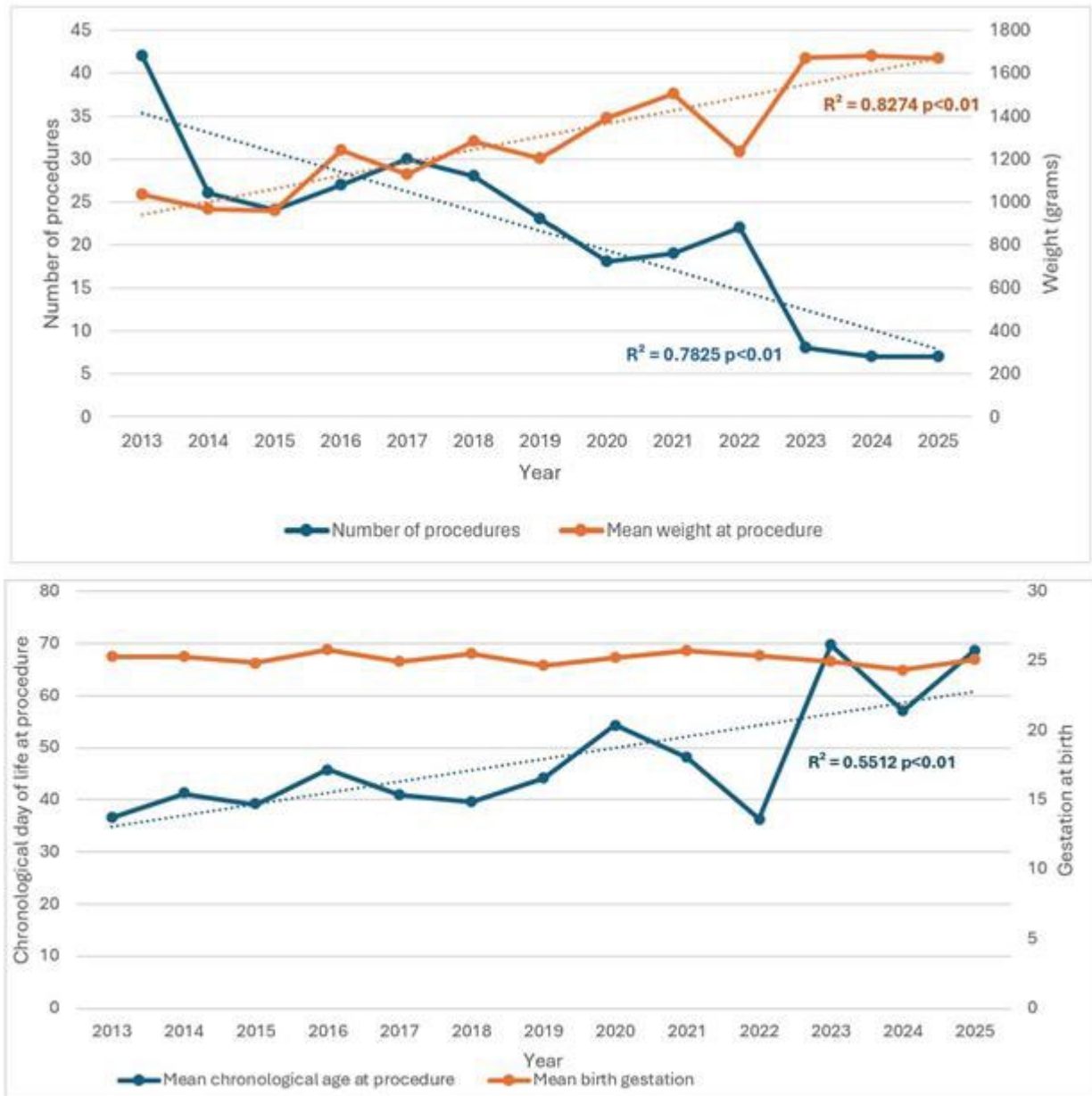
Results: 283 procedures, undertaken in 281 patients, occurred in the study period. 231 patients (82%) underwent surgical ligation. Transcatheter device closures started in 2020 and became the sole procedural modality for all patients after 2022. The total number of patients undergoing procedural management of PDA reduced over time (Figure 1); correlation coefficient -0.89, R² 0.78 (p<0.01).

Significant post-procedure complications reported from the surgical ligation cohort were: coarctation, necrotising enterocolitis and seizure (all n=1). The post-procedure complications reported in the transcatheter procedure group were embolization of catheter device (n=3) with two of these patients requiring repeat procedures with either surgical ligation or repeat transcatheter device insertion. The 30-day survival in the surgical and transcatheter device closure groups was 98% (n=227) and 96% (n=50), respectively. Mean weight and chronological age at time of participants' first procedure increased over time (Figure 1). The number of pharmacological treatment courses before procedural management of the PDA ranged from no 0 to 4.

Conclusion: The decline in procedural management of PDA in this cohort is consistent with national and global trends.(1,2) The increase in age and weight at procedure is likely to reflect the evolution in the overall management of very preterm infants overtime, and a move away from active management of PDA. These results are highly relevant for planning of regional service delivery.

Graphs

Figure 1:



Image

References:

1. <https://www.nicor.org.uk/interactive-reports/national-congenital-heart-disease-audit-nchda>. 2026. National Congenital Heart Disease Audit 2025 2nd edition.
2. Sathanandam S, McNamara P, Pedra C, Toyoshima K, Malekzadeh-Milani S, Patkai J, et al. A Global Perspective on PDA Management in the Extremely Premature: Shifting Trend Toward Transcatheter Closure. *Journal of the Society for Cardiovascular Angiography and Interventions*. Elsevier B.V.; 2023. doi:10.1016/j.jscai.2023.100968
3. Gupta S, Subhedar N V, Bell JL, Field D, Bowler U, Hutchison E, et al. Trial of Selective Early Treatment of Patent Ductus Arteriosus with Ibuprofen. *New England Journal of Medicine*. 2024 Jan 25;390(4):314–25. doi:10.1056/nejmoa2305582 PubMed PMID: 38265644.

Launch-NOAH (Local Audits to Uncover Neonatal Care Habits for NOAH [Neonatal Oral Antibiotics at Home]): A Network-Wide Evaluation

Patrawala S¹, Patrawala S², Siddhi P, Moore H⁵, Young L⁴, Nath P³, Surana P¹, Paediatric Research Across the West Midlands P

¹University hospital Birmingham, NICU, ²Walsall Manor Hospital, Neonatal unit, ³University Hospital Coventry, ⁴Birmingham Women's Hospital, ⁵New Cross Hospital, NICU

Introduction:

National guidance on early-onset neonatal infection (EONI) has recently been updated to incorporate intravenous-to-oral antibiotic switch (IVOS), reflecting growing evidence supporting its safety and efficacy.

Aim:

To evaluate baseline management of suspected EONI across a regional neonatal network, identify opportunities for antibiotic stewardship, and estimate the potential impact of IVOS implementation on cot-day utilisation.

Methods:

A retrospective multicentre audit was undertaken across all 14 neonatal units (NNUs) within the network. Data were collected via the regional trainee research collaborative (PRAM) for infants born at ≥ 35 weeks' gestation who received antibiotics for suspected EONI between 1 May and 30 June 2026.

Results:

Among 784 infants treated for suspected EONI, 275 (35.1%) had no recognised risk factors. Overall, 569 (72.6%) were symptomatic at presentation, half with respiratory distress. More than half (412, 52.6%) were admitted to an NNU, while severe illness requiring mechanical ventilation and/or inotropes occurred in only 29 (3.7%) infants.

Antibiotics were discontinued within 48 hours in 518 (66.1%) infants. The remainder received ≥ 5 days of treatment, most commonly due to elevated C-reactive protein (CRP) concentrations (Table 1). CRP > 20 mg/L was observed in 136 (17.3%) infants. Only two infants had positive blood cultures. Lumbar puncture was performed in 43 infants, with no cases of meningitis identified. Median hospital stay was 4.0 days (IQR 3.0–6.0). Modelling of infants eligible for IVOS who received antibiotics beyond 48 hours suggested a saving of 722 cot-days over the two-month study period.

Conclusions:

Confirmed invasive bacterial infection was rare despite substantial investigation and treatment for suspected EONI. Network-wide implementation of IVOS pathways could facilitate earlier discharge, improve maternity flow and operational efficiency, and save $> 4,000$ cot-days annually across the network. Further work should explore the role of reassuring CRP thresholds (10 versus 20 mg/L) in reducing prolonged antibiotic exposure among otherwise well infants.

Image

Table 1: Reasons for antibiotic treatment beyond 48 hours

Reason category	N=266	%
Raised / increasing CRP	166	62.4%
Chest X-ray changes	46	17.3%
Respiratory symptoms / oxygen requirement	14	5.3%
Clinical concern / unwell	9	3.4%
Maternal infection / sepsis risk	2	0.8%
LP/CSF concern	2	0.8%
Positive blood culture / microbiology	1	0.4%
Non- Specified	26	9.8%

Uninfected, Not Unaffected

Frew K², O'Shea O¹, Walsh K

¹Princess Royal Maternity Hospital, ²University of Glasgow

Background:

HIV affects over 40 million people globally, including 1.1 million pregnant women. Vertical transmission rates in the UK are low. However, evidence suggests children who are exposed to HIV in utero but are uninfected may have poorer neurodevelopmental outcomes than HIV unexposed children. The Scottish Perinatal Network (SPN) guideline recommends formal neurodevelopmental review at 22-24 months of age.

Aim

- To assess the neurodevelopmental outcomes of children born to mothers living with HIV between 2019 and 2023 at the Princess Royal Maternity Hospital in Glasgow.
- To understand Scotland-wide practice of neurodevelopmental assessment.

Methods:

A retrospective cohort study was conducted, analysing data from electronic records. The data collection ranged from 2-7 years, depending on the child's year of birth. Information gathered included demographic data and neurodevelopmental outcomes. Descriptive statistics were used to summarise results.

A survey was sent to each health board in Scotland to explore practice and experiences.

Results:

No cases of vertical transmission occurred. Of 61 babies born to mothers living with HIV, 14 had neurodevelopmental disorders, with 8 of these being identified after the last routine follow up clinic appointment.

There is good adherence to the SPN guideline. Formalised neurodevelopmental assessment is rarely undertaken, and the increased chance of neurodevelopmental disorders is under recognised.

Conclusion:

The incidence of neurodevelopmental disorders in this cohort (23%) is higher than that of the general population in Scotland (10-15%). Reasons for this are unclear but factors hypothesised to contribute include: viral and anti-retroviral therapy (ART) exposure in utero, post-natal ART prophylaxis, and genetic and socioenvironmental factors.

Improved awareness of the increased possibility of neurodevelopmental disorder within this cohort is important for the healthcare professionals providing neonatal follow up and for health visiting teams and community paediatric colleagues. A formalised MDT assessment could be beneficial in earlier recognition of neurodevelopmental disorders.

Safe to Wait: Impact of PDA Non-Intervention in the NICU

Lasokova M¹, Hallett F, Duffy D, Richards J, Shetty S, Kulkarni A

¹St George's University Hospital NHS Foundation Trust

Background & Aim

Patent ductus arteriosus (PDA) management remains one of the most contested areas in neonatal medicine. Real-world outcome data from centres that have implemented non-intervention policies are therefore needed to support practice change. This study evaluated clinical outcomes before and after the introduction of expectant PDA management in a tertiary neonatal unit.

Methods

A retrospective cohort study of inborn infants born at less than 29 weeks' gestation, divided into two consecutive 34-month epochs. Epoch 1 (November 2019 – August 2022; n = 150) represented the period of routine symptomatic treatment for echocardiographically and clinically significant PDA. Epoch 2 (September 2022 – June 2025; n = 150) reflected the unit's transition to expectant management. Baseline characteristics were comparable between epochs. Descriptive statistics were used for group comparisons.

Results

No infant in Epoch 2 received medical PDA treatment, compared with 17 in Epoch 1. Mortality was numerically lower in Epoch 2 (12% vs 17%, p = ns). Fewer infants remained ventilated beyond day 7 in Epoch 2 (53 vs 77, p < 0.05), and fewer were discharged home on supplemental oxygen (31% vs 48%, p < 0.05). Pulmonary haemorrhage (5% vs 12%, p < 0.05) and severe intraventricular haemorrhage (12% vs 20%, p < 0.05) were significantly less frequent in Epoch 2. Rates of BPD, severe necrotising enterocolitis, and postnatal steroid use were similar between epochs. In the subgroup of infants born below 25 weeks, no significant outcome differences were observed, though pulmonary haemorrhage remained numerically more common in Epoch 1 (23% vs 16%, p = ns).

Conclusion

Expectant PDA management was not associated with increased mortality or major adverse outcomes in this cohort of extremely preterm infants. Several outcomes — including rates of pulmonary haemorrhage, severe IVH, and oxygen dependency at discharge — favoured the non-intervention epoch.

Graphs

Outcome	Epoch 1 (n=150)	Epoch 2 (n=150)
PDA medical treatment	17	0
Mortality	26 (17%)	18 (12%)
Ventilated >7 days	77	53
Discharged on oxygen	60 (48%)	41 (31%)
Pulmonary haemorrhage	18 (12%)	8 (5%)
Severe IVH (grade III+)	31 (20%)	18 (12%)
BPD at 36 weeks	88 (70%)	92 (69%)
Severe NEC	13 (8%)	12 (8%)
Postnatal steroids	25 (19%)	33 (23%)

Pulmonary Haemorrhage in Extreme Preterm Infants

Mcarthur C¹, Montasser M

¹NHS Lanarkshire

Background:

Pulmonary Haemorrhage (PH) is a complication of prematurity, associated with high mortality exceeding 50%, and reported incidence up to 20%. Known risk factors include haemodynamic shifts, surfactant administration and patent ductus arteriosus. Scottish data regarding PH remains scarce. This single centre clinical audit aimed to establish local incidence, identify trends and modifiable risk factors highlight future quality improvement (QI) opportunities.

Methods:

Retrospective clinical audit of electronic records of all preterm infants, <26 weeks, born at a tertiary neonatal centre, between January 2021-September 2025. Cohort characteristics, antenatal interventions, clinical management and neonatal outcomes were recorded. Statistical analysis using Fisher's exact test or Mann Whitney-U tests, alongside descriptive statistics were reported. It was conducted alongside local governance procedures.

Results:

75 eligible infants identified. 15 infants (20%) experienced PH. The majority of occurrences were severe (79%), and most occurred in first 7 days (86%). Mortality was significantly higher if PH occurred (93% vs 37%, $p<0.002$). Gestational age did not differ significantly between groups (24.2 vs 24.5 weeks). There were lower rates of antenatal interventions including corticosteroid courses in the PH group. All PH cases required inotropic support and blood products. Bedside echocardiography was performed in 87% of PH cases, however only 31% had this done prior to commencing inotropes. There was no significant difference in baseline characteristics, respiratory support or clinical management variables identified between the groups.

Conclusions:

PH is an important contributor to mortality in this cohort. Gaps in antenatal optimisation, particularly corticosteroid courses and delayed cord clamping may represent modifiable risk factors, in line with current standards of practice. A key QI opportunity for our service would be development of a protocol ensuring timely echocardiography prior to inotropic support to optimise haemodynamic management. Review of larger, multicentre cohorts is warranted to establish factors in clinical management to reduce risk.

Image

Pulmonary Haemorrhage in Extremely Preterm Infants

Incidence, Severity, Clinical Management and Outcomes

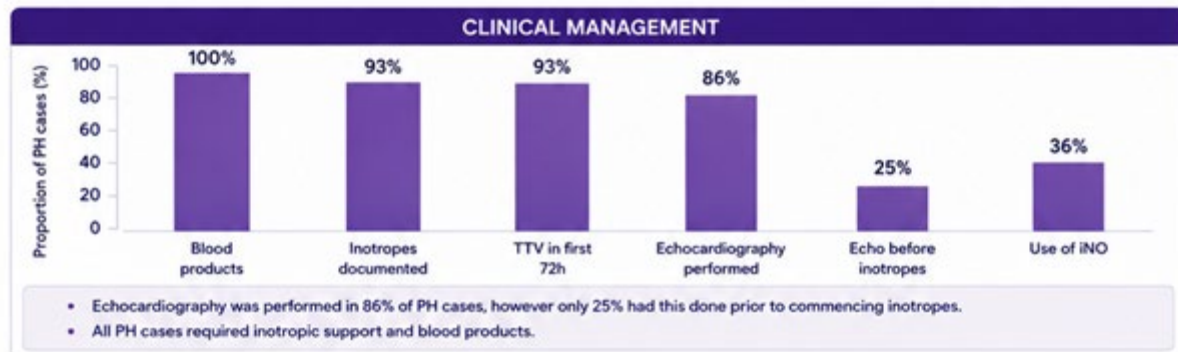
A 5 Year Retrospective Audit 2021–2025, Neonatal Intensive Care Unit,
University Hospital Wishaw, NHS Lanarkshire

Caitriona McArthur and Mahmoud Montasser
University Hospital Wishaw, NHS Lanarkshire



BACKGROUND	AIMS	METHODS
Pulmonary Haemorrhage (PH) is a feared complication of extreme prematurity, associated with high mortality. Established risk factors include haemodynamic instability, PDA, sepsis, coagulopathy. Scottish data regarding PH remains scarce.	- Establish local incidence of PH in infants <26 weeks. - Describe severity and timing of PH. - Identify trends and any modifiable risk factors. - Review antenatal optimisation and clinical management. - Identify future QI opportunities and areas for service development.	- Retrospective single centre clinical audit of a level 3 NICU in University Hospital Wishaw. - Period January 2021– September 2025. - Included all infants <26 weeks. - Review of electronic medical records using Badgernet. 75 eligible infants identified. - Statistical tests using Fisher's exact test and Mann-Whitney U test.

INCIDENCE, SEVERITY, TIMING AND MORTALITY					YEARLY RATES
INCIDENCE 20% 15 of 75 infants experienced PH (95% CI 11.4% – 31.7%)	SEVERITY The majority of PH cases were SEVERE 79%	TIMING Most PH occurred in the first 7 days of life 86% Median timing was day 3	MORTALITY Mortality was significantly higher if PH occurred 93% vs 37% without PH (p < 0.002)	- Gestational age did not differ significantly between groups (24.2 vs 24.5 weeks) - All PH cases required inotropic support and blood products - No significant difference in baseline characteristics, respiratory support or clinical management variables identified between the groups	2021 5% 2022 15% 2023 18% 2024 38% 2025 21%



ANTENATAL OPTIMISATION	RECOMMENDATIONS (KEY QI OPPORTUNITIES)
Completed antenatal corticosteroids in PH group 50% Delayed cord clamping in PH group 35% ANTENATAL STEROIDS – ALL PATIENTS 86% of all patients received antenatal steroids This is greater than the BAPM target of ≥85% Gaps in antenatal optimisation, particularly corticosteroid courses and delayed cord clamping, may represent modifiable risk factors in line with current standards of practice. Addressing these gaps may help reduce the risk and severity of PH and improve outcomes for extremely preterm infants.	- Develop and implement a protocol to ensure timely echocardiography prior to inotropic support to optimise haemodynamic management. - Strengthen antenatal optimisation: ensure complete corticosteroid courses and delayed cord clamping where appropriate. - Continue data collection and review outcomes regularly – re-audit in 2 years. - Collaborate with larger, multicentre cohorts to identify factors in clinical management to reduce risk and improve outcomes. - Share findings and protocols with regional networks to promote evidence-based practice.

CONCLUSIONS
PH is an important contributor to mortality in this cohort. Gaps in antenatal optimisation and delayed cord clamping may represent modifiable risk factors. A key QI opportunity for our service is the development of a protocol ensuring timely echocardiography prior to inotropic support. Review of larger, multicentre cohorts is warranted to establish factors in clinical management to reduce risk and improve outcomes.

Impact of a Weekly Nutrition Ward Round on Breast Milk Fortifier Practice in a Level Two Neonatal Unit

Hammond D¹, Parmar M²

¹Watford General Hospital/ West Hertfordshire Teaching Hospitals NHS Trust, ²Watford General Hospital/ West Hertfordshire Teaching Hospitals NHS Trust

Background

Human milk protein content declines after birth, making unfortified breast milk nutritionally insufficient for preterm babies with higher growth and nutrient demands. For babies <34 weeks gestation or <1800g, East of England (EoE) guidelines recommend introducing Breast Milk Fortifier (BMF) at full-strength once babies have tolerated 80–100 mL/kg/day of enteral feeds for 24 hours, and indicate no evidence that BMF increases rates of necrotising enterocolitis (NEC) or feed-intolerance. Prior to February 2025, practice at WGH NICU varied greatly. A dedicated Consultant and Dietician MDT weekly Nutrition Ward Round (NWR) was introduced in February 2025 to standardise and improve care.

Methods

A retrospective Badgernet database audit identified eligible babies (<34 weeks gestation or <1800g) for two periods: pre-NWR (within two years before February 2025, n=89 after exclusions) and post-NWR (February–October 2025, n=52 after exclusions). Exclusions included follow-up only, transfer out before full feeds, deaths in the delivery room, and babies commenced on BMF at another hospital. Data collected included BMF use, initiation strength, episodes of NEC and feed-intolerance, and breastfeeding status at discharge.

Results

Following NWR introduction, eligible babies receiving BMF increased from 28% (25/89) to 71% (37/52). Starting at full-strength increased from 0% (0/25) to 95% (35/37). Babies with any breastfeeding at discharge decreased from 65% (58/89) to 50% (26/52), though exclusive breastfeeding rates remained stable (13.5% vs 11.5%). Rates of feed-intolerance were higher post-NWR (23% vs 10%).

Conclusions

A weekly NWR introduction was associated with markedly improved compliance with EoE BMF Guidelines of full-strength fortification at the recommended threshold. Small sample sizes limit firm conclusions around feed-intolerance and NEC association. A reduction in discharge breastfeeding rates requires further investigation, including an audit not limited to BMF-eligible babies. Future work should include a repeat audit with extended post-NWR data and a qualitative survey of consultants to contextualise these findings.

Graphs

Outcome	Pre-NWR (n=89)	Post-NWR (n=52)
Received BMF	28% (25/89)	71% (37/52)
BMF commenced full-strength	0% (0/25)	95% (35/37)
Any breastfeeding at discharge	65% (58/89)	50% (26/52)
Exclusive breastfeeding at discharge	13% (12/89)	12% (6/52)
Feed intolerance	10% (9/89)	23% (12/52)

Table 1. Key outcomes pre- and post-NWR introduction

Bridging the Gap Between Surveillance and Management of Metabolic Bone Disease of Prematurity Through Weekly Multidisciplinary Nutrition Rounds - Oral presentation

Khalid M¹, Ntovolou A¹

¹William Harvey, East Kent Hospitals University NHS foundation trust

Background

Metabolic Bone Disease of Prematurity (MBDP) is a recognised complication of prematurity. Recent publication of a BAPM framework has highlighted the importance of standardised screening, diagnosis and management. We evaluated compliance with local MBDP guidance in a Level 3 Neonatal Unit and implemented a multidisciplinary intervention to improve practice.

Methods

Retrospective service evaluation using data collected from patient electronic records (BadgerNet and Sunrise).

Sample: infants born between 23+0 and 31+6 weeks' gestation admitted between January and June 2024 and cared for on the neonatal unit at day 14 of life.

Outcome measures included biochemical surveillance and management of abnormal findings. Following baseline evaluation, weekly multidisciplinary nutrition rounds involving neonatal consultants, junior medical staff and neonatal dietitians were introduced alongside staff education and guideline reinforcement.

Results

23 eligible infants, median gestation 29+1 weeks (23+1–31+5), mean birth weight 1168g (580–1830g), median birth weight centile 25th–50th.

- 96% had ALP checked; 86% within recommended timeframes; 60% had ALP >600U/L.
- 48% had Vitamin D measured; 72% were performed within guideline timeframes.
- 48% had PTH measured; 30% of infants with raised ALP did not have PTH checked.
- Only 14% of infants with raised PTH received calcium supplementation.
- 56% of infants with raised ALP received phosphate supplementation, often without concurrent calcium supplementation.
- Length was documented in only 4% of infants.

These findings identified gaps between surveillance, investigation and management of MBDP. Weekly multidisciplinary nutrition rounds were subsequently introduced.

Conclusions

Whilst surveillance was generally well established, subsequent investigation and management of abnormal findings were inconsistent, highlighting a gap between screening and intervention. Weekly multidisciplinary nutrition rounds with neonatal dietetic involvement have the potential to improve

compliance with guidance, standardise nutritional management and support earlier identification and treatment of infants at risk of MBDP. Post-intervention evaluation is underway.

Patent Ductus Arteriosus Assessment in UK Neonatal Intensive Care Units: A National Survey of Current Practice

Hopper A¹, Lasokova M², Tolan A³, Kulkarni A², Noureldin M⁴, Heuchan A⁵, Battersby C⁶, Bhojnagarwala* B¹, Montasser* M⁷

¹Medway NHS Foundation Trust, ²St George's University Hospitals NHS Foundation Trust, ³Chelsea and Westminster Hospital NHS Foundation Trust, ⁴University Hospitals Birmingham NHS Foundation Trust, ⁵Royal Hospital for Children, Glasgow, ⁶Imperial College London, ⁷University Hospital Wishaw
Background: Management of patent ductus arteriosus (PDA) in preterm infants is controversial, with no consensus on the assessment or definition of haemodynamically significant PDA (hsPDA). Current UK practice is unknown, as is support for national collaboration to standardise assessment and inform future research.

Aim: To describe current clinical and echocardiographic PDA assessment, operational hsPDA definitions, management and interest for standardisation across UK neonatal intensive care units (NICUs).

Methods: On behalf of NeoFOCUS-UK, an 18-question survey was distributed between March-June 2026 to NICUs to capture unit-level practice, with the intention of obtaining at least one response from each unit. Sixty-two NICU responses were received from 48/53 NICUs (91%). Same-site duplicate responses were merged. Unit-level results are reported as percentages.

Results: Most units relied on neonatologist-performed echocardiography for PDA assessment (89.6%). Clinically triggered assessment without routine screening was the most common approach (81.2%). 33.3% of units had a written protocol defining hsPDA; 25.0% had no formal definition at all, and 41.7% relied on informal consensus. A phenotype-based approach was applied formally in 39.6%. The most commonly used echocardiographic parameters were ductal flow pattern (95.8%), descending aortic diastolic flow reversal (91.7%) and LA:Ao ratio (89.6%); 68.8% used no formal scoring system. Paracetamol was available as a treatment option in 89.6%. Most units supported collaboration (national study 81.2%; guideline development 72.9%).

Conclusion: UK neonatal units use a wide range of approaches to PDA assessment, with variation in definitions of hsPDA, echocardiographic parameters and treatment thresholds. Support for collaborative research and guideline development was high. These findings support the development and prospective evaluation of a national minimum assessment dataset to facilitate future research and help build consensus around PDA assessment practices.

Keywords: patent ductus arteriosus; preterm; echocardiography; United Kingdom.

*B Bhojnagarwala and M Montasser contributed equally as joint last authors.

Correspondance: M Montasser | mahmoud.montasser@nhs.scot

Feeding The Forgotten Preterm Group: Short Term Outcomes In 33-34 Weeks Gestation: A 3 Year Retrospective Observational Study

Maharjan R¹, Raju R¹, Kalliath P¹, Omidiji M¹, Merchant N¹

¹West Hertfordshire Teaching Hospitals NHS Trust

Background:

Establishing enteral feeding is a significant factor for discharge readiness and reducing length of hospital stay. Recent studies(FEED1) have challenged traditional concerns regarding early enteral feeding and necrotising enterocolitis(NEC). However, evidence remains limited for infants born between 33-35 weeks gestation, who contribute to 25% of preterm infants and yet an understudied population in feeding research.

Aim:

To evaluate feeding initiation practices and progression along with short-term clinical outcomes in infants born between 33 and 35weeks gestation

Method:

We conducted a retrospective observational study of infants born between 33+0-34+6 weeks' gestation over 3 years(2023-2026) in a high activity Local Neonatal Unit. Inclusion and exclusion criteria were similar to the FEED1 study. Data was extracted from electronic patient records. Outcomes included time to initiate feed, time to achieve FEF, type of milk, length of stay and complications eg NEC, sepsis.

Results

Of the 197 infants born during the study period, 149 infants were included in the study. The mean birth weight was 2085±369g.

Median time to first feed was 117minutes(IQR 69-238) with a median time to full feeds of 6 days. Initial feed was term formula in 49%, preterm formula in 16.8%, breastfed (12.1%), DEBM(8%), EBM(6.7%) and mixed EBM+formula (6.7%). Earlier initiation of feeds(<2hrs) was not associated with faster time to achieve FEF or reduced length of stay. Almost half were managed in special care while 24% required high dependency and 23% required intensive care. Median length of stay was 10 days(IQR 8-14) with a median corrected gestation age of 35+4 weeks at discharge. At the time of discharge, only 29% had regained birth weight. No cases of NEC was identified.

Conclusion:

Infants between 33-35 weeks gestation tolerated enteral feeds well with no adverse outcomes noted. These finding suggest that physiological maturity and clinical stability are principal determinants of feeding progression.

GENTLE - Guiding Environmental Noise and Therapeutic Light Exposure.

Brock H², Hiney A², Brooks-moizer A¹

¹East Lancashire Hospitals Nhs Trust, ²NW foundation School

Background:

Excessive noise can be detrimental to neonatal growth and neurodevelopment this is reflected in recommendations from the AAP (1) regarding noise exposure for neonates, aiming for an average sound level of 45dBA and no peaks above 65dBA.

Evidence for light exposure for neonates is more complex but there is some evidence of the benefit for cycled lighting vs continuous light (>200lux) or continuous dark (<20lux).

Methods: We collected data from integrated sound and light meters in our Drager BabyLeo incubators to quantify the noise (dBA) and light (lux) levels experienced in each of the 8 ITU bed spaces in our Level 3 NICU.

Once collected we analysed the data for a diurnal light cycle in each incubator.

We compared the decibel level against limits for average and peak levels suggested by the AAP.

Results –

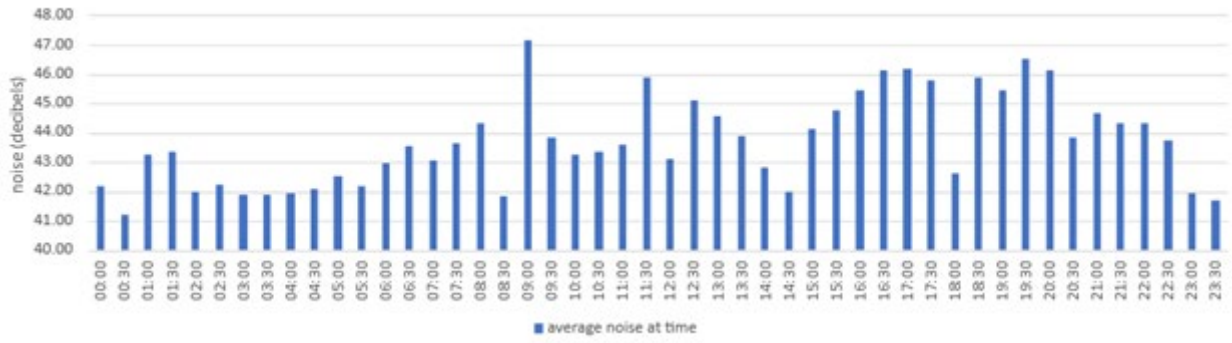
From a noise perspective we showed that average and peak sound levels were around the advised limits however we identified admissions, visiting times and nursing handover, as particularly noisy times. We are in the process of implementing an education programme to staff and families about the benefits of quiet environments for neonatal patients (especially preterm babies) in the form of posters in staff and parent areas and information sharing in handovers. We will re-audit noise levels after this change education has been rolled out.

We also identified that there was very low light exposure for neonates in ITU likely due to incubator covers and so there was no measurable diurnal light cycle. We will aim to implement a diurnal light cycle in the NICU, re-auditing after education.

Conclusions: New technological solutions for monitoring sensory exposure of preterm infants can be a powerful tool in identifying suboptimal sensory stimulation and allowing the education and design of solutions, to support a gentle beginning, in neonatal units.

Graphs

average noise at time



Evaluating the Changing Trends in Lumbar Puncture Practice and Impact of Sepsis Scoring Systems in Neonates in Post natal ward at St George’s Hospital

Verma R¹, DUFFY D¹

¹St. George's University Hospital Nhs Foundation Trust

Background

Lumbar puncture (LP) is essential for diagnosing neonatal meningitis. The Kaiser Permanente (KP) sepsis risk calculator supports clinical decision-making and can reduce unnecessary antibiotic exposure, but it does not directly guide LP practice. At St George’s Hospital Postnatal Ward, KP scores are used to assess early-onset sepsis, while decisions to perform LP rely on C-reactive protein (CRP) thresholds (>20) and clinical judgment. Meningitis treatment follows NICE cerebrospinal fluid (CSF) criteria (WBC >20) alongside specialist microbiology and infectious diseases input.

Aims

- 1. To evaluate meningitis diagnosis, LP practice, and presenting signs over eight years on the postnatal ward.
- 2. To determine whether KP implementation influenced LP practice or meningitis detection.

Methods

A total of 826 LPs were performed between 2016 and 2024. April 2020 marked KP scoring implementation, defining Pre-KP (n=523) and Post-KP (n=303) groups. Outcomes included LP rates, incidence of treated meningitis, and documented clinical signs at presentation.

Results

Thirty infants were treated for meningitis (3.6% overall); Pre-KP (21/523, 4%) and Post-KP (9/303, 2.9%). CRP was elevated in 75% of Pre-KP and 58% of Post-KP cases. CSF WBC >20 was observed in 5.7% and 4.3%, respectively. Clinical signs of meningitis were present in 4 (1% and 1.3% respectively) cases in Pre-KP and Post-KP groups each. Most infants (85%) received antibiotics prior to LP, and no procedural complications were recorded.

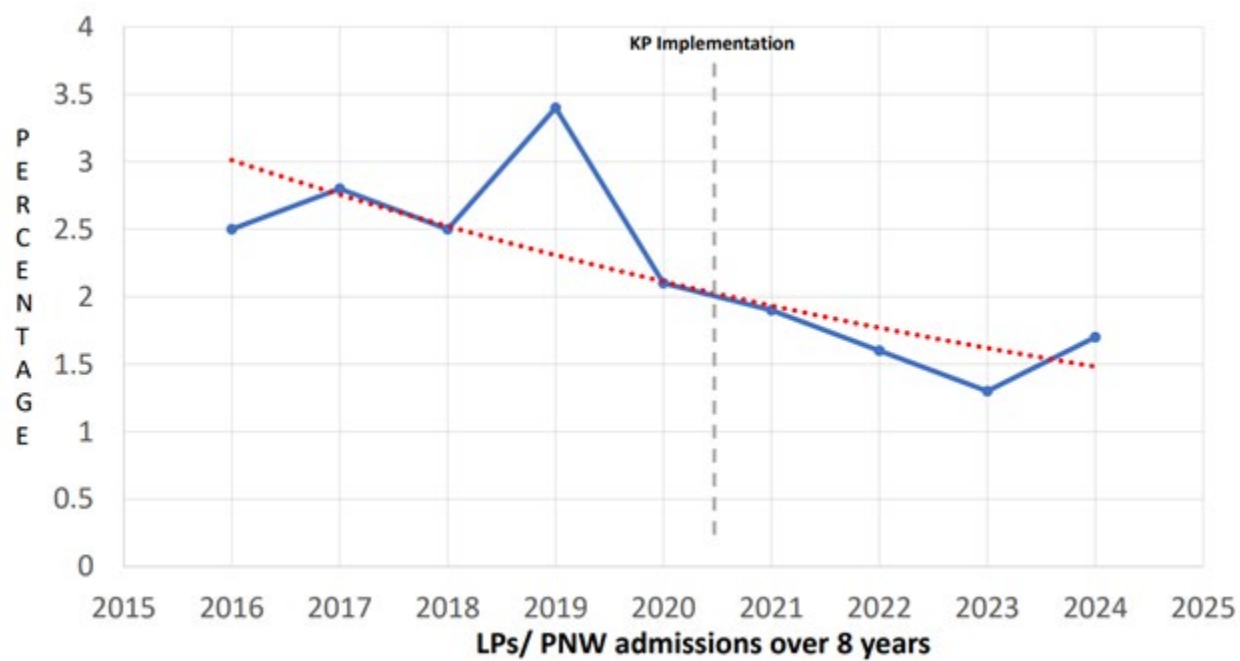
Conclusion

LP rates have decreased following KP implementation. The probability of meningitis per LP was low (2.9-4%), with no associated complications, supporting its safety during parental counselling. Importantly, clinical signs were frequently absent in confirmed cases, indicating they should not be used alone to guide decisions regarding LP investigation. These findings suggest LP decision-making remains appropriate with KP integration, while emphasising continued reliance on biochemical markers and multidisciplinary clinical assessment to optimise meningitis detection and management.

Graphs

	Pre KP (N=523)	Post KP (N=303)
Total Treated	21(4%)	9(2.9%)
CSF WBC >20 (Total)	30(5.7%)	13(4.2%)
CRP>20 (Total)	400(75%)	176(58%)
WBC>20 and CRP>20 (Total)	12(2.3%)	9(2.9%)

Image



Midline catheters remain in situ three times longer than peripheral intravenous cannulas in neonates: a two-year tertiary Neonatal Intensive Care Unit study

Abifarin T¹, Chalia M, Bhayat S

¹Great Ormond Street Hospital

Background:

Reliable vascular access in neonates is challenging. Midline catheters are increasingly used as an alternative to repeated peripheral intravenous cannulation (PIVC), but data describing their performance and safety in neonatal practice remain limited.

Objective:

To evaluate dwell time and complications associated with midline catheters compared with PIVCs at Great Ormond Street Hospital (NICU).

Methods:

Retrospective observational study of all midlines inserted between January 2024 and December 2025 in GOSH NICU. Data included number of lines, total catheter days, mean and median dwell times, and incident reports. PIVC data from the same period were used for comparison. Included neonates ranged from 23 to 40+1 weeks' gestation.

Results:

Thirty-eight midlines were inserted in neonates with a median gestational age of 33 weeks (IQR 26+2 to 36+2), accounting for 280 adjusted catheter days. Mean dwell time was 8 days (median 5), compared with 2.45 days (median 2) for 1,847 PIVCs. Midlines therefore remained in situ more than three times longer than PIVCs. Seven midline-related incidents were reported (2.5 per 100 catheter days), including six extravasation injuries (2.1 per 100 catheter days).

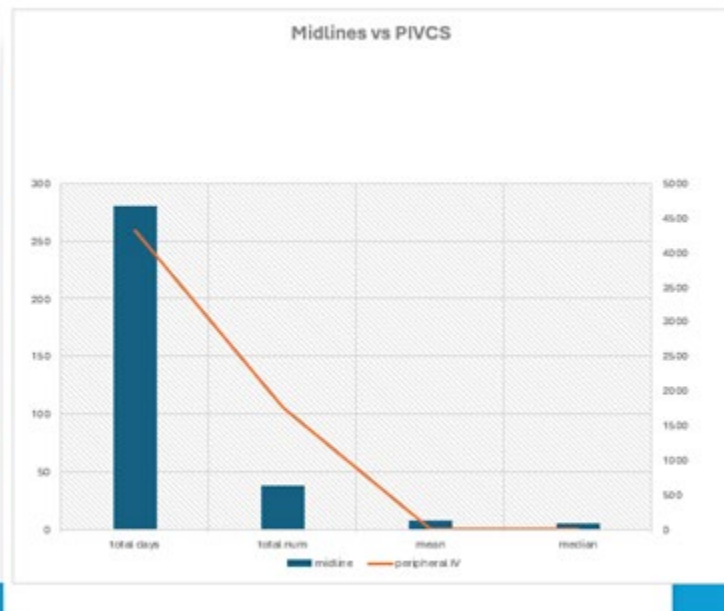
Conclusions:

Midline catheters provide substantially longer vascular access than PIVCs in neonates and may reduce the need for repeated peripheral cannulation in those requiring prolonged intravenous therapy. However, their use is associated with a small risk of extravasation injury. Standardised guidance for insertion and management may improve safety and support wider adoption of midlines in neonatal practice.

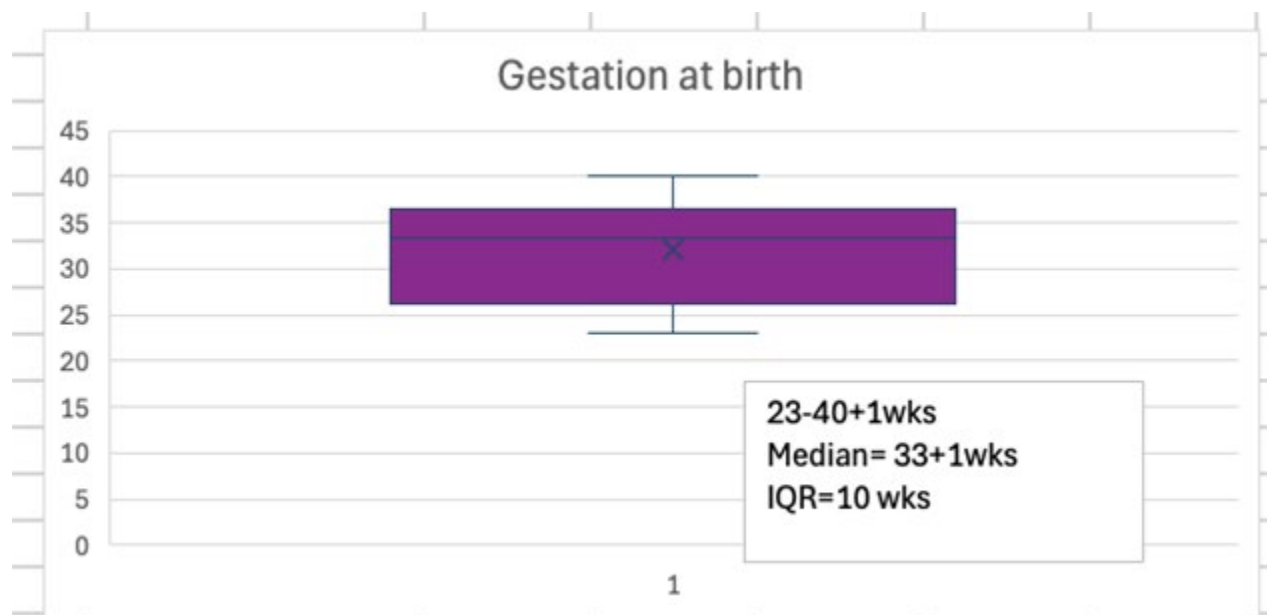
Graphs

Results

	midline	peripheral IV
Total days	280	4326
Total num	38	1763
Mean	8	2.4537
Median	5	2



Image



Optimising Neonatal IV Infusion Guidance: National Preferences for Safer Standard Concentration Infusion Monograph Design

Preston C¹, Hinton R², Chappell F¹, Hibberd S³, Gaze S⁴, Johnson B⁵, Gooding N⁶

¹Medusa NHS Injectable Medicines Guide, ²North West Neonatal Operation Delivery Network,

³Thames Valley and Wessex Neonatal Operational Delivery Network, ⁴London Neonatal Operational Delivery Network, ⁵West Midlands Perinatal Network, ⁶East of England Neonatal Operational Delivery Network

Background:

National injectable medicine monographs support healthcare professionals, primarily nurses, with preparation and administration of injectable medicines. Neonatal drug administration presents distinct clinical challenges and there is a need to ensure guidance is safe, practical and easy to apply in this high-risk cohort. The Neonatal and Paediatric Pharmacy Group (NPPG), with partner organisations, developed a national framework for standard concentration infusions (SCIs) for children and neonates.

SCIs use fixed amounts of drug diluted in a defined volume, rather than weight-based dilutions.

However, there is no standardised national approach to presenting neonatal infusion concentration guidance, risking variation in practice and safety concerns.

Method:

Neonatal ODN lead pharmacists, in collaboration with the national Injectable Medicines Guide, conducted a cross-sectional webinar-based survey and live polling on SCI presentation. Recruitment was via ODNs and professional networks. This was a service evaluation; formal ethical approval was not required. Survey responses were analysed descriptively using percentages.

Results:

There were 126 webinar attendees, including 105 participants from across England, most commonly London (24%), the South East (17%) and the North West (17%). Professional groups included nurses (60%), pharmacists (21%), advanced nurse practitioners (5%), doctors (1%) and undisclosed roles (13%).

Table 1. Survey responses

Conclusion:

Responses showed that presenting SCIs using suggested weight ranges as per the national framework was not supported. To improve clarity and safety, participants favoured presenting SCIs using drug amounts defined by mass (or activity) in international (SI) units (e.g. g, mg, units), rather than volume; this preference increased where multiple product strengths existed. A calculator was also widely supported to reduce calculation burden.

These findings provide national evidence to inform standardisation of neonatal monograph design and highlight the importance of a calculator to support safer implementation of standard concentration infusions across neonatal units.

Graphs

Question	Total number of responses	Response options	Results
Q1. How should the different SCl be named / referred to in national monograph	96	Use concentration/ amount of drug in 1 mL only e.g. 2mg in 1 mL or 4mg in 1mL	52%
		Use descriptors, e.g. low, medium, high, very high	4%
		Use letters A, B, C, D	9%
		Use numbers 1, 2, 3, 4	0%
		Use weight ranges as per National Framework	34%
Q2. How should the preparation instructions be presented when there is more than one concentration of the base product available	103	A single table, with drug amounts defined by mass (or activity) using international (SI) units (e.g. gram, mg or unit)	73%
		Display multiple tables on the same webpage each table displaying the volume of drug required in mL for a stated base product concentration	9%
		Weblinks to multiple tables, each displaying the required drug volume (mL) for a defined base product concentration.	18%
Q3. How should the preparation instructions be presented when there is only one concentration of the base product available	99	Drug amounts defined by only mass (or activity) using international (SI) units (e.g. gram, mg or unit)	58%
		Drug amounts defined by both mass (or activity) using international (SI) units (e.g. g, mg, units) and corresponding volume (mL).	42%
Q4. Would a calculator to show what volume in mL to draw up be helpful (if you inputted the concentration of your base product)	96	Yes - a calculator would be helpful to support volume checks	71%
		No – this is unnecessary and/or might lead to errors or confusion.	29%

CONTINUOUS GLUCOSE MONITORING (CGM): THE NEW GLUCOSE GUARDIANS OF NICU

Singh K¹, Chaudhary N², Beardsall K^{2,3}

¹Department of Paediatrics, Wexham Park Hospital, ²Neonatal Unit, Cambridge University Hospitals NHS Foundation Trust, ³Department of Paediatrics, University of Cambridge

Background:

Neonates requiring intensive care are susceptible to dysglycaemia, which is associated with increased morbidity and mortality. Conventional blood-glucose monitoring relies on infrequent intermittent sampling, hindering surveillance and intervention. Following the REACT trial, continuous-glucose-monitoring(CGM) was adopted as standard of care for neonates at risk of dysglycaemia in our tertiary NICU.

Aim:

Review clinical use of CGM in tertiary level NICU in comparison with previous neonatal clinical trials.

Methods:

A retrospective service evaluation of CGM use between May 2023 - April 2024. CGM insertion decision was clinician-led, based on dysglycaemia risk. Clinical and CGM data were retrospectively collected from electronic-medical-records including demographics, birthweight, duration of CGM use, number of sensors utilised and adverse events reported. Data was analysed using descriptive statistics and compared with NIRTURE and REACT trials.

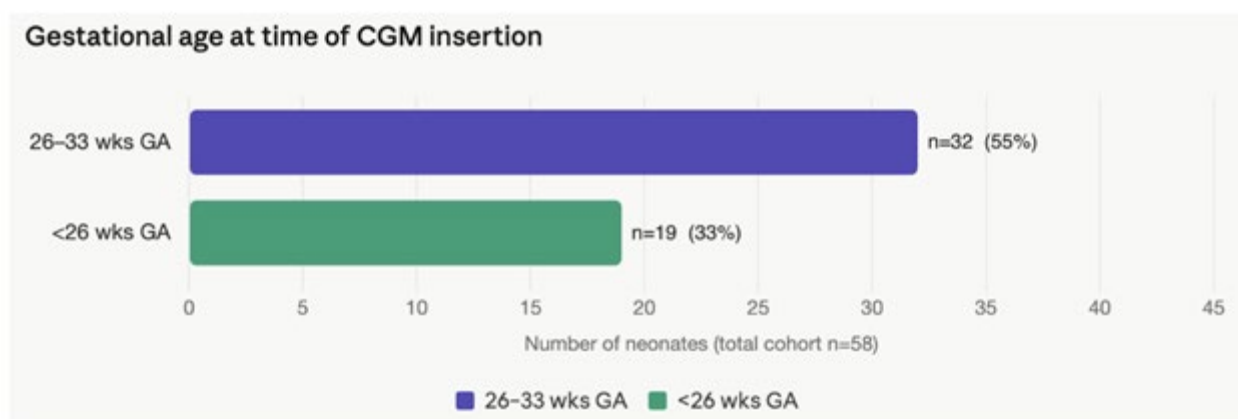
Results:

Median Gestational Age(GA) of CGM recipients (at sensor insertion) has fallen from 28+4 weeks in NIRTURE, 27+7 weeks in REACT, to 26+5(range 23+4 – 32+6) weeks in our unit. Median birthweight decreased from 1000g in NIRTURE to 730g(range 455g-1640g) in our unit. 58 neonates received CGM sensors, 51 (88%) were <33 weeks GA representing 25% of neonates (<33 weeks GA) admitted to the unit. CGM sensors were inserted in 19 neonates (<26 weeks GA) and 32 neonates (26-33 weeks GA) representing 50% and 20% of neonates of each GA cohort admitted to NICU. CGM recipients median GA at birth was 26+0(range 22+4 – 31+3). Remaining 7 neonates were term. 98% were very-low-birth weight. First sensors were inserted at median of 3 days of age(interquartile range 2-6) with neonates monitored for median of 7 days(range 1-24). Overall, 79 sensors were used with most neonates having 1 sensor(range 1-4). No adverse events were reported.

Conclusion:

CGM was feasible in preterm neonates without adverse events; further research into clinical impact and long-term outcomes is needed.

Graphs



Image

NICU Admission Data Vs NICU CGM Insertion (May 2023 – April 2024)			
Gestational Age	NICU Admissions	No of Neonates with CGM Insertion	Percentage with CGM Insertion
< 26 Weeks	38	19	50%
26 – 33 weeks	164	32	20%
< 33 weeks (total)	202	51	25%

Enhancing Quality and Consistency in Antenatal Counselling: A Service Evaluation

Labib S¹, Olanrewaju O¹, Sanghera R¹, Kaur A¹, Pillay T¹, Javed R¹

¹Leicester Royal Infirmary Hospital

Background:

Antenatal counselling is a vital aspect of neonatal care. It helps to inform families about what to expect, potential outcomes, and to help inform the decision-making process. It is particularly important in the case of preterm delivery <34 weeks and congenital anomalies. Currently, antenatal counselling is aligned with the BAPM framework.

Aim:

The aim of this service evaluation was to evaluate the quality and consistency of antenatal counselling provided to families and identify opportunities to improve family-centered care.

Methods:

This service evaluation was conducted within our local neonatal unit using both quantitative and qualitative approaches. A retrospective review of neonatal admissions between 1 and 30 November 2025 identified infants born at <34 weeks' gestation or with significant congenital anomalies. Antenatal counselling and its documentation were reviewed using BadgerNet and maternal electronic records. In parallel, BAPM-aligned questionnaires were developed to explore the experiences of both healthcare professionals and parents. Staff surveys were distributed via QR codes and posters across the maternity and neonatal units to consultants, Tier 1 and Tier 2 paediatric trainees, midwives and neonatal nurses. Parents were approached during postnatal ward rounds and invited to participate. Responses were collected anonymously and analysed to identify current practice, barriers, variation and opportunities for improvement in antenatal counselling.

Results:

Of 40 eligible infants, only 12 (30%) received documented antenatal counselling (Figure 1). Counselling was most frequently delivered at 24+0–27+6 weeks' gestation (Figure 2) and often occurred close to delivery, with 5 sessions taking place within 2 hours of birth (Figure 3). The staff survey included 18 respondents from medical, nursing and midwifery teams (Figure 4), with experience spanning a broad range of gestations (Figure 5). Considerable variation was identified in the content covered during counselling, including outcomes, resuscitation, complications, NICU interventions, feeding, written information and checking parental understanding (Figure 6). Most doctors nevertheless reported being very confident in providing antenatal counselling (Figure 7). Staff highlighted time constraints, late neonatal involvement and difficulty communicating complex information, while parents reported anxiety, uncertainty and information overload. These findings support the development of a structured, standardised BAPM-aligned counselling resource.

Image

ANCAP.pdf (could not be inserted)

Timely Transition from Inpatient Neonatal Unit Care to Inpatient Paediatric Care and the Impact of Delays on Families and Regional Neonatal Capacity: an annual review

Harris K¹, Harris K

¹Jessop Wing (Sheffield Teaching Hospitals)

Aim: to assess across one year (2025) the quantity and quality of neonatal transfers of neonates transitioning from Jessop Wing Neonatal Unit (JW) to ongoing paediatric care and the number of in-utero/ex-utero transfers (IUTs/EUTs) affected due to delayed transfers.

Methods:

Inclusion criteria: established neonatal inpatients, >1.5kg and >32 weeks corrected gestational age, who required ongoing paediatric care at Sheffield Children's NHS Foundation Trust (SCNFT).

We undertook cross-site review assessing time from referral to actual transfer whether, in line with BAPM guidance, there had been a pre-transfer MDT; opportunity for family to visit the accepting unit and introduction to their team; whether there was any delay to transfer and if so the reasons; the use of the transfer checklist; length of stay and time to discharge post-transition.

Additionally, for the delay periods we aimed to identify all impacted patients and families from: the rejected in-utero and ex-utero transfers; and transferring out of antenatal patients.

Results: the average weight at transfer was 2.86kg and age was 50 days. The mean time to transfer following referral was 6.7 days (range 0-21). The average delay was double if requiring admission to the critical care unit (6 vs 13 days).

In the time babies were waiting for transfer (127 days), 155 patient referrals were declined, including 92 that required Level 3 care.

Common themes around longer transfers included: requirement for a PCCU bed, unnecessary transfers back following surgery; and family-led transfers in cases involving care of twins.

Conclusions: there are significant numbers of patients who were not able to access appropriate local or tertiary level of care as a direct result of delayed transfers of babies from neonatal to paediatric care. Timely transfer impacts not just the transitioning patient and family, but many families in the wider region.

Title: Improving Central Safety in Neonates: Please Mind the Tip: Radiological Standardisation Group

Watson G¹, Thankachan D¹, Jones E¹, Morris R¹

¹Singleton Hospital

Background

Central venous access devices (CVADs) are essential in neonatal care but carry significant risks, particularly when suboptimally positioned. A 2025 updated guidance from BAPM highlighted the need for improved standardisation and safety and suggested significant change to local practice in identification of CVAD tip, securement and assessment.

Aim

To assess current CVAD safety practices on our neonatal unit, audit a family of measures reflecting existing practice, and compare local practice with emerging national recommendations.

Methods

We evaluated radiological and procedural practices relating to CVAD insertion and management. Operational definitions were developed for each measure, and a standardised data collection tool was designed. Over a 20-week period, data were collected on the proportion of CVADs with interpretable tip positions, the acceptability of radiographs for line assessment, documentation standards and the use of glue for line securement. In addition, two years of CVAD-related safety incidents were reviewed to identify recurrent themes.

Results

During the study period, only 47% of CVADs had imaging that allowed interpretation of tip position, 47% of radiographs met predefined quality standards, and glue was not used for line securement. Review of safety incidents identified recurring themes of securement failure and line migration, procedural deviations resulting in severed catheters and snapped guidewires, and the use of CVADs following manipulation without confirmatory imaging.

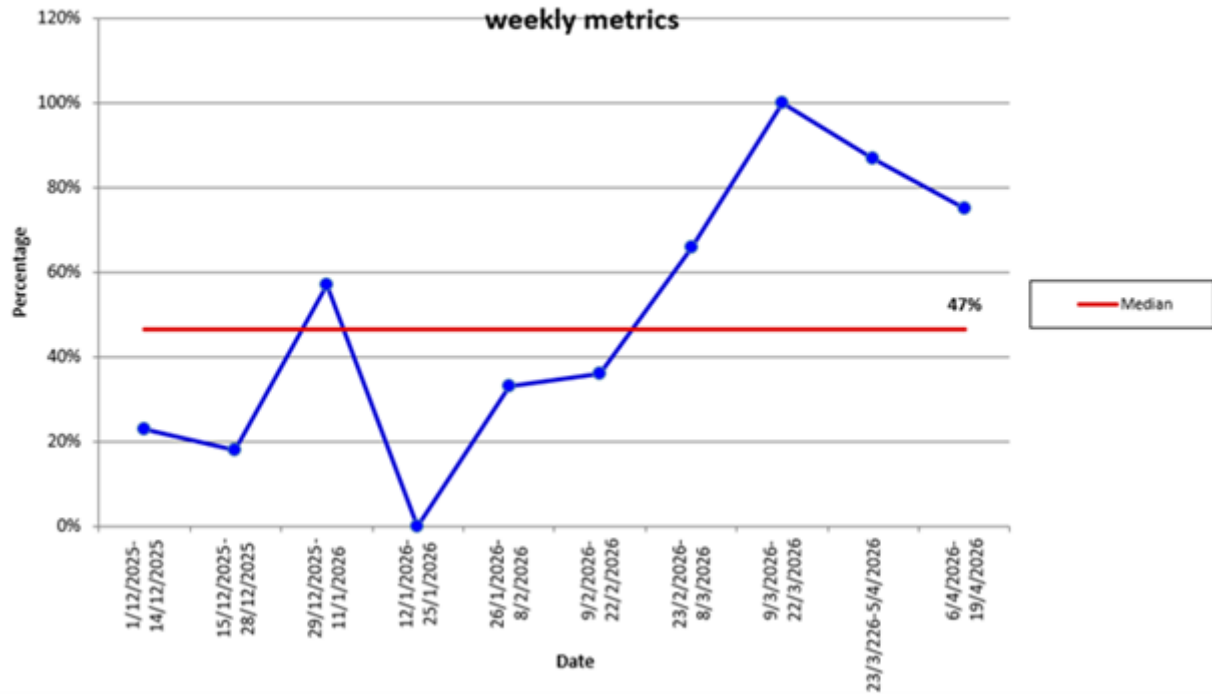
In response, a five-component safety bundle was implemented: (1) second-line imaging for UVC tip confirmation; (2) a migration imaging policy; (3) glue for line securement; (4) contrast use for lower limb PICCs; and (5) a radiological standardisation document.

Conclusion

Targeted Service Improvements have been developed to improve CVADs safety on our neonatal unit in line with national guidance that incorporates our local data. Ongoing evaluation will determine the impact of these interventions on imaging quality, CVAD positioning and overall neonatal patient safety.

Graphs

Run Chart demonstrating the percentage of X-rays taken of central lines that allow interpretation of tip position per number of X-rays taken over two weekly metrics



Assessment and Management of Neonatal Encephalopathy Secondary to Perinatal Asphyxia: Audit of the South West Neonatal Network Care Pathway

Rajabally S, Archibald J

¹Gloucestershire Nhs Foundation Trust

Background:

The South West Neonatal Network revised its pathway for assessment and management of neonatal encephalopathy secondary to perinatal asphyxia in July 2023. Introduced at Gloucestershire Royal Hospital in November 2023, the pathway broadened Criteria A for therapeutic hypothermia assessment and introduced a structured observation pathway allowing selected infants with a normal early neurological examination to remain with their mother rather than undergo neonatal admission. We evaluated compliance with the revised pathway and its impact on neonatal admissions.

Methods:

A retrospective audit was undertaken at Gloucestershire Royal Hospital between March and June 2025. All liveborn inborn infants of >36 weeks' gestation were identified from Badger Maternity. Cases meeting Criteria A, requiring respiratory support at 10 minutes, or admitted with a diagnosis of hypoxic-ischaemic encephalopathy or perinatal asphyxia underwent case note review. Secondary outcomes included documentation of modified Sarnat examination, cerebral function monitoring and therapeutic hypothermia decision-making.

Results:

A total of 1,673 infant records were reviewed. Twenty-one infants met Criteria A and all were correctly identified. Of these 21 infants, 13 (62%) had a normal neurological examination and remained with their mother in accordance with the revised pathway. Two infants proceeded to therapeutic hypothermia. Documentation of the modified Sarnat examination was present in 51% of cases whilst documentation of cerebral function monitoring was inconsistent. Decisions regarding therapeutic hypothermia were documented in all eligible infants.

Conclusions:

The revised pathway successfully identified all infants requiring therapeutic hypothermia assessment whilst reducing neonatal admissions. Compared with the previous pathway, 13 of 21 infants (62%) avoided neonatal unit admission and remained with their mother reducing unnecessary mother-infant separation. The audit identified variation in documentation of neurological assessment and cerebral function monitoring. In response, a neonatal encephalopathy care bundle and accompanying guidance on cerebral function monitoring lead placement and interpretation have been developed.

Auditing the accuracy of Badgernet records for parental presence on neonatal ward rounds

Moustafa H¹, Ikechukwu C², Tanney K²

¹Royal Bolton Hospital, ²Saint Mary's Oxford Road Campus

Aim

To assess the accuracy of parental presence data recorded on Badgernet, which is submitted to the National Neonatal Audit Programme (NNAP), by comparing it with documentation recorded within the HIVE electronic patient record system.

Background

Parental involvement in neonatal ward rounds is recommended by NICE Quality Standard QS193 and is included as NNAP Audit Measure N5 due to its association with improved communication and quality of care. Our unit in St Mary's ORC Hospital has consistently reported lower parental attendance rates than the national average (27.5% vs 36% in 2024 and 29.9% vs 38% in 2025). Parental feedback collected by the Spoons charity in 2025 identified multiple barriers to attending ward rounds. Concerns were raised regarding the accuracy and completeness of documentation submitted to NNAP via Badgernet.

Standard

Every parental presence on neonatal ward rounds should be accurately recorded on daily basis on Badgernet.

Methods

A retrospective audit was undertaken of all neonatal patients present in the unit between 27 October and 2 November 2025. 70 babies, representing 371 eligible cot days, were included. Data was extracted from HIVE ward round notes and Badgernet entries, which form the basis of NNAP submissions.

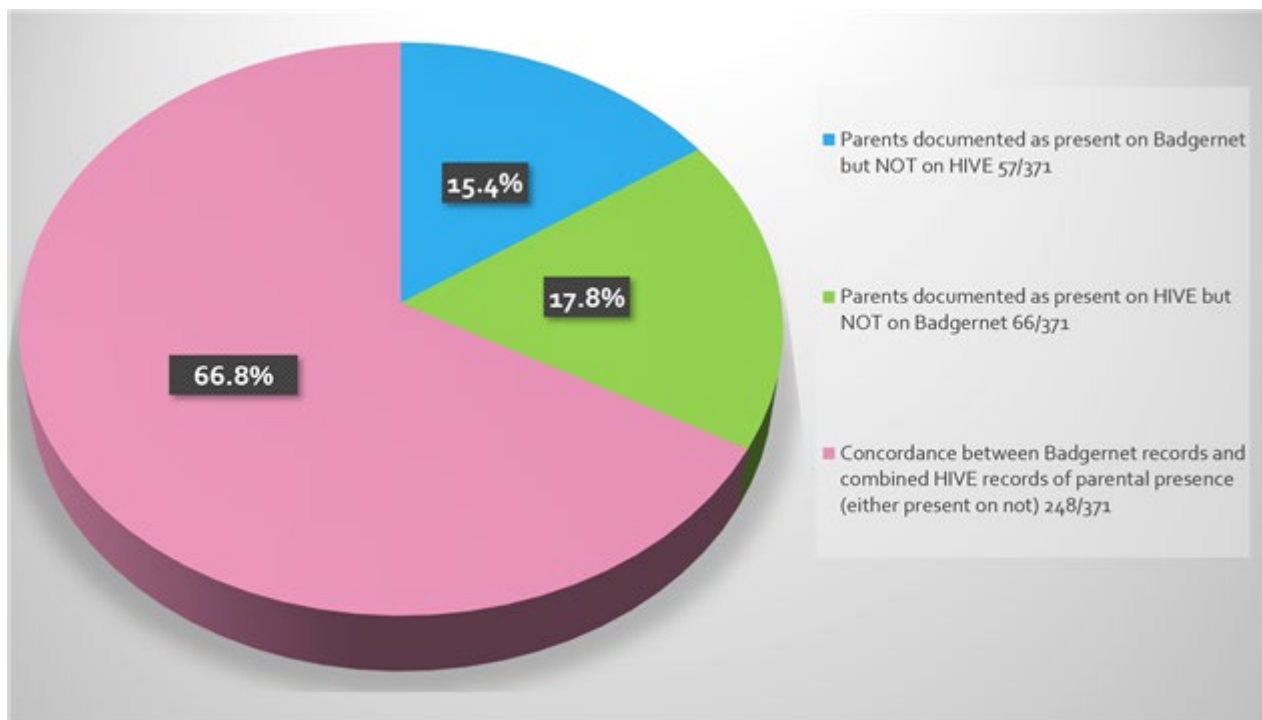
Results

The actual combined rate of parental presence identified was 50.9%, substantially higher than the 33.1% reported through Badgernet for the same period. Overall compliance with parental presence documentation was 64.7%. In 17.8% of eligible cot days, parental attendance was documented within HIVE but was not recorded on Badgernet.

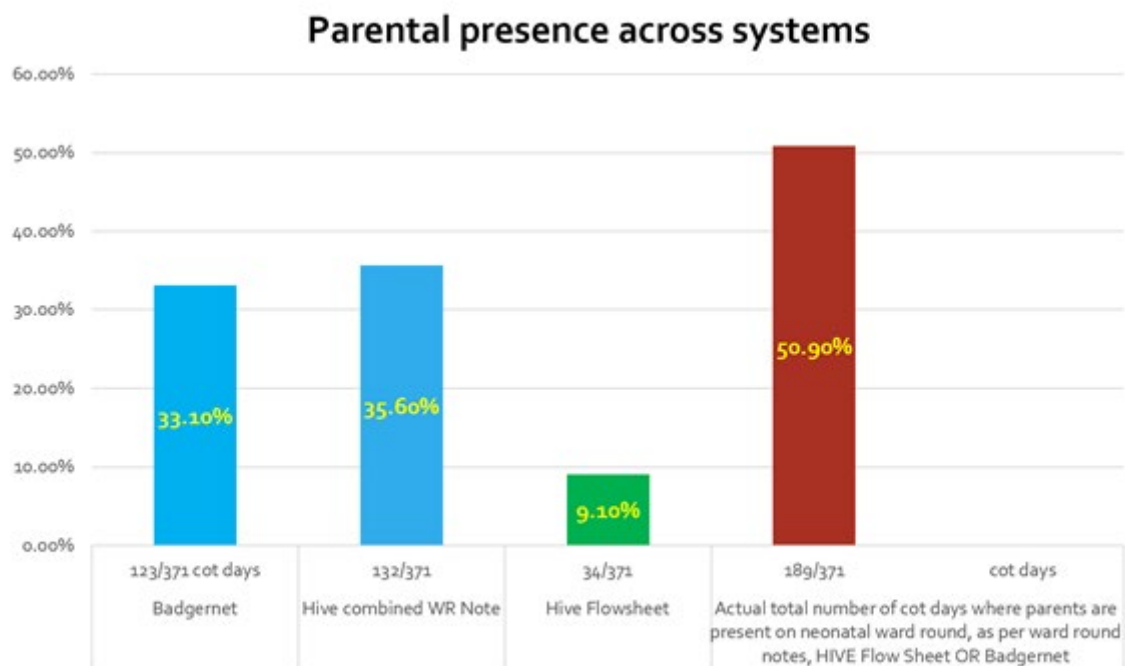
Conclusions

This audit demonstrated significant discrepancies between HIVE and Badgernet records, resulting in under-reporting of parental presence within NNAP submissions. Improved staff awareness and documentation practices are required to enhance data accuracy. The findings also suggest that NNAP should consider alternative measures that more effectively capture meaningful parental engagement, including attendance at relevant subspecialty ward rounds.

Graphs



Image





BAPM

Leading Excellence in Perinatal Care

**This document was produced by the
British Association of Perinatal Medicine (BAPM).**

BAPM is a membership organisation that is here to support all those involved in perinatal care to optimise their skills and knowledge, deliver and share high-quality safe and innovative practice, undertake research, and speak out for babies and their families.

We are a professional association of neonatologists, paediatricians, obstetricians, nurses, midwives, trainees, network managers and other health professionals dedicated to shaping the delivery and improving the standard of perinatal care in the UK.

Our vision is for every baby and their family to receive the highest standard of perinatal care. Join us today.

www.bapm.org/join

British Association of Perinatal Medicine (BAPM)
is registered in England & Wales
under charity number 1199712 at
5-11 Theobalds Road, London, WC1X 8SH