



BAPM Annual Conference 2025 Presented Abstracts

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Table of Content

6 Predicting 5-year-olds mental health at birth: development and internal validation of a multivariable model using the prospective ELFE birth cohort.

Butler E¹, Spirtos M², O Keeffe L³, O Keeffe L⁴, Clarke M⁵

¹Royal College of Surgeons Ireland, ²Trinity College Dublin, ³University College Cork, ⁴University of Bristol, ⁵Royal College of Surgeons Ireland

7 Predicting 7-year-olds mental health at birth: development and internal validation of a multivariable model using the prospective ALSPAC cohort.

Butler E¹, Spirtos M², O Keeffe L³, O Keeffe L⁴, Clarke M⁵

¹Royal College of Surgeons Ireland, ²Trinity College Dublin, ³University College Cork, ⁴University of Bristol, ⁵Royal College of Surgeons Ireland

13 Factors associated with establishing full enteral feeding in preterm infants

Panton A¹, Course C²

¹Cardiff University School of Medicine, ²Cardiff and Vale University Health Board

14 The Impact of Maternal Diabetes on Neonatal Ocular Development: A Systematic Review

Lim A¹

¹University College Dublin

25 What are the most important unanswered questions for LGBTQIA+ perinatal care? A collaborative multi-stakeholder James Lind Alliance Priority Setting Partnership

Levene I¹, Greenfield M², Meads C³, Kiama Zuri E, Thorogood L⁴, Bainbridge A, McLeish J⁵, Darwin Z⁶, Asir M⁷

¹John Radcliffe Hospital, Oxford University Hospitals NHS Trust, ²Open University, ³Anglia Ruskin University, ⁴LGBT Mummies, ⁵National Perinatal Epidemiology Unit, University of Oxford, ⁶University of Huddersfield, ⁷Evelina London Children's Hospital, Guys & St Thomas' NHS Trust

29 Hepatic Abscess: a rare UVC-related complication in an extremely preterm infant

Jain P¹, Kong M³, Devlia D³, Yong J²

¹St Thomas' Hospital, Guy's and St Thomas' NHS Foundation Trust, ²BAPM NeoFOCUS Education team, ³Oxford School of Paediatrics, Thames Valley Deanery

33 Neonatal Intubation Outcomes (NIO) Study: Intubation in the delivery suite and neonatal outcomes in extremely premature babies

Tang B¹, Khan R², Shetty S¹, Richards J¹, Kulkarni A¹

¹St. George's Hospital, ²St. George's University

38 Competent or Confident? Uncovering Discrepancies in Neonatal Airway Skills

Walters C¹, Al-Muzaffar I¹

¹Cwm Taf Morgannwg University Health Board

40 Multiple thrombi presenting as Persistent Pulmonary Hypertension of the Newborn.

Muddiman L¹, Greenwood B¹, Kewley K¹

¹Newborn Intensive Care Unit, St Mary's Hospital

41 Should We Consider Genetic Testing in Symmetrical IUGR Babies?

– A rare case of uniparental maternal heterodisomy of chromosome 6 identified through Microarray

Hughes A¹, Jain S¹

¹Bolton Foundation Trust

47 Review of Practice - Use of Intravenous Immunoglobulins and Exchange Transfusions in the Management of Neonatal Hyperbilirubinemia in a Tertiary Neonatal Unit

Azhar M¹, Jain S²

¹University of Manchester, ²Royal Bolton Hospital

49 Interobserver variability in the assessment of intraventricular haemorrhage on cranial ultrasound scans in preterm infants

Atreja I¹, Mckinnon K², Richards J^{1,2}, Shetty S^{1,2}, Kulkarni A^{1,2,3}

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

³Royal Brompton Hospital NHS Foundation Trust

53 A Retrospective Analysis of Care delivered to Infants Born at 27–29 Week Gestation in the Yorkshire & Humber Region, 2023–2024: What Do We Know, What Can We Learn, and How Can We Improve?

Gill K¹, Pilling E¹, Gorry L¹, Kasinski H¹

¹Sheffield Childrens Hospital. Y&H Neonatal ODN

60 Persistent Pulmonary Hypertension among infants undergoing Therapeutic Hypothermia for Hypoxic Ischemic Encephalopathy- a systematic review and meta-analysis

Javed R¹, Hasselt T², Rao N³, Gowda H⁴

¹Northampton General Hospital, ²University Hospitals Leicester NHS Trust, ³Madinat Zayed Hospital,

⁴University Hospitals Birmingham NHS Trust

65 Perinatal Optimisation in practice: Findings from an ethnographic study in England

Mackintosh N¹, Roberts J¹, Anderson J², Armstrong N³, Boyle E¹, McParland P⁴, Padden T¹, Tarrant C¹

¹University Of Leicester, ²Bliss, ³City St. George's University of London, ⁴University Hospitals of Leicester NHS Trust

68 Deaths due to Neonatal Herpes Simplex Virus in England– an observational analysis of the demographics, presentations and clinical course.

Rossouw G¹, Williams T¹, Stoianova S¹, Luyt K¹

¹National Child Mortality Database

70 Assessing emerging adjuvant therapies with hypothermia for hypoxic ischaemic encephalopathy (HIE) – A systematic review

Liloglou A¹, Wilson R², Newell K^{1,2}

¹Lancaster Medical School, ²Health Education Northwest Deanery

77 Neonatal Analgesia, Pain and Sedation Survey (NAPS)

Greenwood B¹, Sur A², NeoTRIPS collaborative network N³

¹St Mary's Hospital, ²Lancashire Women and Newborn Centre, ³NeoTRIPS collaborative network

83 r-PAP for neonatal resuscitation: a tertiary unit experience

Abdelshafy A¹, Moore R¹, Nakiryowa P¹

¹Royal Maternity Hospital

89 Developmental Outcomes and Service Evaluation for High-Risk Preterm Infants in Bradford

Lok A¹, Reynolds N, Carless C, Blackett K

¹Bradford Neonatal Service, Bradford Royal Infirmary

91 Accidental arterial PICC line placement in neonates – a complication increasingly detected by POCUS

Douch C, Duffy D¹, Shetty S¹, Richards G¹, Kulkarni A¹

¹St George's University Hospitals NHS Trust Neonatal Unit

96 Thriving or surviving? A family census looking at life on a tertiary neonatal unit

Eldeeb S¹, Douch C¹, Loucaides E¹, Prior A¹, Sonuga E¹, Crowley N¹

¹St George's University Hospitals NHS Trust Neonatal Unit

107 EVIDENCE SUPPORTING USE OF CLONIDINE AS A THERAPEUTIC AGENT FOR NAS – A LITERATURE REVIEW

Javed E¹

¹Liverpool Women's Hospital

110 Two year outcome of extreme preterm babies born at 22-26 weeks gestation (2017-2022)

Lobo R¹, Osman R¹, Sivakanthan S¹, Das A¹

¹Queen's Hospital, Barking, Havering and Redbridge University Hospital NHS Trust

123 Evaluation of a national culture and leadership programme in NHS maternity and neonatal services in England: a mixed methods study

Spence T¹, Noszlopy L¹, Currie G², Waring J³, Watson S¹, Russell S⁴, Dharni N¹, Kenyon S¹

¹Department of Applied Health Sciences, University Of Birmingham, ²Warwick Business School, University of Warwick, ³School of Social Sciences and Humanities, Loughborough University, ⁴Patient and public involvement representative

128 Human milk oligosaccharides (HMO's) by influencing Epigenetic modulation confers Health well being in neonates and infant

Raj A¹

¹Square hospital, dhaka, bangladesh

129 Remodeling and Maximizing Neonatal care with Artificial Intelligence (AI), Obstacles, opportunities, Ethical consideration and futuristic implications.

Raj A¹

¹Square hospital, dhaka, bangladesh

130 Optimizing the

Benefits of HMOs by ensuring mitochondrial health & smart gut

Raj A¹

¹Square hospital, dhaka, bangladesh

135 Parental involvement in decision-making about planned late preterm and early term birth: voicing and understanding are key components

Mielewczyk F¹, Mulvaney C¹, Boyle E¹

¹University Of Leicester

147

SHONE'S Complex Case Study-Baby R – Recognizing Hidden Cardiac Causes in Neonates

Chevireddy G¹, Rathnayake S, Gonapoladeniyage D, Alzaghal A

¹Pilgrim Hospital, United Lincolnshire Teaching Hospital NHS Trust (ULTHT)

151 Mucous Fistula Refeeding in Preterm Neonates; A Systematic Review

Andrew E¹, Simpson J¹

¹NHS Greater Glasgow and Clyde

152 A retrospective evaluation of the respiratory and nutritional benefits of transpyloric feeding in extremely preterm neonates with evolving or established bronchopulmonary dysplasia

Jackson E¹, Morar N¹, Shetty S¹, Kulkarni A¹

¹St George's University Hospital

156 Think of a number – Human vs Machine number preferencing in vital observation recording for neonates.

Joseph S

¹Sheffield Children's Hospital

159 Feeding difficulties following neonatal hypoxic ischaemic encephalopathy: Identifying elements for intervention development

Edney S¹

¹Newcastle University

166 Does mode of delivery affect the success of perinatal optimisation?

Morar N¹, Chang C¹, Woodhouse S¹, Azeez N¹, Crowley N¹

¹St George's University Hospital

167 Does ethnicity play a role in adherence to the individual elements of the perinatal optimisation passport in a tertiary neonatal unit?

Morar N¹, Chang C¹, Woodhouse S¹, Azeez N¹, Crowley N¹

¹St George's University Hospital

170 A Systematic Review of The Use of Melatonin in Premature Infants

Jones M¹, Dorling J²

¹University Of Southampton, ²NIHR Southampton Biomedical Research Centre

171 Growth and Developmental Outcome in Preterm Infants with Stomas; a Gestation-Matched Case-Control Study

Naji K², Hussain J¹, Wardle S¹

¹Nottingham University Hospitals, ²University of Nottingham

173 A Systematic Review of the Use of Melatonin in Babies with Hypoxic Ischaemic Encephalopathy
Jones M¹, Dorling J²

¹University Of Southampton, ²NIHR Southampton Biomedical Research Centre

177 EVIDENCE SUPPORTING USE OF CLONIDINE AS A THERAPEUTIC AGENT FOR NAS – A LITERATURE REVIEW

Javed E¹, Crankshaw D¹

¹Liverpool Women's Hospital

184 Reverse Differential Cyanosis in a Preterm Neonate – A Diagnostic and Therapeutic Challenge

Mohamed Hassan S¹, De Silva B¹, Pamarathne D¹, Jayaweera S¹, Herath S¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital, Sri Lanka

185 Innovative Management of Congenital Chylothorax Using Modified MCT-Enriched Breast Milk in a Resource – Limited Setting.

Mohamed Hassan S¹, De Silva B¹, Jayaweera S¹, Mohamed Musthaffa F², Pathirana T¹

¹Teaching Hospital Badulla, ²Colombo South Teaching Hospital

189 Cessation of Mothers' Own Milk (MOM) feeding in preterm infants in neonatal units: when does this occur?

Ryan M¹, Szatkowski L¹, Tao S¹, Ojha S²

¹School of Medicine, University Of Nottingham, ²Neonatal Unit, University Hospitals of Derby and Burton NHS Trust

190 A Successful Outcome With A Trial Of Steroids In A Case Of Severe Persistent Pulmonary Hypertension And Refractory Chemical Pneumonitis Following Meconium Aspiration Syndrome In A Neonate.

Mohamed Hassan S¹, De Silva B¹, Herath S¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital

192 Two Rare Cases Of Congenital Surfactant Deficiency In Neonates

Mohamed Hassan S¹, De Silva B¹, Herath S¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital

193

Congenital Dermoid Cyst Of The Tongue In A Neonate

Mohamed Hassan S¹, De Silva B¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital

195 Case Series of Management of Hemodynamically Significant Patent Ductus Arteriosus in Preterm Neonates Using a Combination of Paracetamol and Ibuprofen Therapy

Mohamed Hassan S¹, Mohaideen A¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital

197 Differences between preterm neonates undergoing early versus late surgery for necrotising enterocolitis

Price R¹, Bradnock T¹, Simpson J¹

¹Royal Hospital for Children

200 Understanding community detection, testing and management of neonatal jaundice in term infants in the UK: a mixed methods study

Dann S¹, Kenyon S¹, Adams D², Bryer J³, Cheatham C⁴, Crothers H⁵, Halpern L³, Heap S⁴, Holder G⁴, Reeves K⁵, Remsing S⁵, Skrybrant M¹, Smith D⁴, Walker A², Webster R⁶, Taylor B⁷

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⁴Birmingham Women's and Children's NHS Foundation Trust, ⁵Institute of Translational Medicine, University Hospitals Birmingham NHS Foundation Trust, ⁶Queen Elizabeth Hospital, University Hospitals Birmingham NHS Foundation Trust, ⁷Warwick Medical School, University of Warwick

210 Use of polymerase chain reaction in the diagnosis of culture-negative neonatal early onset sepsis: A systematic review

Rodger I¹, Duggan M¹

¹Princess Royal Maternity Hospital

212 Phrenic nerve palsy - an unusual consequence of traumatic birth

Samuel V¹, Peterson J², Simpson A³, McCullough S⁴

¹Royal Oldham Hospital, ²Royal Oldham Hospital, ³Royal Oldham Hospital, ⁴Royal Oldham Hospital
216 Outcome of Neonates Admitted with Hypoxic Ischemic Encephalopathy (HIE) to a Tertiary Neonatal Unit Over 3 Years Period — a Retrospective Study.

Al-Ani D¹, Buxton E¹, Konnuru S¹

¹Royal Preston Hospital

218 The role of donor human milk in supporting parental mental health and wellbeing: lessons from recipients and donors

Brown A¹, Weaver G², Griffin S², Jones S¹, Griffiths C¹, Shenker N³

¹Swansea University, ²Human Milk Foundation, ³Imperial College London

219 Understanding parents' and healthcare professionals' (HCP) experiences of, and priorities for, neonatal neurodevelopmental follow-up for very preterm babies.

Marcroft C¹, Kolehmainen N², Thomson R², Basu A², Exley C²

¹Newcastle Neonatal Service, Newcastle Upon Tyne Hospitals NHS Foundation Trust, ²Population Health Sciences Institute, Newcastle University

231 Assessment criteria, outcomes and complications of PDA Device Closure in Preterm Infants

Tolani A¹, Horsley V¹, Chuang S¹, Bautista C², Battersby C¹

¹Chelsea & Westminster NHS Hospital, ²The Royal London Hospital

236 Right Pulmonary Artery Thrombosis in a 24-Week Neonate in the First Week of Life: Is Anticoagulation necessary?

A Literature Review and Tertiary Neonatal Unit Experience

Dakhli I¹, Somisetty S¹, Nallagonda S¹

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Predicting 5-year-olds mental health at birth: development and internal validation of a multivariable model using the prospective ELFE birth cohort.

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Background:

One in six children between 2- and 8-years of age have a diagnosable mental, behavioural or developmental disorder. Preventing or delaying the onset of poor mental health in childhood is a key avenue for improving public health.

Aim:

To develop and internally validate a multivariable model, applied at birth, to predict 5-year-olds mental health.

Methods:

Using the ELFE prospective French multicentre birth cohort (n=9768), and with respect to sample-size calculations, 26 candidate predictors, spanning pre-pregnancy maternal health, pregnancy-specific-experiences, birth factors and sociodemographic risk (maternal age, education, relationship, migrancy and family income) were used. They were pre-registered on osf.io. The Strengths and Difficulties Questionnaire total-score at 5-years, dichotomised at the recommended cut-off (>16), was the outcome. Least Absolute Shrinkage and Selector Operator followed by bootstrapping was used. High and low-risk was classified by $\geq 8\%$ risk-threshold score. Stability of the model at population- and individual-level and model performance across groups of interest (sex, sociodemographic risk and neonatal intensive care admissions) was also examined.

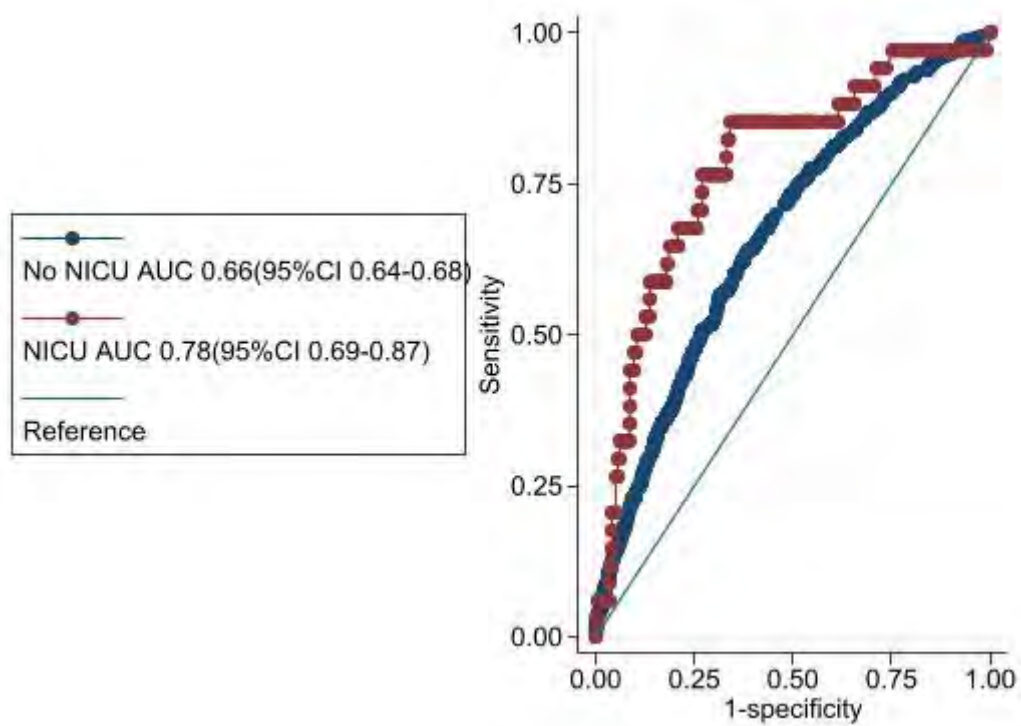
Results:

10 variables (total number pregnancy-specific experiences, sociodemographic risk, maternal pre-existing hypertension and psychological difficulties, gravidity, maternal mental health problems in a previous pregnancy, smoking and alcohol use in current pregnancy, how labour started and infant sex) with a C-statistic of 0.67; 95%CI (0.64-0.69) predicted mental health. The positive and negative predictive value were 12% & 95.4% respectively, leading to 78.8% of children correctly classified. Model performance was similar across groups of interest but increased for children (born ≥ 33 -weeks-gestation) with neonatal admissions (AUC 0.78; 95%CI (0.69-0.87)).

Conclusion:

This model is most useful for screening out low-risk children. Applying this model in a tiered preventative intervention framework could be beneficial with those predicted to be high-risk receiving further screening to determine the level of intervention required. External validation and implementation research are required before considering its use in practice.

Graphs



Image



Predicting 7-year-olds mental health at birth: development and internal validation of a multivariable model using the prospective ALSPAC cohort.

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Background

Mental health difficulties in childhood are continuing to increase. Prevention is the only sustainable and ethical public health approach. However, predicting which children are most at-risk of mental health difficulties prior to symptoms emerging remains elusive.

Methods

We developed and internally validated a perinatal multivariable model, predicting 7-year-olds mental health, using the Avon Longitudinal Study of Parents and Children (N = 6021, 51.2%male, 98.6%White). Perinatal predictors were reported by the mother prospectively in pregnancy and the Strengths and Difficulties Questionnaire (SDQ) was completed by the mother at 7-years-old. This was dichotomised at recommended clinical cut-off (total>16) Building on our previous model in a French cohort, fifteen perinatal parameters spanning maternal pre-pregnancy health, biological and psychosocial pregnancy-specific-experiences, maternal health behaviours in pregnancy and sociodemographic factors were entered into a logistic regression using the least absolute selection and shrinkage operator. Optimism-adjusted estimates were achieved using bootstrapping. Model performance was stratified by sex, sociodemographic risk and admission to a special-care baby unit.

Results

Combining eight variables predicted poor mental health, with a C-statistic of 0.66; 95%Confidence-Interval (0.64-0.68). It accurately predicted 85.6% of the participants mental health at 7-years in the perinatal period. Model performance was similar across groups of interest. Applying this model leads to a higher benefit than serving 'all' or 'no' children, that is, using the model, 30.9% of children who later had poor mental health would have been identified in the perinatal period.

Conclusion

It is possible to predict childhood mental health at birth with moderate accuracy. Similar patterns of model performance were observed in this English cohort compared to a previous French cohort. In addition to external validation, future research should examine the model's performance at service-delivery level before implementation. Furthermore, pursuing stakeholder agreement as to acceptable levels of risk-thresholds would benefit future research.

Image

PRECONCEPTION:



IN-UTERO:



BIRTH:



POST-NATAL:



Factors associated with establishing full enteral feeding in preterm infants

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Background

Preterm infants are unable to receive full enteral feeds immediately following birth and are initially dependent on parenteral nutrition, with associated iatrogenic complications. This service evaluation project aimed to identify time to establish full enteral feeding in a high-risk neonatal cohort and associated clinical outcomes.

Methods

This study included preterm infants, born ≤ 30 weeks' gestation, in a single tertiary neonatal unit in 2023. All data was obtained from the electronic healthcare records system 'BadgerNet'. Data collected included date of last administration of TPN, participant characteristics and clinical outcomes including necrotising enterocolitis (NEC) and sepsis. LMSgrowth (Medical Research Council, UK) identified intra-uterine growth restriction. Statistical analyses were performed using SPSS v27 (IBM, USA).

Results

54 infants were included. Days taken to establish full enteral feeding overall were 13.4 (15.4), 9.1 (0.4 – 75.9) [mean (SD), median (range)]. Increasing gestational immaturity resulted in longer time to full enteral feeds (TFEF) ($p < 0.001$). Infants with suspected and/or confirmed NEC had a longer TFEF compared to controls ($p = 0.022$, $p = 0.003$ respectively). Infants with culture positive sepsis had a longer TFEF compared to those with culture negative sepsis ($p = 0.035$).

Conclusions

Infants born more prematurely have a longer TFEF. There is a statistically significant association between longer TFEF and incidence of both NEC and culture positive sepsis. Considering recent RCTs show no elevated risk with faster feed increments in preterm infants, enteral feeding could be initiated and advanced sooner, with concurrent breastfeeding support, with the intention of averting clinical complications.

The Impact of Maternal Diabetes on Neonatal Ocular Development: A Systematic Review

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Introduction: Maternal diabetes, including both pregestational and gestational forms, is a known risk factor for adverse fetal outcomes. While its impact on organ development is well-studied, its specific effects on neonatal ocular development are less understood. Emerging evidence suggests that maternal hyperglycemia may disrupt normal eye formation, leading to structural or functional abnormalities. This systematic review examines the association between maternal diabetes and ocular outcomes in neonates, aiming to clarify risks and guide early screening practices.

Method: A systematic search was conducted across PubMed, Scopus, and Cochrane Library databases for studies published between 2020 and 2025. Eligible studies included those investigating the effects of maternal diabetes—both pregestational and gestational—on ocular development or visual outcomes in neonates. Inclusion criteria were peer-reviewed, full-text articles in English that reported clinical, structural, or functional ocular outcomes in newborns or infants exposed to maternal diabetes. From an initial yield of 191 records, 32 studies were selected based on relevance to the review objective and the quality of evidence.

Results: Across all studies, maternal diabetes—both gestational and pregestational—was consistently associated with increased risk of neonatal ocular abnormalities. Several studies showed that infants of diabetic mothers had a higher incidence of severe retinopathy of prematurity (ROP), with risk increasing alongside ROP severity. Photoreceptor development was disrupted in hyperglycemic embryonic models. Maternal diabetes also correlated with increased long-term risks of diabetic retinopathy and hypertensive retinopathy postpartum. One large population-based study found that pregnancy-induced hypertension combined with diabetes further elevated ocular disease risk. These findings highlight maternal hyperglycemia as a significant factor influencing both immediate and delayed ocular outcomes in offspring.

Conclusion: Maternal diabetes significantly increases the risk of both short- and long-term ocular complications in offspring. These findings support the need for targeted neonatal eye screening and closer maternal glycemic control to reduce vision-related morbidity in affected infants.

What are the most important unanswered questions for LGBTQIA+ perinatal care? A collaborative multi-stakeholder James Lind Alliance Priority Setting Partnership

Levene I¹, Greenfield M², Meads C³, Kiama Zuri E, Thorogood L⁴, Bainbridge A, McLeish J⁵, Darwin Z⁶, Asir M⁷

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Background:

LGBTQIA+ people experience worse perinatal outcomes, including higher rates of stillbirth, preterm birth and postnatal mental health problems. Perinatal research is overwhelmingly based on an expectation that the population are cisgender heterosexual women and their male partners, meaning that LGBTQIA+ specific areas of perinatal care, such as outcomes of reciprocal IVF or experiences of co-lactation, receive minimal attention. Few perinatal clinicians have LGBTQIA+ expertise.

Methods:

This project adopted James Lind Alliance for Priority Setting Partnership methodology; co-design of two surveys to elicit and long list unanswered research questions followed by a multi-stakeholder workshop to agree the Top 10 research priorities for LGBTQIA+ perinatal care.

Results:

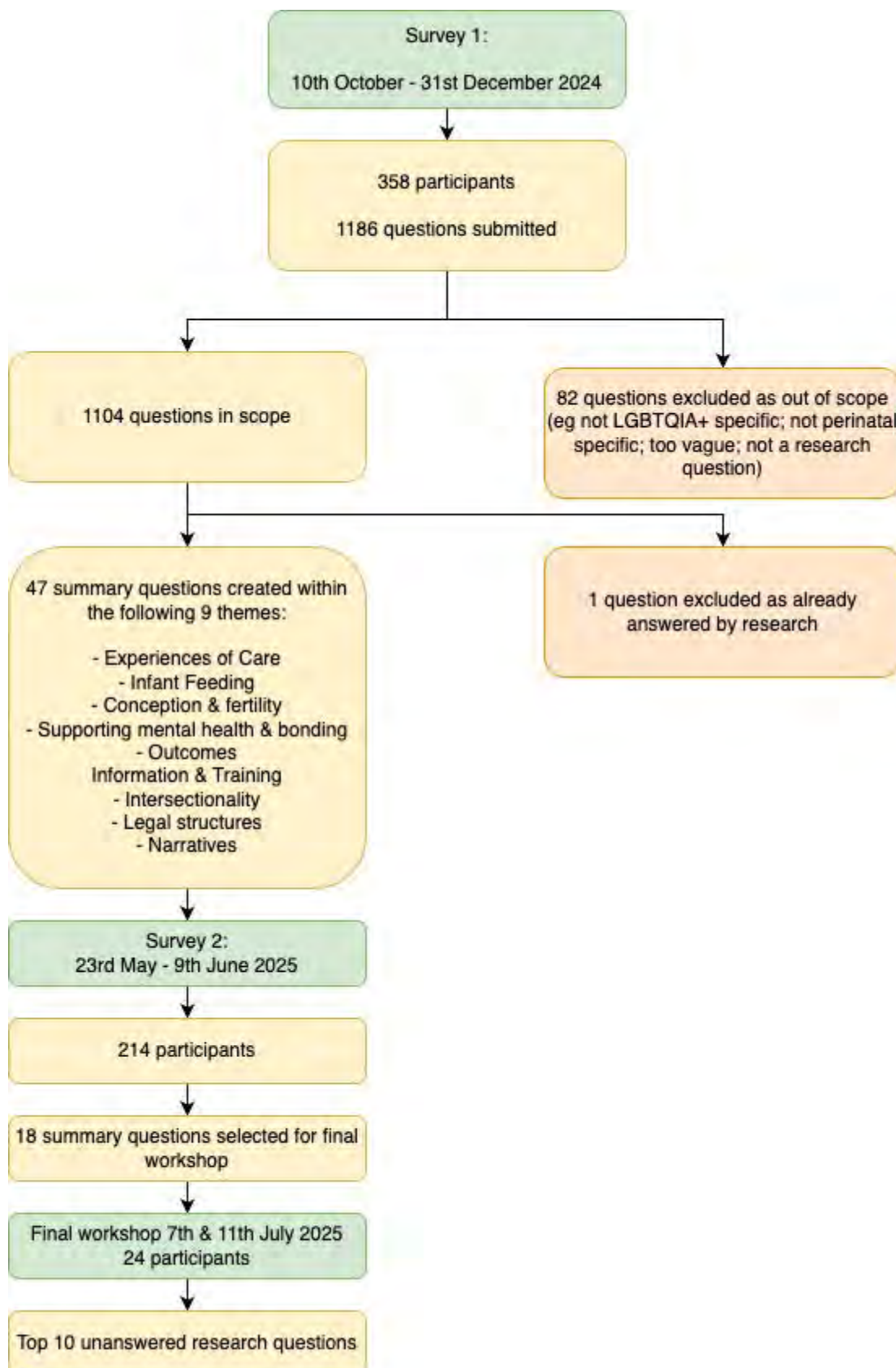
The process took place between October 2024 and July 2025. Figure 1 shows the number of people involved at each stage and the number of potential research questions submitted. The majority of respondents were female. Responses were received from people of all gender identities and sexual orientations. 13% of respondents were from racialised minorities, 30% had a disability and 10% lived in an area that felt unsafe or had poor housing.

1166 potential research questions were submitted by 358 people in the first survey (108 clinicians). 47 summary questions were created, under 9 key themes (listed in Figure 1). In the second survey, 214 people identified their personal top ten priorities from these 47 questions (74 clinicians), leading to a long list of 18 to take to a final two-day online prioritisation workshop in July 2025. The final Top 10 priority list will be provided at the conference.

Conclusions:

A diverse group of LGBTQIA+ people and clinicians were reached in this collaborative prioritisation process, identifying the key unanswered research questions for LGBTQIA+ perinatal care. This will help to target future research efforts and helps perinatal clinicians to further understand LGBTQIA+ people's experiences and priorities.

Image



Hepatic Abscess: a rare UVC-related complication in an extremely preterm infant

Jain P¹, Kong M³, Devlia D³, Yong J²

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We report a case of hepatic abscess (HA) in a 26-week gestation twin male infant as a complication of umbilical venous catheter (UVC) use. HA is a rare complication in extremely preterm neonates, with very few cases reported at this gestational age.

Presentation

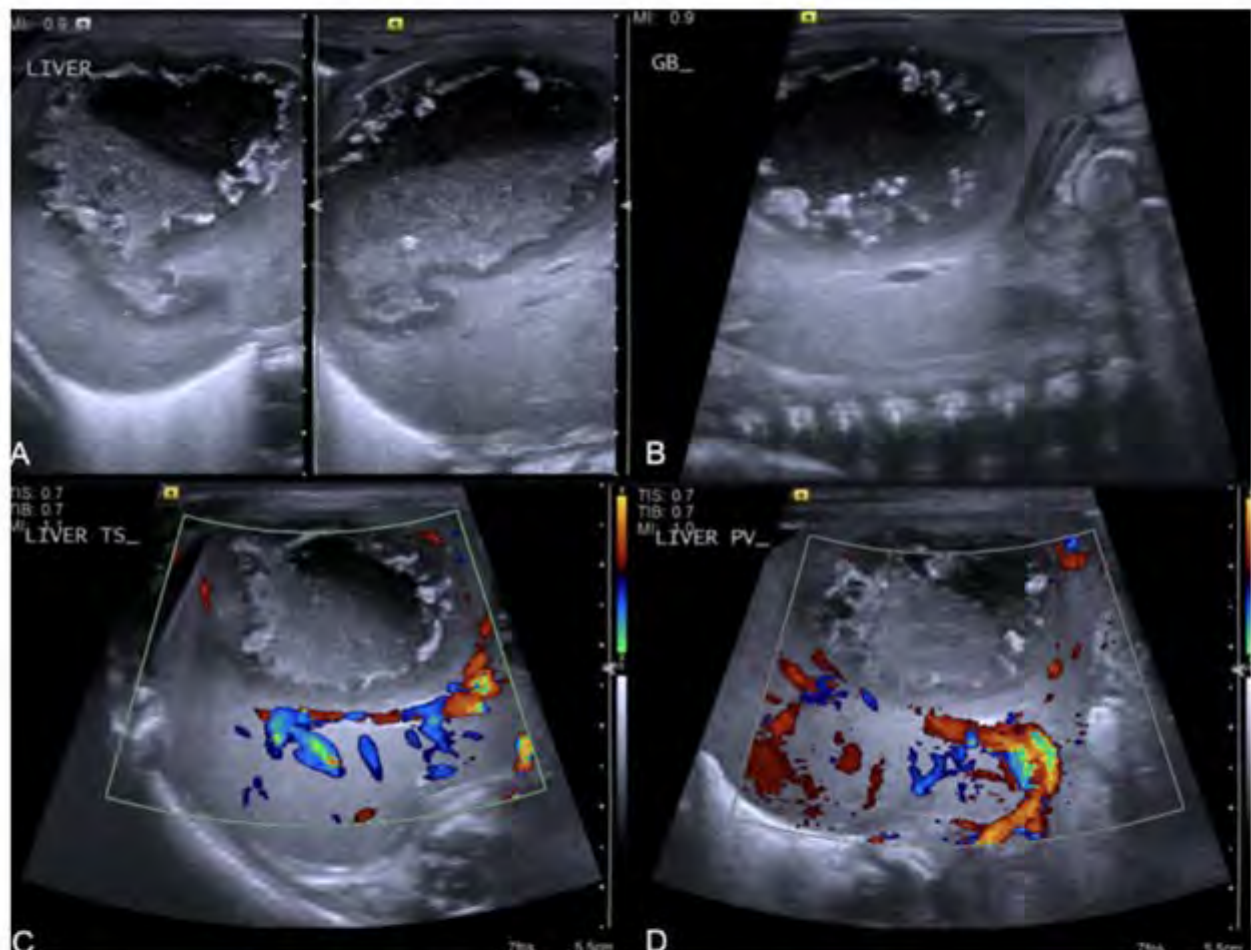
A dichorionic-diamniotic twin male, born at 26 weeks' gestation, was admitted to the neonatal intensive care unit. He was commenced on non-invasive respiratory support. A UVC was inserted, with radiological confirmation of its initial placement in the inferior vena cava. On day 7 of life, the infant acutely deteriorated with frequent bradycardia and desaturation episodes, necessitating intubation and mechanical ventilation. A chest and abdominal X-ray revealed migration of the UVC tip into the liver. The catheter was promptly removed. In view of suspected central line associated bloodstream infection, antibiotics were escalated to meropenem and vancomycin. Despite treatment, inflammatory markers remained elevated, and blood cultures grew coagulase-negative *Staphylococcus*. Abdominal ultrasound revealed a large fluid-filled structure, raising suspicion of a HA (Figure). Ultrasound-guided drainage was performed under general anaesthesia, yielding thick purulent material. Following drainage, antibiotics were rationalised to vancomycin monotherapy. Serial weekly ultrasounds showed progressive regression of the abscess. The infant recovered fully and was discharged home in good condition.

Discussion

UVC placement is a recognized risk factor for HAs, particularly when the catheter tip migrates or is malpositioned. Ensuring optimal positioning at the cavo-atrial junction is essential to reduce this risk. Clinical presentation of HA in neonates is often non-specific. A high index of suspicion should be maintained in infants who deteriorate following UVC insertion. Early identification and intervention are associated with favourable outcomes. Ultrasonography is the imaging modality of choice for diagnosis, while computed tomography may offer greater specificity. Percutaneous drainage is effective in managing solitary abscesses, whereas multiple small abscesses typically require prolonged antibiotic therapy.

Image

Figure: Ultrasound features of hepatic abscess



- A. Longitudinal and transverse views of the liver abscess with a thickened wall, internal fluid-fluid level containing debris and multiple foci of surrounding calcification. This measured 3.2 x 3.3 x 4.1 cm in size.
- B. The abscess is seen within the right liver lobe, separate to the collapsed gallbladder.
- C. The right portal vein and hepatic veins are splayed by the abscess.
- D. Normal forward flow of the main portal vein

Neonatal Intubation Outcomes (NIO) Study: Intubation in the delivery suite and neonatal outcomes in extremely premature babies

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Background

Initiation of non-invasive ventilation (NIV) than delivery-suite intubation (DSI) reduces lung injury and bronchopulmonary dysplasia (BPD).

Method

This retrospective cohort study included all infants born at St. George's Hospital from 2017 to 2023, with gestations (GA) between 23+0 and 31+6 weeks. Data extracted from the BadgerNet and Cerner databases.

Results

637 infants were included. DSI rates declined from 66.3% to 32.3% (2017 vs 2023; $p < 0.001$). The greatest reduction in DSI was seen in babies with 26+0 to <31+6 weeks GA and birthweights (BW) >500g ($p < 0.001$). DSI was associated with earlier gestation (25+6 vs 29+6), lower birthweight median (range) 760g (370-2690) vs 1150g (460-2490), and fewer multiple births (37.8% vs 62.2%; all $p < 0.001$). DSI was associated with a significantly higher rate of being intubated at 24hrs (89.3% vs 10.8%) and 7 days of life (58.1% vs 8.2%), BPD (76.8% vs 26.1%), oxygen dependency at 28 days of life (85.8% vs 44.0%) and at discharge (52.9% vs 11.7%; all $p < 0.001$), and severe BPD (76.8% vs 26.1%; $p = 0.035$). DSI was associated with higher neonatal unit mortality (19.9% vs 2.7%), severe IVH (21.7% vs 3.6%), retinopathy of prematurity (13.3% vs 2.2%), and length of stay median (range) (92 (1 – 335) vs 52 (3 – 258); all $p < 0.001$). On logistic regression, when corrected for birth GA, gender, birth weight, antenatal steroids, multiple births, DSI was independently associated with increased odds of death in premature babies <32 weeks gestation ($p < 0.001$).

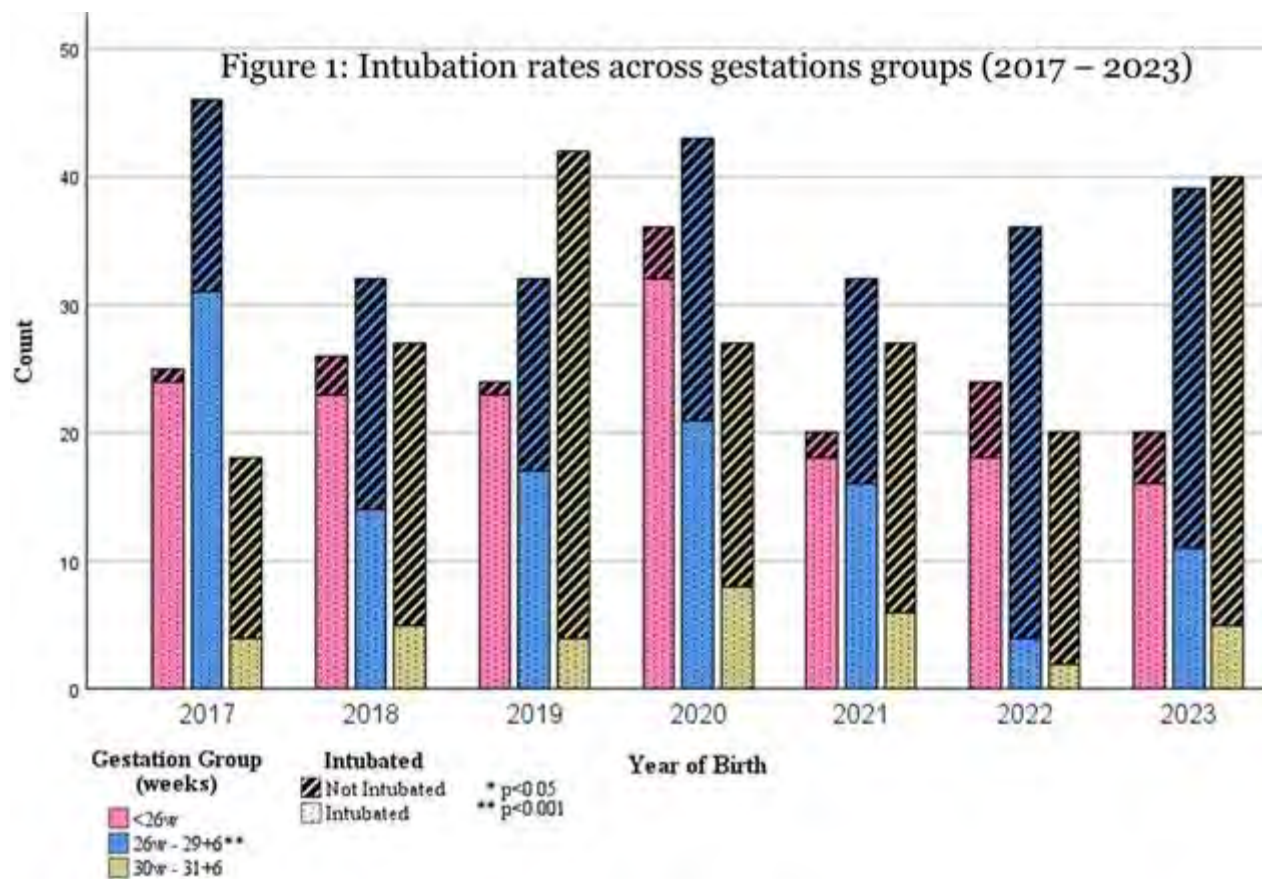
Conclusion

Preterm infants offered NIV from birth had improved respiratory outcomes. Intubation rates reduced significantly over the past seven years (2017-23), particularly in infants between 26+0 and 31+6 weeks GA and BW ≥ 500 g ($p \leq 0.001$).

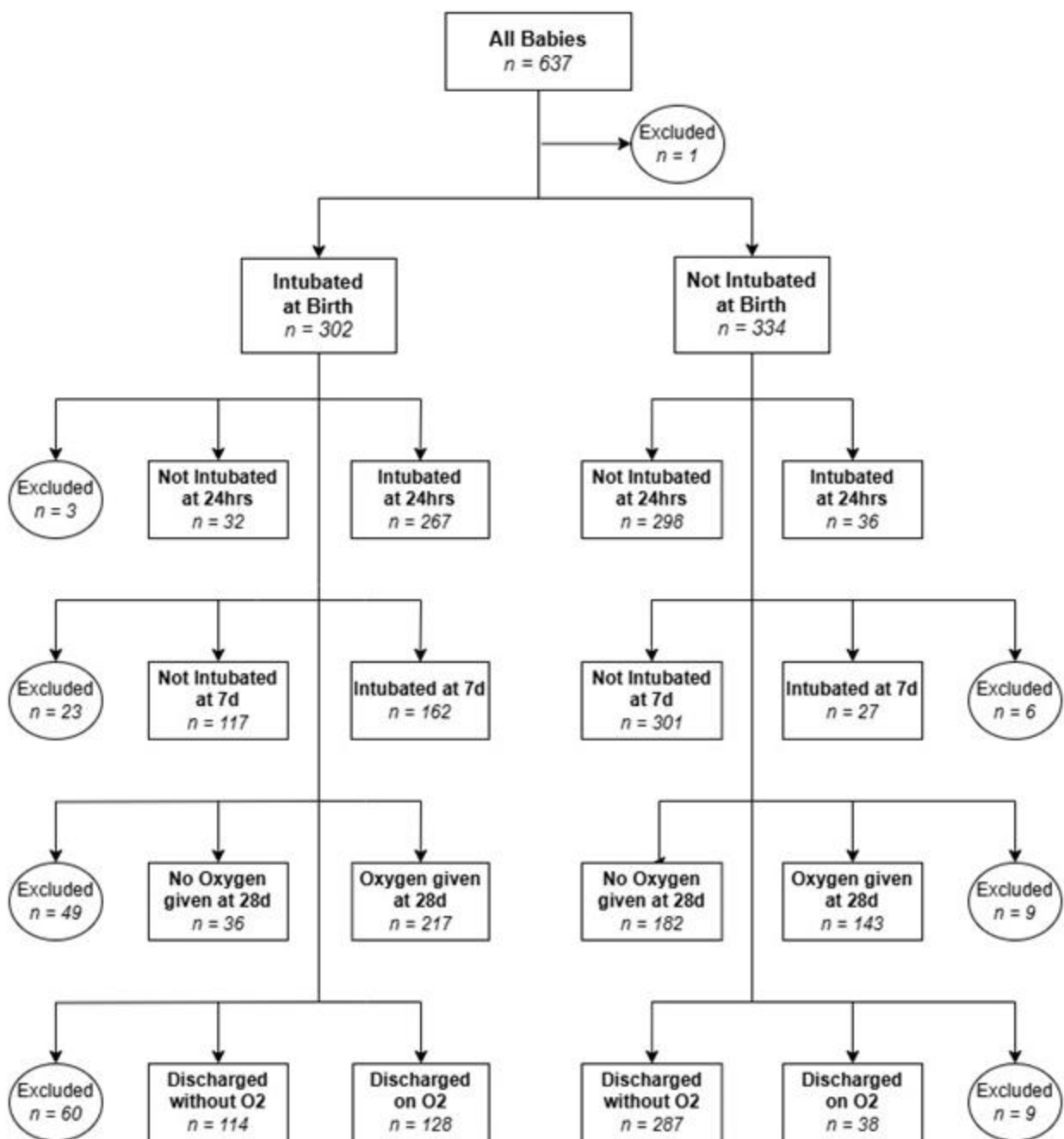
Reference:

European Consensus Guidelines on the Management of Respiratory Distress Syndrome. Neonatology (2023).

Graphs



Image



Competent or Confident? Uncovering Discrepancies in Neonatal Airway Skills

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Background:

Airway management in neonates is a high-risk, time-critical skill. The BAPM Neonatal Airway Safety Standard provides a national framework for defining and assessing competence. However, the relationship between clinicians' self-perceived and objectively self-assessed airway skills remains unclear. This study aimed to quantify discrepancies between perceived and self-assessed airway competencies across the neonatal workforce, to guide training and enhance patient safety.

Methods:

A cross-sectional survey based on BAPM-defined competency levels (Basic, Standard, Intermediate, Advanced, Specialist) was distributed to neonatal nurses and Tier 1–3 doctors. Participants reported their highest self-perceived airway competency level and completed a skills-based self-assessment mapped to BAPM criteria. Overestimation was defined as selecting a competency level but indicating "No" to one or more essential skills at that level. Responses were analysed by staff group and competency level.

Results:

Forty-four responses were analysed (10 nurses, 10 Tier 1, 12 Tier 2, 12 Tier 3 doctors). Most nurses rated themselves at 'Standard' level; doctors spanned the full range, with Tier 3 reporting 'Intermediate' or higher. Despite high self-perceived confidence, overestimation was widespread: 50% of nurses, 80% of Tier 1, 58% of Tier 2, and 67% of Tier 3 doctors overestimated their competency. Overall, 64% of participants overestimated their skill level. The most frequently identified gaps were in intubation, airway adjunct use, and troubleshooting.

Conclusion:

There is a substantial gap between perceived and self-assessed airway competency across the neonatal workforce. Confidence increased with seniority, but overestimation remained common even among experienced clinicians. Our results highlight the need for regular, objective assessment and focused training to bridge the gap between confidence and competence, ensuring alignment with BAPM standards. Enhancing insight into actual competence may improve team safety and neonatal outcomes.

Multiple thrombi presenting as Persistent Pulmonary Hypertension of the Newborn.

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¹Newborn Intensive Care Unit, St Mary's Hospital

Background:

Persistent pulmonary hypertension of the newborn (PPHN) affects about 1.9 per 1,000 live births, more commonly in term infant. In contrast, neonatal thrombus is rare, seen in 5.5 per 100,000 live births. Newborns, especially if critically ill or premature, are at higher risk due to underdeveloped clotting systems and immature liver function.

Case Report:

A term female infant was transferred to our NICU for respiratory failure requiring intubation. Despite improvement in acidosis, she remained hypoxic and had a significant pre-/post-ductal saturation discrepancy. She was started on inhaled nitric oxide, umbilical lines were placed and a prostaglandin infusion was initiated due to suspected congenital heart disease. On transfer, she was on full ventilatory support with FiO₂ of 1.0.

Day 2 echocardiogram revealed an echogenic mass in the pulmonary artery near the ductus arteriosus, suggesting a thrombus. Sub-systemic pulmonary pressures were noted. An abdominal ultrasound on day 5 confirmed a calcified IVC thrombus extending to the right renal vein. Retrospectively both thrombi were visible on plain films within 5 hours of birth.

Initial tests showed polycythaemia, treated with partial exchange, and Factor V Leiden heterozygosity. She was started on heparin, transitioned to enoxaparin, and switched to oral rivaroxaban by discharge. At 6 months, lung perfusion scans showed reduced left lung perfusion, and CT at 14 months confirmed persistent thrombi with stenosis. However, the child remained healthy, with good exercise tolerance.

Conclusion:

The presence of both the pulmonary artery and IVC thrombi seen on plain film prior to umbilical line insertion on day one of life is presumably suggestive of antenatal clot formation. This case illustrates that antenatal thrombus should be considered in newborns with unexplained hypoxia unresponsive to standard treatment. Early identification and prompt management led to a favourable outcome despite significant thrombi.

Image

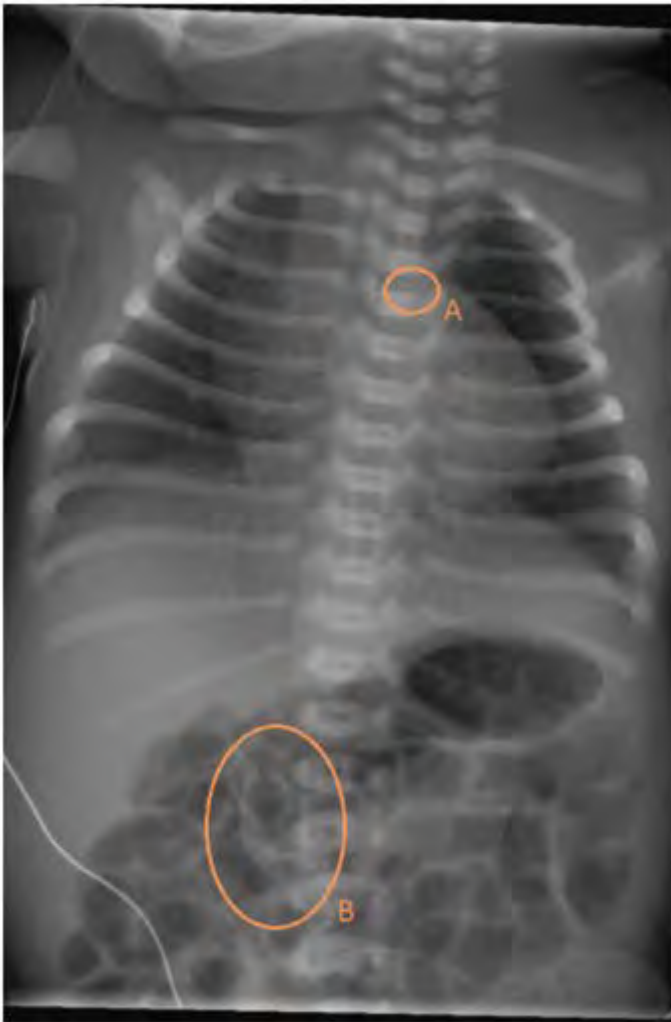


Figure 1. Plain film at 4.5 hours of life. Circle A shows thrombus in the region of the right atrium, and circle B shows the calcified IVC thrombus.

Should We Consider Genetic Testing in Symmetrical IUGR Babies?

– A rare case of uniparental maternal heterodisomy of chromosome 6 identified through Microarray

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Background:

Historically, the incidence of an underlying genetic cause for intrauterine growth restriction (IUGR) is described as 5-20% (Muthusamy, P et al. 2020), however there is no current consensus on whether genetic testing should be sent for all IUGR babies. We present a case of IUGR where genetic testing revealed a diagnosis of maternal uniparental heterodisomy of chromosome 6. This is exceptionally rare and only a limited number of cases have been reported, with associations with IUGR, preterm delivery and neonatal diabetes mellitus, (Jiang, Y. et al.2024).

Case report:

A male neonate born at 37 weeks gestational age by elective section for severe IUGR and static growth was admitted to NICU with a birth weight (1270 g) and head circumference (28.8 cm) both less than the 0.4th centile.

Microarray and TORCH screens were sent as part of the investigation for symmetrical IUGR.

Microarray revealed a diagnosis of maternal uniparental heterodisomy of chromosome 6. The TORCH screen was negative. An Echocardiogram was performed at the geneticist's advice to rule out any associated malformations.

Baby's blood sugar and urine dipsticks were monitored during the inpatient stay and post-discharge in the community weekly for 6 months, as per the advice of endocrinology. At the last follow-up at 9 months of age, weight and head circumference were plotting along the 2nd and 25th centiles, respectively, and he was achieving developmental milestones. Parents have been advised to seek medical review if any concerns with polyuria/ polydipsia/ weight arise.

Conclusion:

Microarray testing for symmetrical IUGR is not currently a routine practice; however, a positive microarray finding has had a significant impact on management for this baby, with enhanced surveillance for diabetes involving blood sugar monitoring and urine dipstick testing. This case highlights the importance of considering genetic testing in babies with symmetrical IUGR.

Review of Practice - Use of Intravenous Immunoglobulins and Exchange Transfusions in the Management of Neonatal Hyperbilirubinemia in a Tertiary Neonatal Unit

Azhar M¹, Jain S²

¹University of Manchester, ²Royal Bolton Hospital

Background:

Severe neonatal hyperbilirubinemia, primarily caused by haemolytic disease, can result in fatal complications which are preventable through early intervention using intensive phototherapy, intravenous immunoglobulin (IVIG) and exchange transfusion (ET). The role of IVIG is relatively under researched and poorly understood, resulting in discrepancy in clinical practice. The audit aims to evaluate the clinical practice of ET and IVIG in the management of neonatal hyperbilirubinemia over a 10-year period.

Methods:

A retrospective study was conducted through a case review of neonates admitted to the Neonatal Intensive Care Unit at Royal Bolton Hospital between 2015 and 2024, who received an ET and/or IVIG for hyperbilirubinemia. Data was collated from patient records and the Badgernet database. Clinical, demographic and biochemical data was analysed.

Results:

A total of 29 patients received treatment with IVIG (41%), ET (14%) or both (45%). Haemolytic disease was the most common indication for treatment. IVIG seemed to prevent the requirement for ET in almost half of patients (41.4%). Administration of IVIG was not associated with a significant delay in initiation of ET. The use of IVIG was associated with a 3.6-day shorter hospital stay and 8.2-day reduction in phototherapy duration. The combined group had increased rates of thrombocytopenia and electrolyte imbalance, while the IVIG only group had none, likely reflecting the recognised risks with ET. Readmissions for anaemia only occurred in the ET group. 93% of cases had no developmental concerns at follow-up, with 1 patient developing cerebral palsy.

Conclusion:

Our findings support the use of IVIG in the management of neonatal hyperbilirubinemia. It appears to be associated with shorter hospital stays, reduced phototherapy duration and fewer complications and can act as an effective adjunct in reducing the need for ET. Further clinical studies are necessary to determine the effectiveness of treatment and impact on developmental outcomes.

Interobserver variability in the assessment of intraventricular haemorrhage on cranial ultrasound scans in preterm infants

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Cranial ultrasounds (CrUSS) are routinely used to diagnose intraventricular haemorrhages (IVHs), but grading remains subjective. Accurate and consistent classification is essential for prognostication, counselling families, and guiding follow-up, as well as benchmarking through the National Neonatal Audit Programme, and monitoring quality improvement outcomes. This study aimed to; (1) assess interobserver variation in IVH grading on CrUSS, (2) identify whether clinician seniority/confidence or infant gestational age affected grading accuracy.

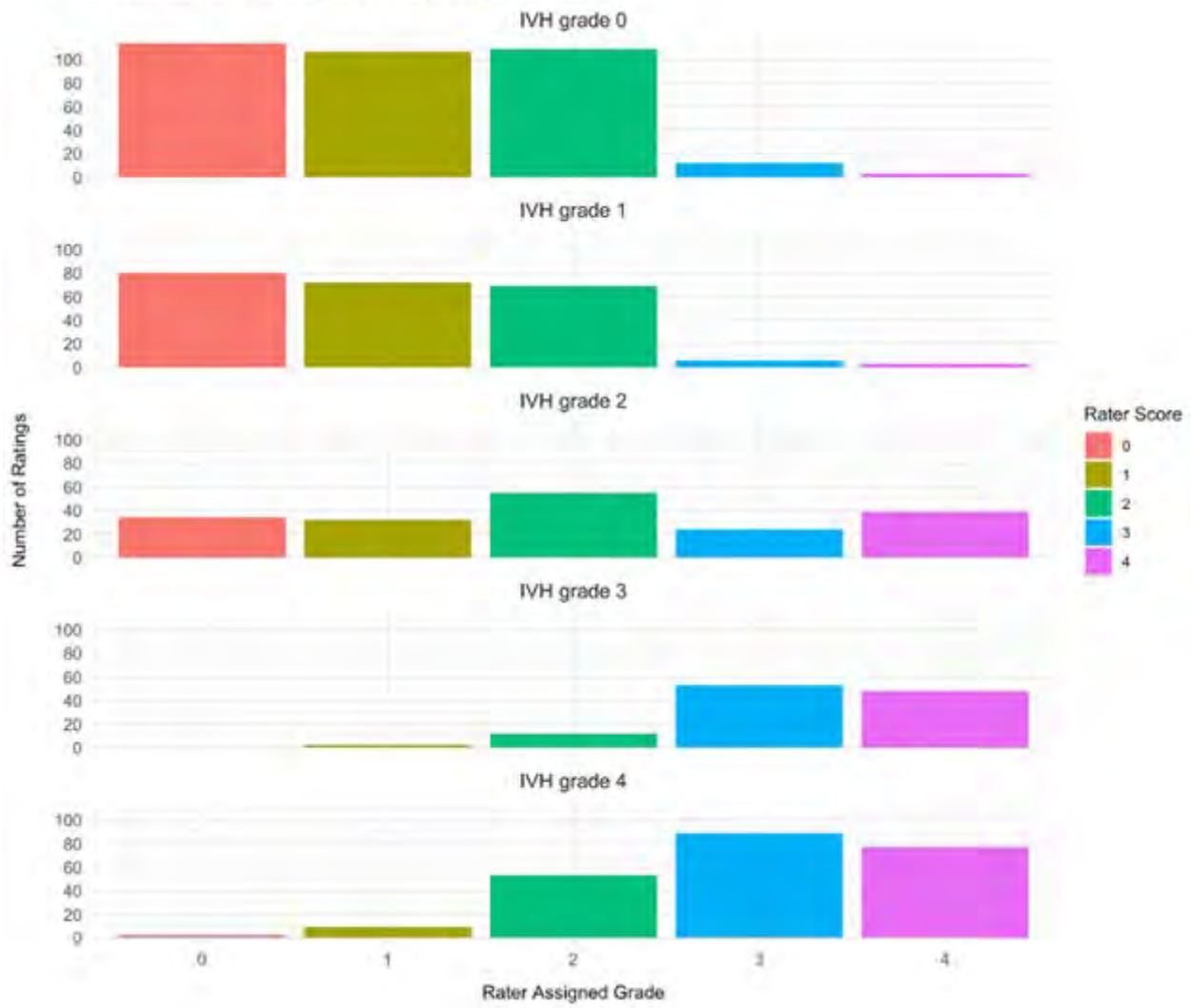
24 preterm infants (22.9-30.9 weeks gestational age [GA]) with IVHs diagnosed in the first week were identified (2010-24). "True IVH grade" was grade recorded in Badgernet, reflecting what was shared with families. Anonymised CrUSS images were shared with clinicians in St George's Neonatal Unit (SGH). Clinicians reported seniority, CrUSS confidence, and graded each hemisphere. Four infants' images were duplicated with modified GA details. We assessed interobserver variation (intraclass correlation coefficient [ICC]) and tested effects of seniority, confidence (Kruskal-Wallis), and GA (Wilcoxon paired) on accuracy, using R. Project was registered with the SGH Clinical Audit and Effectiveness department.

Clinicians (n=23) included consultants, advanced neonatal nurse practitioners, and resident doctors. Confidence ranged from 1-5/5. Figure 1 demonstrates the range of IVH grades given for each "True IVH grade". Interobserver agreement was fair (ICC=0.119). There was no difference in accuracy with seniority (p=0.97), but there was with CrUSS confidence (p=0.03). There were no differences in IVH grading on altering the infant GA information (all p>0.05).

This study showed significant variation in clinician IVH grading on CrUSS. Confidence was more important than seniority to grading accuracy, suggesting education programmes would be valuable. Reassuringly, GA context did not influence grading. Although limited to one NNU, we aim to expand across multiple hospitals to increase study power and generalisability. Strengthening IVH grading skills is vital to understanding outcomes, communicating with families, and reducing brain injury in preterm infants.

Image

Distribution of Rater Scores for Each True IVH Grade



A Retrospective Analysis of Care delivered to Infants Born at 27–29 Week Gestation in the Yorkshire & Humber Region, 2023–2024: What Do We Know, What Can We Learn, and How Can We Improve?

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Background:

National policy, including NHS England's Three Year Delivery Plan for Maternity and Neonatal Services and the independent inquiry report Reading the Signals (2022), emphasises the need for neonatal networks to monitor adverse outcomes and implement learning-driven improvement plans. The Yorkshire & Humber Neonatal ODN identified a concerning cluster of deaths in infants born at 27–29 week gestation, prompting a network-wide mortality summit in 2024 and further review and analysis of data. This retrospective analysis investigates contributing factors and explores how care delivery can be improved.

Methods:

Records of infants born between 27–29 week gestation and admitted to neonatal units across the Yorkshire & Humber region during 2023–2024 were identified and obtained using the BadgerNet database. Data on admission characteristics, interventions, and outcomes were analysed, with a focus on mortality. Reviews of cases was undertaken, highlighting clinical, operational, and systemic factors. Care delivery was evaluated according to unit designation (NICU, LNU, SCU). The LNUs were sub grouped into High Volume (>1000 HDU/ITU days) and low volume (<1000 ITU/HDU days)

Results:

A total of 261 infants were included. Survival rates by gestational age were 90% at 27 weeks, 98% at 28 weeks, and 95% at 29 weeks. Unit-level variation was observed. Key findings included: See Table

Conclusion:

Morbidity in 27–29 week infants remains variable across unit types, with outcomes most favourable in NIC settings. Standardisation of perinatal and neonatal interventions—especially antenatal steroid use, Delayed cord clamping, ventilation practices & PDA diagnosis —may lead to improved care. This analysis supports targeted education, audit, and system-level change to improve outcomes for vulnerable preterm infants.

References:

1. Kirkup, B. (2022). Reading the signals: Maternity and neonatal services in East Kent – the report of the independent investigation. <https://www.gov.uk/government/publications/maternity-and-neonatal-services-in-east-kent-reading-the-signals>
2. NHS England. (2023, April 14). Three year delivery plan for maternity and neonatal services. <https://www.england.nhs.uk/publication/three-year-delivery-plan-for-maternity-and-neonatal-services/>

Image

Finding	Detail
Survival and Optimisation	Strong association between survival and full preterm optimisation. Delayed cord clamping rates in NIC born infants higher than those born in LNUs (86% at 27 week NIC born, 75% at 27 week LNU born)
Intervention Delays	Delayed or absent interventions (e.g. incomplete resuscitation or missing antenatal steroids) more frequent in non-NICU units.
PDA Diagnosis and Treatment	PDA diagnoses more common in infants born in LNUs, but many cases remained untreated.
PDA Treatment Frequency	Treatment more frequent in LNU-born infants, though still <50% of diagnosed PDAs received treatment.
PDA Drug Variation	NICUs more commonly used ibuprofen; LNUs used both ibuprofen and paracetamol.
Inotrope Use	34/261 infants received inotropes; 26.5% of those died.
Inotrope Use by Place of Birth	24 of 34 inotrope-treated infants born in LNUs/SCs; only 10 born in NICUs.
Inotrope Pattern Insight	Higher inotrope use in LNU-born infants, potentially linked to lower delayed cord clamping (DCC) rates or higher acuity.
Data Limitations	Data gaps (e.g. resuscitation details, staff grade at delivery) limited full analysis.
NEC Rates	Higher necrotising enterocolitis (NEC) rates in LNU-born infants vs NICU-born.
Ventilation Rates	Higher ventilation rates in LNU-born infants at 27 & 28 weeks gestation compared to NICU-born.
Socioeconomic/Demographic Factors	Trends observed in SES and demographics, but no dramatic differences noted.
Maternal Risk Factors	Maternal age, smoking, and drug use showed some impact, though not drastic within this dataset.

Persistent Pulmonary Hypertension among infants undergoing Therapeutic Hypothermia for Hypoxic Ischemic Encephalopathy- a systematic review and meta-analysis

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⁴University Hospitals Birmingham NHS Trust

Background:

Perinatal asphyxia is a risk factor for developing PPHN. In animal studies, hypothermia has been linked to increased pulmonary vascular resistance. A one-degree drop in temperature can raise pulmonary vascular resistance by 1-2%. In neonates with perinatal asphyxia, it is suggested that the increased oxygen requirement during TH is likely due to PPHN and may have serious clinical consequences. The aim of this study was to perform a systematic review and meta-analysis to examine the association between persistent pulmonary hypertension (PPHN) and receipt of therapeutic hypothermia (TH), compared to those who did not receive TH, among infants with moderate or severe hypoxic-ischaemic encephalopathy (HIE).

Method:

Systematic review and meta-analysis based on Ovid, Medline, Embase and Cochrane central searches 01/01/2000 to 31/03/2025. We performed search of articles using terms related to neonates, HIE, therapeutic hypothermia, PPHN, and neonatal intensive care units.

Results:

Among 185 articles identified using search strategy, nineteen articles were assessed for eligibility. Eight RCTs met the inclusion criteria, and seven were included in meta-analysis. The overall relative risk was 1.13 (95% confidence interval 0.81 to 1.57), with no statistically significant evidence of an association between TH and PPHN. Moderate heterogeneity was observed across studies (I² 28.5%), although the 95% confidence intervals of all studies crossed one. (Figure 1)

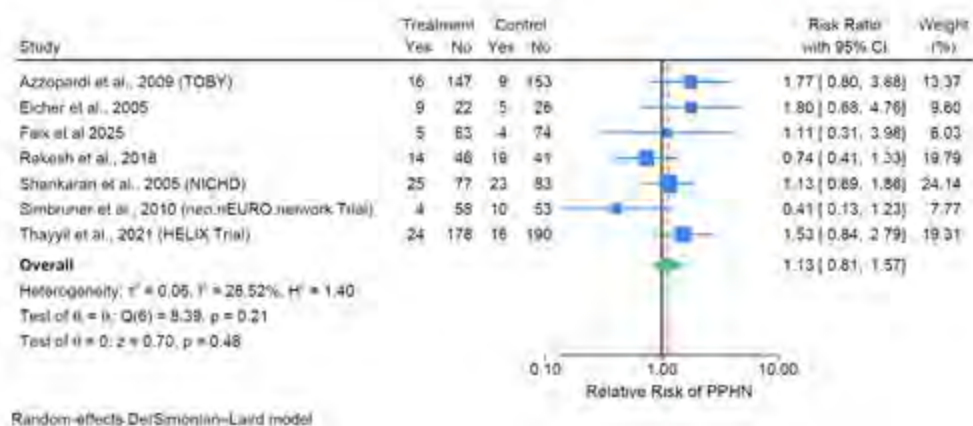
We noted risk of bias in the blinding of participants across included RCTs. We assessed nine observational studies and performed a narrative review. We noted that a considerable number of infants developed PPHN across TH and normothermia groups.

Conclusions:

We did not find evidence of an association between TH and PPHN in infants with moderate to severe HIE, although a considerable number of infants developed PPHN across both groups. We suggest that clinicians should be aware of the risk of PPHN to allow prompt investigation and management.

Image

Figure 1 – Forest plot of RCTs of therapeutic hypothermia (“Treatment”) vs control for the outcome of persistent pulmonary hypertension of the newborn (PPHN)



Perinatal Optimisation in practice: Findings from an ethnographic study in England

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Background: The perinatal optimisation pathway sets out evidence-based interventions to support reduction of risk of neonatal death and preterm morbidities. Audit data suggests variation in implementation across elements of the pathway and between units. PremPath was an ethnographic study funded by the NIHR to investigate how perinatal optimisation is working in practice.

Methods: Work package 1 consisted of 38 interviews with Patient Safety Collaborative workstream leads, and key stakeholders in each region. Work package 2 consisted of ethnographic fieldwork at four NHS sites including 137 hours of observation and 29 staff interviews. We also interviewed 40 parents of preterm infants.

Results: Key findings will be presented under 3 interconnected themes:

Data about how many eligible birthing people and infants receive each element of the pathway has an important role in guiding improvement efforts and demonstrating improvement. However, a lack of trust in the accuracy of the data undermines improvement efforts.

Coordination of the pathway is challenging as it crosses clinical specialities and geographical locations. Coordination is facilitated by boundary spanning roles (e.g. preterm birth midwives, perinatal feeding teams) and by dedicated infrastructure (e.g. cot locating services). Parents were sometimes required to act as care-coordinators which impacted their emotional load and wellbeing. Equity and respectful care, including shared decision-making should underpin the pathway. Parents typically come to preterm birth completely unprepared. Parents valued timely information delivered with compassion, and opportunities to be involved in their babies' care. Unfortunately, this was not always the experience of parents. Birthing parents who were receiving postnatal care, experienced particular challenges around managing their own health and being with their baby.

Conclusions: The PremPath study has wide reaching implications for policy and practice. We will present short- and medium-term actions that aim to improve care, further empower staff to deliver the pathway and improve family experiences.

Deaths due to Neonatal Herpes Simplex Virus in England– an observational analysis of the demographics, presentations and clinical course.

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¹National Child Mortality Database

Background: Neonatal Herpes Simplex Virus (HSV) infection, a notifiable disease, has an increasing incidence and a high mortality rate. One centre found most cases presented between age five to ten days.

Aim: To describe the demographics and characteristics of deaths due to neonatal HSV, including clinical features, diagnosis and treatment.

Method: All child deaths with “HSV” or “Herpes Simplex” recorded as a cause of death by the Child Death Overview Panel from 01/04/2019 to 17/01/2025 were identified. 39 cases with laboratory-confirmed HSV within the first 28 days of life were analysed retrospectively.

Results:

- 25 (64%) were term infants, 26 (67%) were from deprived areas.
- 14 (36%) had HSV-1, 17 (44%) had HSV-2. At least 33 (85%) had disseminated disease.
- 4 patients died of long-term complications years later and were excluded from further analysis due to limited neonatal admission information.
- Exposure:
 - Cold sores: 4 (11%)
 - Genital reactivation: 1 (3%)
 - Unspecified maternal infection: 3 (9%)
- Presentation: 24 (69%) presented between day four and ten (median=7 days)
 - Non-specific symptoms (e.g. apnoea, poor feeding, lethargy, respiratory distress, temperature instability): 27 (77%)
 - Skin lesions: six (17%)
 - Shocked/critically unwell: three (9%)
 - Seizures: one (3%)
 - Liver dysfunction: one (3%)
- Clinical course: 23 (66%) died within four days despite 17 (74%) commencing treatment within one day. All 23 had liver failure. 28 (93%) of 30 were commenced on aciclovir at some point (median=9 days).

Conclusion:

Most children presented between day four to ten of life and died a few days later, despite early aciclovir treatment. Liver failure was universal in these fatal cases. Symptoms were often non-specific. A thorough history of herpes exposure, including exposure to cold sores, must be taken. There is a need to educate families and perinatal staff about the risk of transmission from cold sores.

Assessing emerging adjuvant therapies with hypothermia for hypoxic ischaemic encephalopathy (HIE) – A systematic review

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¹Lancaster Medical School, ²Health Education Northwest Deanery

Background

Hypoxic ischaemic encephalopathy (HIE) is a serious complication presenting in the neonatal period, occurring in 1.5 - 2.5 per 1,000 births in developed countries. Outcomes involve significant morbidity, including long term neurodisability, and mortality. Therapeutic hypothermia (TH) is the current standard of care, and the only therapy with demonstrated efficacy; prognosis is still poor in severe cases. Adjuvant therapies are being trialled alongside TH to reduce the burden of disease.

Aim

To identify potential treatments for HIE (stand alone or adjuvant to HIE) which could be utilised to improve prognosis and outcomes for patients.

Methods

A retrospective critical literature review of randomised controlled trials (RCTs) published since 2010, sourced from PubMed and Cochrane databases, using terms: 'Hypoxic ischaemic encephalopathy', 'Hypotherm*', 'Combination', and 'Randomised controlled trial'.

Results

Seven RCTs describe four adjuvant therapies: magnesium sulphate (MgSO₄), erythropoietin, topiramate, and xenon.

- MgSO₄ demonstrated safety and non-inferiority across three trials, one showing significant reduction in respiratory support length. Study designs were not robust enough to demonstrate efficacy.
- Erythropoietin was trialled, showing no significant differences in outcomes and a non-significant higher incidence of serious side effects.
- Topiramate demonstrated promising, but non-significant reduction in epilepsy, and significant dose response relationship with reduced seizure activity.
- Xenon was assessed via biomarkers, not clinical outcomes. This unique evaluation demonstrated safety, but further research utilising standard clinical outcomes is needed to establish efficacy.

Conclusion

The adjuvant therapies examined in this review appear safe, however erythropoietin requires further investigation. MgSO₄ and topiramate demonstrate promising potential, however further robust trials with appropriate clinical outcomes are required to demonstrate efficacy and inform clinical practice.

Graphs

Study reviewed	Did the intervention group have worse outcomes than the control?	Was there statistically significant gain between intervention and control?	Other findings of note
Kumar C (2023) MgSO ₄	No	No	N/A
“Mag Cool Study” (2015) MgSO ₄	No	No	Safety was demonstrated in regard to blood pressure maintenance
Abdel-Aziz SM (2021) MgSO ₄	No	Statistically significant improvement in intervention group: length of respiratory support and initiation of feeding	N/A
“HEAL” (2022) Erythropoietin	Mean total number of adverse events was higher in intervention group than control group	No	No single adverse event type was in higher in intervention. Higher mean due to mixture of adverse events
“NeoNATI” (2018) Topiramate	No	No	Reduction in epilepsy in intervention group; not significant but unexpected result
Nunez-Ramiro A (2019) Topiramate	No	No	Statistically significant relationship between serum topiramate concentration and seizure activity
“TOBY-Xe” (2016) Xenon	No	No	N/A

Table 1: Condensed results of each study, showing main findings in relation to safety and efficacy.

Neonatal Analgesia, Pain and Sedation Survey (NAPS)

Greenwood B¹, Sur A², NeoTRIPS collaborative network N³

¹St Mary's Hospital, ²Lancashire Women and Newborn Centre, ³NeoTRIPS collaborative network

Background:

Neonates are frequently exposed to painful stimuli during procedures or pathology. Repeated exposure to pain can lead to adverse neurodevelopmental outcomes in pre-term infants. There exists no framework of practice for analgesia or sedation across the UK and variations in practice are common. We devised a national survey to explore themes around analgo-sedation practices among UK units.

Methods:

An online survey was carried out via the NeoTRIPS national research network between October 2024 and December 2024.

Results:

We had an overall 63% response rate (56% SCBUs, 62% LNUs, 75% NICUs).

55% of units had a developed guideline 65% of which had MDT involvement.

Morphine was the most preferred agent and opioid use in both pre-term and term, except Northern Ireland, where fentanyl was preferred. 21% of units reported always sedating ventilated preterms.

Most units rarely used neuromuscular blockade in preterm except for severe hypoxemia or PPHN.

Chloral hydrate was preferred as an oral sedative in 13% of units for pre-term infants and 23% of term infants. 16% of units reported difficulties in accessing specific drugs.

Non-pharmacological methods like containment and non-nutritive sucking were used 'often' or 'always' in 87% units. Lack of education, awareness or training were barriers to implementation.

Conclusion:

Variability exists in practices around pain management across UK

National framework is needed to benchmark practices.

r-PAP for neonatal resuscitation: a tertiary unit experience

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¹Royal Maternity Hospital

Background

The r-PAP system delivers variable flow CPAP/PPV via nasal prongs/mask with heated humidified gases for use during neonatal stabilisation. While evidence supports its role in reducing intubation, real-world implementation data are limited. This study evaluates the impact of implementing r-PAP at Royal Maternity Hospital Belfast (September 2022) on respiratory outcomes, delayed cord clamping (DCC), and admission temperature.

Methods

Retrospective cohort study comparing preterm infants less than 32 weeks of gestation pre- and post-r-PAP implementation.

- Pre-r-PAP group (n = 57): (6 months pre-implementation; standard T-piece/face mask)
- Post-r-PAP group (n = 36): (6 months post-implementation; r-PAP with humidifier, manometer, pressure-limiting valve)

Exclusions: Major airway anomalies, congenital diaphragmatic hernia.

Data extracted from paper records during 3-month collection windows. Primary outcomes: surfactant use, mechanical ventilation (MV) within 72h, DCC rates. Secondary outcomes included O2 level at admission, admission temperature and time in delivery room.

Conclusion

Implementation of the r-PAP newborn stabilization system was associated with a significantly reduced need for surfactant and MV and improved DCC rates. This supports r-PAP as an effective tool for neonatal resuscitation, enhancing respiratory stability and adherence to delayed cord clamping protocols in preterm infants. Admission temperature was not significantly different after spending longer in delivery suite, presumably based on humidification of resuscitation gases.

Graphs

Results

	T-Piece & mask	R-PAP	RD (95%CI)	P value
Gestation (wk)	28.7	28.7		
Weight (g)	921	1073		
Gender Male (%)	51	42		
Surfactant use (%)	72	54	-25.3 (-45 to -5.1)	0.014
MV in 72 hours (%)	60	37	-30 (-50 to -10.8)	0.0027
DCC (%)	47	86	+36 (18 to 54)	0.0006
Admission temp, °C, (%)				
- High (> 37.5)	17.5	11.1		0.5734
- Normal (36.5 – 37.5)	63.2	77.8		0.5443
- Low (< 36.5)	19.3	11.1		0.6864
Duration in delivery room, Median, minutes	27.5	28.5		

Developmental Outcomes and Service Evaluation for High-Risk Preterm Infants in Bradford

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¹Bradford Neonatal Service, Bradford Royal Infirmary

Background:

Advances in neonatal care have improved survival among preterm infants, yet many remain at risk for neurodevelopmental impairments. NICE guideline NG72 was introduced in 2017 to standardise enhanced follow-up for high-risk preterm infants. However, nationwide variability persists in its implementation. Bradford, with high preterm birth rates and a diverse population, presents an important case study for evaluating adherence to NG72 and developmental outcomes at two years corrected age.

Methods:

This retrospective audit included all infants born before 30+0 weeks' gestation and followed up at Bradford Royal Infirmary who reached two years corrected age between January 2022 and December 2024. Developmental outcomes were assessed using Bayley-III, PARCA-R, ASQ-3, and community developmental clinic evaluations. Birth and neonatal clinical data were also collected to explore associations with outcomes.

Results:

Among 123 surviving children, cognitive assessments via Bayley-III showed 55% average, 31% mild, and 14% moderate impairment. PARCA-R suggested lower average scores and higher severe impairment rates. Language and motor outcomes followed similar patterns, with motor development relatively preserved (84% average or mild). Combining data from Bayley-III and CDC assessments revealed moderate to severe cognitive, language, and motor impairments in 39%, 44%, and 25% of the cohort, respectively, aligning with national UK data. ASQ-3 screening showed similar prevalence of early concern across domains, supporting its role in early identification. Service evaluation showed strong referral pathways, though significant gaps existed in speech and language therapy provision.

Conclusion:

A high burden of developmental delay persists in extremely preterm infants in Bradford. Structured assessments such as Bayley-III are critical for accurate identification. Service delivery largely meets NG72 standards, but limited SLT access remains a key challenge. These findings support the need for continued investment in early intervention and long-term developmental surveillance.

Accidental arterial PICC line placement in neonates – a complication increasingly detected by POCUS

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Peripherally Inserted Central Catheterisation (PICC) is an essential intervention in the neonatal unit. The procedure is performed blind with length determined using external measurements. The British Association Of Perinatal Medicine (BAPM) and a recent report from the National Child Mortality Database recommend ensuring optimal PICC line position using radiographs. An extremely rare complication is accidental arterial cannulation (AAC) with only 6 previously reported cases in the literature.

Methods:

Point of Care Ultrasound (POCUS) assessments of PICC line position at a single tertiary centre over a 5-year period (2020-25) were audited for complications.

Results:

493 infants underwent PICC insertion and 265 POCUS assessments were performed by neonatologists. From 265 assessments, 3% were within an artery (n=9).

Median birth gestation was 30.3 weeks (range 24.6-40.6), and median date of AAC was day 5 (range 1-77).

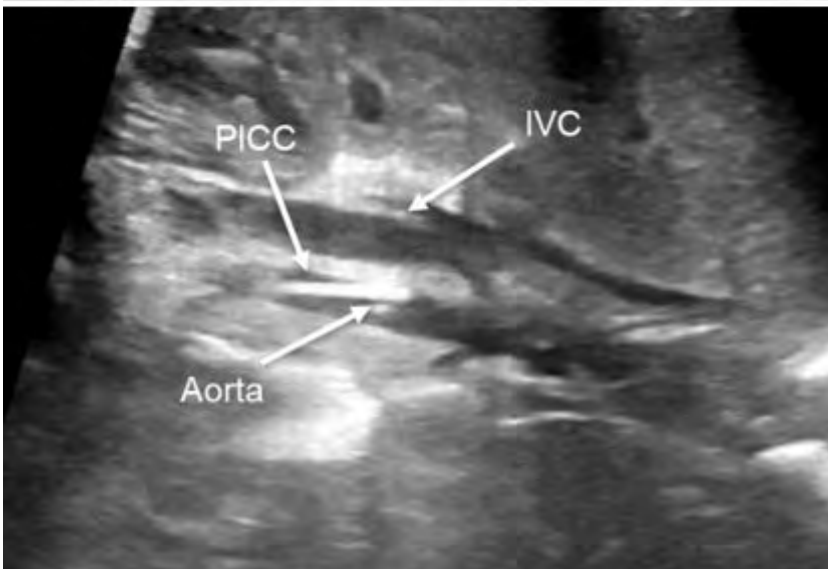
Sites included the medial cubital fossa (n=4), axillary fossa (n=1), posterior to medial malleolus (n=3) and scalp (n=1). Preductal arteries were common sites of insertion (n=5).

Five lines were used for more than one day (range 1-19). Most had no clinical concerns at PICC insertion (n=8). In 7/9 AAC radiographs with contrast suggested that the PICC was optimally positioned (Figure.1). In 2/9 the AACs were associated with ischaemia, in both cases in the contralateral lower limb to the insertion site.

Conclusions:

AAC happens more frequently than reported in the literature. The gold standard defining optimal PICC placement is radiography with contrast, but this did not reliably identify AAC in our cohort. Clinical signs traditionally expected with arterial cannulation were also not seen in most cases. In infants where AAC led to ischaemia, this was in the contralateral limb to the PICC insertion site. Incorporation of POCUS for PICCs aids clinicians to identify AAC & should be incorporated into future BAPM frameworks and clinical PICC guidelines.

Image



Thriving or surviving? A family census looking at life on a tertiary neonatal unit

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¹St George's University Hospitals NHS Trust Neonatal Unit

Prior to launching a FICare programme, we aimed to understand the needs of our families by obtaining data about when they attend the unit and the activities they do with their babies.

Methods:

The family census ran 12th-25th May 2025:

- Staff and parent information posters were circulated advertising the census
- It was discussed daily at huddles and handovers
- Each cot space had a clipboard, pen and census proforma
- Parents were supported and encouraged by FICare champions to personalise their own

Results:

Patients: We captured data for 43 (62%) of 60 total admissions.

Treatment days: 338 (63%) were fully completed of a possible 535 days. Census data represented all ethnic backgrounds present on the neonatal unit during the period.

Parents were most likely to be present between 13:00-18:00.

Admission area:

Mothers spent the least time in NICU (mean 5.4 hours/day) and the most in SCBU (mean 8.3 hours/day).

Fathers/partners spent the least time in NICU (mean 3.8 hours/day) and the most in HDU (mean 5.1 hours/day).

Parent accommodation:

Parents staying on the unit spent the most time with their babies

When staying at home, parental time spent with babies was inversely proportional to distance from the hospital.

Siblings:

Fathers/partners spent less than half the time with their babies if the baby had siblings compared to those who did not.

Stories:

- In the first 2-3 days, parents visited the least.
- Families developed unique daily routines.

Most common activities:

1. Tube feeding
2. Nappy changes
3. Skin to skin
4. Pumping
5. Cuddle

Conclusions:

The vast amount of data gathered is unique and provides an invaluable insight into how families attend to their babies during neonatal admissions. The census identified potential areas of support, thus our subsequent FiCare programme will be tailored to the needs of our parents and babies.

Image

PARENT CENSUS

19TH - 25TH MAY 2025

Patients sticker here

Room: _____

Time	Monday 19 th May	Tuesday 20 th May
00:00		
01:00		
02:00		
03:00		
04:00		
05:00		
06:00		
07:00		
08:00		
09:00		
10:00		
11:00		
12:00		
13:00		
14:00		
15:00		
16:00		
17:00		
18:00		
19:00		
20:00		
21:00		
22:00		
23:00		

Thank you for taking part in the parents census!

Knowing how families spend time on the neonatal unit allows us to provide more support to you and your family.

We're interested in the times of day you are able to be present with your baby and the activities you do together whilst you are here.

THINGS WE'D LIKE TO KNOW

- ✦ Who is present with your baby (Mum / Dad / Parent(s), Siblings)
- ✦ What time you arrived and left
- ✦ Things you did together, for example
 - Skin to skin, containment holding, tube feeds, breast or bottle feeds, nappy changes, giving a bath, reading or singing to your baby, weighing, helping with giving medications, anything else you did that you'd like to tell us about

EXAMPLE FORM

09:00	09:50 mum arrived	ARRIVAL TIME AND WHO VISITED
10:00	breastfeed	
11:00	11:30 mum left	
12:00	12:45 dad arrived	ACTIVITIES YOU DID TOGETHER
13:00		
14:00	nappy change	
15:00	Bath	THE TIME YOU LEFT
16:00	15:45 dad left	

This information will only be used by the neonatal team to make improvements to support families on the unit. It will not be shared with anyone outside the unit.

Family Integrated Care

EVIDENCE SUPPORTING USE OF CLONIDINE AS A THERAPEUTIC AGENT FOR NAS – A LITERATURE REVIEW

Javed E¹

¹Liverpool Women's Hospital

Background

Neonatal abstinence syndrome (NAS) is a withdrawal syndrome in neonates caused by prolonged exposure to addictive substances in utero, most commonly, opioids. NAS is treated in the NICU by weaning infants down using an opioid and providing supportive care.

Clonidine is an alpha-2 receptor agonist that is used in sedation, and there is interest in it being used as a non-opioid alternative to morphine in the treatment of NAS.

At present, there is an uptick in the use of clonidine in neonates within the UK, however, there are no UK-based trials or reviews for NAS.

Aim

Search the current literature published over the past 9 years to find evidence supporting the use of clonidine as a therapeutic agent for NAS.

Methods

Literature search on PubMed for meta-analyses, reviews, or randomised controlled trials over the past 9 years, using keywords, 'neonatal abstinence syndrome' and 'clonidine'.

Two systematic reviews and one RTC were selected for this review, out of a total of seven papers found. These were selected to cover the use of clonidine in a range of uses; as an adjunct therapy, in sedation and exploring clonidine as monotherapy in the management of NAS.

Results

As a sedative and adjunct drug, clonidine with an opioid had no difference in treatment length and infant mortality compared to opioid monotherapy or opioid and phenobarbital treatment, however, had a higher incidence of adverse effects.

Clonidine monotherapy, similarly, showed no change in length of treatment, however, required adjunct therapy 4 times more compared to morphine.

Conclusions

To conclude, preliminary evidence shows that clonidine is a safe drug to treat NAS, however, it is not more effective than morphine, the standard NAS treatment drug.

Additionally, most data found is of low grade with small sample sizes, therefore, more research is needed.

Two year outcome of extreme preterm babies born at 22-26 weeks gestation (2017-2022)

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¹Queen's Hospital, Barking, Havering and Redbridge University Hospital NHS Trust

Background: Extremely premature babies are at higher risk of death and neurodevelopmental delay. Studies have reported higher mortality in babies when they are born outside a tertiary neonatal unit, hence the current emphasis on in-utero transfer to tertiary centres of babies expected to be born $\leq 26+6$ weeks. However, there is a paucity of published literature comparing neurodevelopmental outcome of babies transferred in-utero versus ex-utero.

Aim: Our study reviews 2-year outcome of extreme preterm babies born at 22–26-week gestation over a 6-year period with particular focus on comparing outcome between in-utero and ex-utero groups.

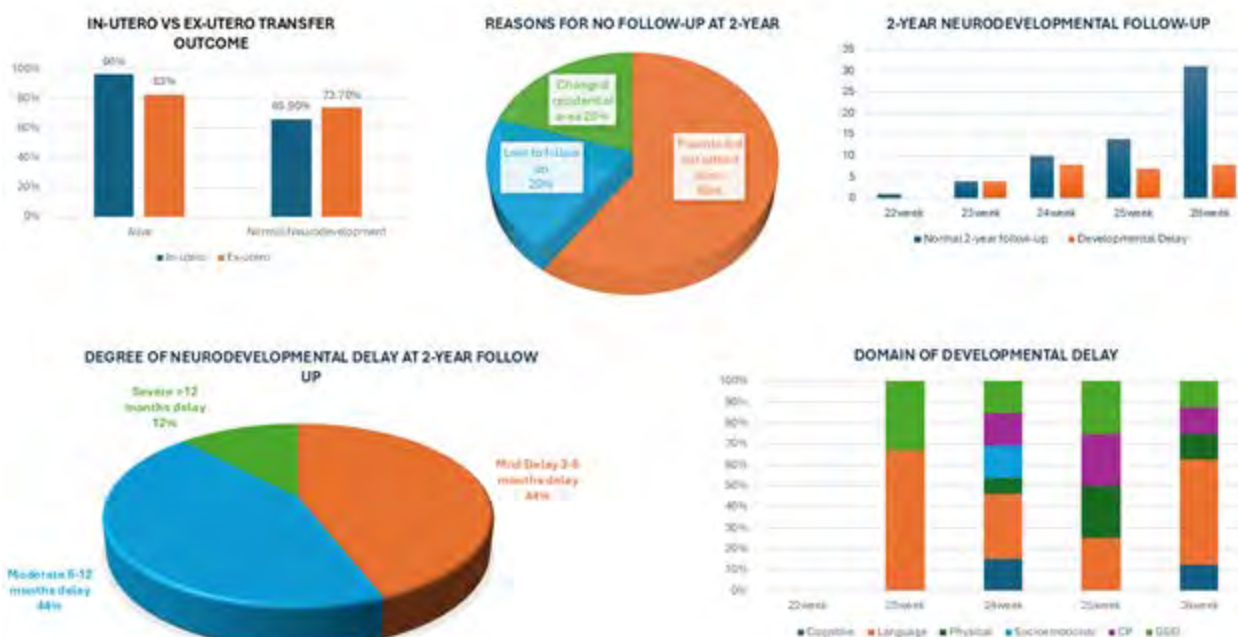
Methods: Retrospective data collection from electronic information system and clinic notes.

Information was collected on 22–26-week gestation babies born between 01/01/2017 and 31/12/2022. They were either born or cared for at our local neonatal unit and followed-up in our neurodevelopmental clinic.

Results: 152 babies of 22–26-week gestation were born during the period: 22 weeks – 3(2%), 23 weeks–17(11%), 24 weeks–34(22%), 25 weeks–33(22%), 26 weeks–65(43%). 80(52.6%) babies were transferred in-utero, 63(41.4%) ex-utero, 8(5.2%) in-born in other hospital and 1(0.6%) not transferred as died. At 2-year follow-up, 137(90.1%) were alive. Survival rate was 77/80(96.25%) in in-utero and 52/63(82.5%) in ex-utero group. Of those alive, 87(63.5%) total, 44(57.1%) in-utero and 38(73.1%) ex-utero babies completed 2-year follow-up. Normal neurodevelopment on BSID-III and/or functional assessment were found in 60/87(68.9%) total, 29/44 (65.9%) in-utero and 28/38(73.7%) ex-utero babies. Of those with developmental delay 12(44%) had mild; 12(44%) moderate, and 3(12%) severe delay. Language domain was the commonest area of delay.

Conclusion: Our data shows good survival (90.1%) of 22-26 weeks babies at 2-year follow-up, with higher survival in in-utero as compared to ex-utero, which corroborates previously published data. Our data shows higher rate of normal neurodevelopment in ex-utero babies, which is a novel finding, the implications of which needs to be explored.

Graphs



Evaluation of a national culture and leadership programme in NHS maternity and neonatal services in England: a mixed methods study

Spence T¹, Noszlopy L¹, Currie G², Waring J³, Watson S¹, Russell S⁴, Dharni N¹, Kenyon S¹

¹Department of Applied Health Sciences, University Of Birmingham, ²Warwick Business School, University of Warwick, ³School of Social Sciences and Humanities, Loughborough University, ⁴Patient and public involvement representative

Background: Poor leadership, culture and teamworking between maternity and neonatal services can lead to negative outcomes for mothers and babies. NHS England developed the Perinatal Culture and Leadership Programme (PCLP) to address these challenges by establishing a 'quad' of senior maternity and neonatal leaders in every Trust, engaging them in leadership development activities and supporting the creation of local culture improvement plans. We evaluated the impact on multi-professional relationships, leadership behaviours, and creating the conditions for a positive organisational culture.

Methods: Our mixed methods evaluation took place October 2023-June 2025. It included: interviews with a purposive sample of quad members; a survey of all PCLP participants; rapid ethnography in a purposive sample of maternity and neonatal services; and a survey of staff at every maternity and neonatal service in England. Data from all methods were triangulated to develop findings.

Results: We interviewed 53 quad members from 18 Trusts, conducted 220 hours of rapid ethnography across six Trusts and received survey responses from 289 quad members (53% of quad members; 88% of Trusts) and 4011 staff (7% of staff; 76% of Trusts). The PCLP improved quad relationships and working practices, although some quads struggled to maintain these long-term. Evidence of improved leadership behaviours towards wider staff was more limited, although we did find evidence of increased autonomy among mid-level staff. While a longer-term objective, we found little evidence the PCLP had created conditions for improvements in culture. We identified several limitations and structural factors which affected how, and to what extent, the PCLP was able to have a positive impact.

Conclusions: Leadership and culture improved within the quad of senior leaders but the impact on wider staff was less evident. Providing continued support and training mid-level staff were among the considerations to guide future initiatives seeking to build on the PCLP.

Human milk oligosaccharides (HMO's) by influencing Epigenetic modulation confers Health well being in neonates and infant

Raj A¹

¹Square hospital, dhaka, bangladesh

Background and aims

Human Milk Oligosaccharides (HMOs) are the third most abundant component in breast milk, playing a vital role in early life immune development, gut health, and long-term well-being.

This abstract explores the role of HMOs in modulating infant immunity and their epigenetic effects on the colonization of pathogenic bacteria.

Methods

Review article

Result

HMOs, structurally classified into neutral, fucosylated, and sialylated forms, vary with maternal and lactational factors. Acting as prebiotics, they selectively promote beneficial gut microbiota, especially bifidobacteria, while suppressing harmful pathogens. HMOs are metabolized into short-chain fatty acids (SCFAs), such as butyrate, which contribute to anti-inflammatory functions and energy production in colonocytes. These processes strengthen gut barrier function and immune protection.

In parallel, HMOs influence gene expression via epigenetic pathways, including DNA methylation, contributing to neurodevelopment, cognitive outcomes, and long-term health. HMOs also bind to immune receptors, triggering systemic immunoregulatory responses. Early exposure to HMOs, particularly in the neonatal period, correlates with improved health outcomes in infancy and beyond.

Conclusion

HMOs play a multifaceted role in immune system development and microbiome balance in infants. Their immunomodulatory and epigenetic effects highlight the value of breastfeeding and the potential application of HMOs in infant nutrition and disease prevention strategies

Remodeling and Maximizing Neonatal care with Artificial Intelligence (AI), Obstacles, opportunities, Ethical consideration and futuristic implications.

Raj A¹

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Background and Aims

The term ARTIFICIAL INTELLIGENCE (AI) refers to the general ability of computer algorithm to emulate human decision making abilities , Machine learning (ML) is a subdivision of AI that includes techniques which enable machines to learn from datas without explicit programming., AI algorithms designed to identify neonates at risk of pneumonia, meningitis and other complications are now available in modern sophisticated NICU 's . AI holds immense promise to transform and optimize neonatal intensive care by improving diagnosis, predicting complications and personalizing treatments, ultimately leading to better outcomes for vulnerable neonates.

AI algorithms can analyze individual infant characteristics (gestational age, birth weight , metabolic status) to create tailored nutritional plans. AI models can predict growth failure and other nutrition related complications , allowing health care providers to intervene early and prevent adverse outcomes . AI can aid in early detection of conditions eg ,NEC, BPD and other impediments ,allowing prompt interventions. AI can develop personalized nutrition plans for preterm babies..

While AI offers great potentials, there are challenges to overcome , including data availability , algorithm validation and ethical considerations. Future research should focus on developing robust and reliable AI powered tools for monitoring and optimizing standard neonatal care.in clinical practices.

Methods

Its a review article

Results

Artificial Intelligence has promising impact on monitoring neonatal health and nutrition

Conclusions

There is growing interest amongst medical professionals regarding application of artificial intelligence. This review article, focuses on most recent development related with artificial Intelligence application in neonatal care and nutrition.

Optimizing the

Benefits of HMOs by ensuring mitochondrial health & smart gut

Raj A¹

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Background

Human milk oligosaccharides (HMO's), Mitochondria and Healthy gut microbiome is a mysterious nexus that influences our wellbeing ,starting from neonatal period. HMO's are a complex carbohydrate in breast milk, the 3rd most abounded solid component of breast milk. HMOs are considered as dynamic, versatile, diverse and unique components of breast milk.

Mitochondria is an exclusive micro-organelle of bacterial origin. It is considered as powerhouse or currency of our cellular metabolism. Besides generation of ATP's, Mitochondria possess enormous other functional capabilities. It plays a crucial role in citric acid cycle, fatty acid cycle, oxidative phosphorylation.

Healthy gut microbiota prevents age related gut dysbiosis, potentiates gut immunity, and prevents entry of toxic pathogenic bacteria into our systemic circulation.

Method:

It's a review article

Result:

The three crucial elements, HMO's, Mitochondrial dynamics and Healthy gut microbiome, they individually contribute immensely to our wellbeing, by ensuring optimal cellular metabolism and cell functions. These three elements also interact synergistically to boost each other's functions. HMOs in breast milk when ingested, partially digested in the stomach, reaching colon in a semi digested form (prebiotic role). Healthy gut microbiome ferments these partially digested HMOs yielding short chain fatty acids that are butyrate, SAM. Butyrate produces huge number of adequate ATPs. These ATP's play a vital role in maintaining proper cellular mitochondrial health, gut strengthen mucosal barrier and center anti-inflammatory functions.

Conclusion:

From day 1 of our journey, starting from neonatal health, by ensuring breastmilk (the HMO's) we can optimizes neonatal wellbeing ,which can lead to healthy infant and toddler health. Breast milk HMOs by influencing the gut microbiota, maintains proper cellular metabolism and proper gene expression by potentiating cell mitochondrial functions

Parental involvement in decision-making about planned late preterm and early term birth: voicing and understanding are key components

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¹University Of Leicester

Background

Late preterm and early term (LPET) birth is associated with increased risks of adverse health outcomes throughout life. Obstetric decision-making is influenced by clinicians' opinions about parents' right to be involved versus their own responsibility for mothers' and babies' welfare. We explored what obstetricians, neonatologists and midwives think expectant parents want and expect during decision-making around LPET birth.

Methods

We interviewed seven obstetricians, three neonatologists and three midwives, recruited via professional organisations and meetings, social media and snowballing. Data were analysed using Reflexive Thematic Analysis.

Results

Four themes (13 sub-themes) were generated. (1) "What do I need to consider in the decision-making?" focusses on account taken by HCPs of issues they and parents view as important when considering LPET birth, including the need to prioritize the safety of baby and mother, while considering available evidence and their accountability. (2) "Can we talk about the situation?" focusses on aspects of the exchange of views and information between HCPs and parents about the situation they face. (3) "How can I help you in the decision-making?" explores what HCPs think parents want and need from them during decision-making, including do you need to talk to anyone else? (4) "Can we work together to reach a decision?" reflects HCPs' aim to work with parents and each other to arrive at a decision that is acceptable to all.

Conclusions

From interviews with HCPs in this study, and with parents in an associated study, two components emerged as necessary for all parties to be satisfactorily involved in decision-making. 'Voicing', where parents and HCPs can express their wishes and opinions, and can ask questions in an empathic interaction where both parties listen; and 'Understanding', concerned with ensuring that parents can access information to understand their situation. HCPs need evidence-based information on current issues around LPET birth.

SHONE'S Complex Case Study-Baby R – Recognizing Hidden Cardiac Causes in Neonates

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¹Pilgrim Hospital, United Lincolnshire Teaching Hospital NHS Trust (ULTHT)

Objectives:

This case study highlights the importance of considering congenital heart disease (CHD) in neonates presenting with common respiratory symptoms.

Methods and Case Presentation:

A term baby boy, born via emergency caesarean section at 38 weeks due to fetal bradycardia, had a normal birth weight (3.13 kg) and unremarkable initial examination. Despite no major antenatal concerns aside from maternal gestational diabetes, he was admitted for sepsis screening and started on antibiotics due to maternal risk factors.

At 18 hours of life, he developed a dusky episode with tachypnea. Cardiovascular examination was normal, with palpable femoral pulses. However, a notable saturation difference was observed—99% in the right upper limb vs. 90% in others—suggesting possible cardiac pathology. A chest X-ray was unremarkable. Given the clinical suspicion, a local consultant with cardiology interest was consulted.

Echocardiography revealed a hypoplastic left heart and atrial septal defect. Prostaglandin infusion was initiated, and the neonatal transport team transferred the baby to Leicester for specialist care. There, further diagnostics confirmed Shone's Complex—comprising mitral and aortic stenosis, non-apex forming left ventricle with endocardial fibroelastosis, severely impaired LV function, and a mildly hypoplastic aortic arch.

Surgical intervention included Norwood-Sano procedure, Damus-Kaye-Stansel (DKS) anastomosis, and atrial septectomy on day 3, followed by a Glenn shunt later in life.

Conclusion:

Respiratory distress in neonates post-emergency section is often attributed to transient conditions. However, failure to consider underlying duct-dependent cardiac defects can delay life-saving interventions. This case underscores the importance of early recognition of CHD in newborns, especially when subtle signs like differential limb saturation are present. Early diagnosis and timely management are crucial in improving outcomes for infants with undiagnosed complex cardiac conditions.

Mucous Fistula Refeeding in Preterm Neonates; A Systematic Review

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¹NHS Greater Glasgow and Clyde

Background

Mucous fistula refeeding (MFR) is an option in the nutritional management of neonates with a small bowel enterostomy. The purpose is to maximise nutrient, fluid and electrolyte absorption and prevent atrophy of the unused distal bowel. This systematic review aims to evaluate the efficacy of MFR in preterm neonates.

Methods

A literature search was performed using Medline, EMBASE and the Cochrane Library at the CENTRAL Register of Controlled Trials in May 2025. Eligibility criteria included preterm neonates (<32 weeks gestational age) who had undergone small bowel resection and formation of an enterostomy for acquired gastrointestinal pathology, and received MFR.

Results

Three retrospective studies (2 cohort and 1 case series) met inclusion criteria. 99 neonates were included (44 of whom had MFR). Gestational age range was 24-31+3 weeks and birth weight 566-1340grams. There was significant heterogeneity regarding assessment of growth between the 3 studies. One examined change in z-score from birth to discharge and from re-anastomosis to discharge, and identified no difference between MFR and non MFR groups. Another found that weight gain (grams/day) increased during MFR compared to the period prior to MFR ($p=0.04$). The third showed that weight at the time of re-anastomosis was significantly higher in the MFR group compared to the non-MFR group ($p=0.021$). Two studies demonstrated that enteral autonomy was achieved during MFR however values were not statistically significant. One reported that half of the MFR group achieved enteral autonomy prior to re-anastomosis compared to a quarter of the non-MFR group ($p=0.126$). No study demonstrated statistically significant reductions in hospital stay, duration of PN or incidence of cholestasis with MFR.

Conclusion

Literature on MFR in preterm neonates is limited but there is evidence of a potentially beneficial impact on weight gain and enteral autonomy. Further well designed, randomised studies are required to evaluate this further.

A retrospective evaluation of the respiratory and nutritional benefits of transpyloric feeding in extremely preterm neonates with evolving or established bronchopulmonary dysplasia

Jackson E¹, Morar N¹, Shetty S¹, Kulkarni A¹

¹St George's University Hospital

Background

Bronchopulmonary dysplasia (BPD) is a significant complication of prematurity.¹ Aspiration of gastric contents impacts the evolution of BPD.² Transpyloric feeding (TPF) reduces gastroesophageal reflux, thereby reducing aspiration and BPD. Evidence regarding the benefits of TPF is conflicting. This study assesses the impact of TPF on respiratory status and growth in our neonatal population.

Methods

A retrospective search of the neonatal Badgernet database identified patients who initiated TPF between 2018 and 2025. Data from computerised records were collected across 7 time points: 14 and 7 days prior to insertion, the day of insertion, and 7, 14, 21 and 28 days after insertion. SpO₂/FiO₂ (S/F) ratios, CO₂ levels and Z score data were analysed for each data point. Statistical analysis compared median data points 7 days before and after insertion using a Wilcoxon signed rank test on Graphpad prism version10.

Results

34 patients were analysed. Median gestational age was 25+4 (range 23+3–31+3) weeks, median birthweight was 690g (510–1352g), and median corrected gestational age of TPF initiation was 36+1 (27+5–59+6) weeks.

S/F ratio and CO₂ clearance improved from day -7 to day 7 (204.4 vs 279.4 p=0.013 and 8.5 vs 7.9 p=0.039, respectively). This was sustained until day 28.

76% (26/34) required reduced respiratory support 7 days after TPF commenced. 4/7 patients successfully extubated; the remainder required reduced support.

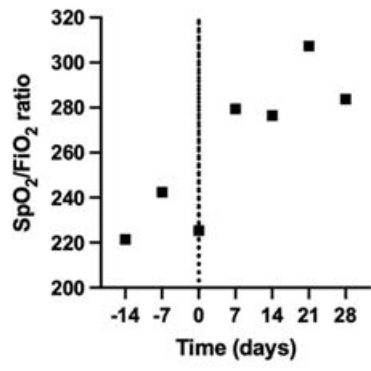
There was no significant difference in z-scores but 76% tolerated increased feeds within 7 days of TPF and 3/6 stopped parenteral nutrition.

Conclusions

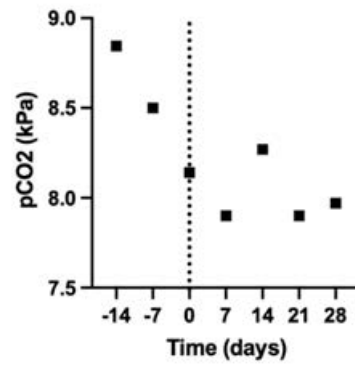
Following TPF initiation, improved respiratory outcomes in infants with evolving or established BPD were noted with improved S/F ratios and CO₂ clearance. Within 7 days of insertion, ventilatory requirements were reduced and increased feeds were tolerated in most patients, supporting evidence that TPF can contribute to reducing BPD severity in extremely premature babies.

Image

Median SpO₂/FiO₂ ratios over time



Median pCO₂ over time



Think of a number – Human vs Machine number preferencing in vital observation recording for neonates.

Joseph S

¹Sheffield Children's Hospital

Background: Humans often prefer certain terminal digits (e.g., even numbers, zeros, or fives), while automated systems (machines) theoretically do not. This study compared the terminal-digit distribution of human-recorded versus machine-recorded neonatal heart rate and oxygen saturation and examined terminal digit preferences in human-recorded respiratory rate.

Method: Data consisting of approximately 200 observations per vital sign per neonate from six infants was collected, including hourly human-recorded and continuous machine-captured values. This data was evaluated to assess if recorded digits matched expected theoretical distributions (50% even; 20% ending in 0 or 5). Fisher's exact tests compared human vs. machine prevalences of even digits, and confidence intervals identified deviations in respiratory rate terminal-digit frequencies.

Results:

Heart rate: 1199 human observations (52.5% even vs. 47.5% odd)

1002 machine observations (47.2% even vs. 52.8% odd)

Absolute difference of 5.3% between human vs machine recording for both odd and even numbers, $p = 0.0131$ (Fisher's exact test).

O2 saturation:

1103 human observations (52.8% even vs. 47.2% odd)

1002 machine recordings (50.8% even vs. 49.2% odd)

Absolute difference of 2% between human vs machine recording for both odd and even numbers, $p = 0.3911$ (Fisher's exact test).

Achieved respiratory rate:

Only human recordings used. 1154 observations with 47.6% (95% CI:44.7–50.5%) of values ending in five or zero. This strongly exceeds the theoretical zero/five count of 20% (95% CI:17.7–22.3%).

Conclusion – Human recordings exhibit clear digit bias toward even numbers in heart rate and numbers ending in zeros/fives in respiratory rate, while machines show a bias towards odd numbers in heart rate recordings. Such biases may reflect cognitive rounding or ventilator settings influencing the data being recorded, rather than true physiological values. These findings suggest a need for larger studies and potential revisions to neonatal monitoring protocols to ensure accuracy in respiratory-rate documentation and support.

Feeding difficulties following neonatal hypoxic ischaemic encephalopathy: Identifying elements for intervention development

Edney S¹

¹Newcastle University

Background

Feeding difficulties are common following hypoxic ischaemic encephalopathy (HIE) but are poorly understood. Here we present the integrated findings of a mixed methods study investigating factors associated with post-HIE feeding outcomes. Findings will be used to inform intervention development and improved clinical practice.

Methods

The study uses an explanatory sequential mixed methods design, incorporating 1) National Neonatal Research Database (NNRD) data for infants ≥ 36 weeks gestational age admitted to neonatal units with HIE from 2013-2022, 2) questionnaire data on feeding symptoms and family impact from parents of HIE-affected children aged < 5 years, and 3) semi-structured one-to-one interviews with parents of HIE-affected children aged < 9 years. Logistic regression analysis of associations between independent variables and outcomes were calculated using Stata. Qualitative data were analysed using Braun and Clark's reflexive thematic analysis.

Results

NNRD data was obtained for 14,082 infants. Factors associated with full oral feeding at discharge included HIE grading (OR 0.62, $p < 0.001$), non-white ethnicity (OR 0.83, $p = 0.002$), seizure frequency (OR 0.74, $p < 0.001$) and gastro-oesophageal reflux (OR 0.42, $p < 0.001$). 58 parents completed the feeding questionnaires. Factors associated with Feeding Impact scores included tube feeding ($\beta = 33.54$, $p < 0.001$), specific feeding issues (e.g. selective/restrictive eating, $\beta = 37.46$, $p < 0.001$), good support from healthcare professionals (newborn phase) ($\beta = -23.5$, $p = 0.010$), and current good support from family/friends ($\beta = -17.84$, $p = 0.027$) and other sources ($\beta = -16.88$, $p = 0.043$). 19 parents participated in the interviews. They stressed the importance of proactive staff who believed in their child's ability to orally feed and highlighted the rarity of multi-skilled professionals with specialist knowledge of dysphagia, breastfeeding, and HIE/cerebral palsy.

Conclusions

Integrated data from this study identifies risk factors for HIE-related feeding difficulties that can be used for targeting interventions and support. Suggested areas for intervention development include HIE-specific breastfeeding support and interventions to target specific symptoms, such as selective and restrictive eating.

Does mode of delivery affect the success of perinatal optimisation?

Morar N¹, Chang C¹, Woodhouse S¹, Azeez N¹, Crowley N¹

¹St George's University Hospital

Background:

Data regarding compliance with the perinatal optimisation (PO) passport is collected on a regular basis to ensure optimal perinatal care. The mode of delivery (MOD) impacts the location of delivery, maternal health and the health professionals involved with their care. The aim of this audit is to see if MOD impacts the success of perinatal optimisation.

Methods:

Retrospective data were collected regarding MOD for all babies born prior to 34 weeks over 6 months from December 2024 – May 2025. MOD was analysed against the 7 key components of the PO passport.

Results:

72 babies were born: 60% delivered by Emergency C-section (EmCS) and 40% by normal vaginal delivery (NVD).

Early expression of breast milk rates were significantly higher following EmCS compared to NVD: 67% and 50% respectively at 6 hours; and 91% and 73% respectively at 24 hours [p <.05].

Prophylactic antibiotic rates were lower in those having an EmCS compared to SVD: 46% and 90% respectively [p <.05].

Those having an EmCS were less likely to receive a full course of steroids or a parent perinatal optimisation passport.

No differences were seen in magnesium administration, optimal cord management, thermal care or caffeine administration.

Conclusion

MOD significantly affects early breast milk availability. Further analysis will be conducted to investigate what in the patient journey may be causing this. The emergency nature of caesarean sections is likely to impact the time available for antibiotic and steroid administration; however, knowing this will allow the obstetric team to assess their practice to see if any improvements can be made. This data collection will continue alongside PO passport audit to see if specific interventions can be employed to improve overall adherence to all optimisation elements.

Image

Mode of delivery	Gestational age range	Median Gestational age	Birthweight range (g)	Median birthweight (g)	Average birthweight (g)
Normal vaginal delivery	22+4: 33+4	25+3	490-2200	750	990
Emergency C-section	24+3: 33+6	30+1	550-2950	1115	1274

Table of demographics for those born less than 34 weeks gestation by MOD

Does ethnicity play a role in adherence to the individual elements of the perinatal optimisation passport in a tertiary neonatal unit?

Morar N¹, Chang C¹, Woodhouse S¹, Azeez N¹, Crowley N¹

¹St George's University Hospital

Background:

Data regarding compliance with the perinatal optimisation (PO) passport is collected monthly to ensure optimal perinatal care. This study aims to assess the impact of ethnicity on PO.

Methods:

Retrospective data were collected regarding maternal ethnicity for babies born before 34 weeks over 12 months from June 2024-June 2025. Ethnicity was analysed against the 7 key components of the PO passport.

Results:

126 babies were born over the year: 40% White, 13% non-British/Irish White, 25% Asian, 21% Black and 2% Mixed maternal ethnicity.

Ethnicity had the most significant impact on optimal thermal care. 59% Asian, 77% Black, 69% White other and 84% White [$p < .10$] had an admission temperature between 36.5-37.5°C.

White mothers had higher emergency caesarean section (EmCS) rates compared to ethnic minority groups [60% vs 51%].

Early breast milk (EBM) expression rates were equivalent at 6 hours but lowest amongst Black mothers at 24 hours [77% Black, 84% Asian, 88% White].

Differences in steroid administration were seen: 54% Black, 56% Asian and 64% of White mothers receiving a full course.

75% of Asian mothers received a parent PO passport compared to 82% Black mothers and 91% White mothers.

No differences were seen in magnesium loading, optimal cord management or caffeine administration according to ethnicity.

Conclusion

In this study, babies born to Asian mothers were more likely to have a temperature out of range: possibly due to smaller size or earlier gestational age. As a consequence of this data, more emphasis is being placed on thermal care, particularly in this ethnic group.

Ongoing analysis is required to see if the differences observed in receiving the parent PO passport, administration of steroids, time to breast milk expression and EmCS persist. Population specific interventions should be introduced if differences are consistently observed.

Image

Maternal ethnicity	% of cohort	Gestational age range	Median Gestational age	Birthweight range (g)	Median birthweight (g)	Average birthweight
Black	21	22+4 - 33+6	28+0	490-2650	762	1140
White (all)	53	23+5 - 33+6	29+6	520-2360	1120	1258
Asian	25	22+1 - 33+6	28+0	400-2950	870	1056

Breakdown of demographics as per ethnicity

A Systematic Review of The Use of Melatonin in Premature Infants

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Melatonin is a hormone synthesised in the pineal gland. In utero, maternal melatonin crosses the placenta and acts on the fetus, whose own melatonin production is not stimulated until after birth. The Neonatal Intensive Care Unit (NICU) provides unique challenges to the establishment of melatonin rhythmicity. There is currently limited research into the pharmacological use of melatonin in neonates, but this study looks at its emerging application in the conditions of prematurity. Trials relevant to this systematic review and meta-analysis reporting melatonin, administered to preterm infants enterally or intravenously compared to placebo, standard treatment only or no treatment were identified using Medline, PubMed and Cochrane Central Database. Data were extracted for outcomes of mortality, sepsis, necrotising enterocolitis, bronchopulmonary dysplasia and intraventricular haemorrhage. Meta-analyses were performed using Review Manager software and Risk of Bias assessments were conducted.

Of the 128 titles identified, 7 were suitable for inclusion in this systematic review. Mortality in premature infants was significantly reduced (RR, 95% CI 0.27, 0.09-0.77, $p=0.02$). Bronchopulmonary dysplasia was also significantly reduced (RR, 95% CI 0.63, 0.41-0.95, $p=0.03$). There was no evidence of an impact on the outcomes of sepsis, necrotising enterocolitis or intraventricular haemorrhage. Studies were small, often inadequately described randomisation and may be subject to publication bias.

Melatonin administration decreased the risk of complications associated with neonatal prematurity. The reduction in mortality is most notable. Further exploration of melatonin supplementation in preterm infants appears warranted in large, prospective, randomised, placebo-controlled trials.

Growth and Developmental Outcome in Preterm Infants with Stomas; a Gestation-Matched Case-Control Study

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Background:

Preterm infants with necrotising enterocolitis (NEC) and spontaneous perforation (SIP) frequently require stoma formation. They are at risk of nutritional deficiencies, affecting weight gain and head circumference (HC). HC growth is associated with neurodevelopment, but long-term impact of stomas on growth and developmental outcomes remains unclear.

Hypothesis: Stomas in preterms for NEC or SIP affect later weight, HC and neurodevelopmental outcomes.

Methods:

A retrospective gestation-matched case-control study in preterm infants <32+0 weeks with stomas at one centre (Nottingham UK) (2009-2022). Each infant was gestation-matched with a control within 3 months of admission date. Medical records were used to retrospectively collect growth data (weight and HC) at birth, NICU discharge, one year, and two years, and converted into Z-scores using Fenton growth charts. Two-year developmental scores were also collected. Non-parametric statistics were used (SPSS).

Results:

There are 106 babies in each group. The median (IQR) gestation was 25.6 (25-26) weeks. Groups had similar birth weight and birth HC. The stoma group had a significantly longer length of stay (87.5 vs 47.5 days) ($p<0.001$) and were more likely to have a significantly abnormal cerebral ultrasound scan ($p<0.001$).

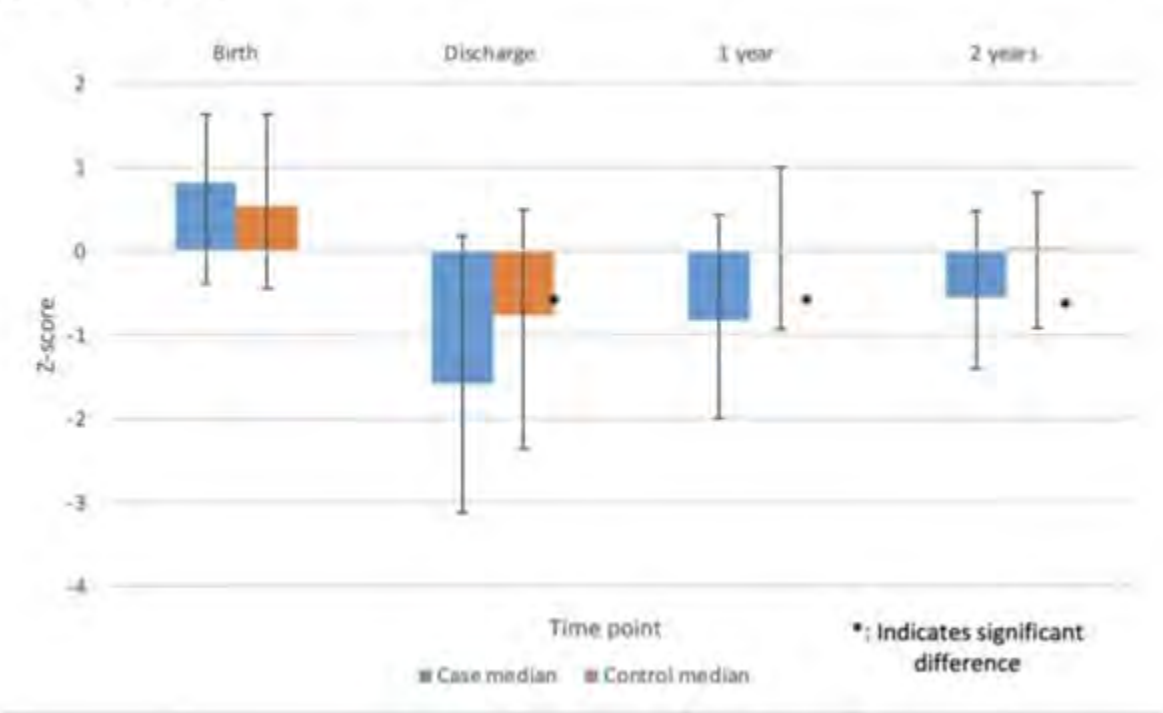
In the stoma group, weight and HC Z-scores decreased at each timepoint ($p<0.001$). Compared to controls, stoma infants had lower weight Z-scores at discharge ($p=0.002$) and at one year ($p=0.01$). HC remained lower from discharge ($p<0.001$) through to two years ($p=0.036$). There was no difference in developmental outcome (OR 1.30 (0.64-2.66 for abnormal development in the stoma group). Combining both groups, infants with abnormal neurodevelopment had significantly lower HC Z-scores at 2 years ($p=0.043$).

Conclusion:

Stoma formation significantly affects growth and HC in preterm infants, which is linked to neurodevelopment. Brain injury is more frequent in babies with stomas. Further research needed to explore long-term outcomes and the impact of interventions to improve growth.

Graphs

Figure. Median (IQR) and 95% confidence interval HC Z-scores at birth, discharge, 1 year and 2 years.



A Systematic Review of the Use of Melatonin in Babies with Hypoxic Ischaemic Encephalopathy

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Hypoxic-ischaemic encephalopathy (HIE) is characterised as brain injury acquired due to a reduction or complete loss of oxygen and/or blood flow to the brain. This can occur before, during or shortly after birth and the severity can vary. HIE impacts 1.5-2.5 per 1000 live births and remains one of the most common causes of neonatal morbidity and mortality. Melatonin has anti-inflammatory and antioxidant properties, so this systematic review explored its role as an emerging treatment for neonates with HIE.

Relevant trials reporting melatonin compared to standard treatments or placebo in infants with HIE were identified using Medline, PubMed and the Cochrane Central Database. Data were extracted for the outcomes of mortality and the impact of melatonin on brain injury on MRI including on the basal ganglia and thalamus, and white matter. Meta-analyses were performed using Review Manager software.

Of the 73 titles identified, 4 were suitable for inclusion. In infants with HIE, there was a significant reduction in mortality following treatment with melatonin (RR, 95% CI 0.33, 0.16-0.71, $p=0.005$). There was no evidence of an impact on brain imaging findings on MRI. The studies included in this systematic review were small, with risk of bias concerns due to inadequate reporting of the randomisation processes and largely absent pre-specification of outcome measures.

Melatonin administration decreased mortality rates in infants with HIE. Further exploration of melatonin as a therapy in HIE appears warranted in large, prospective, randomised, placebo-controlled trials.

EVIDENCE SUPPORTING USE OF CLONIDINE AS A THERAPEUTIC AGENT FOR NAS – A LITERATURE REVIEW

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¹Liverpool Women's Hospital

Background

Neonatal abstinence syndrome (NAS) occurs when neonates have prolonged exposure to addictive substances in utero, most commonly, opioids. NAS is treated in the NICU by using supportive care and a reducing regimen of morphine.

Clonidine is an alpha-2 receptor agonist that has become popular in NICU, due to its anxiolytic-sedative properties with reduced risk of oversedation. It has therefore been considered as a non-opioid alternative for NAS treatment.

Aim

To consider an alternative agent to be used in complex patients where supportive care alone does not provide the necessary intervention needed. With the aim that Clonidine would have a reduced side effect profile, a quicker time to discharge as well as reduced withdrawal scores for these babies.

Methods

Literature search on PubMed for meta-analyses, reviews, or randomised controlled trials over the past 9 years, using keywords, 'neonatal abstinence syndrome' and 'clonidine'.

Two systematic reviews and one RTC were selected for this review, out of a total of seven papers found. These were selected to cover use of clonidine in a range of uses; as an adjunct therapy, in sedation and exploring clonidine as monotherapy in the management of NAS.

Results

Clonidine as an adjunct with an opioid had no difference in treatment length or infant mortality compared to opioid monotherapy or opioid and phenobarbital treatment, however, had a higher incidence of adverse effects.

Clonidine monotherapy, similarly, showed no reduction in the length of treatment. There was also a need to deviate from monotherapy and add adjunct therapies four times more frequently when compared to morphine monotherapy.

Conclusions

Preliminary evidence shows that clonidine is a safe drug to treat NAS, however, it is not more effective than morphine, the standard NAS treatment drug.

Additionally, a paucity of trials and small sample sizes, make it difficult to recommend new treatment guidelines.

Reverse Differential Cyanosis in a Preterm Neonate – A Diagnostic and Therapeutic Challenge

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Background

Reverse differential cyanosis (preductal SpO₂ lower than postductal SpO₂) is a very rare but critical neonatal sign. It is associated with d-Transposition of the Great Arteries (dTGA) with Persistent Pulmonary Hypertension of the Newborn (PPHN) or dTGA with Coarctation or interruption of the Aortic- arch and Supracardiac Total Anomalous Pulmonary Venous Return.

Case Presentation

A 34-week, 1.9 kg preterm baby was delivered via emergency Caesarean section due fetal distress. The baby was depressed at birth (Apgar 13,54 and 106) requiring intubation and ventilation.

On initial assessment, preductal SpO₂ was 85% and post ductal SpO₂ was 90%. Femoral pulses were palpable, and a grade 2 systolic murmur was audible. Chest X-ray revealed mild surfactant-deficient lung disease with cardiomegaly.

Despite optimization of ventilation, reverse differential cyanosis persisted. A bedside 2D echocardiogram revealed dTGA with severe PPHN, a moderate-sized patent ductus arteriosus (shunting from the pulmonary artery to the aorta), and a small ostium secundum atrial septal defect. Subsequently, the baby began to desaturate further as the degree of overall hypoxemia worsened. Inhaled nitric oxide (iNO) was initiated, resulting in a good response with improved saturation and resolution of the reverse differential cyanosis. iNO was gradually weaned, and oral sildenafil was introduced as a bridging therapy.

On the following day, prostaglandin E1 infusion was commenced to maintain ductal patency. A follow-up echocardiogram showed a significant reduction in pulmonary pressures.

The baby was subsequently transferred to the cardiology unit at Lady Ridgeway Hospital, where an arterial switch operation was performed on day 5. The postoperative course was uneventful, and the baby was discharged on day 18 following complete stabilization.

Conclusion

This case highlights the importance of reverse differential cyanosis as a key diagnostic clue for dTGA with PPHN. Early recognition, targeted management and timely surgical intervention are crucial for optimal outcomes.

Innovative Management of Congenital Chylothorax Using Modified MCT-Enriched Breast Milk in a Resource – Limited Setting.

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Background

Congenital chylothorax (CC) is a rare cause of neonatal pleural effusion, sometimes presenting antenatally as hydrops fetalis due to albumin loss in chyle. Management includes respiratory support, pleural drainage, nutritional modifications with medium-chain triglyceride (MCT) formulas or total parenteral nutrition (TPN), and pharmacologic agents like octreotide or sildenafil.

Case Presentation

A 32 week female infant, weighing 2.3 kg, was delivered via emergency caesarean section due to antenatally diagnosed bilateral pleural effusion. She required resuscitation at birth, with Apgar scores of 5 and 7. In the antenatal period, the foetus was evaluated for hydrops fetalis, likely secondary to hypoalbuminemia. Bilateral intercostal drains revealed transudative fluid and were removed by day 4.

Reaccumulation of effusion occurred by day 5. Enteral feeds began by day 6. On day 9, the pleural fluid turned milky, suggestive of chylothorax. Lymphocyte-predominant pleural fluid confirmed CC. The infant was kept nil orally, started on TPN and intravenous octreotide. Oral sildenafil was also commenced to promote lymphatic remodeling and reduce chyle production.

First time in the history, due to the unavailability of commercial MCT formula, breast milk was centrifuged under sterile conditions to remove long-chain triglycerides, and organic MCT oil was added. Enteral feeds with modified milk started on day 12 and were gradually increased. Octreotide was weaned off by day 16. By day 28, the baby resumed normal breastfeeding. Chest X-ray on day 36 showed resolution of effusion. She was discharged on day 39 with appropriate weight gain.

Conclusion

This is the first known local use of centrifuged breast milk with added MCT oil for managing CC. It offers a cost effective, innovative solution in resource limited settings. Pharmacologic support with octreotide and sildenafil may enhance outcomes by reducing chyle production and supporting lymphatic healing.

Image



Figure 1A & 1B shows bilateral pleural effusion and bilateral intercostal drains respectively



Figure 2 A & B show chyle drainage from the right intercostal tube



Figure 3 A, B & C show preparation of MCT - breastmilk after centrifugation and removal of LCT

Cessation of Mothers' Own Milk (MOM) feeding in preterm infants in neonatal units: when does this occur?

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Background

Mother's own milk (MOM) is best, with significant additional advantages for preterm infants in reducing mortality, rates of NEC, and infections.

Unfortunately, there are very low rates of exclusive MOM feeding in neonatal units in England and Wales. Rates of exclusive MOM feeding reduce from 52% on day 14 to 34.7% at discharge. Extremely preterm infants have the largest reduction. We do not know when this occurs during admission.

Methods

We performed a retrospective cohort analysis using data from the National Neonatal Research Database (NNRD) for infants born at 22-33 weeks' gestational age (GA) in England and Wales from 01 January 2016 to 31 December 2022.

We determined the proportion of these infants that were receiving MOM at D14, discharge, and the first day since birth that formula/mixed feeding was introduced, by GA group.

We established the feed-type of these infants every 7 days thereafter to track the proportion still receiving MOM until discharge or the end of the dataset (day 203 since birth).

Results

In infants exclusive MOM feeding on D14, formula was introduced in the latter third of neonatal stay (median 29 days since birth IQR 21-45, with a median length of stay of 42 days (IQR:26-62)), but earlier for the most preterm infants (median day 60 (IQR 40-79) with a median length of stay of 120 days (IQR:101-141)).

Compared to late and moderate preterms, the most premature have a greater proportion of infants with formula feeds introduced earlier in their admission (Figure 1).

Conclusion

The most premature infants in NICUs in England and Wales are more likely to switch to formula feeds earlier in their stay compared to more mature preterm infants.

This study provides important information about when to target support for mothers expressing milk to prevent the discontinuation of MOM feeding during neonatal care.

Image

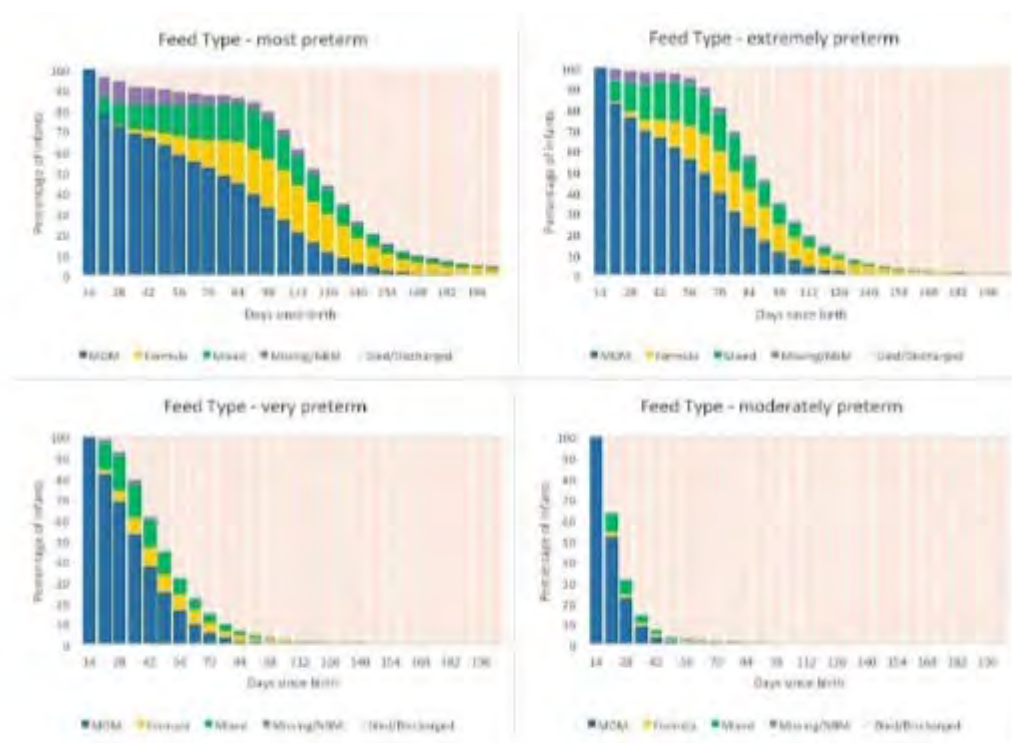


Figure 1. Feed type by days since birth in most premature (22 to 24 weeks' GA), extremely premature (25 to 28 weeks' GA), very premature (29 to 31 weeks' GA), and moderately premature (32 to 33 weeks' GA) infants in neonatal care in England and Wales

A Successful Outcome With A Trial Of Steroids In A Case Of Severe Persistent Pulmonary Hypertension And Refractory Chemical Pneumonitis Following Meconium Aspiration Syndrome In A Neonate.

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Background

Meconium Aspiration Syndrome (MAS) is defined as respiratory distress in newborns born through Meconium-Stained Amniotic Fluid (MSAF), with no other identifiable cause. The severity ranges from mild distress to life-threatening respiratory failure.

Case Report

We report a term male infant (2.6 kg) transferred for severe MAS requiring invasive ventilation. Despite surfactant therapy, escalating respiratory failure necessitated High-Frequency Oscillatory Ventilation (HFOV) and inhaled Nitric Oxide (iNO) due to severe hypoxemia and Persistent Pulmonary Hypertension of the Newborn (PPHN), confirmed on echocardiography.

The oxygenation index remained critically high (40–50, peaking at 62), with impaired ventilation and CO₂ retention despite maximal HFOV settings (amplitude 70, frequency 7). Preductal saturations were maintained >85%. Supportive management included multiple inotropes and milrinone for biventricular dysfunction. Clinical deterioration continued due to severe chemical pneumonitis and refractory PPHN.

Despite limited evidence, a trial of systemic and inhaled steroids was initiated. This became a turning point, with gradual improvement in ventilation and oxygenation. The infant was successfully weaned from HFOV, iNO (used for 7 days), and inotropes. Sildenafil was used as bridging therapy. Steroids were tapered gradually.

Chronic Lung Disease (CLD) developed, requiring oxygen and CLD management. The infant was weaned off oxygen by day 60 of life. Neurodevelopmental outcomes were normal, with intact vision and hearing. The child was referred for paediatric pulmonology follow-up.

Discussion

Outcomes in MAS have improved with advanced neonatal care. Although current evidence does not support routine steroid use in MAS, this case demonstrated significant benefit. Controlled trials are warranted to evaluate the efficacy of steroids in severe, complicated MAS.

Image



Figure 01



Figure 02



Figure 03



Figure 04

- Figure 1 shows diffuse interstitial opacities seen in severe MAS. Figure 2 shows hyperinflated lungs with a flattened diaphragm and streaky bands of atelectasis. Figure 3 shows upper lobe collapse consolidation. Figure 4 shows hyperinflated lungs with improvement in the lung fields.

Two Rare Cases Of Congenital Surfactant Deficiency In Neonates

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Background

Genetic surfactant dysfunction disorders are caused by mutations in genes encoding proteins critical for the production and function of pulmonary surfactant. Clinical presentation ranges from neonatal respiratory failure to childhood or adult-onset interstitial lung disease. Mutations in the genes encoding surfactant protein B (SP-B) and member A3 of the ATP-binding cassette (ABCA3) family of membrane transporters causes failure in surfactant metabolism. We describe two patients who had histologically confirmed congenital surfactant deficiency.

Clinical history

Case 1

A baby girl was delivered at term with a birth weight of 2600g to non-consanguineous parents. There was a history of an early neonatal death in the family.

Since birth, baby had severe respiratory distress with white out lung fields and needed invasive ventilatory support. Three-doses of surfactant were given at regular intervals to improve the pulmonary function.

Transient clinical improvement was noted with each surfactant. However due to worsening of the clinical condition, baby was escalated to high frequency oscillatory ventilation (HFOV) by day 3. Despite optimal ventilatory support, baby passed away on day 3. Pathological postmortem was requested to exclude the possibility of a congenital surfactant deficiency.

Case 2

A term baby boy was delivered via a vaginal delivery to a primi mother with a birth weight of 2.73kg to third degree consanguineous parents. This baby also had a similar clinical presentation.

High-resolution computerized tomography (HRCT) of chest revealed reduced lung volume with diffuse ground glass-opacities suggestive of possible surfactant deficiency. CT-guided lung biopsy was done. The baby expired on day 22 despite optimal management.

In both babies, histopathology revealed poorly developed alveolar spaces with atelectasis and absence of type-2 pneumocytes suggestive of congenital surfactant deficiency.

Conclusion

Definitive treatment is lung transplantation. Exogenous surfactant therapy provides transient improvement in lung function. Genetic counselling plays an important role regard to future pregnancies.

Image



Figure 1



Figure 2



Figure 3

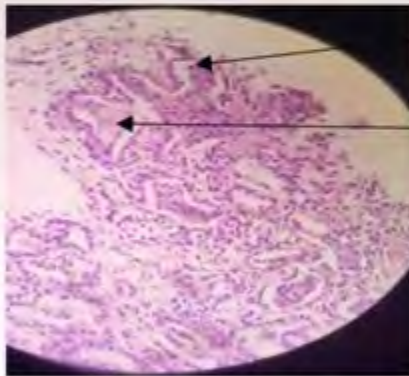


Figure 4

**Collapsed
alveoli**
**Hyaline
membrane**

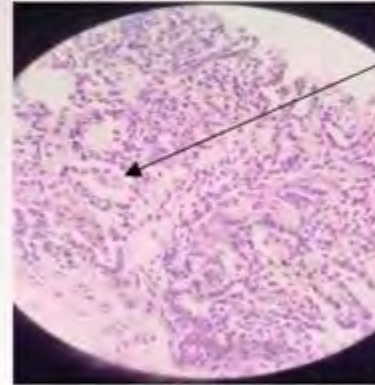


Figure 5

Atelectasis

- ✓ Figure 1 and 2 shows diffuse reticulo-granular ground glass appearance with air bronchograms. Figure 3 shows a High-resolution computer tomography of the lungs with diffuse ground glass opacities and interstitial thickenings in both lungs. Figure 4 and 5 shows a core of lung tissue with poorly developed alveolar spaces, altering atelectasis with occasional dilated alveolar spaces and eosinophilic thick layer of hyaline membrane is seen in some of the alveoli keeping up with congenital surfactant deficiency.

Congenital Dermoid Cyst Of The Tongue In A Neonate

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Background

Congenital dermoid cysts are subcutaneous lump which arise along the embryonic fusion lines on the face, scalp and spine. It contains epidermal and dermal tissue. Dermoid cysts of the oral cavity are rare with an incidence of 1.6% of all dermoid cysts with cysts on the mouth representing 0.01%. Complications include infection, swallowing dysfunction, airway obstruction and malignant transformation. This case report describes a congenital dermoid cyst of the tongue.

Clinical Presentation

We describe a baby girl without any antenatal concerns delivered via vaginal delivery at 38 weeks with a birth weight of 2.96 kg. The most striking feature noted on examination was a large mass arising from the tongue and floor of the mouth. There was no respiratory distress but baby was admitted to the special baby care unit for further evaluation.

Ultrasound scan of the neck and floor of the mouth revealed a possible congenital dermoid cyst which was 3 x 2.6 cm in size. This unilocular thin wall cyst was filled with echogenic material. It was along the anterior and inferior aspect of the tongue extending in to the floor of the mouth. No vascularity noted. Thyroid gland appear normal in size and position.

Swallowing assessment revealed poor sucking with poor coordination in swallowing and planned for nasogastric feeding till surgical intervention was done. Baby was referred to the oro-maxillary-facial surgical team and interval surgery was planned once the baby was one month of age.

Surgery was successful with a histological diagnosis of a congenital dermoid cyst.

Conclusion

Surgical excision of the dermoid cysts of the tongue does not restore the function of the tongue muscle immediately. After surgery, myofunctional therapy with specific exercise to the tongue is needed to restore the normal functioning of the tongue.

Image



Figure 01



Figure 02

- **Figure 1 and Figure 2** both show the congenital dermoid cyst arising from the floor of the tongue in this baby. Nasogastric tube was inserted for feeding support.

Case Series of Management of Hemodynamically Significant Patent Ductus Arteriosus in Preterm Neonates Using a Combination of Paracetamol and Ibuprofen Therapy

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Background

Hemodynamically significant Patent Ductus Arteriosus (hsPDA) in preterm neonates can lead to significant morbidity if not effectively managed. Studies on the use of combination therapy for a patient with persistent hsPDA has had different conclusions. This case series demonstrates three preterm neonates with hsPDA managed successfully using a combination of Paracetamol and Ibuprofen.

Case presentation

Case 1

A male preterm neonate, born at 28 weeks(W) gestation with a birth weight(BW) of 1 kg, presented with a hsPDA diagnosed via echocardiography on day 5. Initial treatment with intravenous (IV) Paracetamol (15 mg/kg/6 hourly) was administered for 5 days, but the hsPDA remained patent. Subsequently, a second cycle with oral Ibuprofen (10 mg/kg followed by 5 mg/kg/24 hourly for total three days) was initiated, which also failed to close the ductus. Finally, the combined therapy was given for three days.

Case 2

A female preterm neonate, born at 29W of gestation with a BW of 1.2 kg, was diagnosed with a hsPDA on day 6. Initial management with IV Paracetamol for 5 days did not achieve closure. A second cycle with combined therapy was then administered.

Case 3

A male preterm neonate, born at 27W gestation with a BW of 800g, was diagnosed with hsPDA on day 5. Despite 5 days of IV Paracetamol therapy, the PDA remained open. A second cycle of combined therapy was given.

All three neonates were clinically and biochemically observed for adverse effects and none were noted. Fluid therapy was restricted to 120-130 ml/kg/day. Renal functions were normal. Echocardiography confirmed closure of the hsPDA after combined therapy.

Conclusion

These cases highlight the efficacy of combined therapy in hsPDA in preterm neonates by inhibition of the prostaglandin synthesis pathway through different enzymes. We need randomised control trials to establish the efficacy of this combined therapy.

Differences between preterm neonates undergoing early versus late surgery for necrotising enterocolitis

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Background: Earlier surgery has been advocated as a method of improving outcomes in necrotising enterocolitis (NEC). Clinical indications for this approach include acidosis, hypotension and evidence of bowel perforation. We aimed to explore differences between neonates undergoing early (≤ 24 hours from diagnosis) versus late (> 24 hours from diagnosis) surgery for NEC.

Methods: Neonates < 32 weeks gestational age with histologically confirmed NEC managed between 01.01.15 and 01.03.25 in a single surgical centre were identified and data collected retrospectively. Mann Whitney U, Chi-Square and T test were used to compare groups as appropriate.

Results: 59 neonates were identified; 32 had early surgery and 27 late. There were no significant differences in gestational age or birth weight between groups (Table 1). The early surgery group were significantly more acidotic and hypotensive at the time of surgery (Table 1). The commonest radiological finding in the early surgery group was pneumatosis \pm portal venous gas (56%) followed by perforation (34%), in the late surgery group it was fixed loops / featureless bowel (56%) followed by perforation (22%). Early surgery was associated with a significantly increased risk of death (Table 1).

Conclusions: In our cohort early surgery was associated with a poorer outcome however it is likely that this reflects that they were sicker with a more aggressive disease progression. The potential impact of earlier surgery and type of surgery on short and long term outcomes in preterm NEC require further prospective evaluation.

Image

Table 1. Comparison of variables between those having early (≤ 24 hours from diagnosis) versus late (> 24 hours) surgery

	Early (n=32)	Late (n=27)	P value
Gestational age at birth (weeks)*	26 ⁺⁴ (25 ⁺⁶ -27 ⁺²)	26 ⁺³ (25 ⁺⁶ -27 ⁺⁰)	0.72
Birth weight (grams)*	829 (761-896)	869 (766-970)	0.5
Highest pre op lactate (mmol/L)**	7.2 (3.5-12.6)	2.7 (2.0-5.1)	0.004
Hypotension requiring inotrope	21 (65.6%)	7 (25.9%)	0.002
Died	19 (59.4%)	6 (22.2%)	0.004

* Data are mean \pm 95% CI **Data are median (IQR)

Understanding community detection, testing and management of neonatal jaundice in term infants in the UK: a mixed methods study

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Background

Neonatal jaundice affects 60-80% of newborns with bilirubin testing recommended for suspected jaundice. In the UK, detection largely falls to community midwifery services. Challenges in neonatal jaundice pathways have been identified but are not well understood. This study aimed to explore community neonatal jaundice pathways in the UK and identify improvement opportunities.

Methods

A mixed-methods study of community midwifery jaundice pathways in three NHS trusts in a diverse urban area including: (1) pathway mapping workshops, (2) cross-sectional analysis of detection, testing and admission of term infants, (3) time-motion exploration of serum bilirubin testing activity. Local data were triangulated with (4) a national survey of Heads of Midwifery.

Results

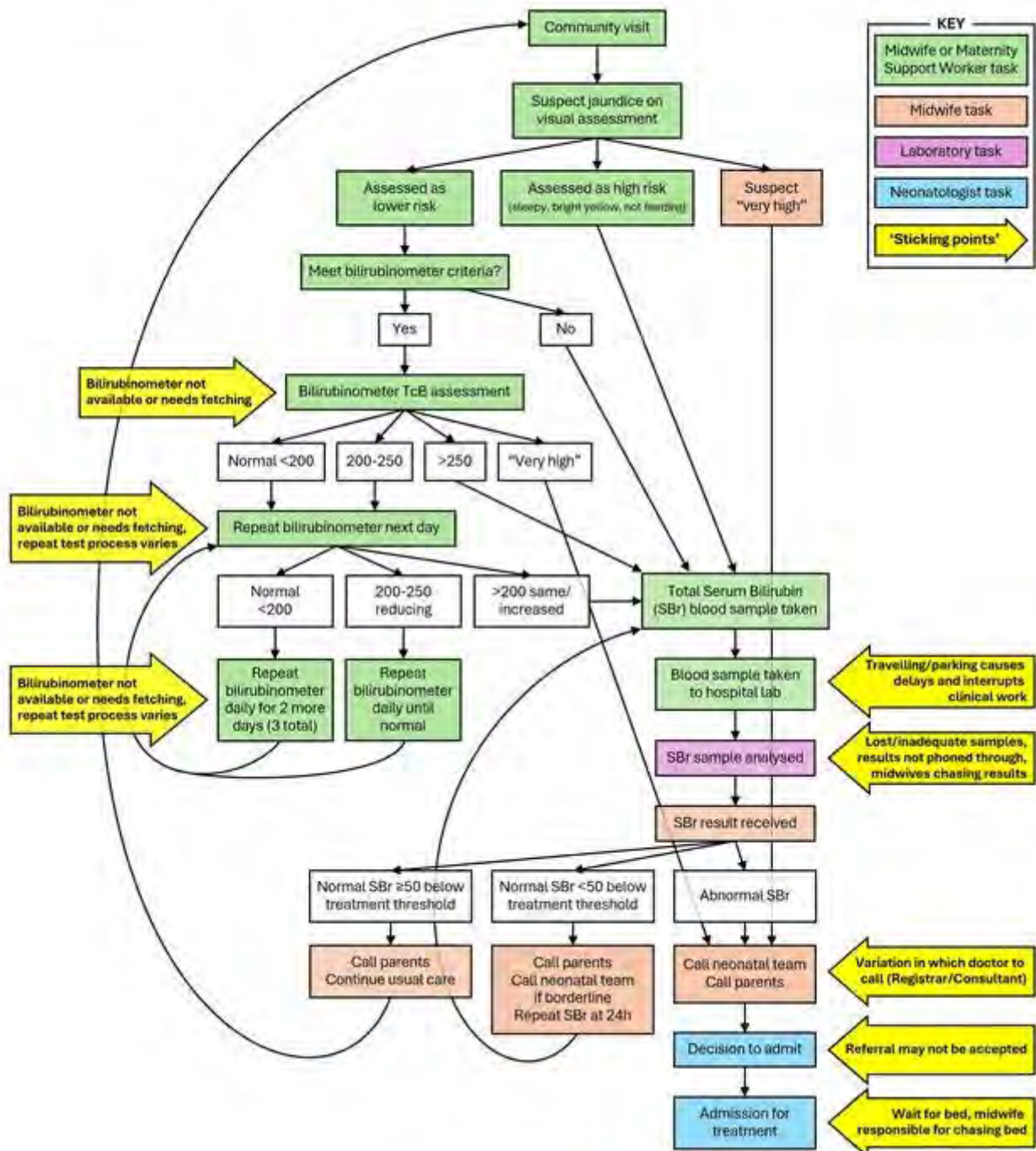
Pathways and practice varied and deviated from NICE guidance locally and nationally, with many challenges identified. Among 16,760 eligible infants over 1 year, only 27% were suspected as jaundiced in the community, and 65% of these were not clinically tested. Exploration of clinical notes suggested this was accurate, with 'watchful waiting' persisting for perceived mild jaundice. 13 minutes per staff working week were spent transporting serum bilirubin samples to hospital, totalling 15 days of clinical time in one month. The number of babies suspected as jaundiced decreased in the first wave of the COVID-19 pandemic, as did re-admission rates. Black infants were significantly less likely to be assessed or tested. 64% of all infants re-admitted were not tested in the community. Despite variation in testing rates and practices, re-admission rates were similar across trusts. No kernicterus was detected. The biggest reported challenge nationally was the cost and maintenance of bilirubinometers.

Conclusions

Community pathways were inconsistent and deviated from guidance, with under-testing and ethnic inequalities. It was unclear whether testing variation impacted outcomes. Future research should evaluate efficacy, costs and implementation of neonatal jaundice interventions and pathways, including the impact on disparities.

Image

Community neonatal jaundice pathway identified from three NHS trusts in the pathway mapping workshops (Component 1) with common 'sticking points' identified, which informed the rest of the study



Use of polymerase chain reaction in the diagnosis of culture-negative neonatal early onset sepsis: A systematic review

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Introduction

Neonatal early onset sepsis (EOS) is a significant contributor to infant mortality. However, there is concern that negative blood cultures can be falsely reassuring and clinical diagnosis can be challenging due to the presence of similar signs and symptoms secondary to adaptation to extrauterine life. Polymerase chain reaction (PCR), looking for the presence of bacterial DNA, is proposed as a supplemental test to blood cultures in the diagnosis of EOS. This systematic review aims to elicit and evaluate the available literature examining use of PCR in the investigation of EOS and to establish whether PCR could provide an additional diagnostic yield in cases of suspected culture-negative sepsis.

Methods

A literature search was performed using MEDLINE and EMBASE in April 2025 with a further check of reference lists to garner relevant studies. Studies examining the use of PCR in EOS which included any infants with clinically suspected culture-negative sepsis were eligible for this review.

Results

Five studies were selected for inclusion. These were all cohort studies which used universal, multiplex or targeted PCR tests. There was significant variability in target populations and inclusion criteria for each study. Overall, in patients where there was clinical suspicion of EOS and negative blood cultures, PCR was able to identify a potential causative organism in a further 10.8% of cases.

Conclusion

Molecular techniques such as PCR testing have the potential to aid clinicians in the diagnosis of EOS. Appropriate diagnosis of sepsis and identification of the causative bacterium has many potential benefits including better targeting of antibiotic choice and duration. For those patients with negative blood cultures and negative PCR results there could be a potential reduction in antibiotic use and duration of hospitalisation. Further purpose designed trials are required to quantify the potential benefits of PCR testing as an adjunct to blood cultures.

Phrenic nerve palsy - an unusual consequence of traumatic birth

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A baby girl was born at term via spontaneous vaginal delivery complicated by shoulder dystocia. She received inflation/ventilation breaths. By five minutes of life, she had consistent respiratory effort with increased work of breathing requiring continuous positive airway pressure and supplemental oxygen (FiO₂ 0.5). Serial x-rays showed a raised right hemidiaphragm (Figure 1). This raised suspicion for phrenic nerve injury (PNI), confirmed by ultrasound of the diaphragm which demonstrated no activity on the right side.

Figure 1: Chest x-ray demonstrating elevated right-sided hemidiaphragm. Right-sided elevation is ≥ 2 intercostal spaces (ICS) higher than left. Left-sided elevation is ≥ 1 ICS higher than right(2).

Discussion

PNI is a birth injury caused by lateral hyperextension of the neck, consequent stretch injury to the nerve and resultant ipsilateral diaphragm paralysis. This occurs in 1 in 15,000-30,000 births(1) often alongside brachial plexus injury.

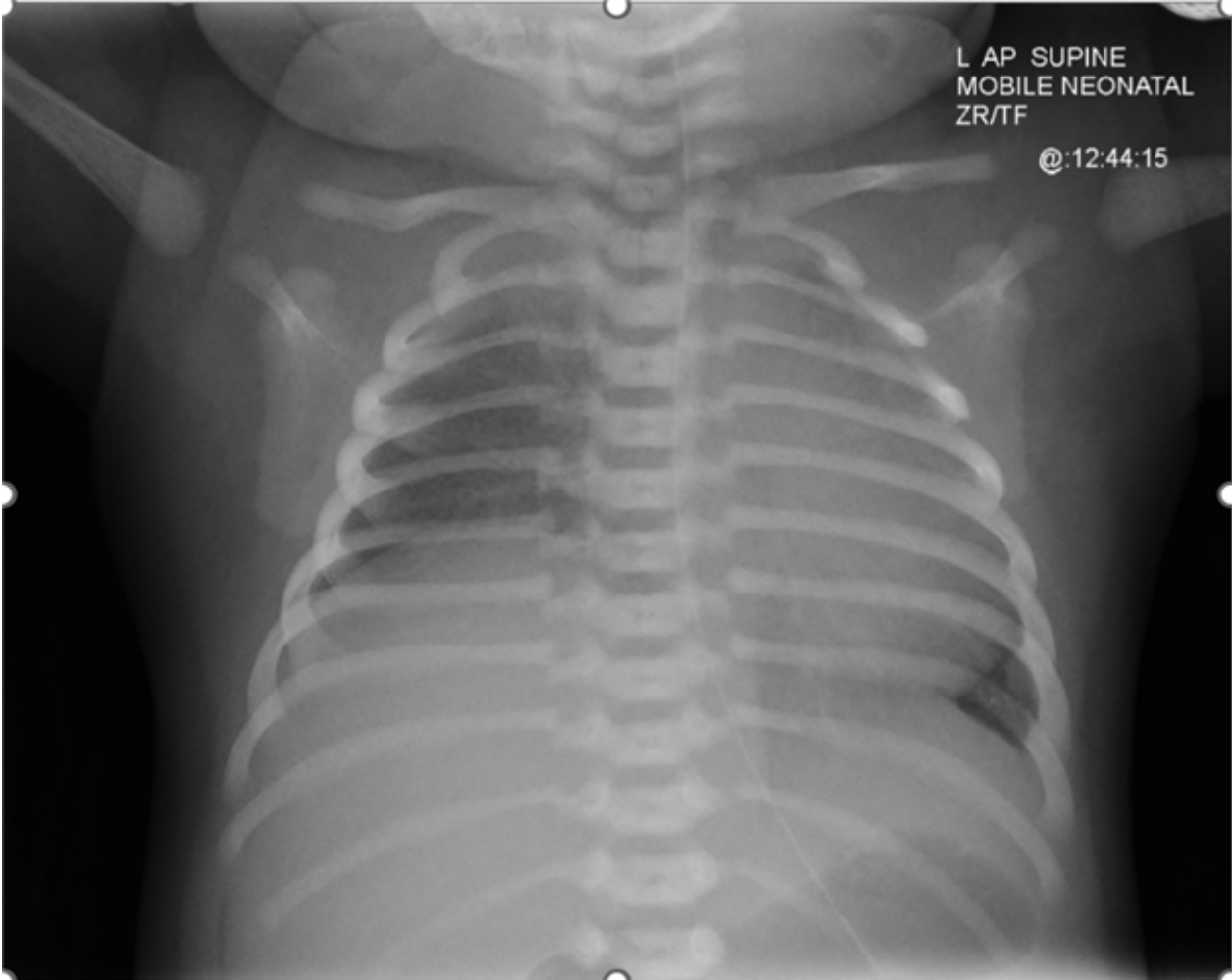
Indicative chest x-ray changes include elevated hemidiaphragm(2)(Figure 1). Ultrasonography shows reduced, or paradoxical, diaphragm movement. Fluoroscopy and nerve conduction studies can be done; however, ultrasonography remains the first-line in neonates due to reliability, ease of availability, and minimal invasiveness.

Initial management is conservative with ventilation and feeding support. Infants with failure to wean ventilation, recurrent pneumonias or persistent diaphragmatic paralysis \geq month of life, should be referred for surgical evaluation, which involves diaphragmatic plication(3). Early surgical intervention may enable extubation, however, 30% of birth-related phrenic injuries will recover within the first month of life. Injuries repaired >45 days risk diaphragmatic atrophy(3).

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Image



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Outcome of Neonates Admitted with Hypoxic Ischemic Encephalopathy (HIE) to a Tertiary Neonatal Unit Over 3 Years Period — a Retrospective Study.

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¹Royal Preston Hospital

Background:

Hypoxic ischemic encephalopathy (HIE) is a brain injury caused by decreased oxygen supply to the brain during the perinatal period. Depending on the severity, it can lead to a significant neurodevelopment impairment. Therapeutic hypothermia (TH) following HIE has demonstrated to be a neuroprotective intervention that decreases morbidity and mortality.

Methods:

A retrospective cohort study was conducted, involving all neonates diagnosed with HIE at Royal Preston Hospital (RPH) from Jan 2019 to Dec 2021. Electronic records were reviewed using BadgerNET and Evolve via FlexPod.

Results:

46 neonates were diagnosed with HIE. 54% of these neonates were transferred postnatally from local neonatal units (LNUs) for TH. 30 neonates were diagnosed with moderate to severe HIE. 83% of these neonates have received TH. 16 neonates were diagnosed with mild HIE, 12 underwent TH but 3 neonates were rewarmed within 24 hours after further assessment. 68% of mild HIE cases were transferred from LNU.

38 neonates with HIE were born at ≥ 36 weeks of gestation, 32 of these were cooled. 8 neonates were born < 36 weeks of gestation, 5 of which underwent TH.

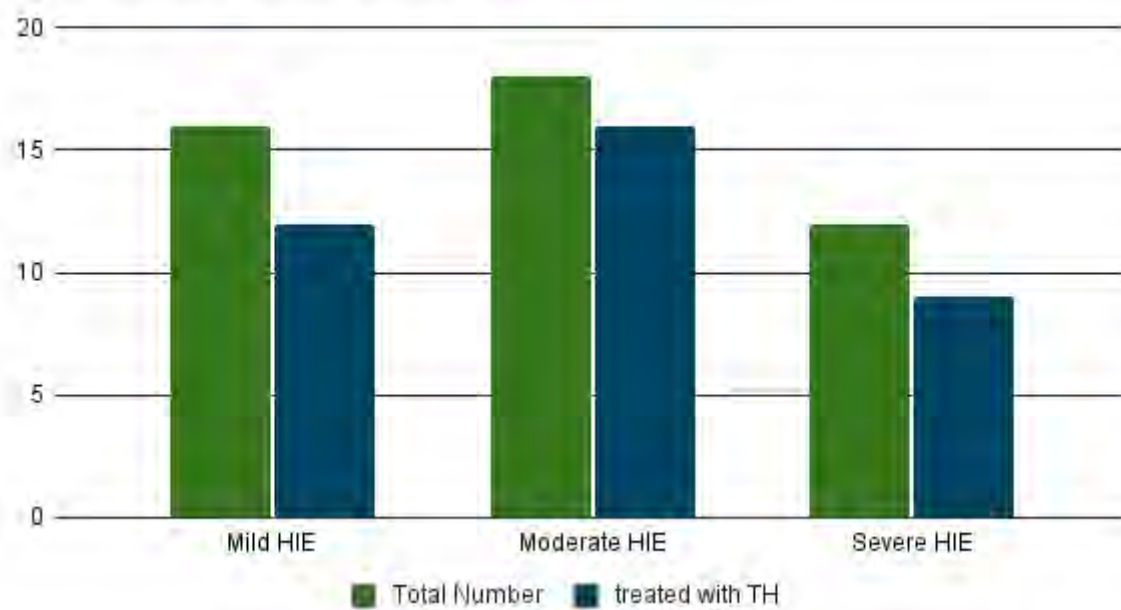
TH was initiated < 6 hours after birth in 90% of neonates and 90% were cooled to 33.5°C . 100% of neonates received an MRI scan by day 13. Only 33.3% of infants who were cooled and discharged directly from RPH had their 2 years follow up completed on Badger.

Conclusion:

The standardized framework of care for neonates with HIE have been met in the unit. The number of neonates with mild HIE who were transferred from LNUs highlights the need to improve training around neurological assessment and CFM interpretation. The lack of resources such as CFM monitors can influence timely decision-making and may lead to unnecessary transfers. A well-structured 2 year follow up plans for children with HIE is required.

Graphs

Total number of Neonates with HIE



The role of donor human milk in supporting parental mental health and wellbeing: lessons from recipients and donors

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When babies cannot receive their own mother's milk, donor human milk (DHM) can be lifesaving, supporting their health and development. However less attention has been paid to how milk donation may affect parental wellbeing. In a series of quantitative and qualitative studies we explored how receiving donor milk for a baby or being able to donate milk affected parents.

In study one, 107 parents predominantly with a premature baby on the neonatal unit completed a survey showing positive impacts of their baby receiving DHM upon their own wellbeing. In study two 80 parents who received DHM for their baby for reasons such as maternal cancer, insufficient glandular tissue, and low milk supply completed measures of anxiety and depression before and after receiving DHM. Depression and anxiety reduced significantly, with parents partly attributing this to the experience of receiving DHM for their baby.

In both studies parents described relief that their infant was receiving DHM for health reasons but also felt that the experience of being listened to, supported and having their infant feeding decisions facilitated helped boost their wellbeing at a difficult time. For those who were able to partly breastfeed, receiving DHM helped motivate them to continue.

In a final study 1149 women who wanted to donate milk completed a survey about their experiences. 417 (36.3%) were able to donate and 732 (63.7%) could not. Most women who donated found it had a positive impact upon their wellbeing, feeling proud, useful and that they had achieved something important. Conversely, those unable to donate often felt rejected, frustrated, and excluded. These feelings were heightened for those experiencing difficulties such as birth trauma, breastfeeding challenges, neonatal unit stays, and infant loss.

Together these findings extend the impacts of milk banking services beyond infant health and development and support expanded service delivery.

Understanding parents' and healthcare professionals' (HCP) experiences of, and priorities for, neonatal neurodevelopmental follow-up for very preterm babies.

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Background

Infants born very preterm, less than 30 weeks gestational age, face elevated risks of health and developmental challenges. Monitoring developmental abilities after discharge is a vital component of care. However, there is variation in the content and delivery of services and limited understanding of the experiences and priorities of both parents and healthcare professionals (HCPs). This study aimed to examine the experiences and priorities of parents and HCPs regarding neonatal neurodevelopmental follow-up care.

Methods

Semi-structured interviews explored the experiences and priorities of parents/carers and healthcare professionals. Participants were recruited through purposive sampling from three diverse English National Health Service providers in Northern England. A Constructivist Grounded Theory approach (Charmaz, 2014) including concurrent data collection and analysis, supported by memoing, reflexivity, and peer debriefing was used. Iterative coding identified key conceptual categories.

Results

Between January 2023 and October 2024, interviews were undertaken with 42 participants: 24 parents and 18 HCPs. Analysis of the data facilitated the development of distinct and overlapping categories. For parents, independent categories included hidden parental work, dynamic information and psychological support needs. For healthcare professionals, categories involved measuring progress and outcomes, and sharing information across organisations and systems. Common categories for both groups included continuity of care, particularly in relation to the disruption caused by fragmented care, permeability of community and therapy services, and ambiguity over which healthcare provider holds overall responsibility for care, communication, and perspectives on the impact of universal child health assessments and services in relation to specialist neurodevelopmental follow-up.

Conclusions

Parents caring for infants born <30 weeks gestation report significant hidden work in neonatal neurodevelopmental follow-up care. Uncertainty exists about clinical service accountability and conflation between parental informational and support needs with clinician and researcher outcome data needs may contribute to suboptimal service delivery and limited outcome data.

Assessment criteria, outcomes and complications of PDA Device Closure in Preterm Infants

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Background:

Transcatheter patent ductus arteriosus (PDA) device closure is increasingly common among preterm infants for definitive closure. However, selection criteria, optimal timing and incidence of procedure-related risks, including post-ligation cardiac syndrome remain uncertain¹.

Aims:

To report the following for infants who underwent PDA device closure:

- I. clinical and echocardiographic parameters used to assess the need for definitive PDA closure
- II. Outcomes and complications prior to discharge.

Methods:

From patient records, we identified 12 babies transferred to Royal Brompton Hospital for PDA device closure over a period (2021–2024). Demographics, pre-procedural echocardiography, clinical status and outcomes were extracted.

Results:

Birth gestation: 24+3 weeks (IQR 23+6–25+3); median postnatal age at device closure: 58.5 days (IQR 39–83); Postmenstrual Age (PMA) at device closure: 34+3 (IQR 30+2–35+5). Apart from PDA size measured in all, assessments varied clearly (Table 1). No PDA scoring system was formally applied. Within 48 hours, 66.7 % needed ventilatory escalation; 25 % commenced nitric oxide and inotropes. Complications included unsuccessful procedure, device embolization/retrieval, left pulmonary artery (LPA) stenosis. One infant developed pericardial effusion with severe tricuspid regurgitation requiring valve repair. By 36 weeks PMA, 100 % had moderate-to-severe Bronchopulmonary dysplasia (BPD); 83 % by 40 weeks PMA.

Conclusion:

These findings highlight i) the need to standardise echocardiographic assessment and haemodynamic criteria. ii) uncertain utility of BPD as a discriminatory outcome measure iii) importance of monitoring complications within 48 hours post-closure. As this is a small, single-centre cohort, findings may not be generalisable. Research is required to determine whether timing influences PDA outcomes. Given controversies in PDA management, we recommend a national framework developed with multiprofessionals to standardise assessments, monitoring, and outcome reporting.

Graphs

Category	Result (N=12)
Birth weight (grams): Median (interquartile range (IQR))	618 g (IQR 548 – 841 g)
Gestational age (weeks): Median (IQR)	24 + 3 (IQR 23 + 6 – 25 + 3)
Postnatal age at device closure (days): Median (IQR)	58.5 (39 – 83)
Post menstrual age at device closure (weeks)	34 + 3 (IQR 30 + 2 – 35 + 5)
Pharmacological therapy prior to device closure: 66.7% (8/12)	
Ibuprofen	25% (3/12)
Paracetamol	41.7% (5/12)
Echocardiographic parameters:	
LA/Ao ratio	58% (7/12)
PDA size	100% (12/12)
DA Vmax	33% (4/12)
End-organ diastolic flow	58% (7/12)
Components of Iowa PDA scoring system:	
Mitral valve E wave velocity (cm/s)	0
Isovolumic relaxation time (IVRT)	0
Pulmonary vein D wave velocity	0
Left ventricular output (ml/min/kg)	0
Diastolic flow in descending aorta	58.3% (7/12)
Device related complications:	
Unsuccessful procedure	8.3% (1/12)
Device embolization/retrieval	8.3% (1/12)
LPA stenosis	16.7% (2/12)
Tricuspid regurgitation	25 (3/12)
Pericardial effusion with Tricuspid regurgitation	8.3% (1/12)
Time from "haemodynamically significant duct" diagnosis to PDA device closure: Median (IQR) (days)	
	47 (IQR 29 – 70.5)
Respiratory support prior to device closure:	
Invasive ventilation	66.7% (8/12)
Non-invasive ventilation	33.3% (4/12)
Complications within 48 hours:	
Significant escalation of respiratory support (defined as over 20% of increase in PIP or Pao2)	66.7 % (8/12)
Requirement of inhaled nitric oxide	25% (3/12)
Commencement of inotropes	25% (3/12)
Time from post device closure to extubation (days)	13.5 days (IQR = 9.0 – 24.5) (n=8)
Median (IQR)	
Respiratory support at discharge/transfer:	
No support	8.3% (1/12)
Nasal cannula oxygen	66.7% (8/12)
CPAP	8.3% (1/12)
Invasive ventilation	16.7% (2/12)
BPD at 36 weeks PMA:	
Mild	75% (9/12)
Moderate	25% (3/12)
Severe	16.7% (2/12)
BPD at 40 weeks PMA:	
Mild	16.7% (2/12)
Moderate	50% (6/12)
Severe	33.3% (4/12)

Table 1: Data illustrating echocardiographic assessment criteria, outcomes and complications. N=12.

Image

Abbreviations:

PDA: Patent ductus arteriosus; IQR: Interquartile range; LPA: Left pulmonary artery; PMA: Postmenstrual age; LA/Ao ratio: Left atrium to Aortic root ratio; DA Vmax: Ductus arteriosus peak velocity; PIP: Peak inspiratory pressure; Fio2: Fractional inspired oxygen; BPD: Bronchopulmonary dysplasia.

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Right Pulmonary Artery Thrombosis in a 24-Week Neonate in the First Week of Life: Is Anticoagulation necessary?

A Literature Review and Tertiary Neonatal Unit Experience

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Pulmonary artery thrombosis (PAT) is a rare and likely under-diagnosed in neonates. Its clinical presentation is often nonspecific, mimicking congenital heart disease, persistent pulmonary hypertension, or respiratory distress syndrome. Most cases are associated with risk factors such as maternal diabetes, central-venous-catheters or sepsis. However, data on optimal management remains limited.

We present the case of a male neonate born at 24 weeks gestation via spontaneous vaginal delivery to a primigravida mother with prolonged rupture of membranes and Group-B-Streptococcus colonisation. On day 4, echocardiogram for assessment of significance of patent ductus arteriosus (PDA) incidentally revealed a large, partially occlusive right pulmonary artery (RPA) thrombus.

He was colonised with MRSA and had elevated CRP which was treated with vancomycin. Given his extreme prematurity and bleeding risk, a multidisciplinary discussion with cardiology and haematology teams was held. The consensus was to withhold anticoagulation or thrombolysis and instead monitor with serial echocardiograms. These scans demonstrated reduction in thrombus size by day 10 and resolution by day 15.

CT angiography was considered to establish diagnosis; however due to the extreme prematurity this was not performed.

This is, to our knowledge, the first reported case of a partially occlusive RPA thrombus in a 24-week neonate managed conservatively with spontaneous resolution.

At our tertiary neonatal unit, we incidentally identified 3 cases of thrombosis in extremely preterm neonates of less than 26 weeks gestation. We treated two cases with anticoagulation, one with inferior vena cava (IVC) thrombus, and another with right atrial thrombus extending from innominate vein. In contrast, the third case of distal aortic thrombus resolved with conservative management and close monitoring.

This case supports the potential for conservative management of PAT in selective extreme preterm neonates and underscores the importance of comprehensive echocardiography. Further research is warranted to guide management in this high-risk group.

Image

Day 4 of life
Arch view



Day 4 of life
Short axis
view



Day 4 of life
Short axis
view



Day 10 of life
Short axis
view



A

Abdelshafy, A	83
Adams, D	200
Al-Ani, D	216
Al-Muzaffar, I	38
Alzaghal, A	147
Anderson, J	65

B

Bainbridge, A	25
Basu, A	219
Battersby, C	231
Bautista, C	231
Blackett, K	89
Boyle, E	65

C

Carless, C	89
Chang, C	166, 167
Cheatham, C	200
Chevireddy, G	147
Chuang, S	231
Clarke, M	6, 7

D

Dakhliia, I	236
Dann, S	200
Darwin, Z	25
Das, A	110
De Silva, B	190
De Silva , B	184, 185, 192, 193

E

Edney, S	159
Eldeeb, S	96

G

Gill, K	53
Gonapoladeniyage, D	147
Gorry, L	53
Gowda, H	60

H

Halpern, L	200
Hasselt, T	60
Heap, S	200
Herath, S	184, 190, 192

J

Jackson, E	152
Jain, P	29
Jain, S	41, 47
Javed, E	107, 177
Javed, R	60

Andrew, E	151
Armstrong, N	65
Asir, M	25
Atreja, I	49
Azeez, N	166, 167
Azhar, M	47

Boyle, E	135
Bradnock, T	197
Brown, A	218
Bryer, J	200
Butler, E	6, 7
Buxton, E	216

Course, C	13
Crankshaw, D	177
Crothers, H	200
Crowley, N	96
Crowley, N	166, 167
Currie, G	123

Devlia, D	29
Dharni, N	123
Dorling, J	170, 173
Douch, C	91, 96
Duffy, D	91
Duggan, M	210

Exley, C	219
----------	-----

Greenfield, M	25
Greenwood, B	40, 77

Griffin, S	218
Griffiths, C	218

Holder, G	200
Horsley, V	231
Hughes, A	41
Hussain, J	171

Jayaweera, S	184, 185
Jones, M	170, 173
Jones, S	218
Joseph, S	156

K

Kasinski, H	53
Kenyon, S	123, 200
Kewley, K	40
Khan, R	33
Kiama Zuri, E	25

L

Levene, I	25
Liloglou, A	70
Lim, A	14
Lobo, R	110

M

Mackintosh, N	65
Marcroft, C	219
McCullough, S	212
Mckinnon, K	49
McLeish, J	25
McParland, P	65
Meads, C	25
Mielewczyk, F	135

N

Naji, K	171
Nakiryowa, P	83
Nallagonda , S	236

O

O Keeffe, L	6, 7
Ojha, S	189

P

Padden, T	65
Panton, A	13
Pathirana, T	185
Pemarathne , D	184

R

Raj, A	128, 129, 130
Rao, N	60
Rathnayake, S	147
Reeves, K	200
Remsing, S	200
Reynolds, N	89
Richards, G	91

S

Samuel, V	212
Shenker, N	218
Shetty, S	91
Shetty, S	33, 49, 152

Kolehmainen, N	219
Kong, M	29
Konnuru, S	216
Kulkarni, A	91
Kulkarni, A	33, 49, 152

Lok, A	89
Loucaides, E	96
Luyt, K	68

Mohaideen, A	195
Mohamed Hassan, S	184, 185, 190, 192, 193, 195
Mohamed Musthaffa, F	184, 185, 190, 192, 193, 195
Moore, R	83
Morar, N	152, 166, 167
Muddiman, L	40
Mulvaney, C	135

NeoTRIPS collaborative network, N	77
Newell, K	70
Noszlopy, L	123

Osman, R	110
----------	-----

Peterson, J	212
Pilling, E	53
Price, R	197
Prior, A	96

Richards, J	33, 49
Roberts, J	65
Rodger, I	210
Rossouw, G	68
Russell, S	123
Ryan, M	189

Smith, D	200
Somisetty , S	236
Sonuga, E	96
Spence, T	123

Simpson, A	212
Simpson, J	151, 197
Sivakanthan, S	110
Skrybrant, M	200

T

Tang, B	33
Tao, S	189
Tarrant, C	65
Taylor, B	200

W

Walker, A	200
Walters, C	38
Wardle, S	171
Waring, J	123
Watson, S	123

Y

Yong, J	29
---------	----

Spirtos, M	6, 7
Stoianova, S	68
Sur, A	77
Szatkowski, L	189

Thomson, R	219
Thorogood, L	25
Tolani, A	231

Weaver, G	218
Webster, R	200
Williams, T	68
Wilson, R	70
Woodhouse, S	166, 167

Quality Improvement – Abstract Submission

Table of Content

3 Improving Thermoregulation in Infants <34 Weeks: Ongoing Challenges in Later Preterm and Term Neonates

Ghouri M¹

¹Newham University Hospital. Barts Health Nhs Trust, ²1

4 Improving therapeutic efficacy of Vancomycin in neonates: A Quality Improvement Project, Victoria Hospital Kirkcaldy- Scotland

Houssami J¹, MacFarlane C¹, Yasmeen A¹

¹Victoria Hospital Kirkcaldy

5 Quality Improvement Project to Align RDUH Paediatric Antimicrobial Guidelines With the UK PAS Framework

Moses M¹, Ravishankar J¹, Chesshyre E²

¹University Of Exeter, ²University Of Exeter, ³Royal Devon and Exeter Hospital

9 Neonatal Oral Antibiotics at Home (NOAH)

Aughey H^{1,2}, Boxall K^{1,2}, Hedge S³, Hall L³, Bartle D¹

¹Royal Devon University Healthcare NHS trust, ²NIHR Applied Research Collaboration South West Peninsula (PenARC), ³Health Innovation South West

12 Identifying risk factors in term babies who required surfactant therapy on the neonatal unit at a district general hospital

Muthiah A¹, Sparkes H¹, Rizk R¹

¹East Surrey Hospital

15 Implementing Newborn Pulse Oximetry Screening: A Combined Audit and Service Evaluation

Han T¹, Smith P¹, Richardson G¹

¹University Hospitals Plymouth NHS Trust

17 Incontinencia Pigmenti (IP) in Late Preterm Infant

Alghriani D¹, Ashique H, Yousef A

¹Sandwell And West Birmingham Nhs Trust

18 CLOACAL BLADDER EXSTROPHY

Alghriani D¹

¹Sandwell And West Birmingham Nhs Trust

19 Hypoglycaemia in Term Newborns

Alghriani D¹

¹Sandwell And West Birmingham Nhs Trust

20 BestPrem Care Bundle: A quality improvement (QI) multi-disciplinary (MDT) approach to preterm birth optimisation in a District General Hospital (DGH).

Ekanayake N¹, Farley H¹, Joshi N¹, Rajah K¹, Jacobs S, Wells S¹, Abdulkadir A¹, Dutta R¹, Thakkar D¹

¹The Hillingdon Hospitals NHS Foundation Trust

21 Movement of Peripherally Inserted Central Catheters in Relation to Limb Movement in Neonates: A Prospective Observational Study

Gronska A¹, Tolentino D¹, Duffy D¹, Shetty S¹, Richards J¹, Kulkarni A¹

¹St George's University Hospitals NHS Foundation Trust

22 Clinical Utility of General Movements Assessment in Predicting Outcomes in High-Risk Preterm Infants

Nunez Munoz S¹, Perez-Adamson L², Winfield N¹

¹Institute of Child Health, ²Whittington Hospital

23 A Flange-tastic Project! Improving access to appropriately fitted equipment to support mothers expressing breastmilk.

Green H¹, Clark A²

¹Health Innovation Wessex, ²University Hospital Southampton

- 27** Implementation of Less Invasive Surfactant Administration (LISA) in a Special Care Baby Unit in United Kingdom: Feasibility, Safety, and Impact on Transfer Rates
Alhassanin A¹, Maariyah V¹, Saikowski A¹, Dogar D¹, Gowda H²
¹Good Hope Hospital, ²Birmingham Heartlands Hospital
- 28** An Evaluation of Neonatal Lumbar Puncture Practices in the East of England Operational Delivery Network (ODN)
Palaniswamy S¹, Ganjoo N¹, Hemandas H¹, Ababio E¹, Fernando O¹, Jones G¹
¹North West Anglia Nhs Foundation Trust
- 30** Structured Neonatal POCUS workshops improve multidisciplinary staff confidence and competence.
Rao N¹, Rajaraman N², Singh A³, Gowda H⁴
¹Madinat Zayed Hospital, ²West Midlands School of Paediatrics, ³Birmingham Women's and Children's NHS Foundation Trust, ⁴Birmingham Heartlands Hospital
- 36** Review of Initial Weight Loss in Preterm Infants: Implications for Bronchopulmonary Dysplasia Development (BPD)
Zaitschenko O¹, Smith C²
¹University Of Sheffield, ²Jessop Wing
- 39** Escape to Learn: Enhancing Neonatal Sepsis Education Through Game-Based Simulation
Goodfellow M¹, Al-Muzaffar I¹
¹Cwm Taf Morgannwg University Health Board
- 42** Promoting Equitable Communication: Increasing Interpreter Use with an 'Interpreter on Wheels' Initiative
Wai T¹, Bean A¹, Smith C¹
¹Jessop Wing Neonatal Unit - Sheffield Teaching Hospitals
- 44** Review of Retinopathy of Prematurity in a Neonatal Intensive Care Unit – What do we know?
Hafez M¹, Ponnusamy V¹
¹St Peter's Hospital, Ashford and St Peter's NHS Foundation Trust
- 46** Transitioning to enteral feeds: Bridging the Gap with Donor Human Milk
Wilkins E¹, Parish A¹, Callaghan F¹, Kennedy V¹, Mahdi R¹, Spierson H¹
¹Royal Bolton Hospital
- 48** Reducing Medication Errors in a Tertiary Neonatal Unit: A Quality Improvement Project.
Adeoye G¹, Mohamed A¹, Valendez C¹, Feleo M¹, Garg S¹, Ashour A¹, Yong J¹
¹Barts Health Nhs
- 50** The Early Expressed BreastMilk Quality Improvement Project (EBMQIP): the national NeoTRIPS quality improvement initiative
Glover Williams A¹, Alexander E, Tomlinson C, West S, Battersby C, group
¹The Grange University Hospital
- 51** The outcome of implementing a local accreditation programme for navigating UVC under POCUS to improve success.
Arthur S¹, Homfray G¹, Mahoney L¹
¹St Michaels Hospital, University Hospital Bristol & Weston NHS Foundation Trust
- 52** Not Just a Gut Reflex: Rethinking the Role of Genetic Testing in OA/TOF
G N¹, Chaudhary N¹, Laurentya O¹, Williams E¹, Holden S¹, Armstrong R¹, Wong H¹
¹Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust
- 55** "Mind the gaps" of genetic testing in the NICU: Consent, Communication, and Follow-up
Chaudhary N¹, G N¹, Olga L¹, Williams E¹, Wong H¹
¹Cambridge University Hospital NHS Foundation Trust
- 56** Getting it Just Right: A Quality improvement initiative in preterm thermoregulation
G N¹, Jha S¹, Alyaldin E¹, Adetokunbo J¹, Chauhan N¹, Maldar H¹, Green S¹, Arthur J¹, Macdougall C¹
¹Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust
- 57** The Impact of an Intraventricular Haemorrhage Prevention Bundle on Neurodevelopmental Outcomes in Preterm Infants: a quality improvement project
Ohemeng Owusu A¹, Mintoft A², Janagill M³, Crowley R⁴, Sammut A⁵

¹University College London Hospital, Neonatal Unit , ²Chelsea and Westminster Hospital, Neonatal Unit, ³Great Ormond Street Hospital for Children, Neonatal Unit, ⁴St George's Hospital, Neonatal Unit, ⁵University College London Hospital Neonatal Unit & Great Ormond Street Hospital for Children, Neonatal Unit

59 Quality Improvement: Supporting Adoption of the BAPM Parent Passport Across London
Glover N¹, Catone J, Davies-Colley H
¹UCLPartners Health Innovation Network and Health Innovation Network South London

61 Emotional, psychological, religious, and spiritual support provided during End of Life (EOL) care for infants in the neonatal unit: Past and Present.
Ganjigunta V¹, Rizvi H¹, Patel V¹
¹Grange University Hospital

62 Reducing Risks for Infant Mortality in the UK: development of neonatal care packages for parent and family education and empowerment.
Pillay T^{1,2}, Olakotan O^{1,2}, Hughes G³, o'Brien N⁴, Maniotopolous G³
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63 Antimicrobial stewardship in extreme preterm neonates: Evaluating and optimising late-onset sepsis antibiotic guidelines
Farhat Dominguez S¹, Duret A², Meakes A¹, Graham C¹, Rodrigues C¹, Davies F¹, Sathiyamurthy S¹, Shivamurthappa V¹, Deierl A¹, Banerjee ¹, Bennett A¹
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64 Perinatal Optimisation Project: A St George's QI for improving preterm care together
ABDUL AZEEZ N¹, Chang C, Woodhouse S, Crowley N
¹St George's Hospital

66 Improving Documentation of Antenatal Doppler Findings in Preterm Infants: A Quality Improvement Project in a Level 2 NICU
Tan L¹
¹Barking Havering and Redbridge University Hospital NHS Trust

67 Transforming Perinatal Care: Boosting neonatal outcomes through successful implementation of the BAPM 9-Element Perinatal Optimisation Pathway:- A multidisciplinary Quality Improvement project in a level 2 neonatal Unit.
Shah J, Bell- Davies F, Dawson A, Mabyalane B, Marie-Banane M, Sullivan C
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69 Oral Antibiotic Switch in Neonates with Suspected Early Onset Sepsis Quality Improvement Project- Experience from Frimley Park Hospital
Mattison K¹, Krishnan S², Millen J³
¹Frimley Health NHS Foundation Trust , ²Frimley Health NHS Foundation Trust , ³Frimley Health NHS Foundation Trust

71 Enhancing awareness of perinatal-related physical health conditions for the Perinatal Mental Health Team with the implementation of physical health teaching sessions.
Knight K¹
¹Hampshire And Isle Of Wight Healthcare NHS Foundation Trust

74 ASTRA: Avoiding Short-Term Respiratory Admissions to Neonatal Units – A Novel Labour Ward Intervention
Course C¹, Paulose A¹, Cannell S¹, Johnson A¹, Davis E¹, Smith G¹, Jago R¹, Bolton J¹, Davies L¹, Morris C¹, Williams S¹, Hughes S¹, Rose L¹, Williams E¹, Webb J¹
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75 Quality Improvement Project- Thermoregulatory management of preterm babies in a Local Neonatal Unit
Spencer M¹, Imonikebe O¹, Soundaram Muthusamy B¹
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78 'Lunch and Learn' - Effects of a National Education Programme by NeoTRIPS UK
Isaac T¹, Myttaraki E¹, Collins L¹

¹On behalf of NeoTRIPs (Neonatal trainee-led Research and Improvement Projects)

<https://neotrips.org/>

79 Creation of a pathway for anti VEGF injections to be administered in the NICU reducing transfers to another hospital.

Thompson N¹, Stefkova K¹, Shirley K²

¹Royal Jubilee Maternity Hospital, ²Royal Victoria Hospital

80 A Welsh quality improvement success story through persistence and team work: Golden drops

Glover Williams A¹, Hopkins E, Bartlett A, Koshi S, Sharma N, Papworth S

¹The Grange University Hospital

85 Raising parental awareness on early onset neonatal infection - how successful are we?

Bhavra K¹, Purewal N¹, Surana P¹

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90 A Multidisciplinary Approach to a Quality Improvement Initiative Aiming to Reduce the Incidence of Unplanned Extubation on the Neonatal Unit

Blewer E¹, Kirolos S¹, Coupland E¹, Ilunga K¹, Godden B¹, Linsley T¹, Andrews M¹, Gargasson T¹, Milan A¹

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92 NICE and Easy: Fast-track Your Way To Healthcare Savings

Chevireddy G¹, Abdalla M, Reddy Hande A

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93 Thermoregulation of the Newborn - Reducing Term Neonatal Admissions

Evans E¹, Morris S¹, Stott A¹

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94 Born a little early, but fed very differently: A regional practice evaluation project on postnatal care of late preterm babies in the East of England

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95 Strength in Motion: Inotropes in Neonatal Transport- A regional review

Maldar H¹, Chaudhary N¹, Felstead S¹, Job S¹, Arthur J¹

¹Cambridge University Hospital Nhs Foundation Trust

99 Optimal Cord Management in preterm infants – a quality improvement project

Sand L¹, Jarvis C¹, Douthwaite A¹

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105 RETROSPECTIVE STUDY: Hypertriglyceridaemia in extremely premature infants, foe or innocent bystander?

Verma R², Tarakeme E², Riley E², Body L², Kulkarni A^{1,2,3}, Fatima T²

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106 Follow up of newborn heart murmurs utilising a nurse
Practitioner (ANNP) led clinic

Tobin C¹, Frudd E¹, Miall L¹

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108 One Year of TReAT QI, Timely Receiving Antibiotic Treatment for Early-Onset Sepsis in NICU

Mcnamara C¹, Gartland A¹, Hayton M¹, Thistlewaite Z, Robins A¹, Gee A, Barrett P¹, Basu A¹, Samanta S¹

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113 Switching neonates to Oral Antibiotics and Sending Home (SWOSH): a prospective scoping study in Wales

Jagga M¹, Kandhari A¹, Banerjee S¹, Goel N², Mohamed A², Kayode-Adedeji B¹, Willis S¹, Tector G², Cooper F², Anderton L², James E², Sridhar Natti M³, Kuttayat Rayaroath D³, Adnan Ali S³, Shahnawaz Ansari M³, Balasundaran K³, Toney Z³, Harris S³, Al-Muzaffar I⁴, Gunasekaran A⁴, Praveen K⁴,

Muralidharan M⁴, Barnes K⁴, Pickup M⁵, Eltom A⁵, Johnson Z⁵, Bhise N⁵, Saeed S⁶, Joishy M⁶, Sharif M⁶, Bernard I⁶, Ullah K⁶, Ben-Ismaeil B¹

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115 Improving Discharge Communication in the Prolonged Jaundice Clinic Using a Standardised Pathway - A Quality Improvement Project

Akporiaye E¹, Hernandez C¹, Naydeva-Grigorova T¹

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118 Reducing Hyperoxia in preterm babies

Bradley G², Stephen J¹, Vinden R¹, Mishra A¹

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121 Introducing the Neonatal Psychological Staffing Standards: Recommendations for Outreach and Follow-up

Burgess S¹, Atkins E², Barr K³, Butterworth R⁴, Chilvers R⁵, Cole S⁶, Cordwell J⁷, D'Urso A⁸, Evans D⁹, Green C¹⁰, Higgins S¹¹, Marsh A¹², Sabin K¹³, Delaney L⁸, Collum R³

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122 Retrospective Review as a Tool for Practice Improvement in Neonatal Units

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124 Improving Junior Doctor Confidence in the Prolonged Jaundice Clinic Through a Standardised Clerking Proforma - A Quality Improvement Project

Akporiaye E¹, Hernandez C¹, Naydeva-Grigorova T¹

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127 QI Project: Improving Communication between teams involved in Neonatal Care

Adow S¹, Foster E¹, Rodriques L¹, Gowda H¹

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132 A quality improvement project designed to empower resident doctors when making clinical decisions on a term neonate (>37 weeks) with mild respiratory distress.

Ekanayake N¹, Farley H¹, Banerjee U¹, Bate T¹

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133 First Drops, First Hope: A Quality Improvement Project to Improve Early Breast Feeding in Preterm Infants

Mohamed Hassan S¹, De Silva B¹, Pamarathne D¹, Jayaweera S¹, Rathnayake J¹, Herath S¹, Mohamed Musthaffa F²

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136 'Safe Six' medicines quality improvement project

Rushton L, Pahuja M, Adeleye A, Beynon J, Breeze-Jones H, Sage J, Walker O

141 The Respiratory Admission Project - A Quality Improvement Project

Oyibo I¹, Course C¹, Presswala D¹, Rowley S¹, Sage J¹

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143 Improving Neonatal Handovers – 'What, Where, Why and When'

Chui A¹, Young K¹, Bradley M², MacLeod J¹

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145 Assessment of feasibility and cost efficacy of Picturus Pro non-invasive, digital jaundice detection tool in a UK tertiary perinatal centre

Jewel E¹, Matthew E¹, Gozar I¹, Sathiyamurthy S¹, Kariholu U¹, Banerjee J², Noori M¹, Deierl A¹

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146 Service Evaluation of Spinal Imaging for Appropriate Indications

Barr B¹, Black S, Damra H, Biring J, Osuntuyi O, Seepaul S, Akhtar B, Gill J

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148 The ABC Project: Admission Bloods from the Cord

Bradley G¹, Patwardhan G²

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149 IMPLEMENTING SCHWARTZ ROUNDS IN A LEVEL 3 NICU TO SUPPORT STAFF WELLBEING AND COMPASSIONATE CARE

Collins L¹, Kawati A², Currie A²

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150 Breathe easier: Simulation-based teaching on troubleshooting resuscitaires to help both babies and clinicians breathe easier!

Odebunmi O¹, Ives R², Barnes K³

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155 Do Probiotics Reduce Parenteral Nutrition Use?

Reynolds A¹, McElderry J¹, McCrudden H¹, McCullough K¹

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157 SUPER START- Early access to mother's expressed breast milk for babies less < 34 weeks' gestational age

Smith C¹, Bean A¹, Jafri S¹, Mahadevan P¹, Ward L¹

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158 Zero Delays, Zero Harm: a QIP to reinforce safety in the management of neonatal hypoglycaemia

Urus H¹, Elamin N¹, Chiutare C¹, Myint T¹, Ahmed A¹

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160 Improving the identification, monitoring, and management of Neonatal Jaundice in the SCBU and Postnatal Ward in a District General Hospital in Sri Lanka: A Quality Improvement Initiative

Antonypillai A¹, Faizal E¹, Amarasinghe C¹

¹Dgh Mullaitivu

161 Neonatal Sepsis – Early identification and management: A Quality Improvement Initiative in the Special Care Baby Unit (SCBU) at DGH Mullaitivu, a Secondary Care Hospital in Sri Lanka

Antonypillai A¹, Faizal E¹, Sithamparanathan T¹

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168 Embedding Multidisciplinary Review of Term Neonatal Admissions: A Sustained Quality Improvement Initiative Aligned with ATAIN

Tarakeme E¹, Choudhary R¹, Fatima T¹, Duffy D¹

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169 Service evaluation of perinatal post-mortem practice and re-audit of compliance with NHS England 'Interim Clinical Commissioning Urgent Policy Statement' guidance from 2018 to 2024

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176 Implementation of BAPM Perinatal Optimisation Passports at a Tertiary Neonatal Unit

Abdalla S¹, Rodriguez-Hermida D¹, Serrano-Llop A¹, Zorro C¹, Bhat R¹

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178 "This is US" – UVA Strategies for Normothermia in neonates

Mohamed Hassan S¹, De Silva B¹, Pamarathne D¹, Jayaweera S¹, Rathnayake J¹, Herath S¹, Mohamed Musthaffa F²

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179 Clean Hands, Safe Babies: A Quality Improvement Audit Cycle on Hand Hygiene Compliance in the NICU - Teaching Hospital Badulla

Mohamed Hassan S¹, De Silva B¹, Pamarathne D¹, Jayaweera S¹, Rathnayake J¹, Mohamed Musthaffa F²

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181 Project RESCUE: Resuscitation Excellence through Skill Consolidation and Up-skilling Efforts

Mohamed Hassan S¹, De Silva B¹, Herath S¹, Senaratne R¹, Wijewardena K¹, Liyanage C¹, Mohamed Musthaffa F²

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182 The TIMOTHY Project- Thorough Identification in Maternity Of the Transitional and High-risk baby.

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183 Correlation between Caesarean Sections and Unexpected Term Neonatal Admissions: Insights from a One-year ATAIN (Avoiding Term Admission in Neonatal unit) Analysis.

Eissa A¹, Asokkumar A¹

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186 A quality improvement initiative to achieve normothermia in the preterm golden hour

Faras H¹, Trigg C², Lewis V³, Goyal S⁴

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⁴Birmingham Women's Hospital

188 Use of High-Flow Nasal Cannula in Very Low Birth Weight Infants: A Five-Year Retrospective Review of Respiratory Support Practices in Craigavon Area Hospital Neonatal Unit

Corbett C¹, Verner A², Vasi V³

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199 Thrive QI: Decreasing extra-uterine growth restriction (EUGR) in preterm infants

Dutta S¹, Penman Wilson R¹, Saereesithipitak P¹, Sproat T¹, Whitfield-Brown L¹, Zalewski S¹

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202 Optimising Preterm Cord Management: A holistic synergy of Education, Innovation, and Lifestart in action

Rajkumar J¹, Krishnan M¹, Zorro C¹, Serrano-Llop A¹, Harris C¹, Saka J¹, Bhat R¹

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206 Increasing hot clinical debriefing rates in a Tertiary Neonatal Unit

Bisheswar R¹

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211 Does real-time Point-of-Care Ultrasound for neonatal Peripherally Inserted Central Catheter tip confirmation in NICU reduces the Catheter Line Associated Blood Stream Infection?

Javed R¹, Mahadev K², Collis V², Dileep D³, Jalal M², Abbey S², Madawala P², Noureldein M², Gowda H²

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213 Antibiotic Resistance Patterns Observed in a Level 2 Neonatal Intensive Care Unit

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215 Family Integrated Care implementation on a Level 3 surgical NICU

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220 Tiny Minds Matter: Implementing a Neuroprotection Care Bundle in a Tertiary Neonatal Unit

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224 A Quality Improvement Project of NICU Laparotomies – Identifying Delays and Areas for Improvement

Rajsaravana Khumar P¹, Sehmi H¹, Murphy C¹, Patel D¹

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225 Regular Growth Monitoring of Stable Preterm Newborns in the NICU

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228 Continuous bicarbonate infusion via UAC for reducing bicarbonate boluses in preterms – a QIP

Pallickal A¹, Shaw E¹, Salamehova L¹, Barakat M¹, Hagoug G¹

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229 Use of buccal 25-hydroxyvitamin D from birth is associated with reduced 25-hydroxyvitamin D deficiency in extremely preterm and extremely low birthweight infants

Levene I¹, Moreno M¹, Shine B¹, Oh A¹, Adams E¹, Molnar Z¹

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230 Digitally Safer Together: Enhancing Maternity and Neonatal Handover Using Alertive and SBAR Integration.

Elamin N¹, Urus H¹, Ahmed A¹

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237 “Optimising Thermal Care at Admission for Preterm Infants in a Tertiary Neonatal Unit: A Quality Improvement Journey”

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238 Improving Thermoregulatory Care on the Postnatal Wards – A Quality Improvement Initiative

Course K¹, Grimwood A¹, Tector G¹, Jones S¹, Hayward R¹, Pritchard S¹, Hart K¹, McLoughlin H¹

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245 Improving timely administration of IV antibiotics to neonates at risk of sepsis

Churms J¹, Drury T¹, Curwen C¹, Steward S¹, Howick S¹, Godwin S¹

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246 Somerset Neonatal Oral Antibiotics at Home: A Pilot Implementation and 5-Month Review at Somerset NHS Foundation Trust

Krishnamurthy P¹, Gopalswamy V¹, Trad G¹, O’Sullivan S¹, Barbosa A¹, Mohammed S¹

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247 Improving Early MEBM Provision to Preterm Infants Born <34 Weeks' Gestation at UCLH

Singh A¹, Srinivasan L, Kortsalioudaki C, Stephney P, Yeung C, Cullinan K

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249 Improving rates of admission normothermia in preterm infants

Danthanarayana L¹, Lee E¹, Gildea J¹, Obi O²

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252 Comparing Colorimetric and Waveform Capnography in Neonatal

Intubation: A Clinical Audit of Reliability, Safety and Implementation

Collins C¹, Hammond S¹, Bodnapu P¹, Batra D¹, Davies P¹

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253 Urine CMV Testing Compliance Re-Audit Following Failed Newborn Hearing Screens

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254 Patterns of presentation and diagnostic approaches in bilious vomiting neonates and infants: A 7-Year Retrospective Study in South Wales

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256 Improving assessment and management of pain and sedation on the neonatal unit: an MDT approach

Caldwell C¹, Silva Junca M, Patel D, Anthony L, Aguirre D, Bushell R, Mason - Woods A, Scott K, Samuels T, Galton S, Ellison H, Khanna A, Mohamed M, Kandiah A, Amin P, Dhir L, Hamdy N, Gorak E, Quiambao A

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257 Improving Thermoregulation and Deferred Cord Clamping (DCC) in preterm infants

Significant improvements through simple low-cost interventions

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Improving Thermoregulation in Infants <34 Weeks: Ongoing Challenges in Later Preterm and Term Neonates

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Abstract:

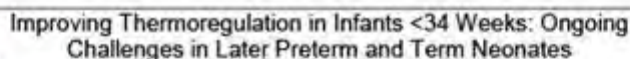
Optimal thermoregulation in neonates, particularly those born preterm, remains a persistent challenge in neonatal care. Hypothermia in these infants is associated with adverse outcomes, underscoring the need for effective thermal management strategies.

This quality improvement (QI) initiative aimed to reduce the admission hypothermia rate by 15% over four months for preterm infants under 34 weeks gestation, through targeted interventions.

Using the Plan-Do-Study-Act (PDSA) methodology, we initiated a two-phase intervention: first, a retrospective audit of thermoregulation outcomes in inborn infants over five years, followed by an assessment of hypothermia rates after implementing new temperature management strategies. Data from Neonatal BadgerNet were reviewed to analyse temperature trends by gestational age. Based on these findings, we developed a QI plan involving staff education, updated protocols, and improved equipment. The effectiveness of these interventions was monitored through ongoing audits and feedback.

Between 2019 and 2023, 2,549 inborn neonates were admitted, with 638 (25%) presenting with hypothermia. Hypothermia rates varied by gestational age: 27.4% in preterm (<34 weeks), 28% in late preterm (34-36 weeks), and 32.5% in term infants (>37 weeks). In 2024, 811 inborn infants were admitted, with 121 (15%) presenting with hypothermia. Following the intervention, the hypothermia rate for infants under 34 weeks dropped significantly from 18.1% to 7.5%. The overall hypothermia rate also decreased from 23.2% to 15.4%. However, late preterm and term infants continued to show higher rates, suggesting the need for further refinement in temperature management practices. This initiative demonstrates that low-cost strategies like staff education, updated protocols, and regular audits can significantly improve neonatal thermoregulation practices, highlighting the importance of addressing hypothermia risks across all gestational age groups.

Graphs



Improving therapeutic efficacy of Vancomycin in neonates: A Quality Improvement Project, Victoria Hospital Kirkcaldy- Scotland

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Background:

An increasing body of evidence indicates that continuous infusion of vancomycin (CIV) is better than intermittent infusion of vancomycin (IIV) in neonates. CIV potentially leads to earlier and more consistent achievement of therapeutic levels, reduced nephrotoxicity, improved clinical outcomes and simpler monitoring.

Methods:

We used The Model for improvement framework applying Plan-Do-Study-Act (PDSA) cycles and run charts to guide this Quality Improvement (QI) Project. Retrospective data were collected from neonates who received IIV between February 2023 and January 2024. Prospective data were collected for CIV from July 2024 to February 2025. CIV was implemented through PDSA cycles. A CIV drug monograph from the Scottish Perinatal Network was adopted and an educational package was developed to support safe implementation.

The aim was to improve the proportion of vancomycin levels within the target range by 30% using CIV compared to IIV over a 6-8 month period. Run charts were used to visualise performance trends.

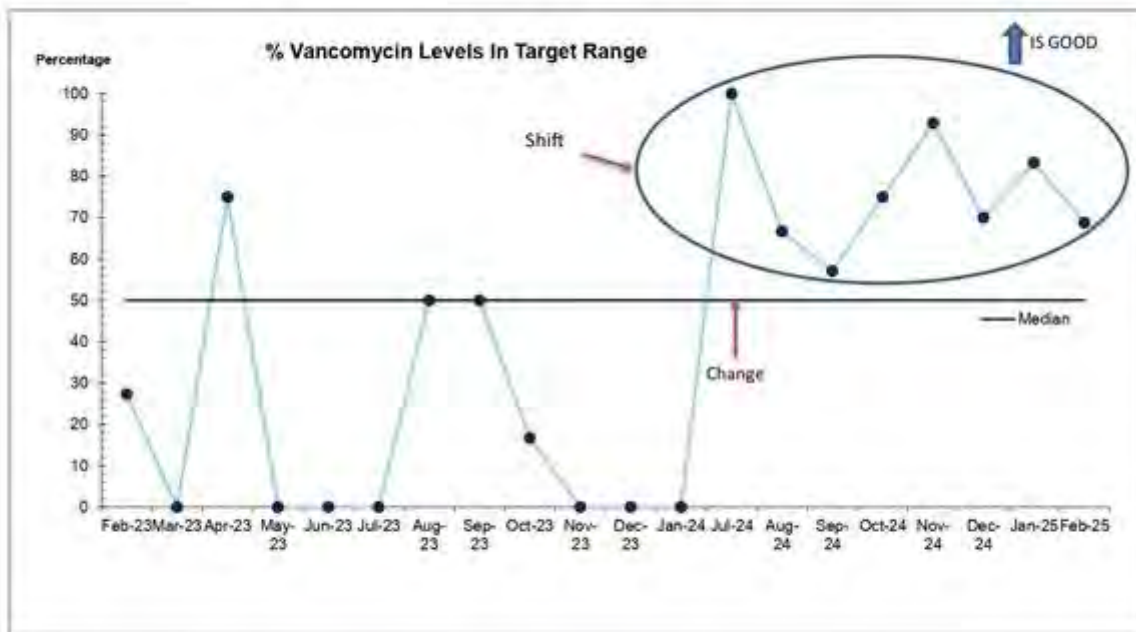
Results:

A total of 43 vancomycin levels were analysed in the IIV group and 77 levels in the CIV group. The proportion of vancomycin levels within the therapeutic range was significantly higher with CIV (76.6%, 59/77) compared to IIV (25.6%, 11/43) ($p < 0.001$). The results are illustrated in graph 1. The median time to reach therapeutic levels was 57 hours in the IIV group and 15.5 hours in the CIV group. There was no significant difference in creatinine levels between the two groups, suggesting no increased risk of nephrotoxicity with CIV.

Conclusions:

The transition from IIV to CIV in the neonatal unit was successfully implemented, resulting in a faster and more consistent achievement of therapeutic vancomycin levels. These findings support the adoption of CIV as the preferred method of vancomycin administration in neonates. Ongoing staff training is essential to sustain these improvements.

Graphs



Graph 1: Run chart showing improvement in vancomycin levels in target range with use of Continuous Vancomycin infusion. Shift visible

Quality Improvement Project to Align RDUH Paediatric Antimicrobial Guidelines With the UK PAS Framework

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Background:

This project aimed to compare the local paediatric antimicrobial guidelines at Royal Devon University Healthcare (RDUH) with the national guidelines outlined in the UK Paediatric Antimicrobial Stewardship (UK-PAS) framework and standardise RDUH practice accordingly. Standardising antimicrobial guidance promotes patient safety and strengthens antimicrobial stewardship by reducing inappropriate prescribing, antimicrobial resistance, and adverse drug reactions.

Methods:

Local RDUH paediatric antimicrobial guidelines were accessed via EOLAS, a platform providing access to UK hospital guidelines. National guidance was obtained from the UK-PAS resource. A comparative table was created, summarising key elements such as infection categories, treatment regimens, and identified discrepancies between guidelines. These differences were highlighted and reviewed during multidisciplinary team (MDT) meetings to finalise the necessary updates.

Results

Key discrepancies were found in first-line antibiotic choices, allergy protocols, and the range of conditions covered. Notable conditions with differing recommendations included community-acquired pneumonia, bacterial lymphadenitis, sepsis (immunocompromised and non-immunocompromised), upper urinary tract infections, and perforated or gangrenous appendicitis. Significant variation in first-line treatments was also observed in bacterial tracheitis and neonatal meningitis. These findings informed the final guideline revisions discussed during MDT meetings.

Conclusions:

Notable differences exist between RDUH and UK-PAS guidance. Aligning local guidelines with national standards improves clinical consistency, supports antimicrobial stewardship, and significantly improves patient safety. The next steps include implementing the updated guidelines across RDUH, developing educational materials for paediatric staff to raise awareness of the updated guidelines, and conducting routine audits to assess compliance and long-term effectiveness.

Neonatal Oral Antibiotics at Home (NOAH)

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The Neonatal Oral Antibiotics at Home (NOAH) pathway is a service improvement initiative developed through collaboration between the Royal Devon University Hospital NHS Trust, Health Innovation South West, and PenARC. It enables eligible term neonates with suspected early-onset infection (EOI) to transition from intravenous (IV) antibiotics in the hospital to oral antibiotics at home. Launched as a pilot in June 2024, the pathway adheres to strict clinical criteria, ensuring that only clinically stable infants with negative cultures and improving inflammatory markers are prescribed oral antibiotics.

The six-month pilot demonstrated significant outcomes, including an average reduction of 2.7 hospital days per baby, translating to a potential annual cost saving of approximately £66,500 (image 1). Crucially, there were no adverse outcomes, and re-attendance and readmission rates remained unchanged. Parent and staff feedback, obtained through surveys and semi-structured interviews, was overwhelmingly positive, with families reporting improved bonding and breastfeeding experiences. An environmental impact assessment indicated savings of over 8 tonnes of carbon.

NOAH is now being expanded through the South West Neonatal Network, with plans to collect regional data for broader evaluation. A suite of resources, including a comprehensive toolkit, are publicly available via the NOAH webpage, and these have been downloaded more than 50 times to date. A formal economic evaluation and systematic review are also underway to inform further implementation.

The NOAH pathway exemplifies how clinical research can be effectively translated into practice, offering improvements in family experience, healthcare efficiency, and environmental sustainability. As it continues to spread, NOAH provides a scalable model for family-centred neonatal care in managing suspected early onset infection.

Image



All parents reported feeling
"very happy" to leave hospital
with their baby on oral antibiotics
rather than stay in with their
baby on IV antibiotics

 **£66.5k
saved**

NOAH represents a potential
annual cost saving of £66,540
for the Trust by reducing
hospital stays, medication
and the use of associated
equipment



Parents reported
that being in the
calm, home
environment
supported
bonding and
breastfeeding



All babies on the
NOAH pathway
completed a full
course of antibiotics



3 → 1.7

Reduction in the
average number of
doses of gentamicin
per baby



**8,230kg
CO₂
saved***

which is the
equivalent of
planting 255
–380 trees

Switching babies
to oral antibiotics
did not increase
instances of
re-presentation
or readmission
to hospital within
28 days



**2.7 hospital days
saved**

per baby (on average) by
introducing NOAH

Identifying risk factors in term babies who required surfactant therapy on the neonatal unit at a district general hospital

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Background – Surfactant deficiency is one of the main causes of respiratory distress syndrome (RDS) in preterm newborns. It is thought that by 35 weeks gestational age (GA) the fetus should have adequate surfactant to prevent atelectasis and RDS. However, it is noted that even term infants with significant RDS are being managed with surfactant therapy. This was a quality improvement audit to identify the risk factors associated with the term infants (37 weeks GA and above) that were admitted to the neonatal unit of a district general hospital with significant RDS requiring surfactant therapy. This audit played a part in the larger 'Avoiding Term Admissions into Neonatal Units' (ATAIN) program which aims to reduce unnecessary separations between mother and baby following birth.

Methods – a retrospective analysis of BadgerNet and Eclipse data looking at the term babies requiring surfactant therapy between September 2023 to September 2024. Parameters such as GA, method of delivery, antenatal risk factors, admission temperature, duration of neonatal unit stay were analysed.

Results - 17 term infants required surfactant therapy on the neonatal unit. 12 babies (71%) were born between 37-38 weeks GA. 15 babies born by C-section (88%). 14 babies (82%) were not in active labour at the time of delivery. The average admission temperature was 36.5 degrees (with 8 babies <36.5 degrees). 8 babies (47%) were infants born to mothers with gestational diabetes. The average duration of neonatal stay was 8 days.

Conclusion – C-section, hypothermia, infants born to mothers with gestational diabetes and elective deliveries of infants born between 37-38 weeks GA were identified as potential risk factors of term infants requiring surfactant therapy following birth. These findings were presented at local quality control and clinical governance meetings to raise awareness on the psychological and financial burden of surfactant therapy in term babies.

Implementing Newborn Pulse Oximetry Screening: A Combined Audit and Service Evaluation

Han T¹, Smith P¹, Richardson G¹

¹University Hospitals Plymouth NHS Trust

The British Association of Perinatal Medicine recommends pulse oximetry screening for all asymptomatic babies born at ≥ 34 weeks gestation. After implementing a newborn pulse oximetry screening protocol in our hospital's transitional care ward, we evaluated compliance against the protocol and subsequent management of screen-positive babies. Additionally, we investigated the feasibility of extending this screening hospital-wide.

A mixed prospective audit and service evaluation was conducted over four months, following departmental teaching on newborn pulse oximetry screening and protocol implementation. Three interventions aimed at improving compliance: (1) a department-wide email reminder, (2) modifying the patient list to include an oximetry test column, and (3) daily reminders during safety huddles. A single auditor reviewed paper and electronic records for data collection. At the end of the study period, a survey was distributed following the presentation of results to gather staff perspectives.

Excluding babies transferred from the neonatal intensive care unit, 182 babies were eligible for screening. Overall compliance was 84%. Compliance improved following interventions, starting at 78% before any intervention and plateauing at 90% by the end of the study period. The screen-positive rate was 3%, with varied subsequent management among affected babies. Sensitivity and specificity for congenital heart defects were 100% and 97%, respectively. Survey results revealed strong support for screening but highlighted a lack of time and high workload as the main challenges. Top suggestions for improving hospital-wide implementation included using automated reminders, along with increased staffing and training, clearer guidelines and more accessible equipment.

Targeted interventions improved compliance with pulse oximetry screening. In our study, most babies had normal results, while the remaining varied in management. Consistent with published data, our findings reinforce the effectiveness of screening, demonstrating high sensitivity and specificity. While strong support for screening was evident, we highlighted challenges and potential solutions when implementing this new programme.

Graphs

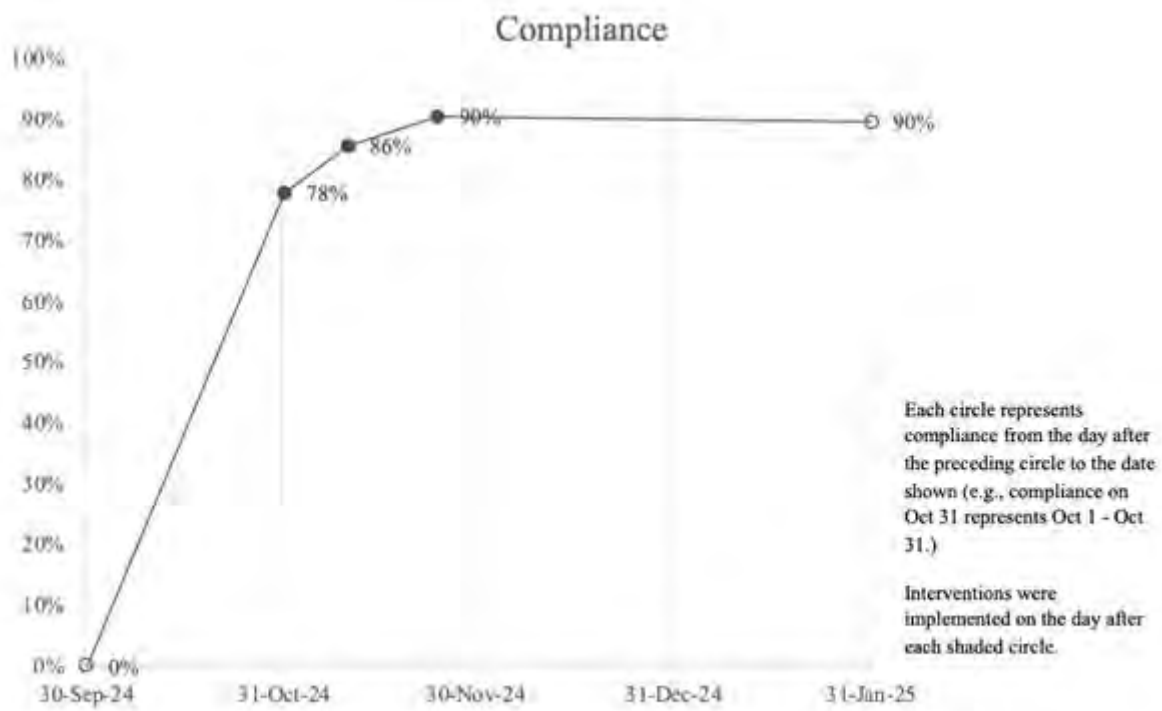


Figure 1
Percentage of babies who had pulse oximetry screening (compliance) over the study period

Incontinentia Pigmenti (IP) in Late Preterm Infant

Alghriani D¹, Ashique H, Yousef A

¹Sandwell And West Birmingham Nhs Trust

This case highlights the diagnostic challenge of early neonatal presentations of Incontinentia Pigmenti, particularly when the characteristic skin stages and patterns are still evolving. The vesiculopustular stage, as observed in this case, can mimic neonatal infections or other inflammatory skin conditions (Hadj-Rabia, 2003). A strong family history provided a valuable diagnostic clue.

In addition to Incontinentia Pigmenti, the infant faced metabolic challenges including hypoglycemia, which is common in infants of diabetic mothers due to fetal hyperinsulinemia (Cornblath M et al., 2000) and hypernatremic dehydration, which can occur with inadequate fluid intake or feeding issues in the neonatal period (Moritz ML et al., 2003). It can be noted that skin conditions such as erythroderma and blistering conditions can increase the risk of systemic complications such as hypernatremic dehydration (Wallach, D. and Jarreau, P.H et al., 2011).

Early multidisciplinary care involving dermatology, neonatology, and genetics, is critical in such complex cases.

Graphs



Image



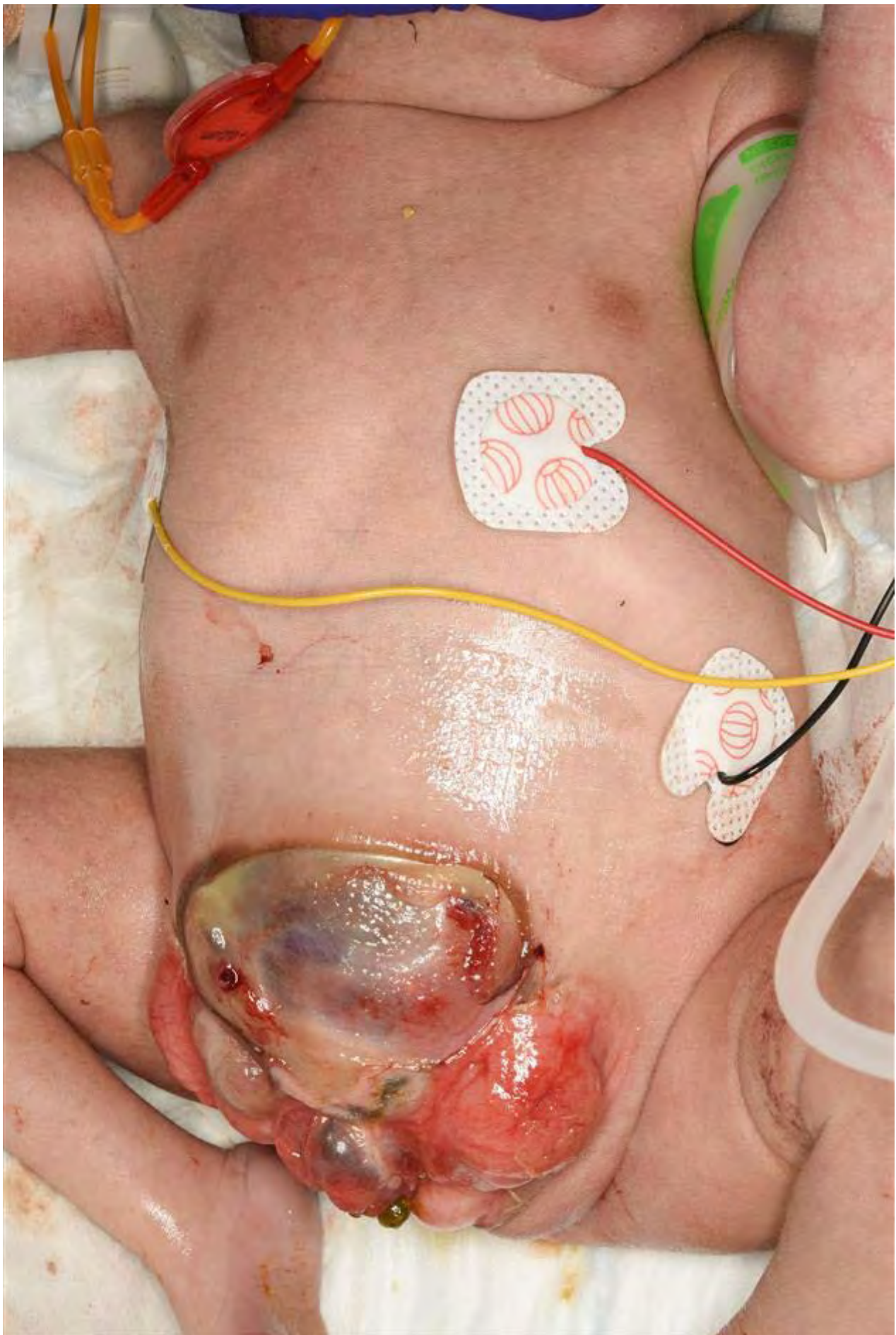
CLOACAL BLADDER EXSTROPHY

Alghriani D¹

¹Sandwell And West Birmingham Nhs Trust

This case illustrates the complex presentation and management of cloacal exstrophy. The condition necessitates a multidisciplinary approach and long-term follow-up to address the array of anomalies associated with this rare congenital disorder. Advances in neonatal care, surgical techniques, and multidisciplinary support have significantly improved the prognosis for affected children.

Graphs



Image



Hypoglycaemia in Term Newborns

Alghriani D¹

¹Sandwell And West Birmingham Nhs Trust

1. Infants at risk of impaired metabolic adaptation and hypoglycemia include infants of mothers with diabetes (including gestational diabetes), those whose mothers have taken beta-blockers, and those with intrauterine growth restriction.

2. Severe or persistent hypoglycemia may be a presenting feature of an underlying inborn error of metabolism and requires urgent medical review.

3. Neonatal hypoglycemia may be treated by increasing breast-feeding frequency, supplementing with a breast milk substitute (i.e. formula), or intravenous glucose therapy.

Methodology:

Retrospective study from January 2024 till December 2024

Source: Badgernet (Maternal & Neonatal) + Unity IT system

Sample size: 20

Inclusion criteria: Term babies, Admitted for hypoglycaemia

Exclusion criteria: Pre-term babies, Babies admitted for other causes

Results:

18 male (90%) / 2 female (10%)

Symptoms: jittery 40%, feed reluctant 70%

9 had =>3 sets of low BM (45%)

7 Diagnosed with hyperinsulinism (35%)

Risk factors: IUGR 45%, GDM 40%, Suspected sepsis 25%, Low temp 70%, antihypertensive (on labetolol) 10%

20 infants all had early feeds within 1-2 hours of age / skin to skin / glucogel(100%)

17 had breast/ EBM (85%) / 4 Had combined breast/formula (20%)

20 infants' frequency of feeds 1.5 - 3 hrs (100%)

Conclusion:

This audit reaffirms established risk factors for neonatal hypoglycaemia and highlights potential associations with hypothermia and suspected sepsis.

Thermal regulation plays a key role- the high prevalence of low temperature suggests that maintaining normothermia should be prioritized alongside glucose management.

Breast feeding remains a viable option – The majority of infants were successfully fed with breast milk, reinforcing its importance in neonatal care.

Hyperinsulinism should be considered in recurrent hypoglycemia – A significant proportion (35%) of infants were diagnosed with hyperinsulinism, underscoring the need for further metabolic evaluation.

BestPrem Care Bundle: A quality improvement (QI) multi-disciplinary (MDT) approach to preterm birth optimisation in a District General Hospital (DGH).

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¹The Hillingdon Hospitals NHS Foundation Trust

Aim:

To achieve sustainable perinatal optimisation using a QI approach.

Background:

The Saving Babies Lives Care Bundle version 3 (2023) has focuses on perinatal optimisation. Our DGH (4,000 births/year) was performing below the national average in 2023 for perinatal composite measures (right place of birth, antenatal steroids, magnesium sulphate, optimal cord clamping, normal admission temperature, breast milk on day 2)

Methodology:

We introduced the BestPrem care bundle in September 2023 (12 interventions of antenatal, perinatal and postnatal optimisation). The core group initially, involved a consultant obstetrician and neonatologist.

We ensured MDT representation from our perinatal team, with sub-leads appointed to champion various elements of the bundle and included parent presentation, in line with family integrated care. The core team met monthly to review preterm births, assess compliance, extract learning and distribute learning to the team, using various strategies including a shared newsletter. The core group expanded to include a named preterm birth midwife and neonatal nurse.

BestPrem study days, consisting of short talks by clinical specialists and infant feeding team were introduced, followed by MDT simulation scenarios covering aspects of preterm labour: in-utero transfer, preterm birth, delivery room cuddles, and less invasive surfactant administration.

Results:

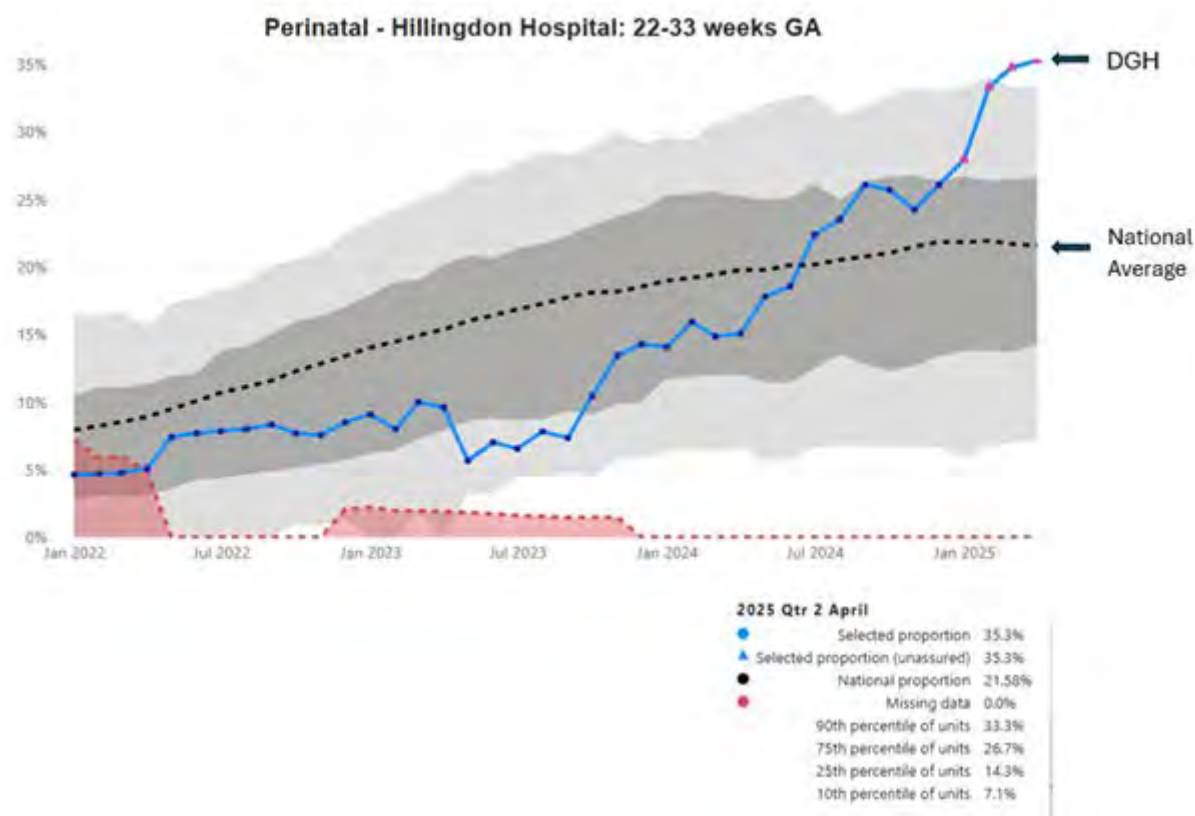
- In September 2023, only 7.4% of preterm infants' ≤ 34 weeks received perinatal composite measure (10.4% below the national average).
- By April 2025, this figure improved to 35.3%, exceeding the national average by 13.72% (top 10% nationally).
- Overwhelmingly positive 'MDT study days' feedback, highlighting the value of understanding different team roles and perspectives in improving care coordination.

Conclusion:

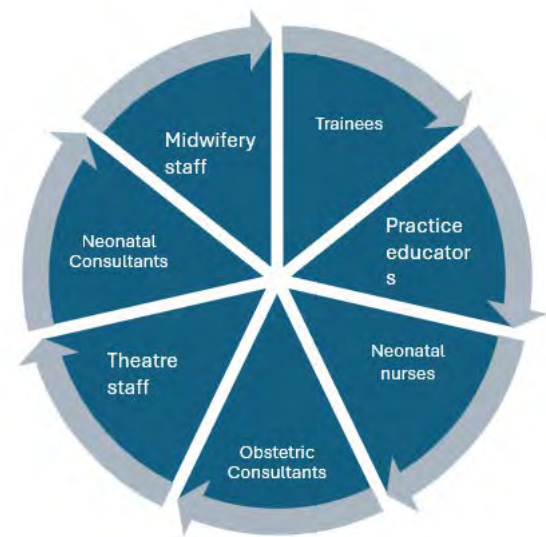
- Significant improvement in perinatal optimisation.
- Further establishment of a preterm birth clinic.
- Real-time data collection and analysis and scrutiny into 'problem areas'.

- Future service optimisation plans include language support optimisation, joint regional meetings, developing our work into looking at late preterm births, in particular looking at prevention strategies.

Graphs



Image



Movement of Peripherally Inserted Central Catheters in Relation to Limb Movement in Neonates: A Prospective Observational Study

Gronska A¹, Tolentino D¹, Duffy D¹, Shetty S¹, Richards J¹, Kulkarni A¹

¹St George's University Hospitals NHS Foundation Trust

Background:

Peripherally inserted central catheters (PICCs) are widely used in neonatal care. Accurate tip placement is essential due to the risk of complications. While the literature suggests that limb movement affects catheter tip position, there is limited quantitative data describing the extent of this movement.

Aim:

To quantify real-time PICC tip movement in neonates associated with upper and lower limb positions using point-of-care ultrasound (POCUS).

Methods:

We conducted a prospective observational study at St George's Hospital, London, from September 2024 to March 2025. Neonates undergoing POCUS to confirm PICC tip position were included. A single operator trained in paediatric echocardiography performed all scans using a GE S70 ultrasound machine. Tip position was assessed using anatomical landmarks and compared during limb movements: shoulder abduction (180°) vs adduction (0°) for upper limbs, and hip flexion (90–110°) vs extension (0°) for lower limbs.

Results:

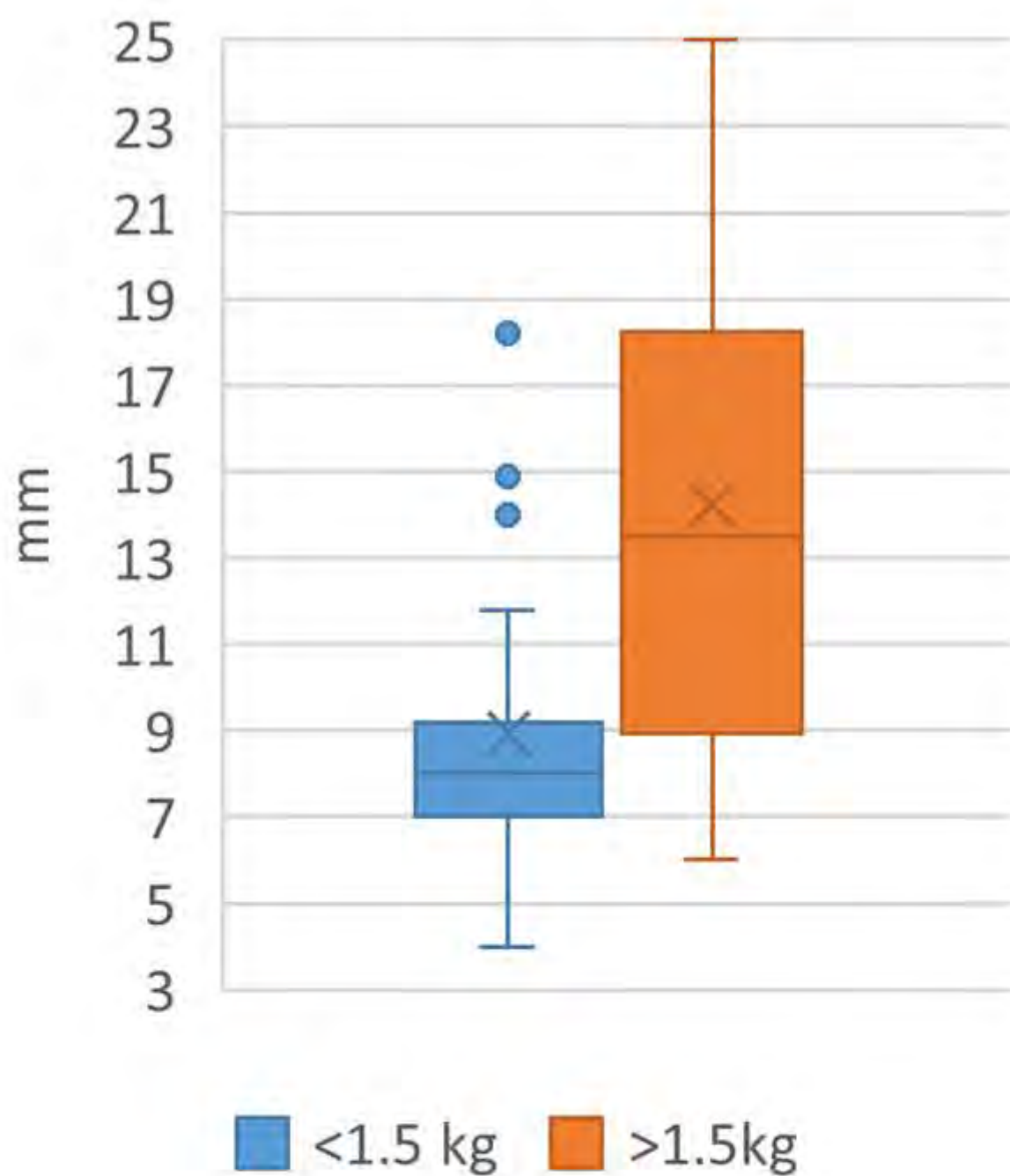
Thirty-seven neonates (59% male) with a median gestational age of 27.2 weeks and birth weight of 840 g were included. PICC tip movement was observed in all infants, with median of 9 mm (range 4–25 mm). Significantly greater movement was observed in infants >1.5 kg (13.5 mm vs 8 mm, $p=0.0033$), with 2 Fr catheters (15 mm vs 8 mm for 1 Fr, $p=0.0007$), and with lower limb insertions (13.5 mm vs 7.2 mm, $p=0.002$). Direction of movement also varied: in upper limbs, basilic vein catheters moved toward the heart with adduction, while cephalic vein catheters moved away, opposite with abduction. In the lower limb, PICCs in the great saphenous vein moved toward the heart with hip flexion and away with extension.

Conclusion:

PICC tip position is dynamically influenced by limb movement and, in upper limbs, also by venous anatomy. These findings support the use of dynamic imaging and standardised limb positioning during radiographic assessment to optimise tip placement.

Graphs

Choice of limb



Weight



Clinical Utility of General Movements Assessment in Predicting Outcomes in High-Risk Preterm Infants

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Background: Early identification of neurodevelopmental disorders in preterm infants is critical to ensure early intervention and optimise outcomes. Prechtl's General Movements Assessment (GMA) is recognised as a strong predictor; however, its utility when administered in clinical settings is unclear and underinvestigated.

Aim: To determine whether, in a real-world clinical setting, the GMA is a valid tool for predicting neurodevelopmental outcomes at two years in high-risk preterm infants.

Method: A retrospective case note review was conducted at the neurodevelopmental follow-up clinic within Whittington Hospital. High-risk preterm infants who attended the clinic between 2010 and 2024, had a GMA during the fidgety period, and completed a Bayley Scales of Infant Development - Third Edition (Bayley-III) assessment at two years corrected age were included. Fidgety movements were classified as normal or atypical. An atypical neurodevelopmental outcome at two years implied cerebral palsy (CP) or Bayley-III composite scores below 85 in cognition, language, or motor domains. Data were extracted from the national electronic patient records system and cross-referenced with neurodevelopmental outpatient reports. Associations were analysed using chi-square tests, t-tests, and linear regression. Whittington Health NHS Foundation Trust approved the study as a service evaluation (no: 2023/24-188).

Results: Of the 193 preterm infants included, those with atypical fidgety movements ($n = 20$) had significantly lower mean scores in cognition ($p < 0.001$) and motor skills ($p < 0.03$). The GMA demonstrated high specificity for predicting delays in cognition, language, and motor skills (96%, 94%, and 95%, respectively) but low sensitivity (41%, 21%, and 44%, respectively). For predicting CP, the GMA showed a specificity of 93% and a sensitivity of 78%.

Conclusion: The GMA demonstrated high specificity for atypical neurodevelopment. Sensitivity was moderate to high for CP but low for developmental delays, highlighting the importance of using the GMA alongside other standardised tools.

Graphs

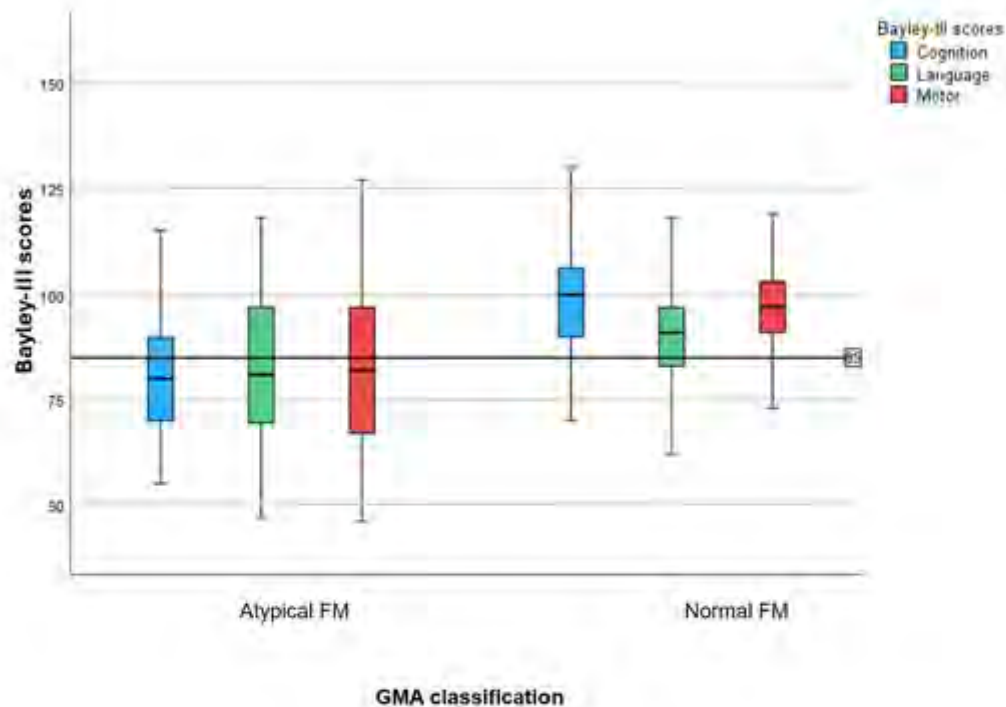
Table 1. Predictive value of the GMA for cerebral palsy, cognition, language and motor delay

Neurodevelopmental outcome	Sensitivity (95%CI)	Specificity (95%CI)	PPV (95%CI)	NPV (95%CI)
Cerebral palsy	0.78 (0.46-0.96)	0.93 (0.89-0.96)	0.35 (0.17-0.57)	0.99 (0.97-0.99)
Cognition delay	0.41 (0.25-0.58)	0.96 (0.92-0.98)	0.65 (0.43-0.83)	0.89 (0.83-0.93)
Language delay	0.21 (0.12-0.33)	0.94 (0.89-0.97)	0.60 (0.38-0.79)	0.74 (0.67-0.80)
Motor delay	0.44 (0.25-0.63)	0.95 (0.91-0.97)	0.55 (0.34-0.75)	0.92 (0.87-0.95)

Key: CI: confidence interval, GMA: General Movements Assessment; NPV: negative predictive value, PPV: positive predictive value

-  High
-  Moderate
-  Low

Image



Key: Bayley-III: Bayley Scales of Infant Development - 3rd Edition, FM: fidgety movements, GMA: General Movements Assessment

Figure 1: Distribution of the Bayley-III cognition, language and motor composite scores within the GMA classification groups

A Flange-tastic Project! Improving access to appropriately fitted equipment to support mothers expressing breastmilk.

Green H¹, Clark A²

¹Health Innovation Wessex, ²University Hospital Southampton

Correctly fitted breast pump flanges significantly increase breast milk yield, reduce maternal discomfort, and might lower the risk of mastitis (Anders, Mesite Frem, & McCoy, 2024). However, standard practice across NHS Trusts often overlooks nipple measurement, and most Trusts only stock a single flange size, which is typically too large. This forces mothers to purchase appropriate equipment themselves, creating inequity in access and adversely affects those from low-income backgrounds.

Led by an International Board Certified Lactation Consultant at University Hospital Southampton and funded by NHS England South West, this quality improvement project aims to address these disparities across the Wessex region. Delivered in partnership with Health Innovation Wessex, the initiative includes three core components: evidence-based staff training, accessible patient education, and equitable access to tools and resources.

Key deliverables include a webinar for healthcare professionals, a parent-facing video on flange fitting and expressing technique, and custom-designed nipple measuring tools attached to breast pumps. QR code stickers provide easy access to educational materials. This quality improvement project originated on one ward area in one trust and has now spread across Wessex with additional interest nationally.

In the first 2 months after launching the virtual toolkit has been accessed over 2,200 times. Early outcomes include a 13% increase in breast milk provision for pre-term infants at UHS. National expansion is being explored to support widespread adoption of this impactful intervention.

Image



A Flange-tastic Project!

Improving access to appropriately fitted equipment to support mothers
expressing breastmilk.

April 2025

Why?

Research (Anders, Mesite Frem, and McCoy, 2024) shows correctly measured and fitted flanges* on breast pumps increase yield of breastmilk, reduce mother's discomfort, and can reduce the risk of developing mastitis.

Currently, there is a low level of knowledge and nipple measurement is not standard practice.

Trusts only stock a standard size which is far too large for the majority. Most mothers consequently need to buy the correct fitting flange, which disadvantages those from low income families.

Initiated by a International Board Certified Lactation Consultant at University Hospital Southampton (UHS) and funded by NHS England South West, Health Innovation Wessex is supporting the spread of a quality improvement project to address this problem. The project focuses on equity of access to appropriate equipment for expressing maternal breastmilk.



*The flange is the part of the breast pump that draws in the nipple

1. Anders LA, Mesite Frem J, McCoy TP. Flange Size Matters: A Comparative Pilot Study of the Flange FITSM Guide Versus Traditional Sizing Methods. *Journal of Human Lactation*. 2024;41(1):54-64. doi:10.1177/08903344241294036

There are three key components to this quality improvement project:

1 Evidence-based training for staff

A staff training webinar was produced aimed at those who support mothers to express breastmilk. The objective of the training is to raise awareness of the importance of flange fitting and provide the skills to deliver this care. The webinar can be accessed on NHS Learning Hub by scanning the QR code.



2 Parent education

A patient information video was produced to advise women on finding their correct flange fit and good expressing technique. This is available for patients within Wessex on the Healthier Together website. QR code stickers were attached to breast pumps so mothers could view the video while expressing.



How?

3 Access to tools/resources

Nipple measurement tools that reflect flange sizes available in the UK were designed, printed, and attached to breast pumps. Trusts have been supported to increase the available sizes of flanges stocked in hospitals through NHS supply chain ensuring the best price is achieved.



Impact

All Wessex trusts now have access to nipple measuring tools (and the means to attach them to pumps and lanyards), patient information QR code stickers, and a virtual toolkit which collates all the information required to replicate this project.

2,249
toolkit
views

From February to the end of March 2025, the virtual toolkit was accessed 2,249 times. During the same time period, the staff training webinar has been viewed 449 times, and the parent information video has been viewed 339 times.

449
webinar
views

This project is currently being evaluated, but early data shows the percentage of pre-term infants receiving breastmilk in the UHS neonatal unit has increased by 13%. Additionally, we have received positive feedback from both staff and mothers.

13% increase
in babies
receiving
breastmilk



What's Next?

Contacts are being made within NHSE to discuss national adoption.

Health Innovation Wessex has received requests to present this work at multiple events from within the Health Innovation Network, health visitors, and a national neonatal nutrition webinar series. The virtual toolkit (available on the Health Innovation Wessex website) is free and available to support spread and scale of this project outside of Wessex.



"I don't dread pumping like I previously did after changing to the 15 mm flanges. I could only pump for five or six minutes before being too uncomfortable with the 21 mm flanges and needing to stop. When I pumped with the 21 mm flanges I was able to get 5-15 ml of milk total from both breasts, but I am now pumping 40 ml of breastmilk on the left side alone, comfortably and quickly."

Implementation of Less Invasive Surfactant Administration (LISA) in a Special Care Baby Unit in United Kingdom: Feasibility, Safety, and Impact on Transfer Rates

Alhassanin A¹, Maariyah V¹, Saikowski A¹, Dogar D¹, Gowda H²

¹Good Hope Hospital, ²Birmingham Heartlands Hospital

Background:

Respiratory distress syndrome (RDS), primarily due to surfactant deficiency, remains a major cause of morbidity in preterm infants. Surfactant administration in special Care Baby Unit (SCBU)/Level 1 neonatal units typically requires intubation, often necessitating transfer to higher-level care. In January 2021, we introduced Less Invasive Surfactant Administration (LISA) in our Special Care Baby Unit, aiming to reduce escalation of care.

Aim:

To evaluate the feasibility, safety, and outcomes of LISA in a SCBU, comparing it with conventional surfactant delivery methods, and to assess compliance with local clinical protocols.

Methods:

A retrospective audit was conducted from January 2021 to December 2024 in a SCBU/level 1. Data from 88 neonates who received surfactant were extracted from electronic records. Parameters analysed included gestational age, birth weight, antenatal steroid use, surfactant delivery method, need for intubation, complications, and transfer rates.

Results:

88 neonates treated with surfactant during study period. 53 (60.2%) neonates received surfactant via LISA route. Of these, 92.4% were ≥ 32 weeks' gestation and 51.3% had antenatal steroid exposure. Post-procedure, 60.2% (33/53) remained within SCBU without requiring transfer. Only 16.9% (9/53) required intubation on later stage due to LISA failure and subsequent transfer. Mean birth weight was higher in non-transferred infants (2.15 kg vs. 1.78 kg). Minor complications (e.g. transient desaturations) occurred in 15% of LISA cases with no long-term sequelae. In contrast, 94.2% of non-LISA neonates receiving traditional methods (INSURE or Intubation) for surfactant administration were transferred out, and 88.5% (31/35) required intubation.

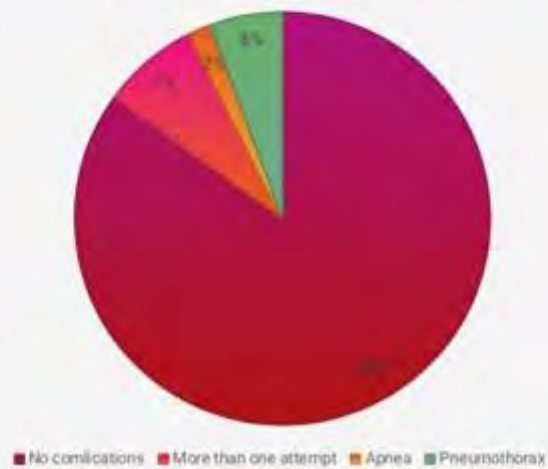
Conclusion:

LISA is a feasible, safe, and effective technique for surfactant administration in Level 1 neonatal unit/SCBU settings. It significantly reduced the need for intubation and transfer, enhancing local care capacity and supporting family-centered care. Ongoing training, protocol standardisation, and regular audit cycles are essential for sustained implementation.

Graphs

Complications and Safety Profile

Encountered LISA complications



An Evaluation of Neonatal Lumbar Puncture Practices in the East of England Operational Delivery Network (ODN)

Palaniswamy S¹, Ganjoo N¹, Hemandas H¹, Ababio E¹, Fernando O¹, Jones G¹

¹North West Anglia Nhs Foundation Trust

Background: Lumbar puncture (LP) is a key diagnostic tool in the evaluation of neonatal sepsis, particularly for excluding meningitis. National Institute of Health and Care Excellence (NICE guidance: NG195) recommends considering LP prior to starting antibiotics in neonates with signs of meningitis, positive blood culture, CRP >10 mg/L or abnormal white cell counts. However, national guidance on CSF interpretation, managing traumatic or failed LPs is lacking, leading to variation in clinical practice.

Aim: To explore how the 17 units which form part of the East of England ODN approach LPs, including indications, CSF interpretation, and procedural decision-making, with the aim of identifying areas for standardisation.

Methods: An online survey was distributed to neonatal units in our ODN in April 2025. Data were collected on local protocols, diagnostic thresholds, CSF analysis, and LP attempt policies.

Results: Only 50% of hospitals had a parent information leaflet, and few routinely presented it to parents in advance. Most units used the Kaiser Permanente early-onset sepsis calculator (81.3%) and followed the regional ODN guideline (93.7%). Biochemical CSF analysis was routine (93.75%), but only 43.75% routinely included viral PCR. WBC correction for red cell contamination was performed by 62.5%, using varied methods. Seventy-five percent used CRP >20 mg/L as the LP threshold. There was significant variability in LP attempt practices. No consistent threshold was reported for the number of attempts before concluding a failed LP, and the level of seniority of the clinician performing the procedure also varied across units

Conclusion: The study identified considerable differences in LP practices across our ODN, one of the largest networks in England. A standardised, evidence-based approach is needed to improve consistency, support clinical decision-making, and ensure optimal neonatal care.

Structured Neonatal POCUS workshops improve multidisciplinary staff confidence and competence.

Rao N¹, Rajaraman N², Singh A³, Gowda H⁴

¹Madinat Zayed Hospital, ²West Midlands School of Paediatrics, ³Birmingham Women's and Children's NHS Foundation Trust, ⁴Birmingham Heartlands Hospital

Background: Point-of-care ultrasound (POCUS) is essential in neonatal care for bedside diagnosis, procedural safety, and clinical decision-making, yet multidisciplinary training opportunities remain limited. Our recent survey across five tertiary NICUs found that 79.8% of clinicians reported low knowledge and 90.8% low practical skills in neonatal POCUS, with even greater deficits for umbilical venous catheter (UVC) placement, 89.9% and 94.4%, respectively. This highlights the urgent need for structured education.

To address these gaps, we conducted two regional and one national POCUS workshop in 2024–25 for neonatal consultants, nurses, and postgraduate doctors.

Aim: To evaluate the impact on participants' self-assessed confidence, technical competence, and clinical application of POCUS.

Methods: A prospective pre- and post-workshop cross-sectional survey assessed these outcomes across four core domains: cardiac, lung, umbilical lines, and abdominal ultrasound.

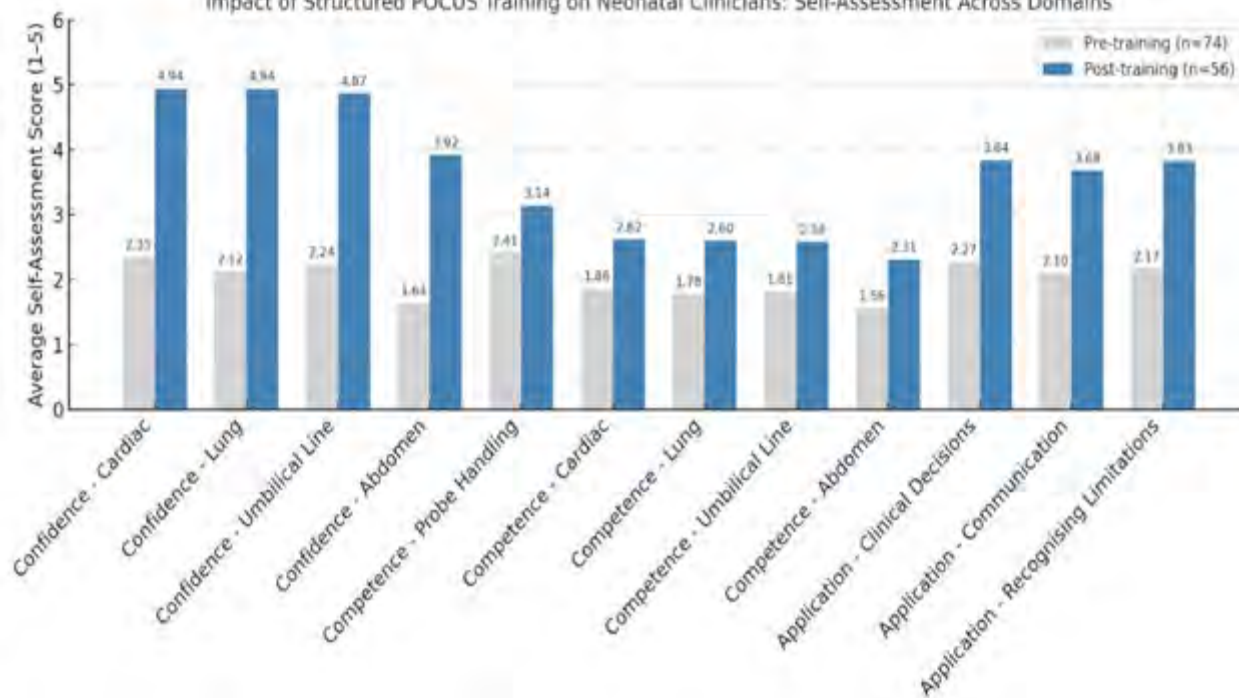
Results: Seventy-four participants completed pre-workshop assessments and 56 post-workshop surveys.

Confidence in POCUS skills improved significantly: average self-assessment scores increased from 2.35 to 4.94 for cardiac, 2.12 to 4.94 for lung, 2.24 to 4.87 for umbilical line placement, and 1.64 to 3.92 for abdominal imaging. Technical competence also rose; probe handling and image acquisition improved from 2.41 to 3.14, while cardiac scanning increased from 1.86 to 2.62, lung from 1.78 to 2.60, umbilical line from 1.81 to 2.58, and abdominal from 1.56 to 2.31. Practical application of POCUS in clinical settings improved as well, with participants reporting greater ability to use ultrasound findings to support neonatal decisions (2.27 to 3.84), communicate results within the team (2.10 to 3.68), and recognize POCUS limitations (2.17 to 3.83).

Conclusions: Structured POCUS training significantly enhances confidence, competence, and clinical integration of ultrasound skills among neonatal professionals. These results support the adoption of regular, hands-on ultrasound education as a core component of neonatal training programs

Graphs

Impact of Structured POCUS Training on Neonatal Clinicians: Self-Assessment Across Domains



Review of Initial Weight Loss in Preterm Infants: Implications for Bronchopulmonary Dysplasia Development (BPD)

Zaitschenko O¹, Smith C²
¹University Of Sheffield, ²Jessop Wing

Background

Extremely premature neonates may lose 10–15% of their birth weight during the first postnatal week due to extracellular fluid loss. Fluid restrictions and weight loss during this period have been suggested to lower the risk of BPD in extremely premature neonates. The BAPM toolkit on BPD prevention advises caution with high fluid volumes, particularly in infants with BPD. This service evaluation aimed to review weight loss in the first postnatal week.

Methods

A retrospective review was conducted using BadgerNet for infants born between 24–30 weeks gestation at the Jessop Wing (January–December 2024) who required oxygen support (mechanical ventilation, BiPAP, CPAP, or High Flow) at 36 weeks corrected gestational age (CGA). Infants who died or not yet reached 36 weeks CGA were excluded. Weights recorded on postnatal day 7 or nearest subsequent day were analysed.

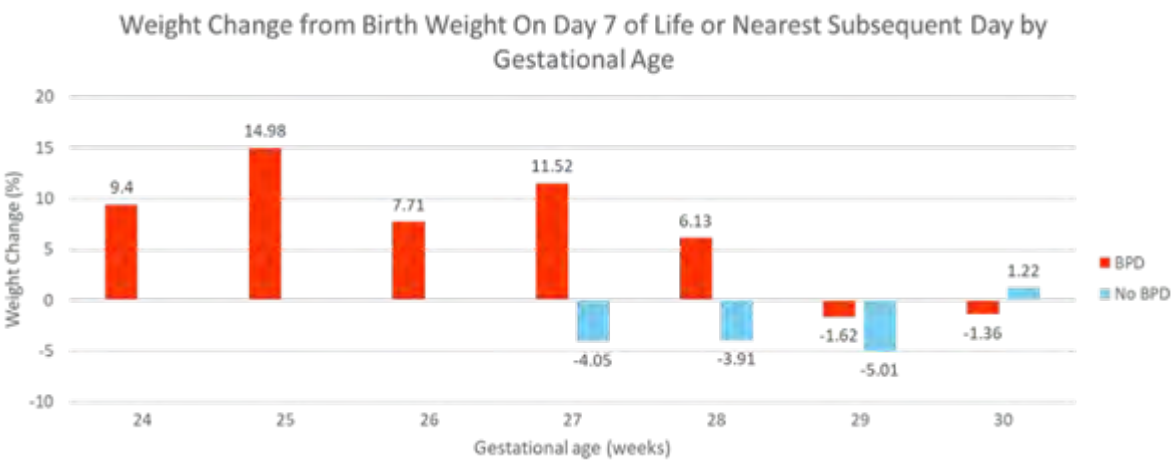
Results

Of 63 eligible infants, 51 met inclusion criteria. Among these, 27/51 (53%) developed BPD. On day 7, 6/27 (22%) of infants with BPD had a weight below birth weight, compared with 14/24 (58%) of those without BPD. Mean weight change at day 7 was +7% in the BPD group versus –3% in the non-BPD group. Notably, 11/27 (41%) of infants with BPD had gained more than 10% of their birth weight by day 7, compared with 0/24 (0%) of the non-BPD group. All babies born at 26 weeks gestation and below had a positive weight change at day 7.

Conclusion

We expected to see weight loss in the first postnatal week with infants approaching or around their birthweight by Day 7-10. The trend to the most immature babies being further above birth weight is concerning. Further local quality improvement initiatives are required to evaluate factors that may be resulting in this finding. For example, review fluid management strategies or monitoring weight.

Graphs



Escape to Learn: Enhancing Neonatal Sepsis Education Through Game-Based Simulation

Goodfellow M¹, Al-Muzaffar I¹

¹Cwm Taf Morgannwg University Health Board

Background:

Escape rooms are emerging as effective, engaging tools in healthcare education. By transforming learning into an interactive, time-pressured challenge, they foster active participation, teamwork, and critical thinking. This project aimed to improve medical student engagement and understanding of neonatal sepsis during their paediatric hospital placement through a bespoke escape room experience.

Methods:

A neonatal sepsis-themed escape room was designed. Targeting fourth-year medical students, the session aimed to improve recognition of maternal, intrapartum, and neonatal risk factors; identify clinical signs of neonatal sepsis; and enhance skills in communication, teamwork, and clinical reasoning. Prior to the session, students received a structured teaching presentation and completed a baseline questionnaire assessing their confidence in managing neonatal sepsis and their attitudes toward game-based learning.

The 15-minute escape room tasked students with solving puzzles involving sepsis risk stratification, early warning scores, and drug calculations. Each puzzle was linked to clinical scenarios, requiring learners to apply knowledge collaboratively to progress through the challenge. Post-session questionnaires captured changes in confidence and perceived educational value.

Results:

Three groups of students (n=16) completed the pilot. All teams successfully “escaped” within the allocated time. Self-reported confidence in recognising and managing neonatal sepsis increased from an average of 45% pre-session to 75% post-session. All participants rated the escape room format as enjoyable and valuable, particularly highlighting its effectiveness in reinforcing teamwork, leadership, and decision-making skills.

Conclusion:

This novel neonatal sepsis escape room significantly improved student confidence and engagement, suggesting that game-based learning can enhance both knowledge acquisition and essential non-technical skills. It offers a replicable, low-cost intervention to enrich undergraduate medical education and prepare future clinicians for the complexities of neonatal care.

Promoting Equitable Communication: Increasing Interpreter Use with an 'Interpreter on Wheels' Initiative

Wai T¹, Bean A¹, Smith C¹

¹Jessop Wing Neonatal Unit - Sheffield Teaching Hospitals

Background

Effective communication between healthcare professionals and families is essential for safe and compassionate neonatal care. For families with limited English proficiency, interpreter services are critical to ensure understanding of their baby's condition, participation in decision-making, and emotional support during a stressful time. Although a mobile interpreter system was used regularly by other members of the perinatal team, the equipment was not used consistently on the neonatal unit. Staff cited limited awareness, difficulty accessing the service, and lack of confidence using the system as key reasons. As a result, there was a risk of miscommunication, parental exclusion, and inequity in care delivery.

Aim

To promote effective, inclusive communication with all parents—regardless of language background—by increasing staff awareness, confidence, and routine use of interpreter services through a portable 'Interpreter on Wheels' initiative.

Methods

Rapid Plan-Do-Study-Act cycles were conducted over six months in a busy neonatal intensive care unit. Key interventions included regular staff emails, a visible and practical 'Message of the Week' campaign, and hands-on training on device use. A logbook documented usage, tracked reasons for calls, languages requested, and collected staff feedback.

Results

Over six months, device use increased from zero logged interactions to 30. Common reasons for interpreter use were updating parents on their baby's condition, obtaining informed consent, and educating families on practical tasks such as expressing breastmilk. The most frequently used languages were Tigrinya, Bengali, and Dari. Staff feedback was largely positive. A noted challenge was the longer wait time when accessing interpreters for less commonly spoken languages.

Outcomes

The initiative improved equitable access to interpreter services. Future efforts will focus on sustaining engagement, incorporating parent feedback, embedding interpreter use into routine care, and reducing communication barriers.

Review of Retinopathy of Prematurity in a Neonatal Intensive Care Unit – What do we know?

Hafez M¹, Ponnusamy V¹

¹St Peter's Hospital, Ashford and St Peter's NHS Foundation Trust

Background:

Retinopathy of prematurity (ROP) remains a leading cause of preventable blindness in extreme preterm infants. While non-modifiable risks exist, clinical practices significantly influence disease severity. Currently, NNAP measures provide screening data, but do not offer insights into incidence or disease severity. We aimed to understand the incidence of ROP in our cohort of babies and identify preventative strategies to implement a QIP.

Methods:

Retrospective data collection through Badgernet EPR for all babies diagnosed with ROP in our Neonatal Intensive Care Unit between January to December 2024, screened as per NNAP criteria (<31+6 weeks gestational age or <1501g). Severe ROP was defined as Stage 3 ± plus disease.

Results:

In total, 22% (22/99) babies were diagnosed with any ROP disease, with severe ROP in 9/22 (41%) babies. Table 1 shows the characteristics of these babies.

In summary, 100% of babies with severe ROP (9/9) received blood transfusions compared to 62% (8/13) of milder cases. Babies receiving three or more transfusions had substantially higher rates of severe ROP (71%, 5/7) versus none (0/5) in those receiving fewer transfusions. All severe ROP cases required mechanical ventilation with 89% (8/9) ventilated for more than seven days. Prolonged ventilation beyond 14 days carried a 67% (6/9) risk for severe ROP. Among seven babies managed exclusively with non-invasive ventilation, only one (14%) developed severe ROP. Other comorbidities that significantly influenced outcomes were PDA treatment, confirmed or suspected NEC/sepsis requiring multiple antibiotic courses.

Conclusion:

With limited national data on ROP incidence, our audit provides valuable data on ROP incidence and disease severity in our cohort. We identified some modifiable risk factors for severe ROP: transfusion burden, mechanical ventilation duration and comorbidities (PDA and sepsis/NEC). Understanding these helps to promote restrictive transfusion practices, early transition to non-invasive ventilation, and improved comorbidity vigilance, especially for infants <27 weeks.

Graphs

Table 1: Baseline Characteristics and Outcomes of Infants Diagnosed with ROP (N=22)

Characteristic	Overall Cohort (N=22)	Severe ROP (n=9)	Non-Severe ROP (n=13)
Gestational Age (weeks), Median (IQR)	26.6 (24.9–27.5)	24.9 (23.7–26.3)	27.1 (25.6–28.0)
Birth Weight (g), Median (IQR)	800 (619–958)	615 (520–750)	890 (820–960)
Male Sex, n (%)	9 (40.9%)	4 (44.4%)	5 (38.5%)
IUGR (<9th centile), n (%)	5 (22.7%)	3 (33.3%)	2 (15.4%)
Mechanical Ventilation, n (%)	15 (68%)	8 (89%)	7 (53.8%)
Exclusively Non-Invasive ventilation, n (%)	7 (31.8%)	1 (11.1%)	6 (46.2%)
Duration of Invasive Ventilation (days), Median (IQR)	13 (4–44)	21 (6-50)	2 (0-4)
Duration of Non-Invasive Ventilation (days), Median (IQR)	29 (11–54)	41 (28-65)	17 (11-29)
Blood Transfusions, Median (IQR)	3 (1–5)	4 (3–7)	1 (0–3)
PDA Treatment, n (%)	6 (27.3%)	6 (66.7%)	0 (0%)
NEC/Sepsis, n (%)	4 (18.2%)	4 (44.4%)	0 (0%)
ROP Treatment, n (%)	9 (41%)	9 (100%) Anti-VEGF(Lucentis): 6/9 (67%) Laser: 2/9 (22%) Combined Therapy: 1/9 (11%)	0 (0%)

Transitioning to enteral feeds: Bridging the Gap with Donor Human Milk

Wilkins E¹, Parish A¹, Callaghan F¹, Kennedy V¹, Mahdi R¹, Spierson H¹

¹Royal Bolton Hospital

Background

Donor Human Milk (DHM) serves as a vital bridge to Mums Own Milk (MOM), when early supply is limited. Early enteral feeds are important for encouraging growth, intestinal and neurological development and preventing many complications of prematurity¹. This Quality Improvement Project (QIP) aimed to initiate DHM earlier, for more babies and review the associated costs.

Methods

We followed a PDSA approach (Figure 1).

Cohort 1 - Babies who received DHM January-June 2024.

Interventions – DEBM eligibility was increased to include babies <31 weeks and/or <1250g, bringing us closer to BAPM guidance². New guidelines introduced recommending DEBM initiation at 24-hours if MOM insufficient.

Cohort 2 – Re-audit September 2024-March 2025.

Retrospective data was collected using Badger, the unit 'milk book' and patient notes.

Results

In cohort 1 53% (17/32) of eligible babies received DHM, in cohort 2 65% (39/60) did. DHM was initiated at a median of 67.5 hours of age and 35 hours respectively.

Median duration was 17 days in cohort 1 and 16 days in cohort 2.

Cost per baby was £338 and £371 respectively, and average use was 2.47L and 2.56L. Total costs increased from £5760 to £14,471 due to increased number of eligible babies.

Conclusion

We successfully initiated DHM earlier without extending duration of use, indicating we are utilising DHM as a bridge. Costs increased due to more babies being eligible for DHM. We standardised practise aligning better with national guidelines. Earlier transition to enteral nutrition should reduce TPN use with fewer longline days. A further local QIP 'Precious Drops' encourages early expression.

References

1. Thoene M, Anderson-Berry A. Early Enteral Feeding in Preterm Infants: A Narrative Review of the Nutritional, Metabolic, and Developmental Benefits. *Nutrients*. 2021;13(7):2289.
2. British Association of Perinatal Medicine (BAPM). The Use of Donor Human Milk in Neonates. 2023.

Image

BAPM DEBM abstract v1 - Word

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Introducing to enteral feeds Bridg...

Abbie Parish¹, Emily Wilkins², Frances Callaghan², Victoria Kennedy², Rehab Mahdi², Hannah Spierson²

¹University of Manchester, ²Neonatal Unit Royal Bolton Hospital

Background

Donor Human Milk (DHM) serves as a vital bridge to Mums Own Milk (MOM), especially when early supply is limited. Early enteral feeds in preterm neonates is important for encouraging growth, intestinal and neurological development and preventing many complications of prematurity¹. This Quality Improvement Project (QIP) aimed to initiate DHM earlier, for more babies and review the associated costs.

Methods

We followed a PDSA approach (Figure 1).

```

graph TD
    Plan["Plan  
QIP group formed to optimise nutrition in babies at risk of EPD.  
Cohort 1 reviewed and presented August 2024"]
    Do["Do  
Nutrition guidelines for DHM reviewed and changed in September 2024.  
Parent information leaflet written to support the use of DHM as a bridge."]
    Study["Study  
Cohort 2 reviewed April 2025"]
    Act["Act  
Education posters created.  
Further QIPs to encourage expressing.  
Continue to push for 24-hour DEBM milk."]
    Plan --> Do
    Do --> Study
    Study --> Act
    Act --> Plan
  
```

Figure 1 - PDSA Cycle

Cohort 1 - we collected data for all babies who received DHM on our unit from January-June 2024.

Interventions – DEBM eligibility was increased to include babies <31 weeks and/or <1250g, bringing us closer to BAPM guidance². We introduced new DEBM guidelines to initiate DEBM at 24-hours if MOM was insufficient.

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Reducing Medication Errors in a Tertiary Neonatal Unit: A Quality Improvement Project.

Adeoye G¹, Mohamed A¹, Valendez C¹, Feleo M¹, Garg S¹, Ashour A¹, Yong J¹

¹Barts Health Nhs

Background

Medication errors are preventable events that can lead to inappropriate medication use or patient harm, and they represent the most common type of medical error. These errors not only jeopardise patient safety but are also an inefficient use of valuable healthcare resources. Neonates are particularly vulnerable due to their physiological immaturity, small body size, and the need for precise, individualised dosing and preparation.

Aim

This multidisciplinary Quality Improvement (QI) project aimed to reduce medication errors by 30% in the Neonatal Intensive Care Unit (NICU).

Methods and Measures

The primary metric used was the number of medication error-related Datix reports submitted each month. The key contributing factors (drivers) identified included:

- Medication and supply issues
- Human factors
- Environmental factors
- Information technology challenges

Change ideas aligned with these drivers include:

- Sending weekly email reminders to all NICU staff
- Providing prescribing tips during doctor induction sessions
- Delivering one-on-one, on-the-job training for both nurses and doctors
- Monthly posters with lessons learnt from medication error DATIX.

Results

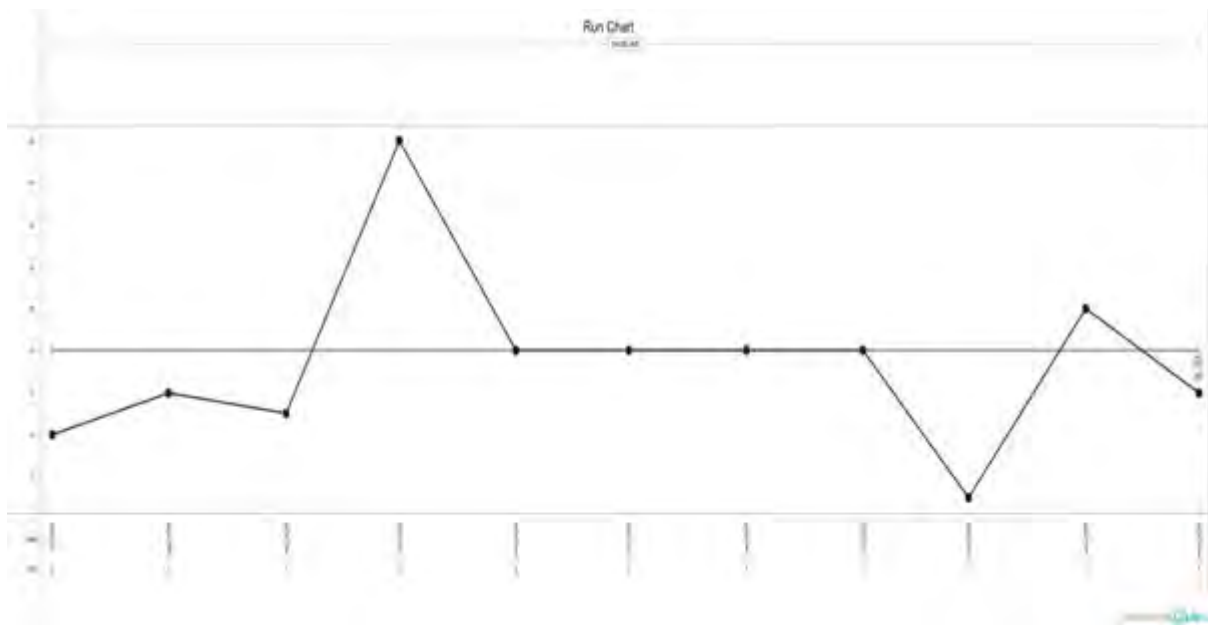
The QI project began in October 2024. Baseline error Datix report ranged from 4–6 per month. After the implementation of change ideas, starting with weekly email reminders, reporting initially rose to 18(200% increase), likely due to improved awareness. From November to February, errors reduced consistently (n=8), with a sharp drop to 1 in March (94% reduction). Although April and May saw slight increases (n=10 and n=6), this still reflects a 44% and 33% reduction from baseline.

Conclusion

In conclusion, regular reinforcement of basic safety measures plays a vital role in significantly reducing the risk of medication errors in the neonatal unit. Although these measures may seem simple, consistent reminders help embed them into daily practice, promoting a culture of vigilance and reducing the likelihood of preventable harm to babies.

Image

Run Chart
10/01/20



The Early Expressed BreastMilk Quality Improvement Project (EBMQIP): the national NeoTRIPS quality improvement initiative

Glover Williams A¹, Alexander E, Tomlinson C, West S, Battersby C, group

¹The Grange University Hospital

Background: The benefits of early expressed breastmilk for both preterm infants and their breastfeeding parent, have long been recognised. In the UK, the 2022 NNAP found that on average 49% of preterm infants received breastmilk within 2 days of birth. Multi-centre and national QI projects have been shown to be effective within neonatology to improve intervention implementation. Inspired by this, we utilised the NeoTRIPS national resident collaborative to run a national QI project aiming to reduce the time for babies to receive first expressed breast milk.

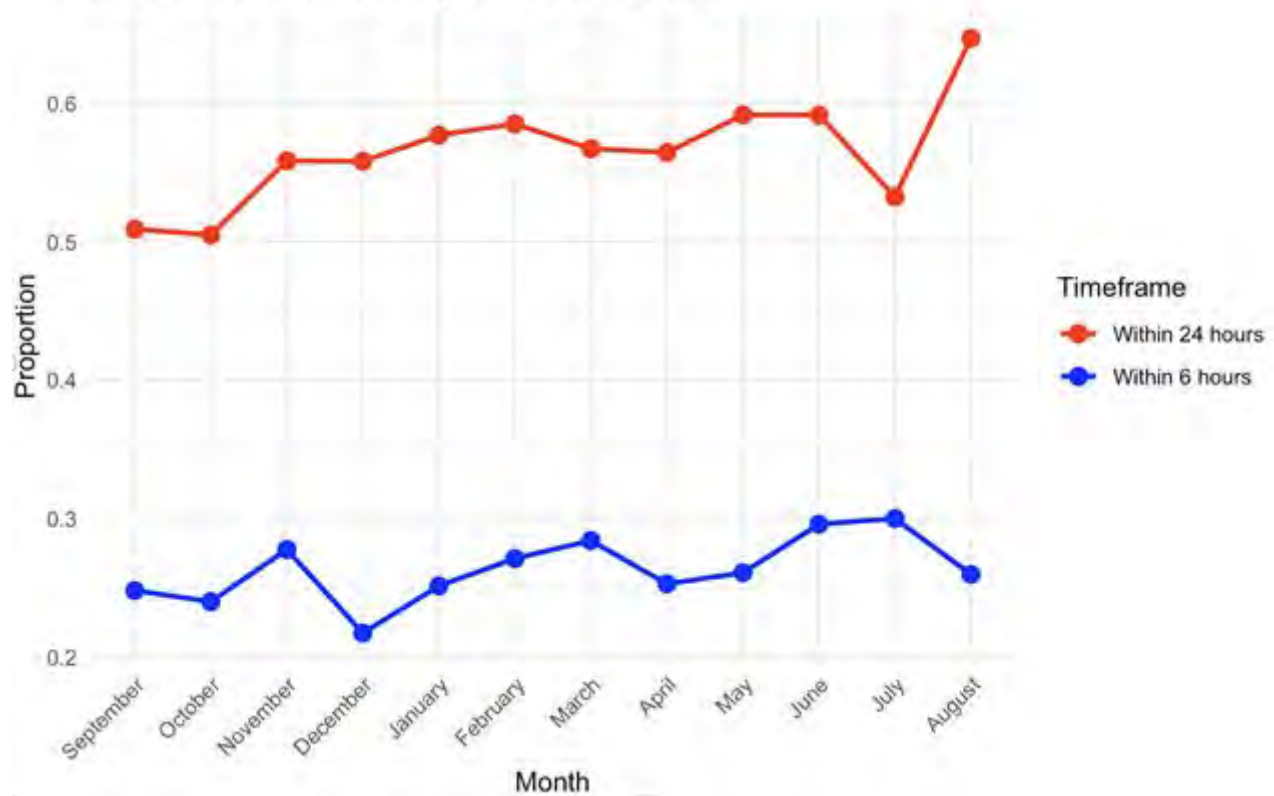
Methods: National neonatal resident-led QI project with freely available resources, webinars, national conference and locally-determined interventions. All neonatal units in the UK were invited to join, September 2023-August 2024. Data were requested monthly on all infants born <34 weeks' gestation. Outcome measures: EBM within 6 and 24 hours of birth (co-primary outcomes); expression within 6 hours, skin-to-skin within 6 and 24 hours (process measures); normothermia (balancing measure).

Results: 73/189 neonatal units participated in "EBMQIP", and 4,394 babies were included for the primary outcome of EBM within 24 hours. The median number of months' data submitted per unit was 10 months (IQR 6-12). The proportion receiving EBM within 6 hours remained low; beginning at 25% and ending at 26%. The proportion receiving EBM within 24 hours began at 51% and ended at 65%. Modelling described a small but statistically significant increase in the likelihood of EBM provision within 6 or 24 hours over time. Balancing and process measures showed similar trends. Data submissions decreased during the project, beginning with 500-501 babies in September 2023 and ending at 181-184 babies in August 2024.

Conclusions: EBMQIP demonstrated the potential for a national collaborative resident-led QI programme. Whether statistical improvements are clinically significant is unknown. Sustained engagement, leading to sustained improvements in outcomes, is the next challenge.

Image

Run chart - proportion of infants born <34 weeks gestation who receive maternal expressed breast milk



The outcome of implementing a local accreditation programme for navigating UVC under POCUS to improve success.

Arthur S¹, Homfray G¹, Mahoney L¹

¹St Michaels Hospital, University Hospital Bristol & Weston NHS Foundation Trust

Background

UVC malposition remains a critical concern in neonatal intensive care, highlighted by the NCMD's 2025 report identifying 11 infant deaths linked to UVC-related complications. BAPM guidance recommends tip placement outside the cardiac silhouette, several innovations attempted to improve success but variation in practice persists.

Improvement measure: To introduce a UVC POCUS local accreditation.

Aim: Assess whether POCUS accreditation can improve UVC success and embed a high quality, safe and reproducible approach.

Methods

Baseline data via electronic records were collected pre-implementation. Driver diagrams and a fishbone analysis ensured training gaps, equipment limitations and quality assurance needs were identified and integrated within the accreditation pathway. Interventions were delivered through iterative PDSA cycles, with progress tracked via a Gantt chart. UVC success was re-audited at 6 and 8 months.

Results

Primary outcomes: Statistically significant increases in UVC first pass success under ultrasound guidance was seen at 6- and 8-months post implementation (54% compared to 86% and 77%). Statistically significant reductions in repositioning UVC post insertion were also seen (64% compared to 8% and 16%). Time to TPN reduced (14h12min to 7h37min and 8h5min) (Table 1).

Accreditation uptake: At 8months four consultants, nine registrars and two ANNPs are accrediting, improved from 6months (Table 1).

Conclusions

Our QI initiative has sustained >75% UVC success, with no reported complications and significantly fewer tip adjustments. This directly improved our time to TPN initiation—and crucially continues to be a focus. We consider POCUS essential for all UVC insertions. Success was achieved through a structured training program combining foundational e-learning, hands-on teaching, and continuous case reviews. To ensure sustainability, we established a dedicated POCUS interest group, recruited a lead fellow and lead ANNP. Continuous quality assurance through regular QI cycles and education has embedded this safe practice and exemplifies BAPM-aligned innovation in safe, precise neonatal vascular access.

Graphs

Table 1.

	Pre implementation	Post implementation	
	6 month	6 month	8 month (cumulative)
n	46	14	31
Success % (n=)	54% (25)*	86% (12)*	77% (24)*
UVC readjustments % (n=)	64% (16)*	8% (1)*	16% (4)*
Time to TPN (<30w) (n=)	14 hours 12 mins (10)	7 hours 36 mins (6)	8 hours 5 mins (8)
Colleagues accrediting	0	2 Consultants 6 Registrars 1 ANNPs	4 Consultants 9 Registrars 2 ANNPs
USS procedural time (avg)		3min	3 min

*p<0.05 Chi-squared tests

Not Just a Gut Reflex: Rethinking the Role of Genetic Testing in OA/TOF

G N¹, Chaudhary N¹, Laurentya O¹, Williams E¹, Holden S¹, Armstrong R¹, Wong H¹

¹Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust

Background:

Congenital malformations like oesophageal atresia and tracheo-oesophageal fistula (OA/TOF) often prompts genetic testing in the neonatal period. However, the clinical utility of genetic testing in isolated TOF/OA is uncertain.

Aim:

To evaluate the diagnostic yield of genetic investigations in neonates with OA/TOF to assess whether a more selective approach may be more appropriate.

Methods:

A retrospective review of OA/TOF patients born between 2022-2024 and treated in a single tertiary neonatal surgical unit was undertaken. Patients with a diagnosis of OA/TOF were identified from BadgerNet.

Results:

31 patients were identified, with gestational ages ranging from 26+5 to 41+0. 52% (16/31) of the patients were term (37-41 weeks), and most of the patients had type C TOF/OA – 84% (26/31).

90% (28/31) of patients had at least 1 genetic test undertaken – 23 had microarray under clinical indication R28 'Congenital malformation and dysmorphism syndromes' only, 3 had microarray and R14 'Acutely unwell children with a likely monogenic disorder', 1 had R14 only (negative antenatal R21 and microarray), 1 had karyotype, QFPCR and microarray. Amongst the patients who underwent R14, all had additional features such as kidney or cloacal anomalies, microgastria, bifid ribs or imperforate anus.

All but 2 patients had negative results. One patient was diagnosed with trisomy 21, having been identified as high risk on antenatal scans, had in keeping dysmorphic features, and confirmed postnatally on QFPCR and karyotype. The second patient also had a VSD and a known family history of Fanconi's anaemia. Postnatal microarray analysis for the familial deletion confirmed the diagnosis.

Conclusions

The low diagnostic yield raises questions about the clinical utility of routine genetic testing, particularly in isolated TOF/OA. We propose that a more selective approach should be adopted, reserving testing for those with additional features or if there are ongoing concerns.

“Mind the gaps” of genetic testing in the NICU: Consent, Communication, and Follow-up

Chaudhary N¹, G N¹, Olga L¹, Williams E¹, Wong H¹

¹Cambridge University Hospital NHS Foundation Trust

Background:

Genetic testing has markedly increased across neonatal units in the UK, particularly since the National Genomic Testing Directory was published in 2018, making testing more accessible to neonatologists¹.

Aim:

To evaluate the current practices surrounding genetic testing in our neonatal unit and identify areas for improvement.

Methods:

We conducted retrospective data collection from electronic medical records of all patients who had undergone genetic tests between 2022-2024. Data on patient demographics, test indications and types, consenting processes, diagnostic yield, turnaround time, and results communication and follow-up arrangements were retrieved.

Results:

221 tests were performed on 155 unique patients (Table 1). Genetic testing increased by 54% in 2023 as compared to 2022. Microarray (45.2%) was the commonest test followed by single gene (20.4%) and whole-genome sequencing (10%). Most tests had results within 3 weeks and majority were negative (74%). 6% revealed incidental findings or variations of unknown significance.

Most consents were verbal (62%) and there was no documentation for 27% of test consents. The quality of the consent process or how well-informed families are of the potential outcomes was unclear.

Communication of results was not documented in 56% of cases. It is likely that families who remained in-patient received their results through verbally; lack of communication to those discharged was possible and unclear. However, no patient with positive results was missed.

Conclusions:

Genetic testing is more widely offered to patients in NICU. It is our ethical responsibility to ensure a high-quality process for informed consent and result follow-up. To address this, we have developed standardized electronic templates to: (1) guide clinicians on the key information that must be communicated, (2) simplify the consent documentation, and (3) streamline written communication for negative results. We will undertake a re-audit to review the impact of this new process on communication and documentation.

Image

Table 1: Summary Table:

Category	Values
Number of Tests	221 tests
Number of unique patients	155 patients
Main referral reasons	Antenatal (60%), Neonatal (40%)
Top indications	Congenital anomalies (38%), Dysmorphism (13.1%), Unwell neonates (10.6%)
Common tests	Microarray (45.2%), Single gene (20.4%), WGS (10%)
Result turnaround <3 Weeks	62.8%
Negative results	73.8%
Incidental/uncertain Findings	6%
NICU-initiated requests	82.8%
No documented consent	27.1%
No documented results communication	56.6%
No documented follow-up	44.8%

Reference:

¹ NHS England. (2025, May 6). National genomic test directory.
<https://www.england.nhs.uk/publication/national-genomic-test-directories/>

Getting it Just Right: A Quality improvement initiative in preterm thermoregulation

G N¹, Jha S¹, Alyaldin E¹, Adetokunbo J¹, Chauhan N¹, Maldar H¹, Green S¹, Arthur J¹, Macdougall C¹
¹Addenbrooke's Hospital, Cambridge University Hospitals NHS Foundation Trust

Background

Thermoregulation is an important aspect of preterm perinatal optimisation as both hypo- and hyperthermia are associated with higher morbidity and mortality[Laptook, 2007; Dunne, 2024].

Following results from the National Neonatal Audit Programme (NNAP) in 2022 which identified our unit as a negative outlier for normothermia on admission (59.2%; national average of 73.2%), we initiated a thermoregulation quality improvement project to address this.

Methods

We identified both data and practice as two key areas for improvement and launched the “Think Temperature: Just Right” project in December 2023.

To address data issues, we changed the workflow that interfaced our electronic patient records systems (EPIC and BadgerNet).

We introduced a new thermoregulation proforma to standardise practice, prompt regular temperature checks and improve documentation of thermal care. Multi-disciplinary teaching and simulation sessions were also introduced.

Ongoing prospective audit was conducted. Targets for further improvement were identified through exception reporting and monthly reviews of cases where normothermia was not achieved. A second transport incubator was repurposed to improve thermal care and ensure timely transfer, particularly in cases of multiple births.

Learning was shared via monthly emails including a “Temperature Star of the Month”.

Results

Between 1st December 2023 and 31st March 2025, data for 225 patients born at Addenbrooke’s Hospital <34 weeks’ gestation were reviewed.

Results show a trend towards improved compliance: median post-implementation compliance of 80.5% compared with pre-implementation median of 69.2% (Figure 1).

There was a dip in compliance during resident doctor changeover in September 2024, which was addressed with education and simulation sessions.

Temperature proforma completion is variable.

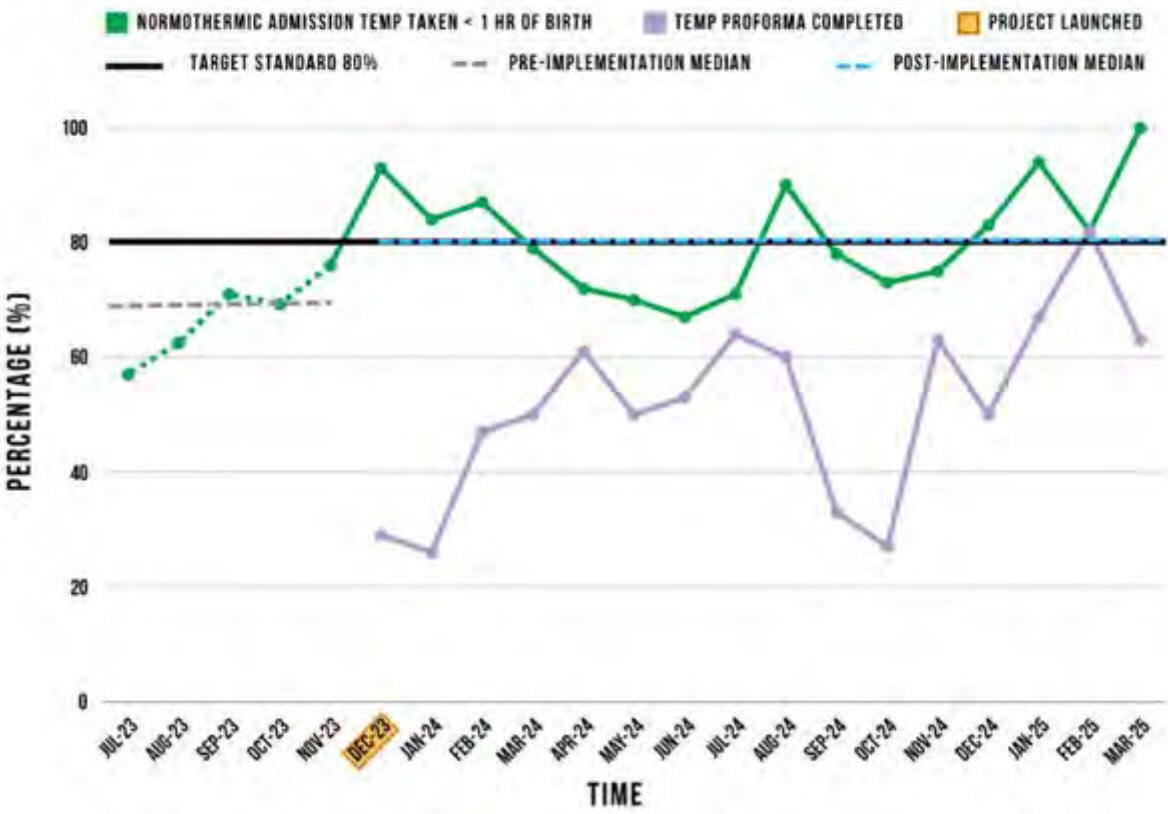
Conclusions

Overall, our multi-pronged and multi-disciplinary approach have resulted in sustained improvements in thermoregulation. We have introduced an electronic temperature proforma to improve completion rates and multidisciplinary engagement with thermal care.

Image

JUST RIGHT

Preterm temperature project



The Impact of an Intraventricular Haemorrhage Prevention Bundle on Neurodevelopmental Outcomes in Preterm Infants: a quality improvement project

Ohemeng Owusu A¹, Mintoft A², Janagill M³, Crowley R⁴, Sammut A⁵

¹University College London Hospital, Neonatal Unit, ²Chelsea and Westminster Hospital, Neonatal Unit, ³Great Ormond Street Hospital for Children, Neonatal Unit, ⁴St George's Hospital, Neonatal Unit, ⁵University College London Hospital Neonatal Unit & Great Ormond Street Hospital for Children, Neonatal Unit

Background: Intraventricular haemorrhage (IVH) remains a leading cause of mortality and long-term morbidity in preterm infants, frequently resulting in neurodevelopmental impairment that adversely affects both patients and their families. Given its multifactorial aetiology and the absence of definitive treatments, prevention through neuroprotective strategies has become the principal approach. While such strategies are increasingly adopted across units, evidence supporting their impact on long-term neurodevelopmental outcomes remains limited. This study evaluated the impact of a unit-specific IVH prevention bundle on neurodevelopmental outcomes in infants born \leq 30 weeks' gestation.

Methods: A retrospective cohort study was conducted at a tertiary neonatal unit in London UK, comparing neurodevelopmental outcomes before and after the introduction of an IVH prevention bundle. The primary outcome was neurodevelopmental delay (mild/moderate or severe) at two years' corrected gestational age. Secondary outcomes included the incidence and severity of IVH. Outcomes were analysed using risk ratios (RR) with 95% confidence intervals and a significance threshold of $P < 0.05$.

Results: Neurodevelopmental follow-up data were available for 76 infants in the pre-intervention cohort and 47 infants post-intervention. The overall rate of neurodevelopmental delay decreased from 47.4% to 36.2% (RR 0.76, 95% CI: 0.49–1.19; $P = 0.26$). Notably, the incidence of severe neurodevelopmental delay was significantly reduced post-intervention (4.3% vs. 28.9%; RR 0.15, 95% CI: 0.04–0.60; $P = 0.0007$). The incidence of IVH declined from 43% to 25% (RR 0.58, 95% CI: 0.39–0.87; $P = 0.01$), primarily due to reduced rates of low-grade IVH (RR 0.46, 95% CI: 0.25–0.84; $P = 0.01$). Rates of severe IVH (grades III–IV) were unchanged.

Conclusions: The implementation of an IVH prevention bundle was associated with a significant reduction in severe neurodevelopmental delay and in the incidence of low-grade IVH. These findings support the use of structured neuroprotective care bundles to improve long-term outcomes in this vulnerable population.

Image

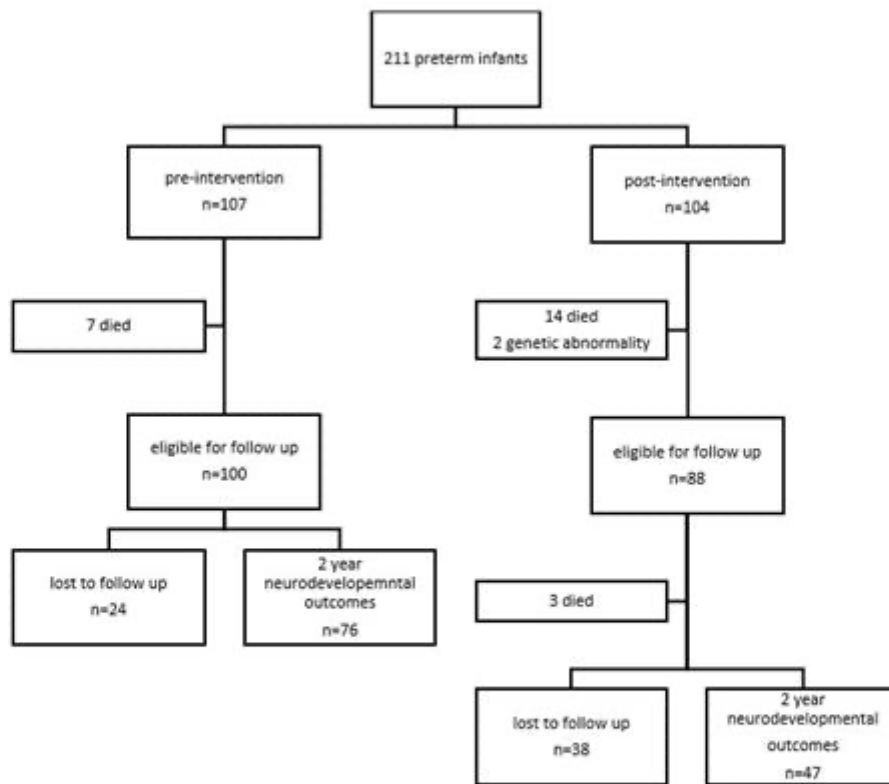


Fig 2 – Schema showing number of preterm infants included in the study. |

Quality Improvement: Supporting Adoption of the BAPM Parent Passport Across London

Glover N¹, Catone J, Davies-Colley H

¹UCLPartners Health Innovation Network and Health Innovation Network South London

Background & Aim

UCLPartners and Health Innovation Network (HIN) South London identified that other regions in England had successfully used a parent passport to support perinatal optimisation. In response, they aimed to implement the BAPM Parent Passport across interested London maternity and neonatal units by April 2025.

Method

Following engagement with London LMNS and Trusts, an inaugural event brought together 21 units to commit to adopting the passport. Quarterly sessions focused on implementation, sustainability, progress sharing, digitisation into electronic patient records (EPR), and collaborative quality improvement (QI). Teams were supported to use perinatal optimisation data to track care bundle effectiveness.

To promote equity, HIN South London funded translations of the passport into the 25 most spoken languages in South London. These versions have been distributed across London to enhance accessibility for non-English-speaking families.

Support Provided

UCLPartners and HIN South London hosted collaborative events, arranged expert presentations, facilitated networking, provided tailored QI support, attended LMNS meetings, and conducted on-site implementation support.

Results

Since the initiative began:

2 Trusts had already adopted the passport; 16 more have since implemented or transitioned to it. From April 2018 to December 2024, 2,823 women <30 weeks' gestation received magnesium sulphate—projected to prevent cerebral palsy in up to 61 babies, saving an estimated £61 million. Over six years, full implementation of the 9-element care bundle is estimated to have saved over 282 neonatal lives in London.

Parent Engagement

Working with Bliss and the London Neonatal ODN, a Parent Information Leaflet was co-created with service users and translated into 25 languages to complement the passport and support neonatal counselling.

Conclusion

The BAPM Parent Passport rollout has improved consistency, parental involvement, and equitable care access in preterm perinatal services across London.

Emotional, psychological, religious, and spiritual support provided during End of Life (EOL) care for infants in the neonatal unit: Past and Present.

Ganjigunta V¹, Rizvi H¹, Patel V¹

¹Grange University Hospital

BACKGROUND

End of life (EOL) care for neonates aims to alleviate pain and discomfort for the babies while supporting the family members to cope with anxiety and grief. The importance has been emphasised in various national guidelines (BAPM, NICE, RCPCH, Together for Short Lives). It includes emotional, psychological, religious, and spiritual support for families, which is offered in the final days, weeks, and months of life. An initial audit was conducted for EOL care information provision 2016-2019 at NICU, Royal Gwent hospital, ABUHB. A need for improvement came to light. Several quality improvement measures were introduced including teaching sessions, updating the EOL care pathway and providing information leaflets with contact details of support groups.

METHODS

This re-audit comprised of a retrospective review of the clinical records of the infants with life-limiting or life-threatening conditions who died following the withdrawal of intensive care in NICUs at the Royal Gwent and Grange University Hospitals from January 2019 to December 2023. The information in the clinical notes, communication sheets, BadgerNet death summaries, and the EOL care pathways were used to identify the families who were provided with emotional, psychological, spiritual, and religious support.

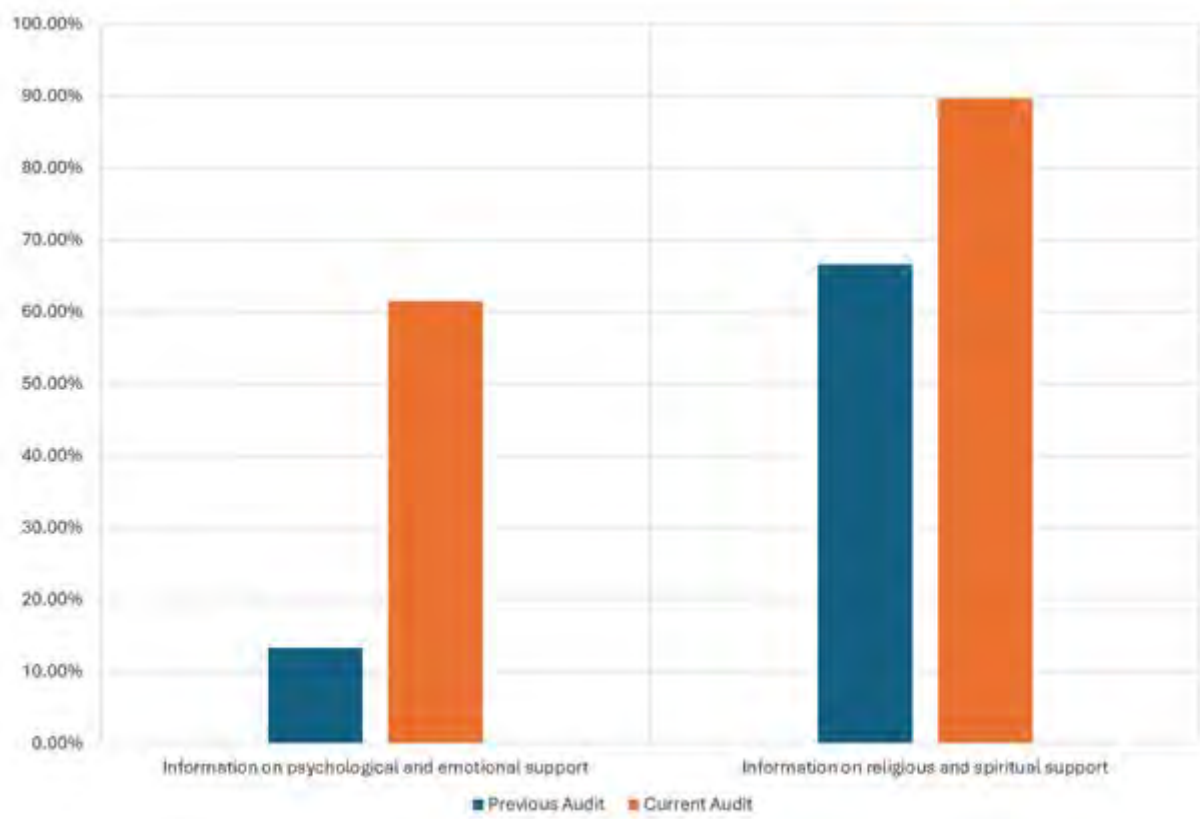
RESULTS

39 babies met the inclusion criteria, with 24 families receiving psychological and emotional support information (which improved from 13.3% to 61.5%) and 35 receiving spiritual and religious support information (which improved from 66.6% to 89.7%).

CONCLUSION

Significant advancements were noted in the delivery of information following the implementation of quality improvement measures. Our clinical and management teams are currently working towards embedding a clinical psychologist in our team which would further strengthen our efforts. Additionally, our chaplaincy service offers valuable emotional and pastoral support, and this role has now been emphasized in the EOL care pathway as a helpful prompt.

Graphs



Reducing Risks for Infant Mortality in the UK: development of neonatal care packages for parent and family education and empowerment.

Pillay T^{1,2}, Olakotan O^{1,2}, Hughes G³, o'Brien N⁴, Maniotopolous G³

¹University Hospitals Leicester NHS Trust, ²University of Wolverhampton, ³University of Leicester,

⁴University of Northumbria

Background

The UK, infant mortality rate is 4.1 per 1000 live births, with widening geographical, socioeconomic and ethnic inequalities. The Midlands bears amongst the highest burden. Associations include prematurity and reducible risks e.g lack of breastfeeding, smoking, poor maternal education, unsafe sleeping practices, poor vaccine uptake and failure to recognise signs of illness early. While individual public health messaging exists, there are no integrated neonatal public health care packages addressing parent education/empowerment, reducing risks for neonatal/infant mortality, especially for families with preterm births. Preterm-born infants have the highest risk for mortality in the neonatal period; this risk persists for those who survive the neonatal period: almost a quarter of post-neonatal infant deaths in the UK are associated with preterm birth. These families lose antenatal and postnatal time for receipt of midwifery and health visitor led health messaging, due to hospitalisation.

Method

A Neonatal Care Package (STORK-NCP) was developed, addressing 11 public health messages around reducing risks for infant mortality. This included 1:1 training by STORK facilitators/champions (nurses/support workers), using a socio-culturally tailored digital app. It was delivered in seven ethnically diverse hospital neonatal settings in The Midlands. Parent/family knowledge, acceptability, impact, stakeholder and community perspectives are outlined.

Results

Pre-existing knowledge of risks was limited. 1-in-4 mothers had no prior knowledge of safe sleeping practices, recognising early signs of illness, or dealing with a crying baby. 64% had no knowledge of bystander-life-support. Parents/families valued sharing of information. Staff valued its impact, simplicity, multilingual format, and governance in a single platform for delivery of education/empowerment to families. Stakeholder, PPI engagement offered avenues for scientific study.

Conclusion

The STORK neonatal public health care package, around reducing risks for neonatal/infant mortality, has value for neonatal services in parts of the UK. Its study, as a complex-care intervention, utilising socio-culturally sensitive digital means, is underway.

Image

TABLE I
Chemical analysis of the polymers obtained from the reaction of CH_3COCl , $\text{C}_6\text{H}_5\text{NHCOR}$, and NH_4SCN

Antimicrobial stewardship in extreme preterm neonates: Evaluating and optimising late-onset sepsis antibiotic guidelines

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¹Imperial College Healthcare NHS Trust, ²Imperial College London

Background

Antimicrobial stewardship is essential in extreme preterm care to balance effective infection control with microbiome preservation. This multidisciplinary QI project aimed to benchmark our local late onset sepsis (LONS) antimicrobial protocol (piperacillin-tazobactam and vancomycin) against national practice, assess local microbiology and susceptibility patterns, and evaluate opportunities to optimise empirical antibiotic recommendations.

Methods

A national survey of LONS guidelines was circulated to UK level 3 NICUs in February 2022 and in June 2022. All positive blood cultures (January 2022–February 2024) across our Trust's two NNUs (one Level 2 and one Level 3) were reviewed. A prospective audit of LONS treatment episodes was conducted from November 2024–April 2025.

Results

Fifteen centres responded to our survey. For LONS without central access, 73% (11/15) used flucloxacillin and gentamicin. In the presence of central access, regimens varied: 33% (5/15) used cephalosporin + vancomycin, 26% (4/15) used flucloxacillin + gentamicin, and 20% (3/15) used piperacillin-tazobactam + vancomycin.

Through our retrospective and prospective reviews, 90 bacteraemic episodes were identified (median gestational age 24 weeks). *Staphylococcus capitis* was the commonest isolated organism (39/90, 43%), mostly in infants without central access. Flucloxacillin and gentamicin resistance among *S. capitis* were 18% and 13% respectively, making this antibiotic combination an inappropriate second-line choice. Cephalosporin resistance overall was rare (n=2: ESBL-producing *Klebsiella pneumoniae* and *E. coli*) (Graph1).

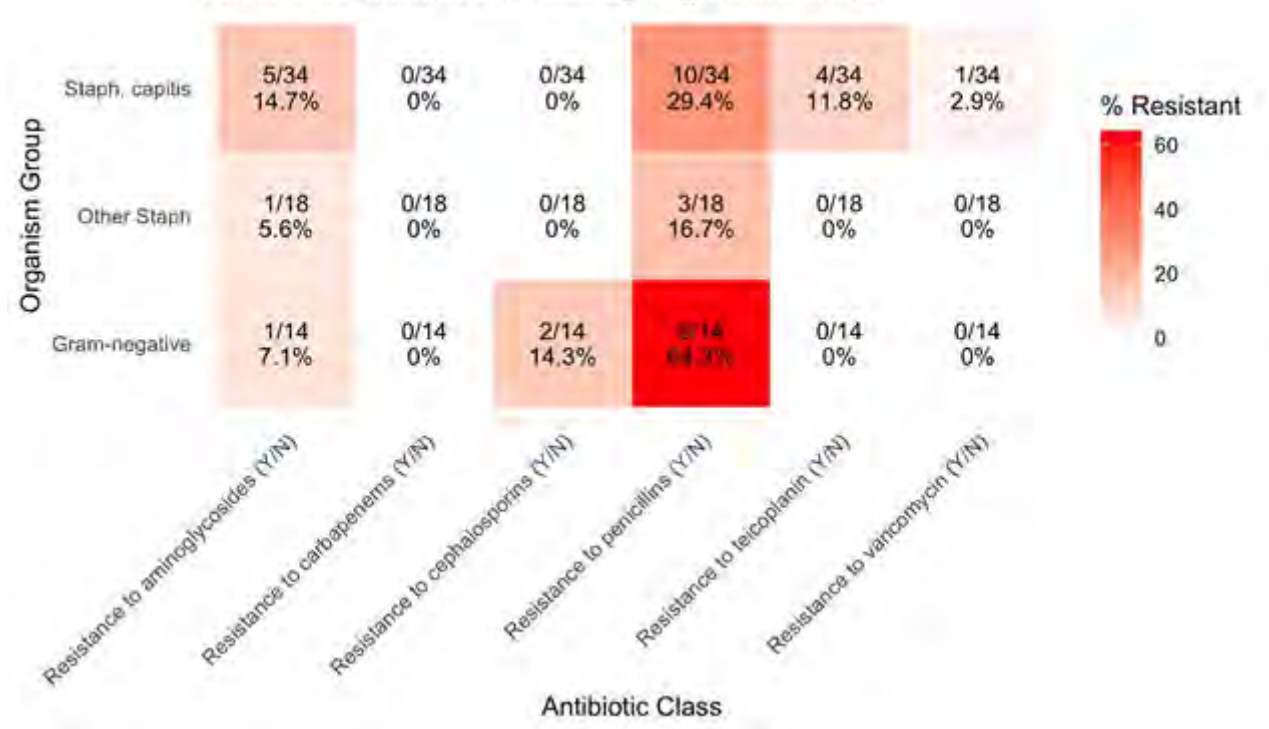
Notably, 33/90 (37%) episodes escalated to meropenem, including 13/15 (87%) of all Gram-negative bacteraemia. Vancomycin levels were sub- or supratherapeutic in 49% and 53% of cases, respectively, supporting a prospective change in our guidelines from intermittent to continuous infusions.

Conclusions

UK NICU LONS protocols vary widely. Local susceptibility data support continued broad-spectrum cover in the absence of central access, but suggest de-escalation from tazocin to a cephalosporin is feasible. High meropenem use in Gram-negative infections and variable vancomycin levels further inform stewardship priorities.

Graphs

Antibiotic Resistance Profile by Organism Group



Perinatal Optimisation Project: A St George's QI for improving preterm care together

ABDUL AZEEZ N¹, Chang C, Woodhouse S, Crowley N

¹St George's Hospital

Background:

Perinatal optimisation is the reliable delivery of evidence-based interventions during the antenatal, intrapartum, and neonatal periods to improve outcomes for preterm infants. In November 2023, St George's Neonatal Unit launched the Perinatal Optimisation Project (POP), a multidisciplinary quality improvement (QI) initiative aimed at enhancing care for babies born at <34 weeks' gestation by increasing compliance with key perinatal optimisation elements.

Methods:

The POP team was structured into focused workstreams, each leading a QI project targeting one of the nine BAPM-recommended optimisation elements. The primary aim was consistent delivery of all nine elements for babies born at <34 weeks. Secondary aims included the introduction of clinical and parental optimisation passports, with an emphasis on providing the parental version in the family's preferred language. The passports were introduced in May 2024. Monthly audits monitored compliance with each element and passport usage. Challenges were addressed through Plan-Do-Study-Act (PDSA) cycles, supported by targeted staff training and six-weekly multidisciplinary meetings. Parental feedback was gathered using structured surveys.

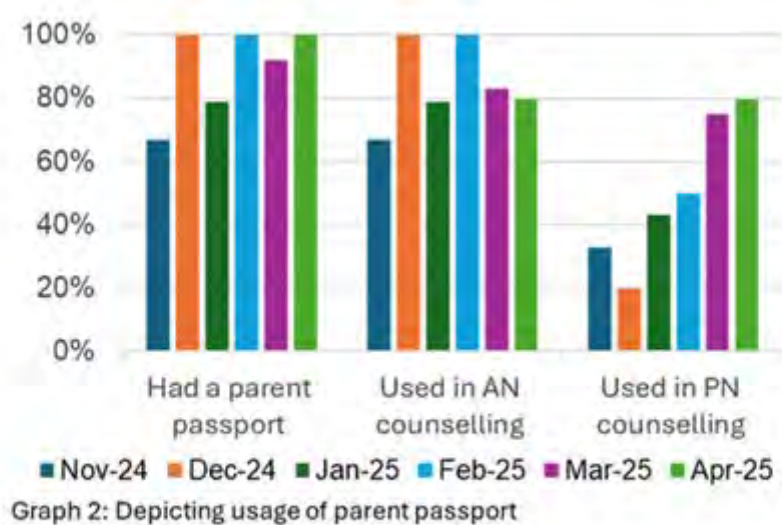
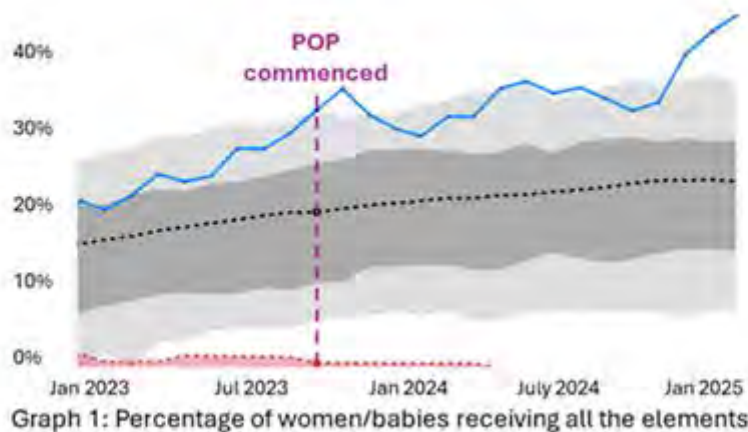
Results:

Compliance with all nine optimisation elements improved from 30% at baseline to over 40% by April 2025, exceeding the national average, graph 1. The greatest gains were seen in the 22–27 weeks' gestation group. Full compliance was achieved in core areas including magnesium sulphate administration, maternal antibiotics, cord management, thermoregulation, early breast milk, volume-targeted ventilation, and caffeine use. Parental passport use during antenatal counselling rose from 60% to 100%, with preferred language provision increasing from 70% to 100%, Graph 2. Of parents surveyed, 81% found the passport helpful, and 75% felt it supported active involvement in care.

Conclusion:

A multidisciplinary, data-driven approach—centred on early passport use and language accessibility—improved compliance with perinatal optimisation and supported family-integrated care. This QI model offers transferable strategies for other neonatal units to improve outcomes for preterm infants.

Graphs



Image

The passport had a positive impact. All the information you need is included. Debriefing was extremely helpful. I remember this wasn't around 15 years ago when my previous baby was born. I would recommend this to other as it's the pass the passport encourages for early milk. I tried harder as a result of the passport. The passport made sense. We had already seen it on the walls so it was familiar even before it was given to us. I was aware of most of the elements despite not receiving the passport initially. I would have liked to know more about the routine use of IV antibiotics and caffeine for my twins as I was worried they had a serious infection. The layout, colours and pictures made the passport easy to read and understand. We would have liked to see the passport before the delivery because it looks very helpful. The parent passport was useful and I was happy with the information provided. The parent passport was really good. It gave us a good idea of how to get prepared. It helped with sharing information with my partner if he was absent.

Improving Documentation of Antenatal Doppler Findings in Preterm Infants: A Quality Improvement Project in a Level 2 NICU

Tan L¹

¹Barking Havering and Redbridge University Hospital NHS Trust

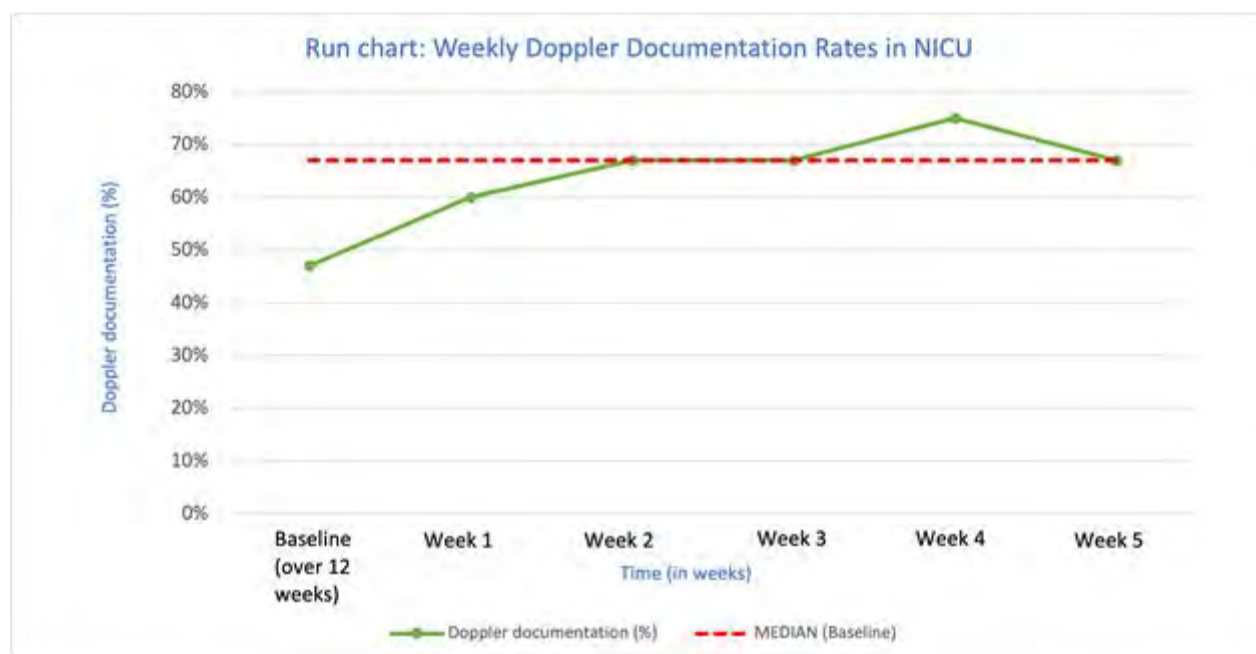
Background: Antenatal doppler studies play a crucial role in assessing placental function and fetal well-being. Abnormal findings such as absent or reversed end-diastolic flow are strongly associated with fetal growth restriction and increased risk of necrotising enterocolitis. These findings often influence postnatal management, especially feeding strategies in preterm infants. However, despite their clinical significance, antenatal doppler results are often not documented in neonatal records, creating a potential gap in care. This is particularly challenging in our unit, where maternity notes remain paper-based and become inaccessible once returned to the maternity department. A baseline audit of infants <32 weeks gestation admitted to our NICU over three months showed that only 47% (20 out of 42 babies) had doppler results documented in BadgerNet.

Methods: This Quality Improvement Project aimed to increase the rate of antenatal Doppler documentation. Interventions included displaying educational posters in clinical areas and providing teaching sessions to all neonatal doctors, about the importance of doppler documentation. Consultants and registrars were encouraged to lead by example, and this include incorporating teaching during departmental doctors' induction week, and to provide more guidance to SHOs who are unfamiliar with BadgerNet. There were also frequent reminders via Whatsapp and emails. Weekly data collection was carried out over a five-week period post-implementation.

Results: Documentation rates improved from 47% at baseline to a median of 67% during these five weeks. A run chart demonstrated consistent improvement. Informal feedback indicated that increased visibility and reminders, coupled with consultant/registrar's reinforcement were key in driving change.

Conclusion: Antenatal doppler findings are critical for safe, individualised care of preterm infants. Simple, targeted interventions resulted in a sustained improvement in documentation within a unit which uses paper maternity records. Future steps include involving nursing colleagues to prompt documentation and expanding the project over a 12-week cycle to drive sustained change.

Graphs



Transforming Perinatal Care: Boosting neonatal outcomes through successful implementation of the BAPM 9-Element Perinatal Optimisation Pathway:- A multidisciplinary Quality Improvement project in a level 2 neonatal Unit.

Shah J, Bell- Davies F, Dawson A, Mabyalane B, Marie-Banane M, Sullivan C

¹Whipps Cross Hospital

Background:

In November 2024, our centre lacked a formal perinatal optimisation pathway for neonates born <34 weeks, with suboptimal rates in key areas: Antenatal steroids (86%, target 90%), Delayed Cord Clamping (DCC) (69.1%, target 75%), Normothermia on admission (74.1%, target 90%), and early breastmilk (47.3% within 2 days, with low rates within 6 and 24 hours: 1.8% and 9.1%).

Methods:

A multidisciplinary team (MDT) including neonatal nurse, neonatal and obstetric doctors, and specialist premature midwife was formed. After reviewing models including the PERIPrem bundle, we selected the BAPM 9-elements pathway for its compatibility with our centre (no probiotics) alongside integrated clinical and baby passports. The pathway was implemented starting December 2024 with custom guidelines.

Promotion/dissemination included:

- Presentations during teaching sessions and Obstetric and Neonatal Mortality/Morbidity meetings, emphasising initiation of the clinical passport at triage and delivery handover, and the baby passport during counselling.
- Posters with custom QR codes, printed materials, WhatsApp, emails, and checklists.

Sustained engagement/motivation involved:

- Passport checks/highlighting in handover lists and safety briefings.
- Awareness day with MDT engagement and educational activities (Image 1).
- Sharing successes via WhatsApp, newsletters and emails to reinforce adoption.

Results:

By April 2025, following pathway implementation and promotion, significant improvements were observed:

- Antenatal steroids increased to 90.4%
- DCC rose to 73.7%
- Normothermia improved to 75.4%
- Breastmilk provision within 2 days increased to 59.6%, (surpassing network average)
- Early breastmilk feeding within 6 and 24 hours increased significantly to 14.0% and 22.8%, above network (4.1% and 16.1%)

Qualitative feedback showed broad MDT awareness/acceptance, including locum staff.

Conclusion:

Introducing the BAPM pathway with ongoing promotion and multidisciplinary engagement, led to notable improvements in neonatal care metrics; - particularly breastmilk uptake. Future efforts will focus on sustaining momentum despite staff rotations, alongside further improving DCC and normothermia rates.

Image



Oral Antibiotic Switch in Neonates with Suspected Early Onset Sepsis Quality Improvement Project- Experience from Frimley Park Hospital

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¹Frimley Health NHS Foundation Trust , ²Frimley Health NHS Foundation Trust , ³Frimley Health NHS Foundation Trust

Background

Early Onset Sepsis (EOS), occurring within the first 72 hours of life, prompts immediate intravenous (IV) antibiotic treatment.

Oral step-down from IV antibiotics is not widely practiced in Neonatology, however, the 2019 RAIN Study conducted in the Netherlands demonstrated this approach as safe and effective, significantly reducing the length of hospital stay.

The Kent, Surrey and Sussex Neonatal Network evaluated this approach through a quality improvement project to assess the feasibility of implementing an oral antibiotic switch.

Method

A clinical flowchart (Image 1) was developed to guide the Oral Switch in neonates meeting the following criteria:

- Gestational age ≥ 36 weeks
- Clinically well
- Negative blood cultures
- CRP < 50

Eligible infants received a supervised dose of oral Co-amoxiclav prior to discharge (1 ml/kg, a higher dose than the BNFC guidance to achieve effective concentrations) as part of a full 5-7 day antibiotic course, including IV doses. Follow-up involved a phone call and parental questionnaire.

A retrospective audit of 40 neonates treated for suspected EOS via the Oral Switch pathway born at Frimley Park Hospital April 2024-May 2025 was conducted.

Results

Of the 40 infants included, 3 attended the Emergency Department within 24 hours; none presented with signs of Sepsis. The approach resulted in an average reduction of 2.5 hospital days per baby.

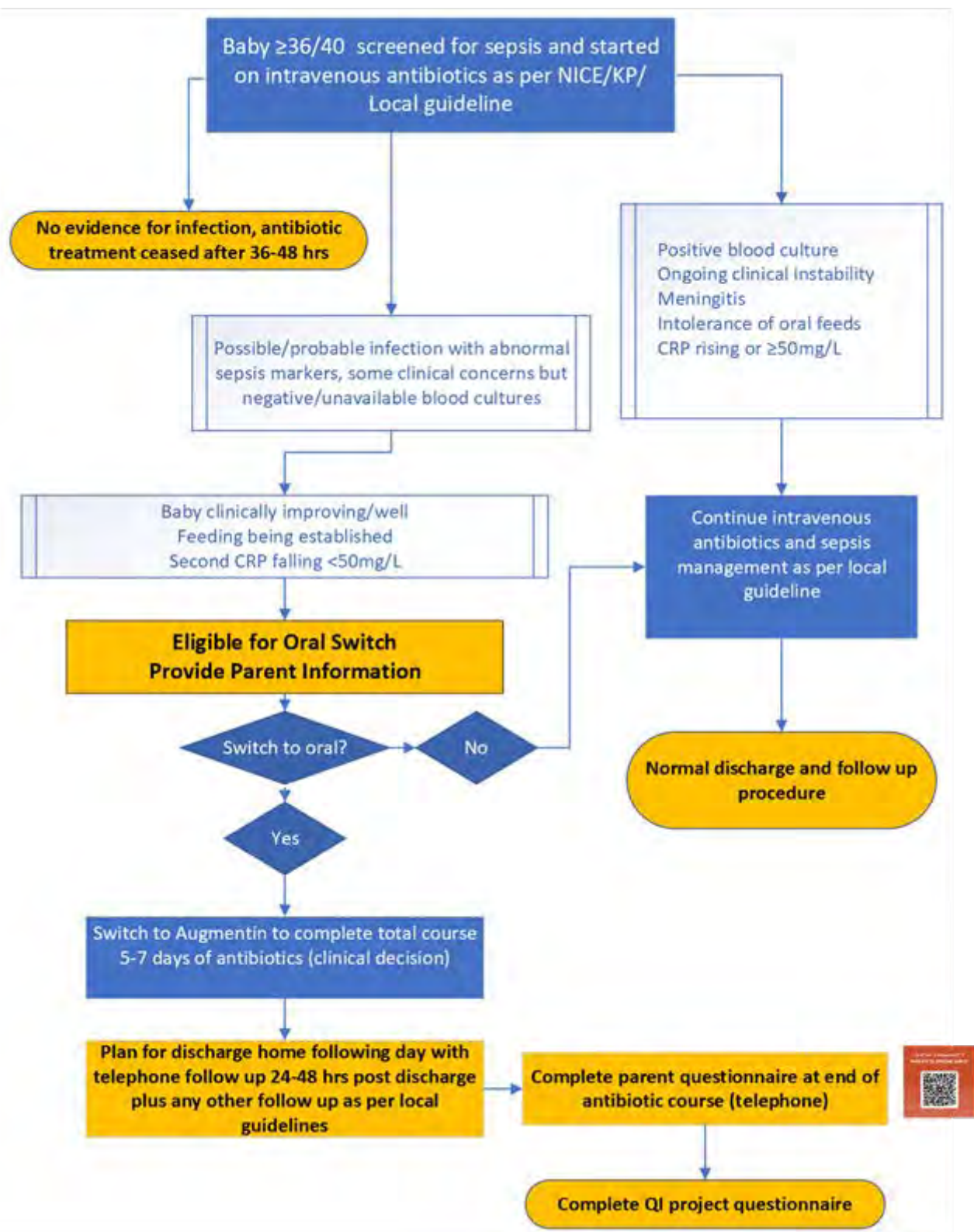
10 babies did not receive the intended supervised oral dose prior to discharge. 4 babies received an extended course of antibiotics, exceeding 7 days.

Parental feedback was unanimously positive.

Conclusion

Oral Switch in eligible neonates appears safe, reduces length of hospital stay and is well-received by parents. Future practice should ensure inpatient administration of one oral dose, adherence to appropriate course duration and clear communication across all clinical teams regarding the non-standard dosing, as this proved to be an issue at Frimley Park Hospital.

Image



Enhancing awareness of perinatal-related physical health conditions for the Perinatal Mental Health Team with the implementation of physical health teaching sessions.

Knight K¹

¹Hampshire And Isle Of Wight Healthcare NHS Foundation Trust

Background

‘People living with severe mental illness face one of the greatest health equality gaps in England [1] which is largely due to preventable physical illness [2].

One of the recommendations to tackle this inequality outlined in the ‘community mental health framework for adults’ is ‘an exchange of learning between healthcare professionals’ [3].

Aim

To increase awareness of perinatal related physical health conditions amongst the Perinatal Mental Health Team (PMHT) subsequently increasing confidence to signpost patients to appropriate resources and services efficiently.

Methods

A series of 10 physical health teaching sessions, lasting 10 minutes each, were presented fortnightly to members of the PMHT Multi-Disciplinary Team (MDT). Sessions were selected following feedback from staff and included pertinent topics such as Gestational diabetes, Preeclampsia and Placenta Praevia.

Teaching feedback was obtained following each session [4] to continuously improve the teaching sessions.

Results

Questionnaires reviewing confidence to identify and signpost physical health presentations were distributed before and after the series of teaching sessions (see graph). Ten questionnaires before, and ten after, were completed.

Before the sessions, 50% of respondents were confident (somewhat or very) at identifying patients requiring input with physical health and 30% were confident at signposting service users to physical health support.

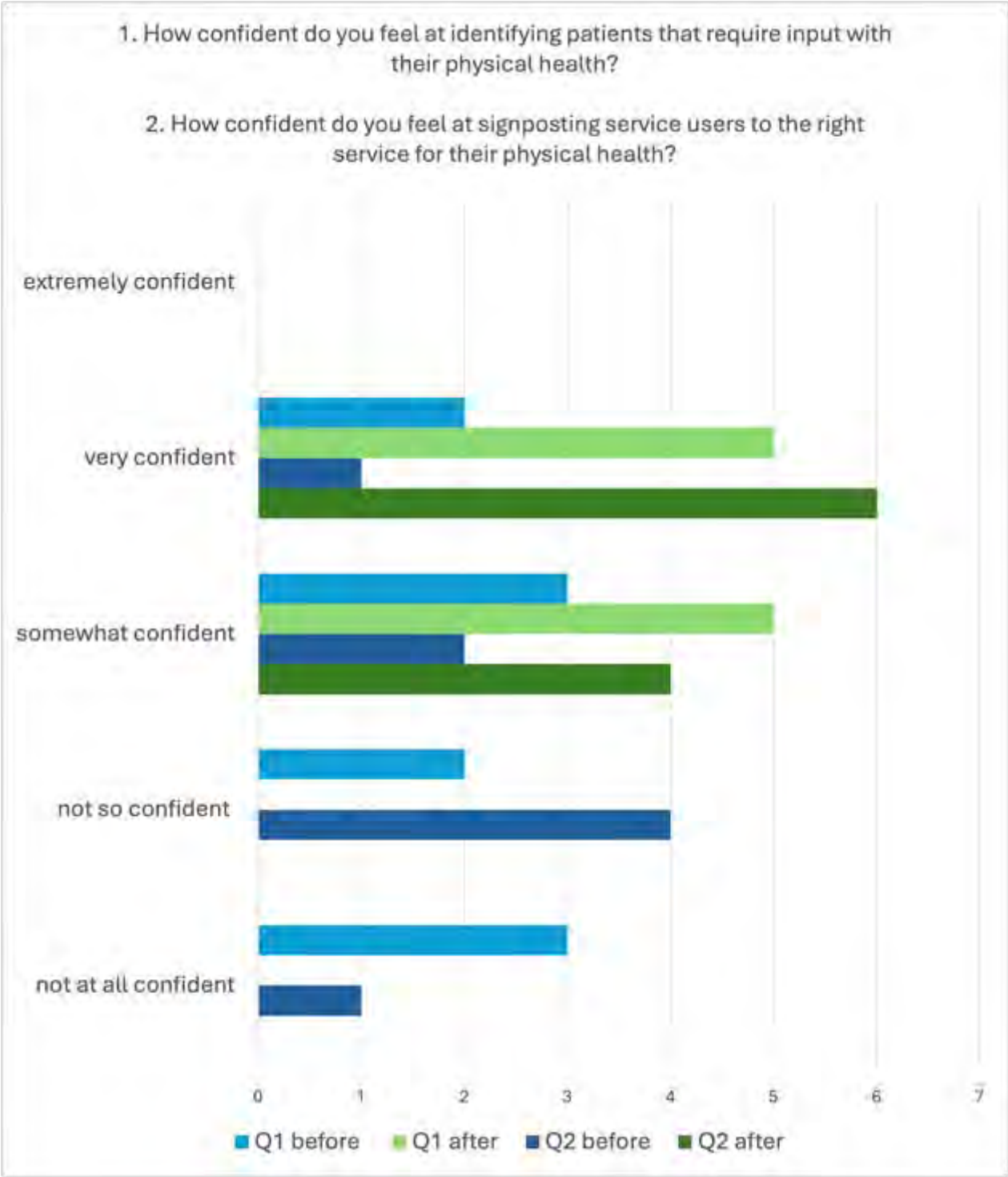
After the sessions, 100% of respondents were confident at both identifying patients and signposting. All respondents would recommend the sessions to peers.

Conclusion

There was a notable increase in confidence to identify and signpost service users to appropriate support for physical health issues following the introduction of teaching sessions to the PMHT.

The main limitation with the project is the small number of people involved. There is scope to expand the project by sharing knowledge and experience from different specialist teams with a program to exchange teaching sessions.

Graphs



Image

References

[1] Public Health England (2018). Severe mental illness (SMI) and physical health inequalities: briefing.

[2] Office for Health Improvement & Disparities (2023). Premature mortality in adults with severe mental illness (SMI).

[3] NHS England and NHS improvement and the National Collaborating Central for Mental Health (2019). Community Mental Health Framework for adult and older adults.

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ASTRA: Avoiding Short-Term Respiratory Admissions to Neonatal Units – A Novel Labour Ward Intervention

Course C¹, Paulose A¹, Cannell S¹, Johnson A¹, Davis E¹, Smith G¹, Jago R¹, Bolton J¹, Davies L¹, Morris C¹, Williams S¹, Hughes S¹, Rose L¹, Williams E¹, Webb J¹

¹Singleton Hospital, Swansea Bay University Health Board

Background: Avoiding neonatal unit admission of term-born infants is a key quality standard, with the UK ATAIN programme and Welsh Government targeting admission rates below 5% and 4%, respectively. Locally, approximately 8% of term infants have required neonatal admission, with short-term respiratory support accounting for two-thirds of cases.

Aim: To implement a labour ward/theatre-based intervention to reduce short-term respiratory admissions among term infants, aiming to meet national targets and minimise parent–infant separation.

Methods: A multidisciplinary team of neonatal and maternity professionals introduced the use of heated, humidified high-flow nasal cannula (HFNC) support for infants requiring extended positive end-expiratory pressure (PEEP) via face mask immediately after birth. HFNC could be continued for up to one hour of life on the labour ward/theatre. During this time, a neonatal nurse remained with the infant to monitor stability and support parents and midwifery staff. At one hour, a medical review determined whether the infant can safely discontinue respiratory support and remain under midwifery-led observation or requires neonatal admission. Monthly term admission rates and respiratory-related admissions are tracked, with case reviews conducted to ensure timely and appropriate care.

Results: Over a three-month implementation period, 22 infants received HFNC support in the labour ward or theatre (mean gestation: 37 weeks; range: 37–41). Caesarean section accounted for 72% of births. Four infants (18%) required admission—two at one-hour HFNC and two during the subsequent 24-hour observation period. No adverse outcomes were reported. Parent and midwife feedback highlighted enhanced early bonding, increased skin-to-skin, and reduced separation caused by admission to neonatal care.

Conclusion: Labour ward-based HFNC is a feasible, safe strategy to support early respiratory transition in term infants, with potential to reduce unnecessary neonatal admissions and improve family-centred care.

Quality Improvement Project- Thermoregulatory management of preterm babies in a Local Neonatal Unit

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¹London North West University Healthcare NHS Trust

Background:

Hypothermia in preterm infants is associated with increased mortality and morbidity. Regular audit cycles and continued improvements in practice at our Local Neonatal Unit have shown steady improvement in neonatal admission temperatures.

Aim:

- To improve thermoregulatory management of preterm babies and achieve NNAP standard of admission temperature between 36.5° and 37.5° in babies <34 weeks

Methodology:

We introduced PDSA cycles in 2023 to improve admission temperature of preterm babies. The various interventions were:

- Regular simulations with the nursing team on stabilisation of preterm infants focussing on thermoregulation including use of plastic bags, transwarmers and radiant heaters.
- Promotion of nurse's role at delivery with focus on taking temperatures within 10 minutes of life and addressing any sub-optimal temperatures and rechecking the temperature before transfer to the neonatal unit. Posters are displayed on labour ward and theatre on steps to do if abnormal temperature is noted.
- Review of thermoregulatory management of every preterm baby and feedback to the team involved
- Posters displayed at key sites within the NICU, labour ward and theatres, highlighting the data and importance of thermoregulation.
- Presentation of the data collected in the PDSA cycles in the departmental audit meetings; challenges in achieving normothermia were identified and remedial measures were put in place.

Results:

There has been steady improvement in thermoregulation of preterm babies and we have achieved the NNAP target of normothermia in >90% of preterm admissions in the last 6 months.

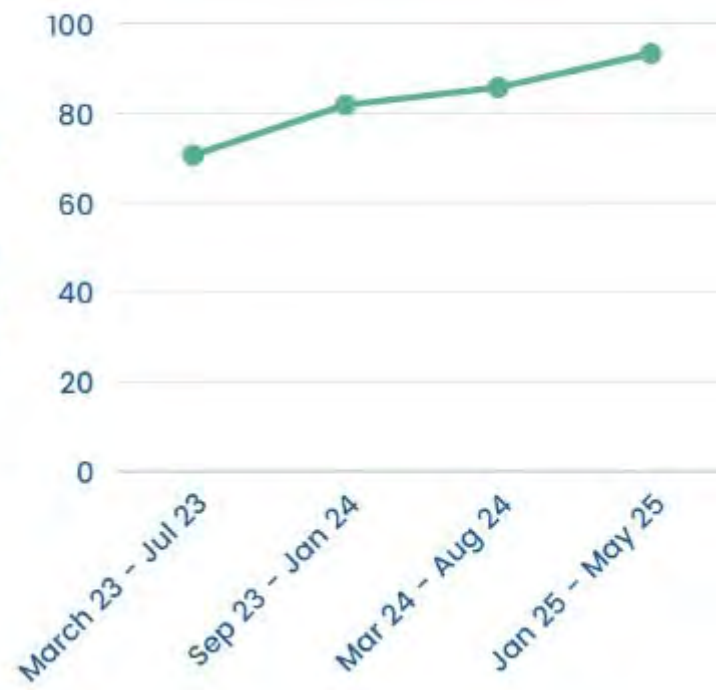
- March 2023 – July 2023 70.6%
- September 2023 – January 2024 – 81.8%
- March 2024 – August 2024 85.7%
- January 2025 – May 2025 93.3%

Conclusion:

Interventions such as simulation training, posters and role delegation of thermoregulation are simple measures to improve thermoregulation standards.

Graphs

Percentage of
infants
admitted with
a temperature
between 36.5
and 37.5



'Lunch and Learn' - Effects of a National Education Programme by NeoTRIPS UK

Isaac T¹, Mytтарaki E¹, Collins L¹

¹On behalf of NeoTRIPs (Neonatal trainee-led Research and Improvement Projects)

<https://neotrips.org/>

Background:

Digital platforms have made access to education from experts increasingly feasible. NeoTRIPs, is a national trainee-led neonatal study group, aiming to improve neonatal care through large scale quality improvement and research. We started providing free, high-quality, expert-led educational content virtually across the nation, in order to meet curriculum-matched training needs for resident doctors.

Methods:

We launched an Educational QI initiative of free, virtual, open-access national 'Lunch & Learn' webinars covering topics in neonatal practice. These took place over 2-hour sessions (12:00-14:00) via Microsoft Teams. The events featured expert speakers from institutions across the country and included live question-and-answer sessions to encourage discussion. Feedback was collected via post-event questionnaires covering satisfaction (1–5 Likert scale), relevance, delivery, and suggestions for future topics. Certificates of attendance were issued as evidence for the trainees' portfolios.

Results:

Sessions were held quarterly in September 2024, January 2025, and May 2025 attracting 15, 28, and 54 learners (total n=97), respectively, showing 50% growth in participation rates. The topics included 'introduction to research', 'quality improvement: tricks and tips', and 'palliative care in neonatal medicine'. Feedback ratings were 4 or 5 out of 5 for >95% of attendants for satisfaction, relevance, and presentation quality. Learners expressed appreciation for the concise content, practical delivery, and ability to link evidence to the curriculum that is hard to acquire. Suggestions for further sessions focus on opportunities for further talks on the above and topics such as research statistics, multi-disciplinary team learning, and ethics.

Conclusions:

NeoTRIPs has successfully delivered a zero-cost, high-impact open-access national neonatal education programme focusing on topics that resident doctors need more exposure to. High satisfaction scores and diverse learner feedback demonstrate strong engagement, accessibility, and perceived educational value. We plan to build on this success with further ongoing sessions on a curriculum-matched range of topics in the future.

Creation of a pathway for anti VEGF injections to be administered in the NICU reducing transfers to another hospital.

Thompson N¹, Stefkova K¹, Shirley K²

¹Royal Jubilee Maternity Hospital, ²Royal Victoria Hospital

Background

Retinopathy of prematurity is a largely preventable condition which can cause long term visual impairment. Ranibizumab is a monoclonal antibody fragment licensed for ocular use. The RAINBOW trial published in 2019 concluded that 0.2mg of Ranibizumab was as effective as laser in all forms of Type 1 ROP. In the UK, 67% of all infants are treated for ROP in the neonatal unit.

Aim

The aim of this study was to evaluate the number of transfers for anti-VEGF injections to theatre compared with the number of cot-side injections. The study aimed to identify key areas of improvement in this process and to produce a structured guideline for staff.

Methods

Transport data from the Northern Ireland Transport Service showed that 11 babies were transferred for injections in 2022, 10 in 2023, but only 2 of 9 in 2024—reflecting a shift toward cot-side treatment. This continued in 2025, when by mid-June 3 infants out of 7 were transported for injections. At the time, no formal guideline existed, and staff reported inconsistent practices and concerns around appropriate analgesia, staffing, location, and respiratory support.

Structured interviews with families revealed anxiety and stress due to separation during transfers. This feedback was shared with the care team and became a key driver in the process.

Results

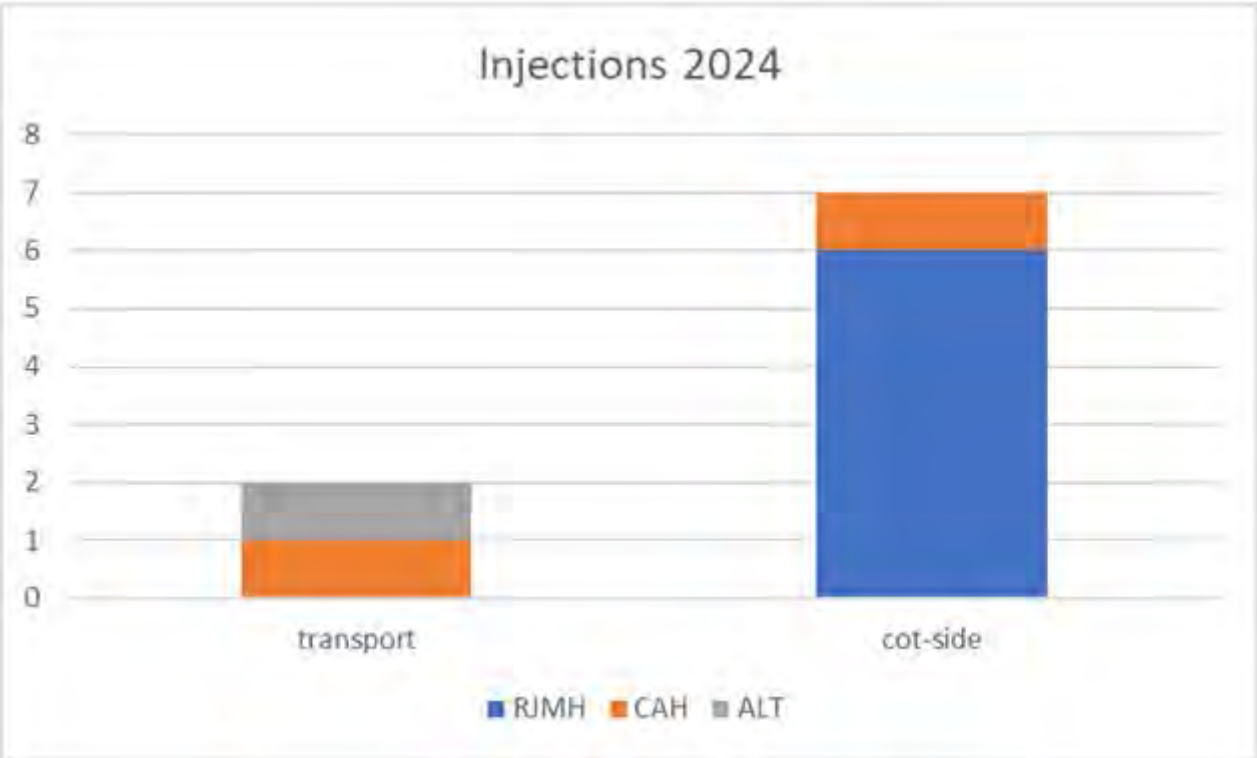
A multidisciplinary group—including neonatal, ophthalmology, and nursing staff—developed a guideline for cot-side injections. This included collaboration on equipment needs, sterility, analgesia, and emergency pathways. Local neonatal units also contributed feedback.

Conclusion

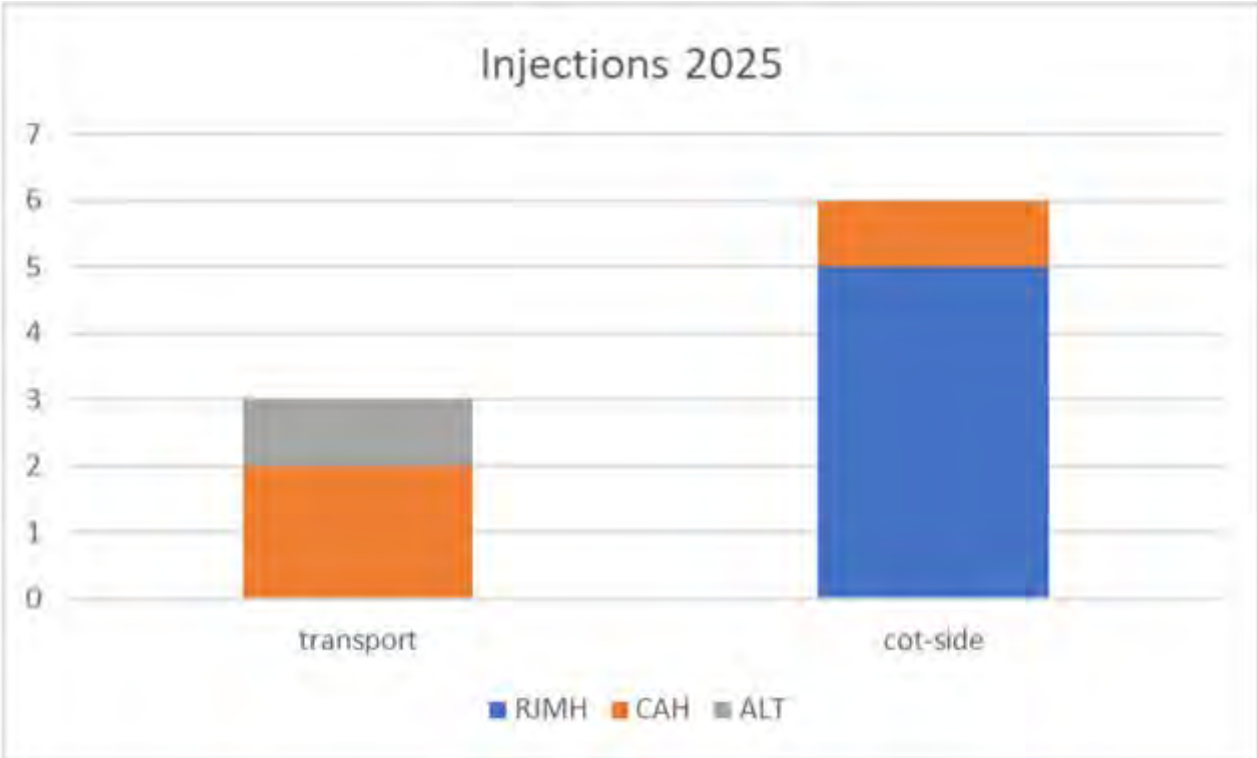
The guideline has now been approved as a standard across Northern Ireland; an equipment box has been set up. There is ongoing training in equipment use and staff feedback to ensure continuous improvement. The recent BAPM management of neonatal pain document led to an update in the analgesia pathway of the guideline.

Word count 297

Graphs



Image



A Welsh quality improvement success story through persistence and team work: Golden drops

Glover Williams A¹, Hopkins E, Bartlett A, Koshi S, Sharma N, Papworth S

¹The Grange University Hospital

Background: Units across the UK are chasing to improve outcomes for preterm infants. Within the data collection for PERIPrem Cymru, we noted that early breast milk rates for premature babies in the Grange University Hospital were 34% in 2023. Subsequently, a QI project was started to try to improve early breast milk rates. The project is led by the Infant Feeding Advisors on NICU in partnership with the Midwifery Infant Feeding Lead.

Our vision is parental delivery of first breast milk during delivery room cuddles.

Methods:

Using QI methodology and a perinatal stakeholder team, Golden Drops was based on the synonymous NHS Lothian QI project.

The team ran education sessions, drop-in sessions, displayed infographics, introduced golden basins (a starter expressing kit for new mums), gave rewards and certificates to staff involved in achieving early breast milk administration and started prescribing colostrum on drug charts.

The team share a Whatsapp to share learning and meet every couple of months. Recognising strong cultural influence, we have written an information leaflet for grandparents on the benefits of breastmilk and have performed a culture survey to progress our understanding of our personal barriers and enablers.

Results:

Our run chart data is attached in graphical form.

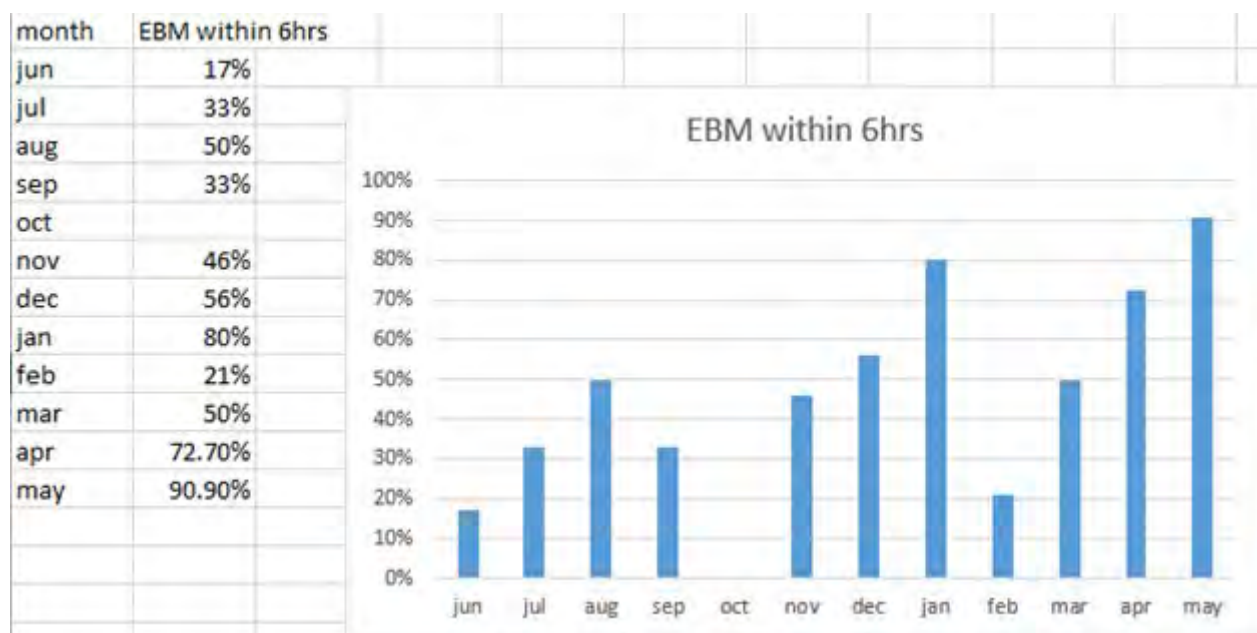
Conclusion:

Using perinatal collaboration, a multi-faceted approach to improvement and a rolling education and support programme we have significantly improved rates of infants receiving early breast milk within 6 hours of life up to 90%.

We still see significant month-to-month variation so embedding practise is still essential.

Regular meetings keep collaboration and communication optimised, and maintain momentum in the project. We have also found it is useful to invite new members on to the project team to provide new insights and boost enthusiasm.

Graphs



Raising parental awareness on early onset neonatal infection - how successful are we?

Bhavra K¹, Purewal N¹, Surana P¹

¹University Hospitals Birmingham NHS Foundation Trust

Background

Early onset neonatal infection (EONI) is a major cause of morbidity and mortality, accounting for 10% of neonatal deaths. National guidance recommends providing information on EONI to parents/carers of at-risk infants.

The objective of this project was to explore clinician views on providing information about EONI to parents of at-risk infants and parental perceptions regarding adequacy of the information received.

Methods

A two-sided survey was designed:

1. Online questionnaire to assess how effectively clinicians at our Trust inform parents regarding EONI.
2. Face-to-face discussions with parents about how well-informed they felt regarding their infant undergoing EONI observations or receiving antibiotics.

Results

Of the 20 clinicians, 12(60%) stated that they provide safety-netting advice to parents when screening for EONI or when commencing observations in at-risk infants. Only 10(50%) were aware of the Trust EONI parent-leaflet, and 13(65%) had never used this leaflet. Those who were unaware about the leaflet mentioned they would use it, with some highlighting readily printed copies would help.

Three of 7(42.9%) parents were aware their babies were on EONI observations, with 1 parent reporting that they received comprehensive information. Of the infants on antibiotics, 10 of 13(76.9%) parents felt it had been explained why antibiotics were commenced with 23.1% feeling they received adequate information. Most parents would have liked further information including a leaflet.

Conclusion

The above two-sided survey highlights a significant gap in EONI information provision to parents. Measures have been put in place (induction teaching, moodle training and printed leaflets) to raise staff awareness on this to improve performance.

A Multidisciplinary Approach to a Quality Improvement Initiative Aiming to Reduce the Incidence of Unplanned Extubation on the Neonatal Unit

Blewer E¹, Kirolos S¹, Coupland E¹, Ilunga K¹, Godden B¹, Linsley T¹, Andrews M¹, Gargasson T¹, Milan A¹

¹Evelina London Children's Hospital

Background: Unplanned extubations (UE) are a serious adverse event impacting patients within the neonatal intensive care unit (NICU). These events can result in airway trauma, increased risk of infection and cardio-respiratory instability. As a result, the SECURE quality improvement initiative was established to reduce the incidence of UE by utilising a multidisciplinary (MDT) approach to drive change.

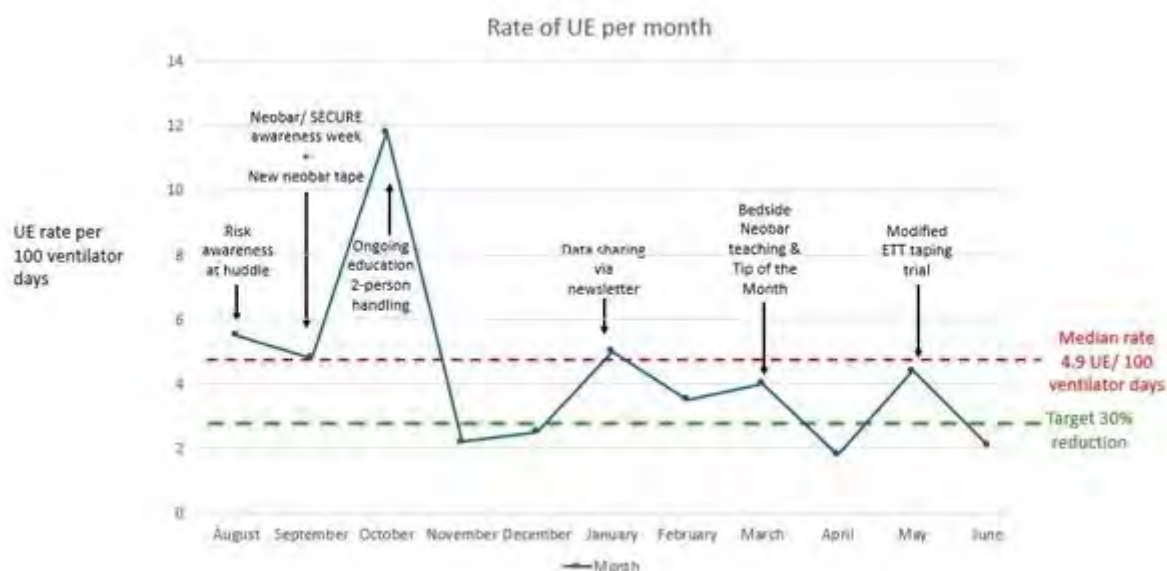
Aim: Using an MDT approach and quality improvement methodology to reduce the incidence of unplanned extubation on the Neonatal Unit by 30% by September 2025.

Method: A motivated project team representing varied roles and experience levels undertook a prospective review of all UE events in a surgical NICU. Quality improvement (QI) tools were used to understand the underlying factors contributing to UE's. An evidence-based care bundle titled 'SECURE' was devised, focusing on the key themes identified from reported incidents and ensuring relevance to local practice. Components of the bundle were championed and implemented by the project team using multiple Plan, Do, Study, Act (PDSA) cycles

Results: The first 6-months of data collection established a baseline rate of 4.9 UE occurring per 100 ventilator days. Monthly analysis of UE incidents has revealed key themes including increased risk of UE in extremely preterm patients, during staff handling and following ETT suctioning. Stepwise implementation of the SECURE bundle and change ideas using PDSA cycles has resulted in increased awareness among the wider team. There has been a trend towards reduced UE since project implementation (See Figure 1 Rates of UE per Month).

Conclusions: A multidisciplinary approach to this quality improvement initiative has increased awareness of the importance of reducing UE events. A well-represented and motivated project team has been essential to drive change. A trend towards our aim has been achieved and ongoing data analysis and education will be essential to ensure this success is sustained.

Graphs



NICE and Easy: Fast-track Your Way To Healthcare Savings

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¹Pilgrim Hospital, United Lincolnshire Teaching Hospital NHS Trust (ULTHT)

Background: NICE updates guidelines to ensure they are current, accurate and reflect the latest evidence and best practice. NG195 was published in April 2021. Maternal parenteral antibiotics are no longer a risk factor in the 2021 NICE guideline. Well-babies without risks or clinical indicators need routine post-natal care.

ULTHT has not adopted the new NICE recommendations to date – for various non-clinical reasons. This has led to unnecessary screening and admissions of new-borns along with periods of separation from the mother.

Methods: A Retrospective review of Badgernet data was conducted over a 3-year period from January 2022 - January 2025.

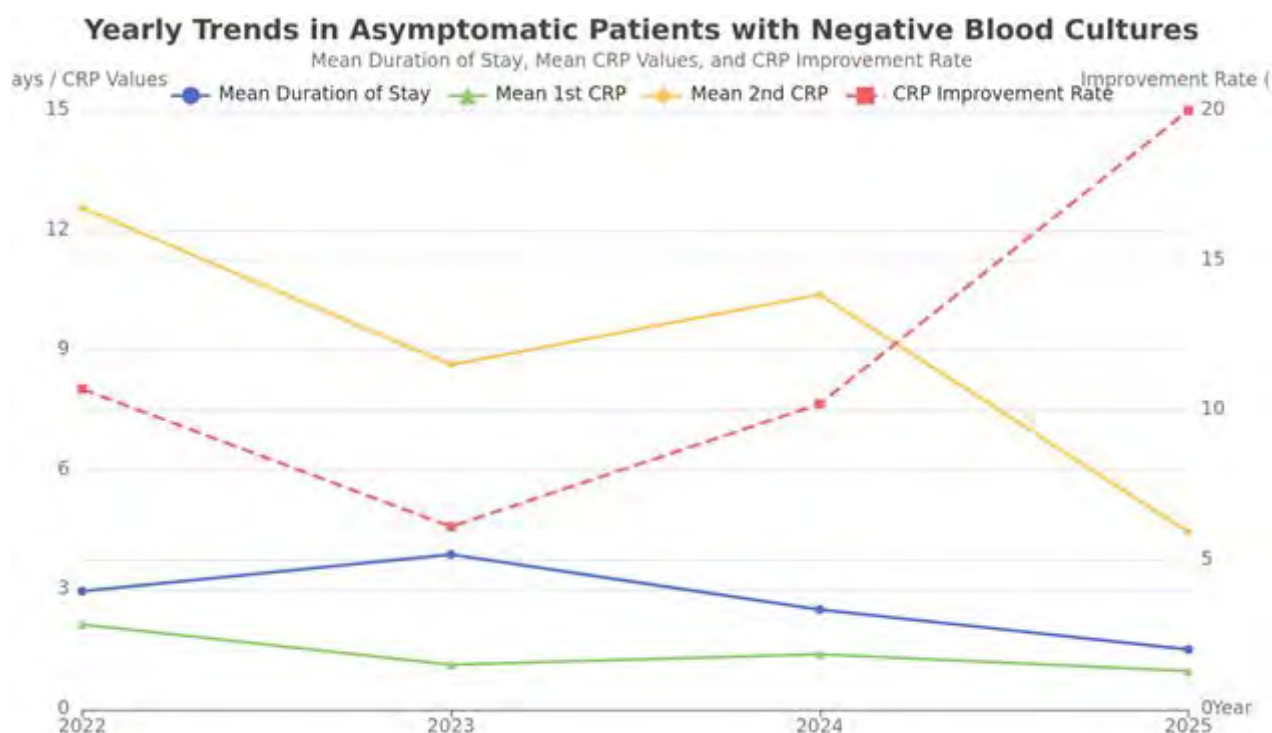
Only well-babies who were screened/admitted for the sole reason of maternal antibiotic therapy, in the absence of other risk factors or clinical indicators, were included.

Results: 143 babies were screened. All these babies were clinically well with no signs of sepsis until discharge. All the blood cultures were negative.

Mean CRP at admission was 1.6 and the repeat at 24hrs was 10.6 mg/dl. 25/143 (17.4%) had a lumbar puncture due to incidental raised CRP. All of these CSF cultures were negative as well. Mean duration of stay for transitional care was 2.9 days.

Conclusions: Delayed adoption of updated NICE guideline has led to the continued (avoidable) screening and admission of clinically well neonates, solely due to maternal parenteral antibiotic use, no longer considered a risk factor. This resulted in screening of 143 well-babies, all with negative culture results. This practice incurred avoidable financial costs to the NHS and imposed hidden emotional and logistical burdens on families. At an average cost of £1,050 per day for the transitional care pathway, this equates to savings of more than £100,800 per year. Timely implementation of evidence-based NICE guidelines enhances clinical care, optimizes resource use and improves patient and family experience.

Graphs



Thermoregulation of the Newborn - Reducing Term Neonatal Admissions

Evans E¹, Morris S¹, Stott A¹

¹Wye Valley NHS Trust

Background:

All Newborn babies are at risk of hypothermia, if we do not take action at birth to maintain warmth and heat, the core and skin temperature of a baby can decrease by 0.1°C and 0.3°C respectively. This decrease in temperature can lead to problems such as hypoglycaemia, respiratory complications and metabolic acidosis, resulting in unnecessary interventions such as respiratory support, IV antibiotic administration and separation of mother and baby.

At Wye Valley Trust we identified from our ATAIN reviews that there was an increasing number of babies born ≥ 37 weeks gestation with a temperature $\leq 36.5^\circ\text{C}$ requiring admission to SCBU for additional respiratory support. Hypothermia in Newborn babies can exacerbate or worsen surfactant deficiency, which is a major cause of respiratory distress syndrome.

Methodology for QI Project:

- Regular review meetings between maternity and neonatal services.
- Review of existing data, including delivery room temperatures, case reviews, staff feedback and ATAIN data.
- Process mapping, driver diagram, developed a project charter, small tests of change, PDSA's, data analysis.

Results:

- A 20% reduction in admission of babies to SCBU born ≥ 37 weeks with low temperatures between Q3 and Q4 2024/25.
- Establishing close perinatal relationships aided improvement and learning.
- Established a system to collect room temperature data.
- Developed tools to track and analyse room temperature trends, rapidly identifying and rectifying any issues.

Conclusion:

Through analysis of our ATAIN data, we identified a concerning trend, and by adopting a collaborative approach we were able to reduce the number of admissions due to low temperatures in a short space of time. We have proved that temperature optimisation in the birth environment improves outcomes for babies and reduces unnecessary harm from cold stress.

Image

Thermoregulation of the Newborn: Reducing Term Neonatal Admissions

Project Aim:

To reduce unplanned term neonatal admission's (>37/40) to SCBU with the primary diagnosis of hypothermia or hypoglycaemia by 10% by March 2025.

Drivers:

- To reduce mother and baby separation
- Enhance the importance of thermoregulation in the neonate within staff culture
- Develop a collaborative approach amongst our perinatal teams
- To optimise environmental temperatures in all areas of maternity to reduce the risk of hypothermia; particularly obstetric theatres and the delivery rooms.
- Improved data collection on room temperatures

Background

Every new born baby is at risk of hypothermia in the first 12 hours of life. Immediately at birth, if no action is taken to maintain warmth and heat, the core and skin temperature of a baby can decrease by 0.1c and 0.3c respectively. This decrease in temperature can lead to problems such as hypoglycaemia, respiratory complications and metabolic acidosis. Many of these complications result in unnecessary interventions such as respiratory support, IV antibiotic administration and separation of mum and baby which interrupts bonding and attachment.

Here at WVT, we identified from ATAIN reviews and data that there was an increase in the number of babies born ≥ 37 weeks gestation with a temperature $\leq 36.5^{\circ}\text{C}$ requiring admission to SCBU for additional respiratory support. Hypothermia in newborn babies can exacerbate or worsen surfactant deficiency, which is a major cause of respiratory distress syndrome.

Method:

- **Collaborate:** formed a regular team meetings with maternity and neonatal services
- **Current review of process:** reviewed existing data – of room temperatures, case reviews from ATAIN, staff feedback and ATAIN data.
- **QI methodology:** process mapping, driver diagram, developed a project charter, small tests of change, PDSA's, data analysis.
- **Digital support:** liaising with IT department to ensure all labour ward coordinators have a license for TEAMS to access the equipment checks to improve compliance

Change Ideas:



Room Temperature Audits
Completed across maternity delivery areas to establish baseline data – using MS Forms/QR codes.



Collaboration & Resources
Worked with estates to change central heating of the delivery suite and reported any immediate issues with daily measurements taken. ~ target temperature: $>21^{\circ}\text{C}$ (20-25 $^{\circ}\text{C}$)



Daily Checklist
Added to the daily equipment and resuscitative checklists on delivery suite.

Results:



Project Achievements

- We achieved a ~20% reduction in admissions of babies with low temperatures between Q3 and Q4 of 2024/25
- We demonstrated how close perinatal relationships aid improvement and learning, and change culture
- We establishing a system to collect temperature data
- We have tools that allow us to track and analyse room temperature trends
- We can now rapidly identify temperature issues - e.g. faulty equipment

Conclusion

- ATAIN analysis helped identify a concerning trend
- Relatively quick successes are achievable with collaborate effort
- Temperature optimisation in the birth environment improves outcomes for babies and reduces unnecessary harm from cold stress.

Next Steps:

- Sustainability: daily room checks, room temp targets, analyse the data
- Spread Project to the maternity ward, review theatre and explore data collection of room temperatures in postnatal bays on maternity ward and SCBU
- Communication of results to key stakeholders with Maternity Services.
- Education to Parents – testing high quality antenatal conversations.
- Education for staff – to ensure they have a SOP to understand what actions to take if temperatures fall outside of normal range
- In 2024/25 there was an increase (53%) from Q1 to Q3 in the number of babies having risk factors for IVAB. Further analysis is needed to see if effective thermoregulation would have offset this increase.

Useful Resources:



Additional: Sarah Morris Consultant Midwife, Alice Stott Inpatient Maternity Manager, Annette Arnold – Inpatient Matron, Elaine Evans Special Care Baby Unit Manager, Iain Darwood Consultant Paediatrician.

Born a little early, but fed very differently: A regional practice evaluation project on postnatal care of late preterm babies in the East of England

Hassan H¹, Wong H², G N²

¹Neonatal transport service London, ²Cambridge university hospitals NHS foundation trust

Background: The postnatal care of late preterm infants (LPTI, 34+0 to 36+6 weeks gestation) is highly variable. To better understand current feeding practice, we undertook a regional service evaluation across neonatal units in the East of England. We explored regional variations in postnatal care of LPTI, focusing on feeding outcomes, length of stay (LOS), and readmission rates.

Methods: We collected data across 15 neonatal units in the East of England for LPTI born between November 2023 to February 2024 (3 month period). Variables included maternal and infant characteristics, care settings, complications of prematurity, nutritional care, LOS and readmissions.

Results:

The cohort included 620 LPTI of 34 weeks (15%), 35 weeks (33%), and 36 weeks (52%) gestation.

There is wide variation in breastfeeding outcomes between centres (Figure 1). Overall, 29% (range 14% - 47%) went home exclusively on their mother's milk, 31% were discharged on formula, 38% with combined feeds, and 2% had missing data.

The mode of feeding was also highly variable: 17% (range from 6% to 29%) achieved exclusive breast feeding at discharge. 46% were breast fed with top ups, 31% were exclusively bottle fed, 4% were bottle fed with top up and 1% had missing data.

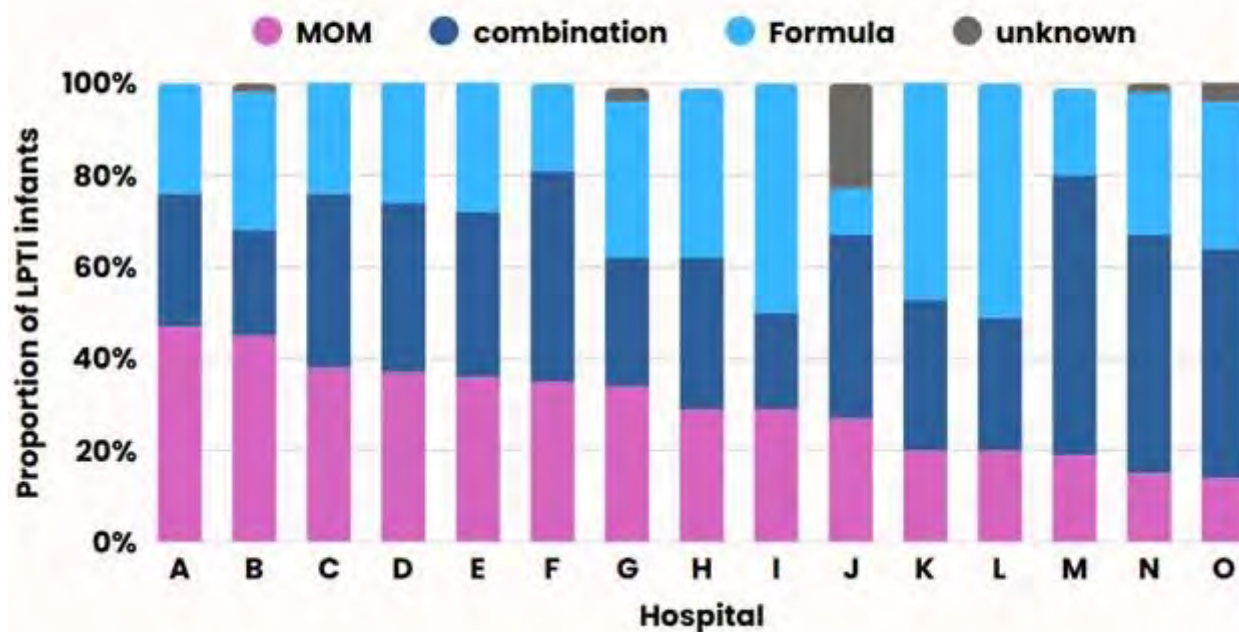
The median LOS was 5 days. There was no association between LOS and breastfeeding outcomes. Readmission data was limited by high level of missingness. Overall, readmission rate was 13%.

Conclusion:

Breastfeeding rates among LPTI are low and highly variable across centres. This may reflect uneven lactation support or other unique individual centre factors. The baseline data represents the first stage of a regional QI project to improve breastfeeding outcomes in LPTI. Future work includes in-depth analyses of centre-specific care factors to ensure equitable care across the region.

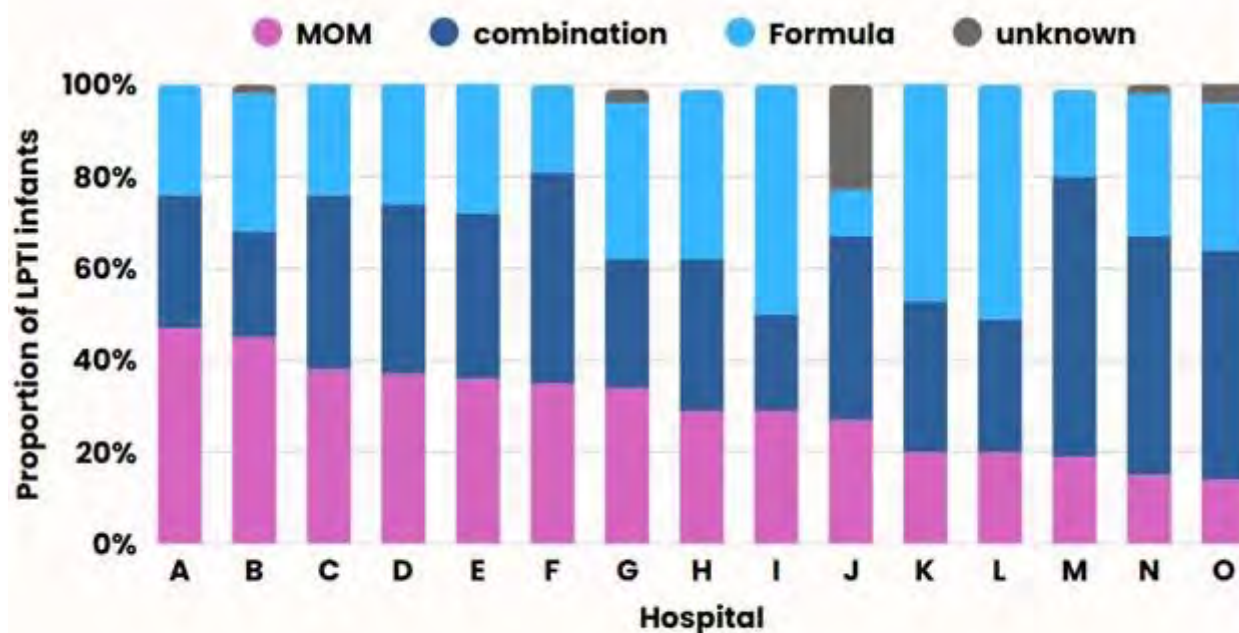
Graphs

TYPES OF MILK FEEDS AT DISCHARGE FOR LPTI IN EAST OF ENGLAND



Image

TYPES OF MILK FEEDS AT DISCHARGE FOR LPTI IN EAST OF ENGLAND



Strength in Motion: Inotropes in Neonatal Transport- A regional review

Maldar H¹, Chaudhary N¹, Felstead S¹, Job S¹, Arthur J¹

¹Cambridge University Hospital Nhs Foundation Trust

Background:

Inotropic support is commonly required in critically ill neonates during inter-hospital transport, yet there are limited guidelines for its use. We evaluated the use of inotropic support on neonatal transfers in East of England region and adherence to regional hypotension guideline.¹

Aim:

To evaluate the current practices surrounding inotrope use on emergency neonatal transfers- underlying diagnosis, echocardiogram findings, and compliance with current guidance.

Methods:

A retrospective review of all neonatal transports requiring inotropic support over 1 year between June 2023- May 2024 was completed. Data collected from electronic medical records included patient demographics, first-line inotropes used and escalation, echocardiogram results, diagnosis, and neonatal outcomes.

Results:

Inotropes were used in 4.5% (58/1330) of all neonatal transports. Among these, 58% were preterm, half of whom were extreme preterm. 28% calls came as decision support and were escalated within 24 hours to emergency transport. All neonates were intubated and ventilated prior to transfer. Prematurity complications (31%) and PPHN (24%) were most common diagnosis. 7 neonates had proven infection and nearly half had echocardiograms at referral unit.

25% required multiple inotropes, with Adrenaline being the commonest 1st and 2nd line agent used (Fig 1). 4 neonates needed 3 inotropes and another 6 received hydrocortisone. 6 neonates had care redirected at referral unit and 6 died post-transfer, mostly within 72 hours of transfer. (Table 1)

Conclusions:

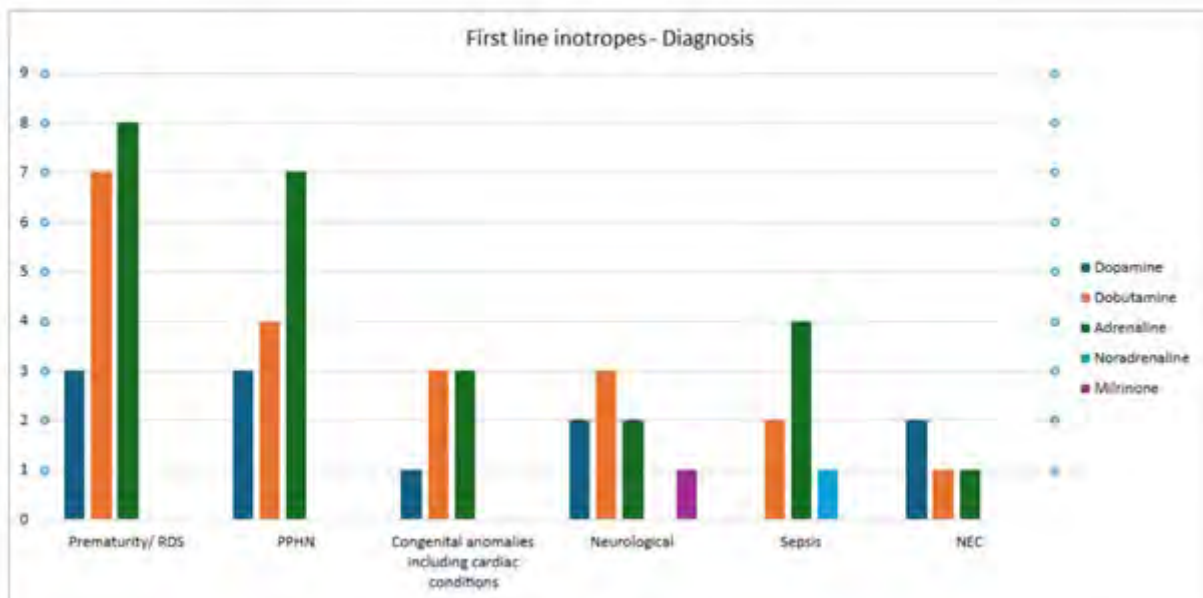
A 20% mortality rate among neonates requiring inotropes was reported with severe metabolic acidosis increasing risk. This suggests higher mortality rate in neonates requiring inotropic support peri-transport and care redirection at referring hospital may benefit family integrated care. Adrenaline was preferred inotrope across all diagnosis, likely due to local and transport team preference and familiarity. Dobutamine was preferred most in prematurity and neurological conditions.

Reference:

1. Clinical Guideline EoE: Management of Hypotension in the Neonate;
<https://eoneonatalpccsnetwork.nhs.uk/wp-content/uploads/2022/01/Neonatal-Hypotension-Guideline-2021-Final.pdf>

Graphs

Fig 1: Choice of first line inotropes with diagnosis:



Image

Table 1: Summary Table: (Including Mortality Case Details)

Baseline characteristics of Cohort: Number of Neonatal Transfers Number of neonates needing inotropic support Male: Female Term: Preterm Extreme Preterm (<28 weeks), 50% of all preterm (n=15) Diagnosis: Fluid bolus: Bicarbonate correction: Blood product: 1st line Inotropes: 2nd line Inotropes:					1330 58 (approximately 4.5%) 1.2:1 (n=32:26) 1:1.4 (n=24:34) Prematurity complications- 31%, PPHN- 24%, Congenital anomalies including cardiac- 12% Neurological conditions and confirmed sepsis- 12% each NEC 7% 85%; 20% received >20ml/kg/bolus 15% 38% received at least 1 blood component transfusion Adrenaline (43%), Dobutamine (34%), Dopamine (19%), Noradrenaline (1.7%) and Milrinone (1.7%) Adrenaline most common followed by noradrenaline, dopamine and dobutamine						
ID No	Birth GA(Wk)	BW (kg)	Diagnosis	Point of care Echo diagnosis	Max BE/ Lac	Fluid bolus & Blood (ml/kg)	1 st line inotrope	2 nd line inotrope	Hydrocort/ 3 rd inotrope	Outcome	Comment
1	37+3	2330	Trisomy 18, PPHN	Severe PS, 2xVSD, large PDA, PH	-3.4/1.9	Saline- 10	Dopamine	No	No	Died in tertiary NICU	Surfactant/INO/paralysed DNA CPR
2	23+4	535	Extreme Prematurity, Large IVH, anaemia	Not done	-13.8/9.3	Saline- 10; RBC- 20	Dobutamine	Adrenaline	No	Died in tertiary NICU day 1	Surfactant x1, 1 x bicarb Transfusion event in NICU
3	36	2640	Fetomaternal haemorrhage	Structurally N, poor contractility, EF 10-15%	Unrecordable BE & Lactate	RBC-10; Cryoprecipitate- 10	Adrenaline	No	No	Redirection at referring unit	Kleihauer test positive, Baby Hb 52 Post natal collapse at 3 hrs of life 5 x adrenaline, 2 x bicarb
4	25+3	815	Extreme prematurity, Twins with TTTS, PPHN, Sepsis	No done	-19.8/15.1	Saline- 10; RBC- 10; FFP- 20	Dobutamine	Adrenaline	Hydrocort	Redirection at referring unit	Blood culture: Streptococcus, PPROM - 17 wks 1 surfactant, 1 x bicarb, INO
5	26	960	Extreme prematurity, PPHN, pneumothorax	Not done	-17.3/8.3	Saline- 30; RBC- 10	Adrenaline	Noradrenaline	No	Died on day 4 at tertiary NICU	HFOV, iNO, Chest drain, 3 x curosurf PPROM since 17 weeks
6	23+2	500	Extreme preterm, Hypotension	Not done	-12.8/9.3	RBC- 20	Dobutamine	No	No	Redirection at referring unit	No Antenatal steroids, No MgSO4 1x surfactant
7	23+2	500	Extreme prematurity, Suspected sepsis	Not done	-12.8/9.3	RBC- 20	Dobutamine	No	No	Redirection at referring unit	No antenatal steroids, No MgSO4 1x surfactant
8	26+6	500	Extreme prematurity, Grade 3-4 IVH	Not done	-23.7/19	Saline- 30; RBC- 15	Dobutamine	No	No	Redirection at referring unit	1x surfactant
9	25+0	760	Extreme prematurity	Not done	-14.5/21	Saline- 10; RBC; FFP	Dobutamine	Dopamine	Adrenaline	Redirection at referring unit	2nd vit K, 1/2 bicarb, surfactant, severe hypovolaemia & hypothermia
10	34+4	2200	TAPVD- Antenatal diagnosis	Not done	-10.9/7.8	Saline- 10	Dobutamine	No	No	Died in tertiary NICU	Re-direction in cardiac unit as per Echo
11	34+0	1080	Gram negative Sepsis, 7NEC	Contractility good, IVC collapsible	-23.7/18	Saline-70; RBC-15	Noradrenaline	Dopamine	Hydrocort	Died in tertiary NICU	RIP due to septic shock, care re-directed after being on maximum inotropes
12	36+0	2615	Meconium aspiration, PPHN	Not done	-28.1/20	Saline- 20; RBC- 20; FFP- 15	Adrenaline	Noradrenaline	Hydrocort	Redirection at referring unit	iNO, NaHCO3, IV salbutamol

Optimal Cord Management in preterm infants – a quality improvement project

Sand L¹, Jarvis C¹, Douthwaite A¹

¹Croydon University Hospital

BACKGROUND

Optimal Cord Management (OCM) in preterm babies is defined as babies born <34 weeks gestation having their umbilical cord clamped ≥ 60 seconds after birth.

OCM leads to improved outcomes of preterm babies, including a reduced risk of death by at least 27% with a number needed to treat of 33-55.

Croydon Hospital has published a new guideline titled 'Optimal Cord Clamping of Preterm Newborn' in October 2024 with the aim to improve umbilical cord management in preterm babies.

METHODS

Retrospective analysis of all babies born at Croydon Hospital <34 weeks gestation between March 2024 - January 2025. Data were collected using Badgernet and Cerner notes. Analysis was separated into two groups, before and after the implementation of the new guideline: Pre intervention group being March 2024 – October 2024 and post intervention group being November 2024 – January 2025.

RESULTS

59 babies were born <34 weeks gestation between March 2024 – January 2025, of which 42 (71%) were male. The mean birth weight was 1615g with a median gestational age of 31+5 weeks. Overall, 44 singletons, 6 sets of twins and 1 set of triplets were born. 35 (59%) babies were born via C-section and 24 (41%) via vaginal delivery.

Prior to implementation of the new guideline, 83% babies received OCM. Of the babies who did not receive the full 60 seconds of delayed cord clamping, all babies were reported to have been born in poor condition.

Post-intervention, 94% of babies received OCM.

Results show an increase in mean percentage of babies receiving OCM from 86.6% pre-intervention to 95.3% post intervention.

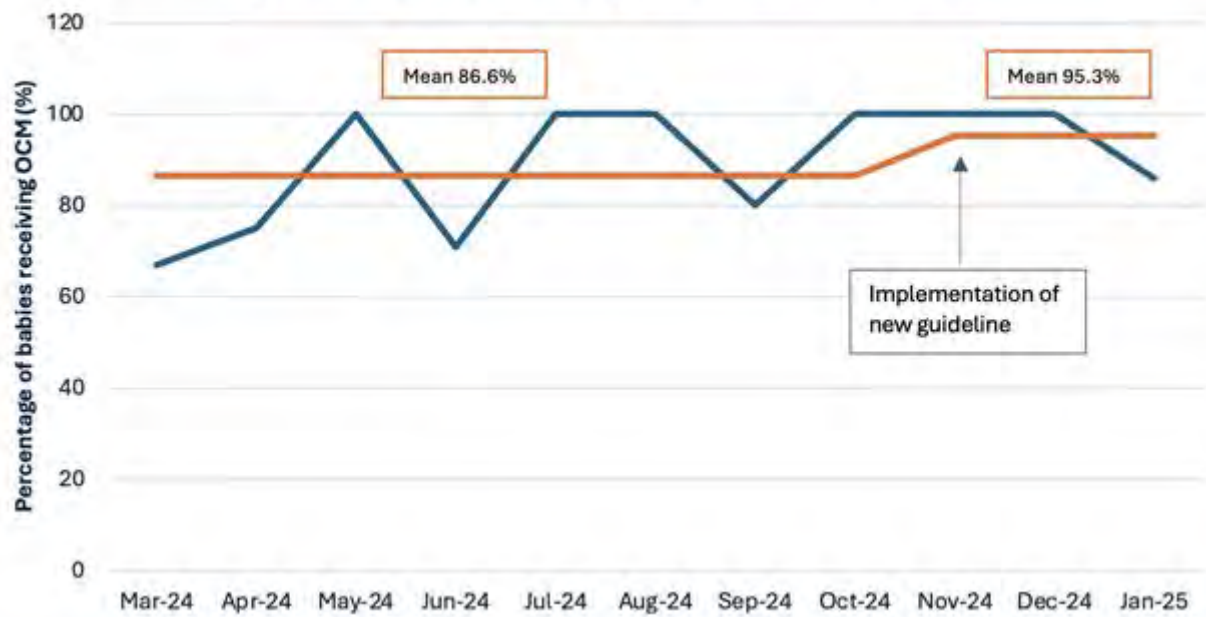
Normothermia rates remained the same pre-and post-intervention.

CONCLUSIONS

Our data shows successful implementation of the new 'Optimal Cord Clamping of Preterm Newborn' guideline with an overall improvement in compliance with OCM from 83% to 94% of preterm babies.

Graphs

Optimal Cord Management: <34 weeks



RETROSPECTIVE STUDY: Hypertriglyceridaemia in extremely premature infants, foe or innocent bystander?

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

³Royal Brompton Hospital NHS Foundation Trust

Background: Very-low-birth-weight and critically ill preterm infants often require parenteral lipid emulsions to meet their high energy demands and supply essential fatty acids when enteral nutrition is limited or delayed [Vlaardingerbroek H, et al,2012]. Due to immature metabolic pathways, they have reduced triglyceride clearance, increasing the risk of hypertriglyceridaemia.

Method: We conducted a retrospective cohort study over six years (2018-2024). We aimed to describe incidence of hypertriglyceridaemia (HTG) in extremely premature infants and determine association between high triglyceride (TG) levels and Retinopathy of Prematurity requiring intervention (threshold ROP) and mortality.

We included all infants born at less than 28 weeks gestation admitted to St. George's Hospital, who received parenteral nutrition (PN) in the first 3 weeks of life. Cases were defined as Significant Hypertriglyceridaemia burden (STGB): > 2 episodes of >2.8 (mmol/l) and Severe HTG (SHTG): any episode of Triglyceride levels >4 (mmol/l)

Result: A total of 305 infants were included in the study. Median gestation and birth weight of infants were 25+5 (22+1-27+6) and 774grams (370-1440) respectively. Thirty-three infants (10.8%) had average Triglyceride levels (ATG) >2.5 mmol/l. Fifty-two infants(17%) had STGB, whereas SHTG was observed in 90 infants (29.5%).The infants with lower gestation and with lower birth weight were more likely to have ATG> 2.5 mmol/l, STGB and SHTG. ATG levels >2.5 mmols/l were associated with increased odds of mortality (11.8; CI 95%;3.39 to 41.46; p-value .0001). SHTG was associated with increased odds of mortality (4.44;CI 95%;1.27 to 15.59; p-value .019) and threshold ROP (2.16;CI 95%;1.16 to 4.03; p-value .015). STGB was associated with increased odds of threshold ROP (2.8;CI 95%;1.43 to 5.71; p-value .0028).

Conclusion: We concluded that infants born at lower gestation and/or with lower birth weight are more likely to have high TG levels. Infants with SHTG are at increased risk of threshold ROP and mortality.

Follow up of newborn heart murmurs utilising a nurse Practitioner (ANNP) led clinic

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¹Leeds Teaching Hospitals Nhs Trust, ²Leeds Teaching Hospitals Nhs Trust, ³Leeds Teaching Hospitals Nhs Trust

Follow up of newborn heart murmurs utilising a nurse
Practitioner (ANNP) led clinic

ABSTRACT

Background

Approximately 1 in 150 babies in the UK are born with congenital heart disease.¹ The majority of these lesions are hemodynamically insignificant, but they represent the larger proportion of cardiology outpatient workload.

Newborns with asymptomatic heart murmurs which persist at 24 hours of age were historically referred to the neonatal cardiology clinic in 6-8 weeks, but the waiting list was longer than this. To improve the care pathway an ANNP led murmur clinic was set up where innocent murmurs would be reviewed including arterial oxygen saturation (SaO₂) in 1-2 weeks and only referred to the neonatal cardiology clinic if the murmur persisted.

Methods

To evaluate the appropriateness, timeliness and effectiveness of an ANNP led murmur clinic, a retrospective audit from Sept 2020- Oct 2023 (3 years) was undertaken. Data collected using NIPE smart data and electronic patient record. Notes were reviewed and gestational age, examination findings, investigations, follow up timelines, diagnosis and missed diagnosis collected.

Results

Within the audit period 479 infants were reviewed in the ANNP clinic, 315 (66%) – murmur resolved-discharged, 164 (34%)-persistent murmur- referred for ECHO, on ECHO 85 (52%)-normal study, 31(19%)-VSD, 22(13.4%)-PFO, 8(4.8%)- PDA, 7(4.26%)- PS, 3- ASD(1.82%), 2(1.21%)- Co-arc, 2(1.21%)- AS, 1(0.6%)- mild MR.

No infant discharged direct from the ANNP clinic subsequently presented with a cardiac problem. The neonatal cardiology clinic waiting list has reduced from approximately 79 days to 47 days

CONCLUSION

A minority of newborns with a heart murmur have an underlying cardiac malformation.

The introduction of an ANNP led murmur clinic has demonstrated an optimal service for the management of heart murmurs in postnatal infants by providing consistent high quality follow up, relieving pressure on consultant led clinics by providing an interim review.

One Year of TReAT QI, Timely Receiving Antibiotic Treatment for Early-Onset Sepsis in NICU

Mcnamara C¹, Gartland A¹, Hayton M¹, Thistlewaite Z, Robins A¹, Gee A, Barrett P¹, Basu A¹, Samanta S¹

¹St Mary's Hospital

Background

Early-onset neonatal sepsis (EONS, <72h of life) is a leading cause of neonatal morbidity and mortality. NICE recommends antibiotics within 1 hour of decision to treat (DTT).

In 2023, retrospective audits demonstrated that only 40% and 60% of eligible babies at our unit met this target. TReAT QI was launched June 2024.

Methods – What We Launched

We shared our 2023 audit findings locally and introduced a 'Message of the Week (MOW)' to raise awareness and ensure timely antibiotics.

A real-time Power BI dashboard was created for continuous data tracking.

We used stakeholder input, fishbone analysis, and an Impact-Effort Matrix to help prioritise interventions using a driver diagram.

Barriers We Faced

- Staffing gaps
- Delays with prescription and cannulation
- Documentation inconsistencies for reasons of delay
- Competing clinical priorities

Interventions Introduced

- Weight and gene drive taken at delivery
- Admission clocks used as prompts
- Streamlined medical admission documentation
- Benzylpenicillin given as first-line pending gene drive results
- Enhanced team communication to support escalation of delays
- Regular and targeted staff communications, including new poster pathways

Results So Far

Compliance improved from 60% to a 12 month mean of 78% The latest 3-month mean rose to 85%, (median 89%). Weekly peaks showed 100% is possible, though variability remains (range: 38–100%).

What's Next

- Address nursing staffing challenges
- Embed existing interventions
- Implement tailored nursing admission documents
- Deliver focused sepsis education to nursing staff
- Expand TReAT QI to postnatal ward patients

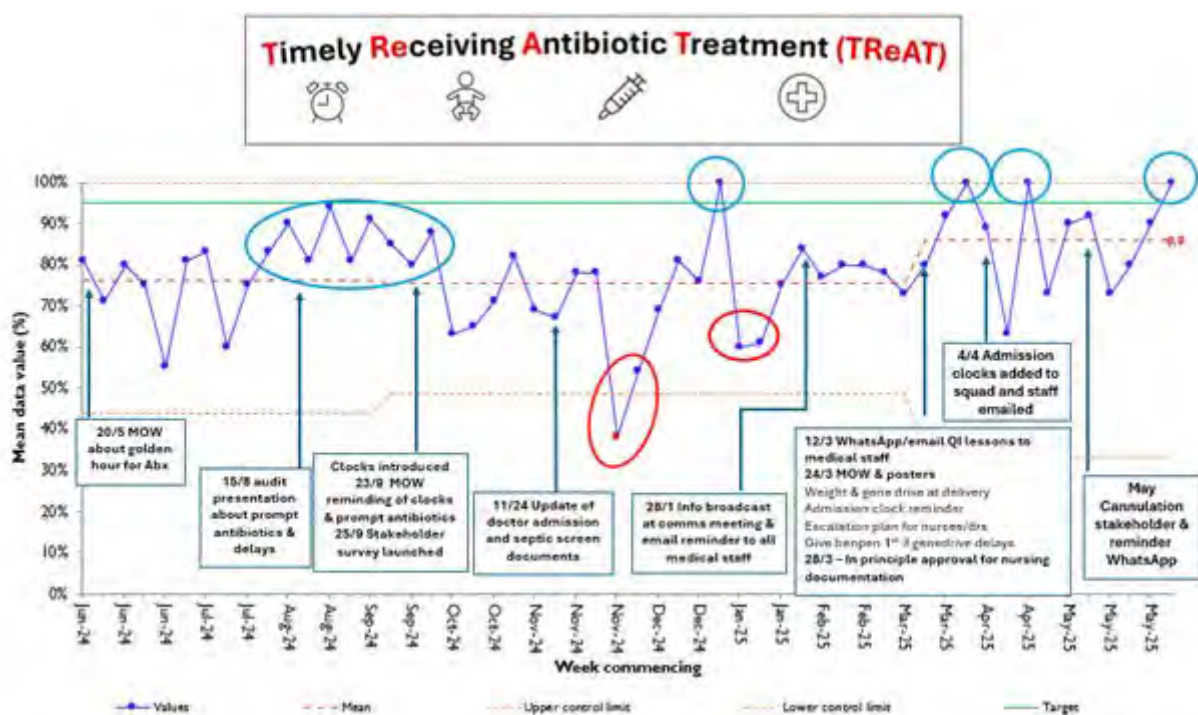
Conclusion

TReAT has driven meaningful change by uncovering system-level barriers and targeting key areas for improvement.

Through PDSA cycles, stakeholder engagement, and real-time feedback, compliance improved from 60% to 78%, with recent months averaging 85%.

Sustainable change, reduced variation, and expansion to postnatal ward care are now the priorities moving forward.

Graphs



Switching neonates to Oral Antibiotics and Sending Home (SWOSH): a prospective scoping study in Wales

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¹Swansea Bay University Health Board, ²Cardiff and Vale University Health Board, ³Aneurin Bevan University Health Board, ⁴Cwm Taf Morgannwg University Health Board, ⁵Hywel Dda University Health Board, ⁶Betsi Cadwaladr University Health Board

Background: Early-onset neonatal sepsis in term infants, confirmed by positive blood culture, affects 0.5 per 1,000 live births. Around 12% of term new-borns in Wales receive intravenous (IV) antibiotics, based on risk factors, with the use of modified Kaiser Permanente Sepsis Risk Calculator (SRC). Among those treated, 16% receive ≥ 5 days of IV antibiotics for presumed culture-negative sepsis based on elevated inflammatory markers or non-specific symptoms.

IV antibiotic treatment necessitates hospital stay, impacting bed capacity and resources, and exposing infants to unnecessary medical interventions. A recent European randomised controlled trial suggests that switch from IV to oral antibiotics after 36-48 hours may be safe in clinically well neonates ≥ 35 weeks' gestation with culture-negative sepsis.

Objective:

This scoping study examines potential impact of switching from IV to oral antibiotics, in neonates ≥ 35 weeks' gestation for presumed culture-negative sepsis beyond 36 hours.

Methods:

A prospective observational study across seven perinatal centres in Wales (4th Nov 2024–30th April 2025).

Inclusion Criteria:

- ≥ 35 weeks' gestation
- Antibiotics > 36 hours for presumed culture-negative sepsis
- Falling CRP
- Tolerating oral feeds

Exclusion Criteria:

- Significant cardiorespiratory instability
- NICU admission > 48 hours
- Respiratory support > 24 hours

Primary Outcome:

- Length of hospital stay
- Cost of maternity beds

Secondary Outcomes:

- Clinician time

Results:

This practice change would have reduced 295 bed days and 648 in-patient clinical reviews (324 hours clinician time) in 6 months.

Based on 2014 tariff, daily cost of maternity bed for an infant (including IV antibiotics administration) is £526/day. In the 6 months, the projected savings for 7 hospitals in Wales are £155,170.

Conclusion:

Switching to oral antibiotics in carefully selected clinically stable neonates may enable earlier discharge, enhancing family wellbeing and reducing hospital occupancy. Impact is more likely in areas where antibiotic stewardship programmes are not well established.

Image

Total eligible infants	167
Antibiotics started for:	
-Respiratory distress	54%
-High SRC score	14%
-other comorbidities (hypoglycaemia, temperature instability etc.)	32%
Raised CRP (>10)	92%
Median potential switch to oral antibiotics	Day 3
Reduced length of stay	295 days
Clinician time saved	324 hours
Estimated cost savings	£155,170

Table1: Potential impact of practice change

Improving Discharge Communication in the Prolonged Jaundice Clinic Using a Standardised Pathway - A Quality Improvement Project

Akporiaye E¹, Hernandez C¹, Naydeva-Grigorova T¹

¹United Lincolnshire Teaching Hospitals NHS Trust

Background:

Unlike other paediatric clinics, the Prolonged Jaundice Clinic at Lincoln County Hospital - serving the wider Lincolnshire region - lacked a formal discharge pathway. Historical feedback from health visitors highlighted confusion around clinic outcomes and management plans, contributing to 6-8 re-referrals weekly and follow-up calls, underscoring the need for a standardised, safety-focused communication pathway.

Aim:

To improve communication of clinic outcomes for babies seen in the Prolonged Jaundice Clinic by developing and implementing a standardised discharge pathway, increasing documented communication to community health visitors and GPs from 0% to 100% by 1st July 2025.

Methods:

A structured discharge pathway and template were co-designed with stakeholders and integrated into the electronic record system. Junior doctors completed the templates post-clinic. Using PDSA methodology, the pathway was trialled over multiple clinic cycles. Process measures and qualitative feedback were collected via clinic records, email responses, and informal stakeholder input.

Results:

Following implementation, 100% of babies seen in the clinic had discharge outcomes communicated using the new discharge pathway. All letters were completed and sent within 24 hours. Health visitors in the Lincolnshire region reported significantly improved confidence and satisfaction, with comments noting time saved and improved clarity of clinic outcomes. Notably, there was a reduction in ward phone calls and a drop in unnecessary re-referrals to the clinic from 6-8 to 1-3 per week.

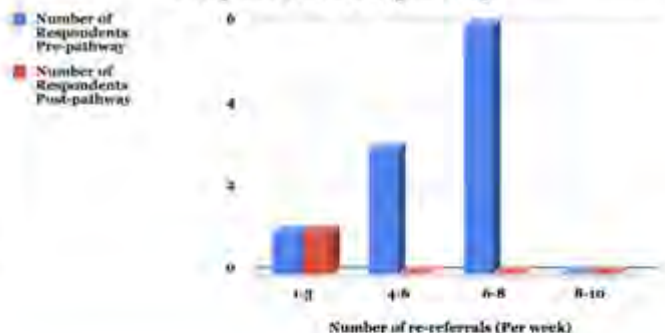
Conclusion:

The introduction of a standardised discharge pathway led to complete and timely communication with community teams, improved patient safety, reduced re-referrals to the clinic, and enhanced continuity of care. The intervention was well-received and will be incorporated into the local guidelines. Further cycles are required to check compliance.

Image

Number of re-referrals (Per week)	Number of Respondents Pre-pathway	Number of Respondents Post-pathway
1-3	1	1
4-6	3	0
6-8	6	0
8-10	0	0

Number of Respondents Pre-pathway vs Number of Respondents Post-pathway



Theme	Feedback
Improved Communication 🗨️	<p><i>"This pathway is really going to improve the flow of information to us healthcare staff in the community." – Health Visitor</i></p> <p><i>"We have waited years for some documented correspondence. This will help reduce re-referrals and frequent calls." – Health Visitor</i></p>
Time-Saving and Efficiency ⌚	<p><i>"This scheme saves a lot of time 'chasing up' patients after initial referral." – Health Visitor</i></p> <p><i>"It saves us booking unnecessary home visits/chasing parents for this information." – Health Visitor</i></p>
Increased confidence and awareness 🌱	<p><i>"Receiving this clinic outcome has boosted my confidence and made me aware of what has happened in clinic." – Health Visitor</i></p>
Ease of use (for staff) 📄	<p><i>"The templates are easy to use and complete for discharge from the clinic." – Junior Doctor</i></p>

Reducing Hyperoxia in preterm babies

Bradley G², Stephen J¹, Vinden R¹, Mishra A¹

¹Bolton NHS Foundation Trust, ²North West Deanery

Hyperoxia in preterm babies increases the risk of significant morbidities. We noted an increase in PaO₂ on arterial gases on some babies on ward rounds. A deep dive into the care of a 24 week preterm baby with pulmonary haemorrhage and grade 4 IVH showed high SpO₂ and slow reduction in FIO₂ and high PaO₂ on arterial gases on the first day of life which wasn't noted by medical and nursing notes. The case was presented on the grand round .

QI project with an MDT approach was established to look at the scale of the problem with regular discussions on ward rounds and handovers.

Methods:

Data for PO₂ >10KPa on arterial gases within 24 hours of birth for babies with arterial lines <28 weeks was collected over 6 month period.

Weekly histogram traces along with target saturation was obtained on all babies needing oxygen at <32 weeks for 7 consecutive weeks.

Results:

For 20 babies <28 weeks over a 6month period, in the first 24 hours of life, 32% arterial gases had PaO₂>10kPa. The range of high PaO₂ ranged from 10 to 20.3kPa.

15 babies had 24 hour histograms analysed weekly for 7 consecutive weeks.

The saturation target range set correctly in babies <32 weeks on oxygen improved from 90% to 100%. Babies on saturation monitor with closed loop oxygen titration had better control in the target range (64%) vs the non closed loop oxygen titration (46%).

Conclusion: Saturations more than 95% for babies on oxygen was noted in 15% episodes for Oxygenie vs 35% episodes for non Oxygenie.

Action plan:

MDT focus to monitor saturation targets, 24 hour histograms and PaO₂ during wards rounds and blood gas analysis.

Check FiO₂ and titrate if PaO₂ more than 10kPA

Encourage use of Oxygenie

Reaudit in 3-6 months

Graphs

Saturation in target range Oxygenie vs non Oxygenie



Image

Interventions to improve oxygen saturation targeting



Introducing the Neonatal Psychological Staffing Standards: Recommendations for Outreach and Follow-up

Burgess S¹, Atkins E², Barr K³, Butterworth R⁴, Chilvers R⁵, Cole S⁶, Cordwell J⁷, D'Urso A⁸, Evans D⁹, Green C¹⁰, Higgins S¹¹, Marsh A¹², Sabin K¹³, Delaney L⁸, Collum R³

¹West Midlands Perinatal ODN, ²London Neonatal ODN, ³Northern Neonatal ODN, ⁴North West Neonatal ODN, ⁵East of England Neonatal ODN, ⁶South West Neonatal ODN, ⁷Thames Valley and Wessex Neonatal ODN, ⁸East Midlands Neonatal ODN, ⁹Birmingham Women and Children's Hospital NHS Foundation Trust, ¹⁰South West London and St George's Mental Health NHS Trust, ¹¹Kent, Surrey and Sussex Neonatal ODN, ¹²Yorkshire and Humber Neonatal ODN, ¹³King's College, London, ¹⁴East Midlands Neonatal ODN, ¹⁵Northern Neonatal ODN

Background

The lasting biopsychosocial impact of neonatal (NNU) admission on babies and their families is well documented. This abstract summarises a new set of published recommendations for neonatal psychological follow-up, including recommended staffing standards, helping to ensure continuity of psychological care for babies and their families as they make the transition from the NNU.

Description

"It's harder now than it was before ... you dwell on it ... And you think, my god, this is what happened" (Father, London). Graduating from NNU is far from the end of the journey for babies and their families, with psychological wellbeing featuring as a prominent concern by parents in a recent Networks Neonatal Outreach Group survey. The authors present newly published standards (Atkins et al. 2025), proposing a model of post discharge psychological support across three domains: psychological follow-up (including bereavement), outreach, and neurodevelopmental follow-up. The model includes effective psychological screening, signposting, collaboration with partner agencies and brief specialist intervention, designed to promote continuity of care, reduce health inequalities, and improve long-term psychological outcomes. Table one indicates the minimum recommended staffing standards to feasibly, safely, and effectively deliver the model, including a minimum 1.0-1.5 WTE 8a psychological professional plus 1.0 WTE Assistant Psychologist (band 5) per Local Neonatal Unit (LNU) or Neonatal Intensive Care Unit (NICU) and a minimum 0.5-1.0 WTE 8a psychological professional plus 0.5 WTE Assistant Psychologist per Special Care Baby Unit (SCBU). Table one also indicates recommended increases in Hub and Network-wide psychological provision to support strategic oversight.

Summary

This abstract has presented a summary of the new neonatal psychological professionals staffing standards for follow-up and outreach care, with the aim of facilitating an integrated, embedded approach to psychological follow-up. The authors warmly invite the reader to follow the upcoming formal launch of the standards due Autumn 2025.

References

1. Atkins E, Barr K, Butterworth R, Chilvers R, Cole S, Cordwell J, D'Urso A, Evans D, Green C, Higgins S, Marsh A, Sabin K, Delaney L, Collum R. Neonatal Psychological Professions Staffing Standards: Recommendations for Outreach and Follow-Up. <https://acpuk.org.uk/member-networks/psychology-staffing-on-the-neonatal-unit-2/>

Graphs

Table 1: Staffing specification (per unit – *outpatient based)

Unit level	Staffing for specialist psychological provision (per unit) ^{1,2}	Hub provision ^{1,3}	ODN lead psychologist provision ⁴
LNU (Level 2) and NICU (Level 3)	1–1.5 WTE Band 8a psychological professional	An additional 0.2 WTE Band 8b/c (per hub – shared across unit levels 1,2,3*)	0.3 WTE per 10,000 births across the network
	1 WTE Band 5 assistant psychologist		
SCU (Level 1)	0.5–1 WTE Band 8a psychological professional	(0.6 WTE per hub when combined with inpatient standards)	(Network wide provision for both inpatient and outpatient psychology services)
	0.5 WTE Band 5 Assistant Psychologist		

LNU: Local Neonatal Unit; NICU: Neonatal Intensive Care Unit; ODN: Operational Delivery Network;

SCU: Special Care Unit;

WTE: whole time equivalent.

¹This provision is in addition to inpatient staffing

²Where there is high complexity in the outpatient population (eg. complex psychological or medical needs, high levels of deprivation in the area) this higher level of staffing provision may be required

³This is based on 2–3 hospitals per hub. If the size of hub is larger, provision will need to be calculated on these figures to adequately meet local need.

Retrospective Review as a Tool for Practice Improvement in Neonatal Units

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¹Health Education England - North East, ²Neonatal Intensive Care Unit (NICU) – James Cook University Hospital (JCUH)

Background:

The 2024 NNAP data shows a combined rate of severe BPD or death of 50% in the NICU at JCUH. A BPD reduction bundle was introduced as a QI initiative; however, PDA management was excluded due to conflicting evidence from large trials on active treatment.

PDA is attributed to developing BPD. Early steroid intervention has shown improvement in BPD with many clinicians favouring early steroid over PDA management.

This study evaluated the impact of early PDA treatment and/or steroid treatment on neonatal outcomes to help formulate a pragmatic approach in decision making.

Method:

We retrospectively reviewed neonates born <28 weeks' gestation from January 2019 to December 2023. Of 284 identified infants, 166 met inclusion criteria. They were grouped into early/late PDA treatment (cut-off 7 days), early/late steroid use (cut-off 14 days), and no treatment. SPSS was used for statistical analysis including t-tests, ANOVA, chi-square, and logistic regression.

Results:

Early PDA/steroid treatment was associated with shorter invasive ventilation and earlier transition to non-invasive support. Logistic regression revealed each additional day of invasive ventilation increased the odds of BPD by 15.5%.

The no-treatment group, likely with higher gestational age, had the lowest BPD rates, followed by early treatment groups. Hydrocortisone significantly reduced mortality ($p < 0.01$).

Each additional day of invasive ventilation increased NEC odds by 6.5%.

Primary outcome of BPD was not statistically different between early and late treatment groups.

Conclusion:

Whilst early PDA or steroid treatment did not significantly reduce BPD incidence, early PDA intervention shortened respiratory support duration.

Our findings proposed an individualized PDA intervention in <26-week infants who remain ventilated at day 7, using predefined criteria for haemodynamically significant PDA to guide treatment decisions.

Acknowledgement:

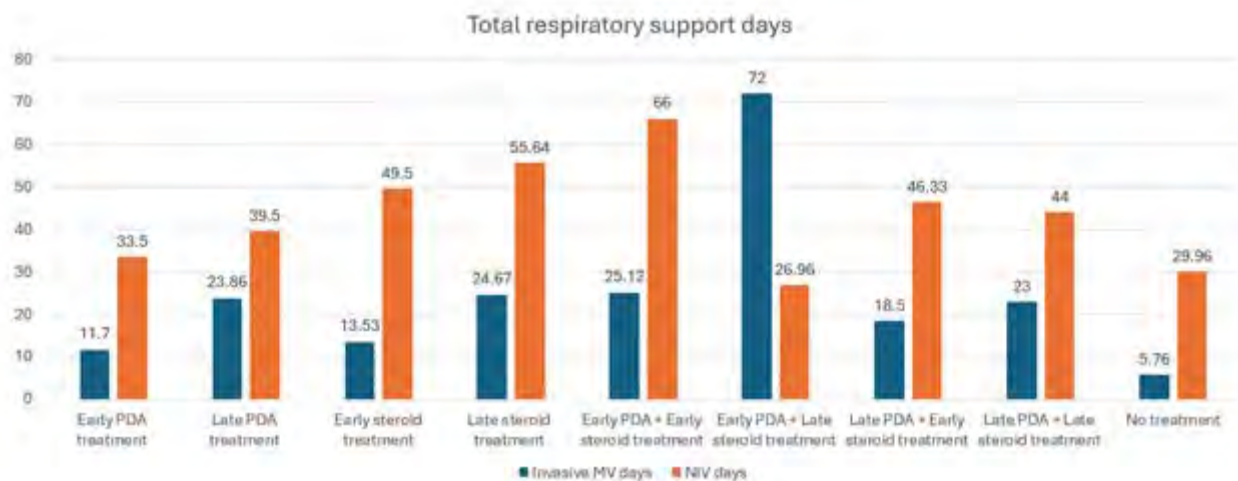
Data analysis by Dr Moustafa Alhashemi.

Limitations: small subgroup sizes.

References:

1. Buvaneswarran et al., JAMA Pediatr 2025
2. Gupta et al., NEJM 2024 (Baby-OSCAR)

Graphs



P-Value 0.001

Figure: Total duration of invasive (blue) and non-invasive (orange) respiratory support across PDA and steroid treatment groups. Early PDA treatment was associated with shorter MV days. P = 0.001.

Improving Junior Doctor Confidence in the Prolonged Jaundice Clinic Through a Standardised Clerking Proforma - A Quality Improvement Project

Akporiaye E¹, Hernandez C¹, Naydeva-Grigorova T¹

¹United Lincolnshire Teaching Hospitals NHS Trust

Background:

The Prolonged Jaundice Clinic at Lincoln County Hospital is led by junior doctors, with 75% of doctors being non-paediatric trainees. Concerns were raised about the variability in clinical knowledge between paediatric and non-paediatric trainees, and the associated high risk of red flag symptoms being missed. An initial Needs assessment revealed that 87.5% of staff found the existing clerking proforma unhelpful, with only 12.5% rating it as easy to use and 0% finding it time-efficient. Confidence in addressing parental concerns was low (25%), and 100% highlighted risks to patient safety, indicating an urgent need for improvement.

Aim:

To increase junior doctors' confidence in clerking and consultation at the Prolonged Jaundice Clinic from 25% to 90% within 4 weeks by implementing a standardised clerking proforma.

Methods:

This Trustwide project used PDSA methodology. A new structured clerking proforma was co-developed by paediatric trainees and consultants, and piloted over 10 clinic sessions (across five weeks). The proforma was introduced without formal training to assess usability and ensure clarity. Feedback was collected using a structured questionnaire with quantitative ratings and open-text responses. Completion audits were also performed.

Results:

The proforma was used in 100% of cases during the pilot phase. Following its implementation, feedback improved across all domains: 100% of doctors reported ease of use, time efficiency, clarity and completeness in clerking. No respondent identified risks to patient safety or the need for additional training. Confidence improved from 25% to 100%, and staff satisfaction rose from 12.5% to 100%, exceeding the original aim.

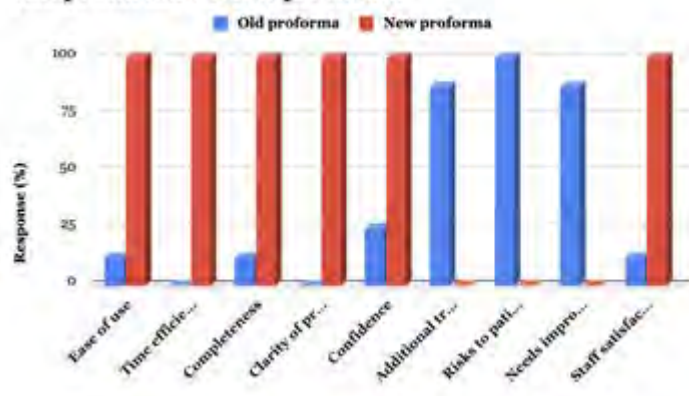
Conclusion:

A standardised clerking proforma significantly improved junior doctors' confidence, documentation quality, and perceived patient safety in the Prolonged Jaundice Clinic. The intervention will be incorporated into local guidelines, and future PDSA cycles will assess longer-term sustainability, staff compliance, and potential expansion to other developing clinics across the Lincolnshire region.

Image

Metric	Old proforma (%)	New proforma (%)
Ease of use	12.5%	100%
Time efficiency	0%	100%
Completeness	12.5%	100%
Clarity of prompts	0%	100%
Confidence	25%	100%
Additional training	87.5%	0%
Risks to patient safety	100%	0%
Needs improvement	87.5%	0%
Staff satisfaction	12.5%	100%

Old proforma vs New proforma



QI Project: Improving Communication between teams involved in Neonatal Care

Adow S¹, Foster E¹, Rodriques L¹, Gowda H¹

¹Birmingham Heartland Hospital

Aim:

To assess and improve the quality and effectiveness of communication between the maternity team and the neonatal team at Birmingham Heartlands Hospital.

Background:

The Neonatal Unit at Birmingham Heartlands Hospital (Heartlands NNU) is a busy tertiary centre within the West Midlands Neonatal Operational Delivery Network, with over 475 babies born in the last year. As part of our job we are in constant communication with different teams and specialities. The team we have the most contact with is the obstetric team, primarily the midwifery staff - so we need to ask, is our communication as good as it could be? Is there room for improvement?

Methods:

Surveyed neonatal team members carrying the bleep/pager about their experiences with communication.

Audited SBAR handovers received by the neonatal SHO to see whether key details were being included

From January 2024 – May 2025 4th cycle so far.

Results:

From the survey the main reason for bleep were to attend deliveries (50%) and reviews (45.8%). 41.7% of the bleep rarely included an adequate SBAR; and 65.2% of the time the person bleeping often did not know about the baby.

SBAR without prompting was 54.5% which indicated serious communication gaps, from various interventions this has improved to 60% in the fourth cycle.

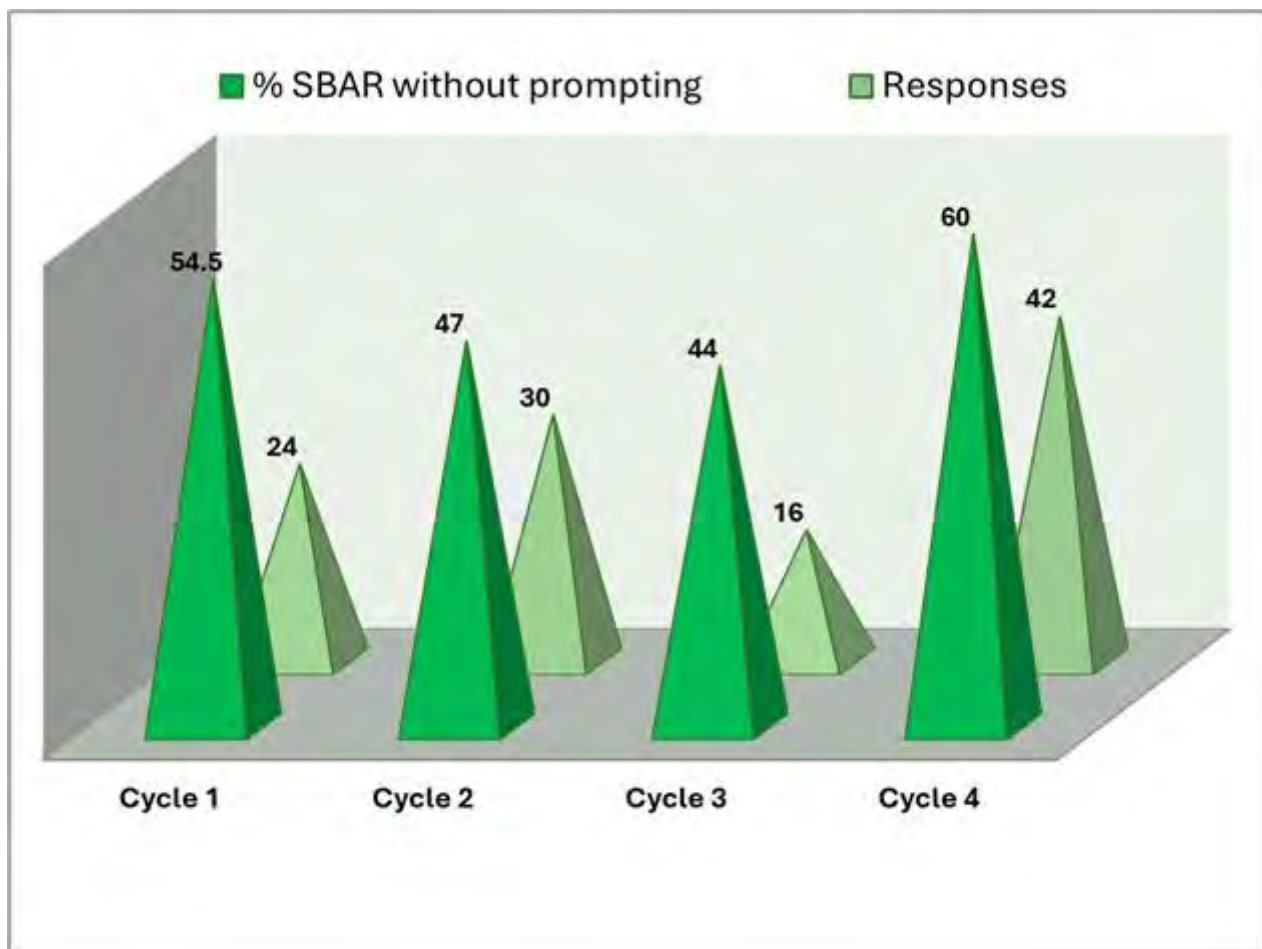
Of the requests for deliveries, the number requiring SBAR to be prompted dropped from 63.6% in the first cycle to 41.4% in the fourth cycle

Of the SBAR that required prompting, those that scored 4 and above, noticed a massive improvement from cycle 2 to 3(56% to 88%)

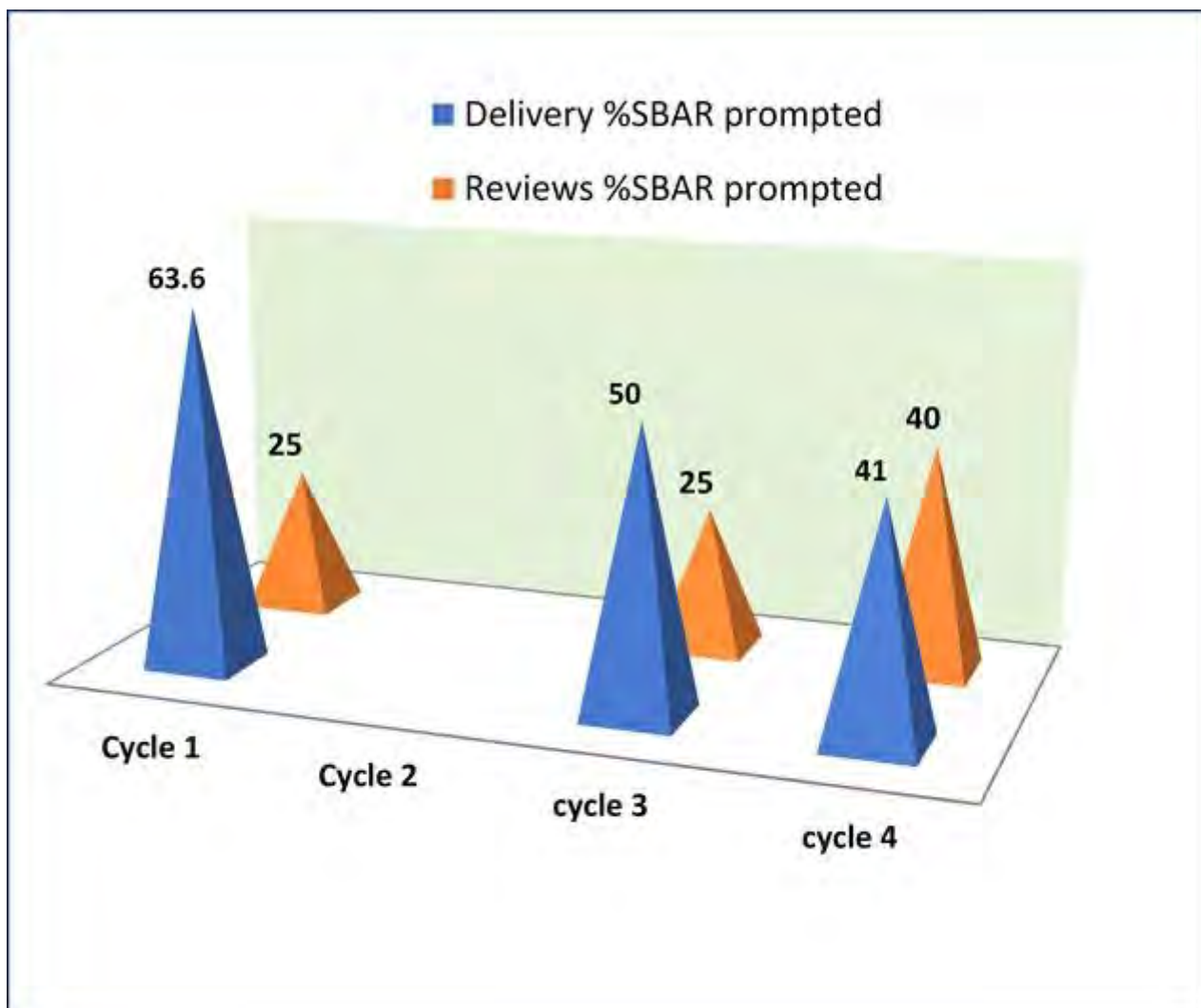
Of the requests for reviews, the number requiring SBAR to be prompted went from 25% in the first cycle to 40% in the fourth cycle

Communication is about team culture. If we want SBAR to become second nature, we need real-time reinforcement and accountability.

Graphs



Image



A quality improvement project designed to empower resident doctors when making clinical decisions on a term neonate (>37 weeks) with mild respiratory distress.

Ekanayake N¹, Farley H¹, Banerjee U¹, Bate T¹

¹The Hillingdon Hospitals NHS Foundation Trust

Aim:

To increase adherence to a standardized pathway for term neonates in mild respiratory distress.

Background:

Although mild respiratory distress in term neonates is a common clinical presentation it often poses challenges for residents who worry about missing serious pathologies or admit to the neonatal unit (NNU) as a 'safe option'.

ATAIN data has shown that term admissions for respiratory illness is the leading cause for admission to NNU. Admission often leads to separation from mother and additional 'medicalisation' that delays discharging the baby and establishing feeds.

BAPM Framework for Practice (2017) states 'Keeping mothers and babies together should be the cornerstone of newborn care'.

Methodology:

We introduced a bespoke decision matrix for managing signs of acute respiratory distress in term neonates. This consisted of a flow chart with clearly defined criteria and a pathway to manage baby if they met certain criteria. It was a helpful guide for residents on how to systematically manage a term baby with mild respiratory distress.

It was introduced during resident induction. Regular teaching sessions were carried out throughout a 10-month period. Pre-intervention and post-intervention Likert surveys assessing self-confidence were carried out for residents.

Results:

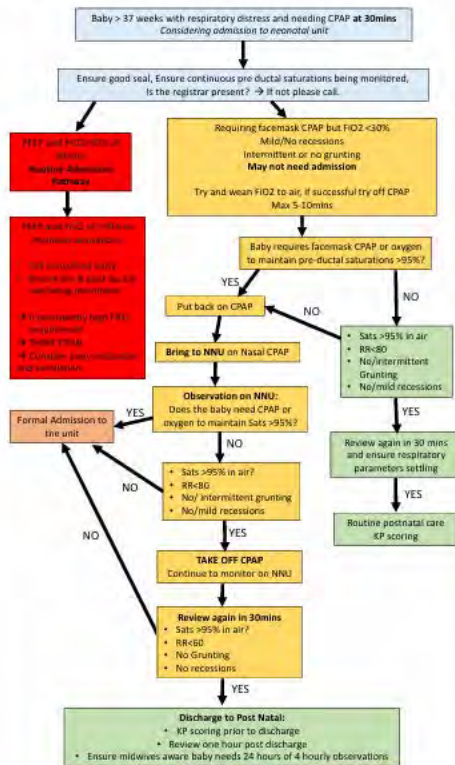
Residents found the pathway to be a useful decision-making tool and reacted very positively to it. All residents agreed the matrix was clear and easy to understand. They felt confident in deciding which criteria the baby met and then following through with the suggested management. 93.3% of residents agreed the matrix helped them make decisions confidently and would recommend this to other neonatal units.

Conclusion:

Introducing the matrix empowered residents to formulate management plans using a systematic approach with timely assessments and evidence-based interventions. This hopes to help to reduce term admissions, separation from mother, improve clinical outcomes whilst avoiding unnecessary medical interventions and ensuring the safety of the baby.

Image

**Respiratory distress admission tool for doctors:
Decision matrix to guide NNU admission**



First Drops, First Hope: A Quality Improvement Project to Improve Early Breast Feeding in Preterm Infants

Mohamed Hassan S¹, De Silva B¹, Pamarathne D¹, Jayaweera S¹, Rathnayake J¹, Herath S¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital

Background

Early breast feeding (BF) is crucial for preterm infants, offering protection against infections, necrotizing enterocolitis (NEC), supporting optimal neurodevelopment and significantly reduce the mortality and morbidity. This Quality Improvement (QI) Project was designed to improve the early initiation of BF (within 6 hours) at Teaching Hospital (TH) Badulla.

Objectives

To increase the proportion of neonates born at <34 weeks gestation who receive BF within 6 hours (ideally) or within 24 hours of birth, from 6% (within 6 hours) and 42% (within 24 hours) in early 2023 to ≥85% by the end of 2024. This aligns with the Perinatal Excellence to Reduce Injury in Premature Birth (PERIPrem) and The United Nations Children's Fund (UNICEF) Baby Friendly Initiative standards.

Methods

A prospective QI project using Plan–Do–Study–Act (PDSA) cycles was conducted from 1st September 2023 to 31st December 2024. All inborn neonates <34 weeks (W) were included, excluding those with congenital anomalies or contraindications to enteral feeding (Intestinal obstruction, NEC and diaphragmatic hernia). The initial four months focused on baseline data collection and designing and implementing PDSA cycles.

Key interventions included: Formation of a multidisciplinary QI team, conducting staff awareness and training programs, distributing and displaying PERIPrem breast milk leaflets, Initiating maternal milk expression within 1 hour of delivery, administering breast milk for oral care as soon as available, providing antenatal counselling and bedside lactation guidance to mothers.

Results

Of 284 eligible infants, 250 were included after exclusions. Data were analysed monthly basis. The median gestational age was 30 weeks (lowest:24W) and median birth weight was 1240g (range 480g – 1750g). Following the interventions: BF within 6 hours improved to 95% and within 24 hours increased to 96.16% in 2024 and reached 100% during the final 4 months.

Conclusion

This multidisciplinary, low-cost QI initiative significantly improved early BF initiation in preterm infants.

'Safe Six' medicines quality improvement project

Rushton L, Pahuja M, Adeleye A, Beynon J, Breeze-Jones H, Sage J, Walker O

NICU patients are eight times more at risk of medication errors than those admitted to adult intensive care units (Canales et al. 2024).

An audit of 14 medication charts containing 54 regular prescriptions was undertaken within the Neonatal Unit in Swansea (May 2024). The prescriber's signature was legible in only 50% of prescriptions (Graph 1).

We targeted signature legibility as our primary outcome for improvement. For our intervention we developed a Safe Six medication aide memoir for multidisciplinary use (Image 1). This visual tool was disseminated into patient cot side folders and promoted via MDT huddles including weekly medicine 'druggles', medicines teaching sessions and closed social media groups. The tool has become a shorthand for safe prescribing on our unit.

Re-audit was commenced in July 2024. Nineteen medication charts (45 prescriptions) were reviewed, demonstrating an increase in legible prescriber signature to 87%. With consistent messaging and positive reinforcement this improvement was sustained; a third audit of 21 charts (48 prescriptions) in February 2025 demonstrated 100% compliance with the legible signature measure.

We hypothesised that the Safe Six tool may have improved medicines safety more widely. We retrospectively audited all medicines administrations on the neonatal unit in March 2024. We found that 3.76% (46 of 1222 administrations) did not comply with all elements of Safe Six before the intervention. In July 2024, after the intervention, non adherence had fallen to 0.7 % (15 of 2082) of administrations. In December 2024 non adherence was 0.16% (3 of 1814 administrations) and in March 2025 it was 0.31% (1 in 316 administrations).

Introduction of the Safe Six prescribing tool saw prescription signature legibility increase from 50% to 100%. Adherence to Safe Six principles increased after introduction of the intervention which also represents an improvement in the accuracy of medicines administration on the unit.

Graphs

	Baseline Audit (May 2024)	Post intervention audit 1 (July 2024)	Post intervention audit 2 (Feb 2025)
Whole medication chart			
Allergy record	100%	84%	100%
Weight record	100%	100%	100%
Patient details on each active page	14%	16%	52%
Active prescriptions			
Prescription legible	100%	100%	98%
Prescription signed	100%	100%	100%
Legible signatures	50%	87%	100%
Correct dose	100%	100%	96%
Inactive prescriptions			
Crossing out Signed	51%	69%	83%
Crossing out Dated	67%	39%	35%

Image

Safe Six



Right Drug



Right Patient



Right Dose



Right Route



Right Time



Sign & Print

The Respiratory Admission Project - A Quality Improvement Project

Oyibo I¹, Course C¹, Presswala D¹, Rowley S¹, Sage J¹

¹Neonatal Intensive Care Unit, University Hospital of Wales, Cardiff

Background: Approximately 20% of term admissions to neonatal units (NNU) are potentially avoidable, with respiratory distress accounting for more than 50%. Many of these infants require only brief support—typically under 48 hours—before being discharged back to postnatal care.

Separating mother and baby impacts on bonding and breast feeding rates.

Aim: To reduce respiratory admissions by 10% in infants born at ≥ 34 weeks gestation.

Methods: Background data was collected prospectively in December 2024 for infants ≥ 34 weeks receiving PEEP >15 minutes at birth. Data included demographics, PEEP duration and oxygen requirements over time, and if NNU admission was required. Following baseline data collection and MDT collaboration, PDSA cycle 1 implemented a new standard operating procedure developed to deliver PEEP via 'optiflow' prongs rather than mask, with a standardised escalation pathway. The aim was to support neonatal transition and reduce trigeminocardiac reflex through mask pressure, resulting in apnoea and bradycardia.

Results: Baseline data over one month identified twenty-two infants (gestation 34–41 weeks; weight 2.63–5.58 kg,) received PEEP via facemask. Half of the infants were admitted to the NNU, between 30 minutes to 3 hours post-birth. Oxygen requirements decreased over time (FiO₂ at 15 min: 21–100%; 30 min: 21–30%; 45 min: 21%). There was evidence of significant variability between practitioners.

No infants required support beyond CPAP, and average length of stay was five days

A period of training and implementation has taken place for nasal cannula PEEP with overwhelmingly positive feedback from staff and families. Reaudit of change is currently in progress.

Conclusion: Prolonged delivery room PEEP prevented 50% of respiratory admissions. Transitioning to prongs has been met with positive feedback, and data is awaited to assess the impact. Next PDSA cycle is planned to include the ability to support skin to skin during this time.

Improving Neonatal Handovers – ‘What, Where, Why and When’

Chui A¹, Young K¹, Bradley M², MacLeod J¹

¹Royal Surrey County Hospital, ²St Peter's Hospital

Introduction:

Handover communication issues have been identified as factors leading to poor outcomes for mothers and babies in the UK.

In our hospital there was no standardised handover tool in use for requesting neonatal attendance at deliveries.

Aims:

- (1) To evaluate whether handovers included, without prompting; gestation ('what'), location ('where'), reason for neonatal team attendance ('why') and when attendance is needed ('when').
- (2) To assess the impact of the Delivery Bleep Handover Tool on content of handovers.

Method:

The project is based on data from March 2023 which showed that 47% of handovers required clarification on one of more of 'what', 'where' or 'why'. A handover tool was developed and displayed in November 2023.

A table was added to the handover sheet and three neonatal SHOs collected data from every handover on their shifts.

Results:

In July 2024, 35 handovers were recorded, of which 51% included information on 'what', 69% on 'where', 66% on 'why', and 49% on 'when'.

Following this, we raised awareness of the tool by presenting the findings at a local neonatal meeting. Results in Oct-Nov 2024 from 34 handovers then showed an increase in percentage of handovers including information on 'where' (82%), 'why' (74%) and 'when' (56%). There was a decrease in the percentage detailing 'what' (50%).

Next, we created an improved version of the tool and optimised its display locations. Following this, results in Mar-Apr 2025 from 23 handovers improved in all categories. 87% contained information on 'what', 87% on 'where', 100% on 'why' and 74% on 'when'.

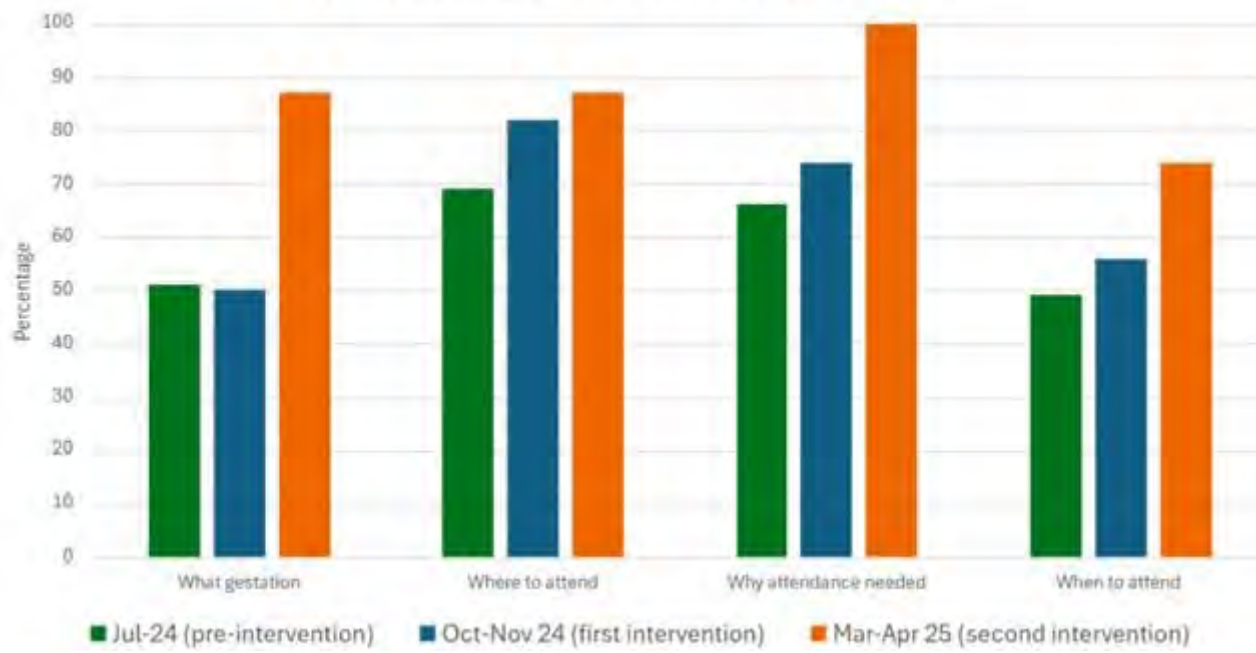
Comparing data from July to Mar-April 2024 using Chi-Square tests saw a statistically significant ($P < 0.05$) increase in handovers containing 'what' and 'why' information.

Conclusion:

Crucial information was often omitted from handovers. The project has improved communication with a significant increase in handovers containing 'what' and 'why' information.

Graphs

What information was provided in handovers



Image

Have you called the neonatal team?

Handover tool: to be used when bleeping **Neonatal SHO (0345)** or **Neonatal Registrar (0346)**

In a neonatal/obstetric emergency, please use 2222 priority call

Information to provide	Examples
What gestation	Term (>37 weeks) Preterm (state number of weeks gestation)
Where to attend	Room letter in delivery suite Which theatre to attend?
Why attendance needed	Eg. Unplanned LSCS (category and reason), instrumental assisted birth, CTG concerns, breech presentation, known congenital abnormality, multiple birth
When to attend	Give an estimate of time

Attendance for at risk births

Risk factor	Attendance by whom
Meconium	SHO
Fetal distress	SHO Registrar if severe
Preterm – 36-37 weeks	SHO
Preterm 35-35+6 weeks	SHO
Preterm 31-34+6 weeks	SHO Registrar
Preterm <31 weeks	SHO Registrar Consultant
Term FGR (IUGR)	Post birth review by SHO
Term severe FGR (<3 rd centile or below 2.2kg)	SHO Registrar
Suspected fetal infection	SHO
Term multiple pregnancy no fetal distress	SHO
Term multiple pregnancy + fetal distress	SHO Registrar
Planned LSCS under regional anaesthetic no fetal distress	No attendance required
Urgent or cat 1 LSCS	SHO Registrar
LSCS under general anaesthesia	SHO Registrar
Vaginal forceps	SHO
Ventouse no fetal concerns	No attendance required
Ventouse with fetal concerns	SHO
Vaginal breech birth	SHO Registrar
Maternal substance misuse	Post birth review
Fetal abnormality likely to affect baby at delivery	SHO Registrar +/- Consultant
Fetal abnormality other than the above	SHO Registrar
Haemolytic disease	SHO

Assessment of feasibility and cost efficacy of Picterus Pro non-invasive, digital jaundice detection tool in a UK tertiary perinatal centre

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Background: Neonatal jaundice is a common condition that affects many newborns, typically within the first week of life. Untreated severe jaundice can lead to increased neonatal morbidity including long term neurological impairment (bilirubin encephalopathy, kernicterus). Accurate diagnosis of jaundice based solely by visual assessment remains challenging for infants with non-white skin, highlighting an important aspect of health equity. Routine transcutaneous bilirubin (TCB) monitoring is one way of standard measurement in this Trust; however this is an expensive equipment, and availability is limited in the community. Picterus® Jaundice Pro was developed and licenced as a medical device to support non-invasive jaundice screening and validated in dark-skinned neonates using Fitzpatrick scale.

Methods: Picterus® Jaundice Pro is a jaundice screening device approved for clinical use. The device consists of two parts: one colour calibration card and one app installed on smartphone. Samples from clinically jaundiced neonates (>35 GA, > 24 hrs of age) undergoing serum bilirubin measurement with POC blood gas had their bilirubin level assessed with the Picterus application at the same time on the postnatal ward at ICHT. Correlation was assessed by Pearson correlation coefficient and Bland-Altman plot. Cost analysis was also performed against other methods of bilirubin measurements using descriptive statistics. Feedback was collected from both parents and healthcare professionals about this new tool.

Results: 50 paired samples were collected on the postnatal ward in June-July 2025. Analysis of the results is undergoing demonstrating good correlation and acceptability of the new technology because of its non-invasive and innovative nature.

Conclusions: Picterus Jaundice Pro application could be routinely used in UK neonatal settings for screening of jaundice both inpatient and community settings.

Image



Service Evaluation of Spinal Imaging for Appropriate Indications

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BACKGROUND:

Spinal dysraphisms are the second most common congenital anomaly. Undiscovered dysraphism can lead to complications such as meningitis (where a sinus is present) or progressive and irreversible neurological and/or urological problems.

Cases are often identified during the newborn examination or 6-week review and referral is made for imaging, according to local guidelines.

METHODS:

We evaluated the spinal imaging requests at Leicester Royal Infirmary for children aged <3 months over a 3-year period, from January 22 to December 24, to establish if the local guideline is being followed, and the pick-up rate for abnormalities.

RESULTS:

- Total 175 requests (148 US spine, 24 MRI spine)
- 3 were reviews of external images so have been excluded
- Of the 172 requests, 95 (55.2%) were requested due to cutaneous signs, of which 77 were performed
- Of these, 9 (11.7%) scans were abnormal, demonstrating spinal dysraphism
- Indication for 53 (30.8%) of requested scans was VACTERL screening, of which 35 were performed, 3 (8.6%) showing abnormalities
- 26 (15.1%) were requested for other indications
- 41 scans not performed – duplicated request, insufficient clinical details, wrong imaging modality, no longer required

CONCLUSIONS:

Ultrasound imaging is a useful imaging modality to assess for spinal dysraphism in neonates. It is easily accessible, non-invasive, quick and not as affected by movement artefact. Whilst our current guideline suggests MRI as appropriate imaging, ultrasound should be considered as a first line investigation. We recommend that teams continue to be well educated on the signs necessitating scans to assess for spinal dysraphism, which can lead to significant morbidity if not identified. Following this analysis, we propose an update to the local guideline, to make it easier to correctly identify when imaging is indicated, and whether this should be ultrasound or MRI.

The ABC Project: Admission Bloods from the Cord

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¹Royal Bolton Hospital, ²Royal Bolton Hospital

Background

Phlebotomy losses are a significant contributor to early anaemia in extreme preterm infants. Admission sampling for culture, FBC, biochemistry, CRP, Group and DAT is standard practice, often representing the largest single blood draw. Alternatively, new guidance from the American Academy of Pediatrics recommends taking the above tests from the umbilical cord¹, citing improved haemodynamic stability and reduced transfusion requirements in the first week. We wanted to assess the potential impact of this practice on our own extreme preterm population.

Methods

Infants under 28 weeks gestation admitted to a UK tertiary neonatal unit over a 12-month period were included. We estimated admission bloods (culture, FBC, CRP, Blood group & DAT, biochemistry) at minimum 2.5ml. We looked at phlebotomy loss as a percentage of circulating blood volume (80ml/kg)² and need for transfusion in first week of life.

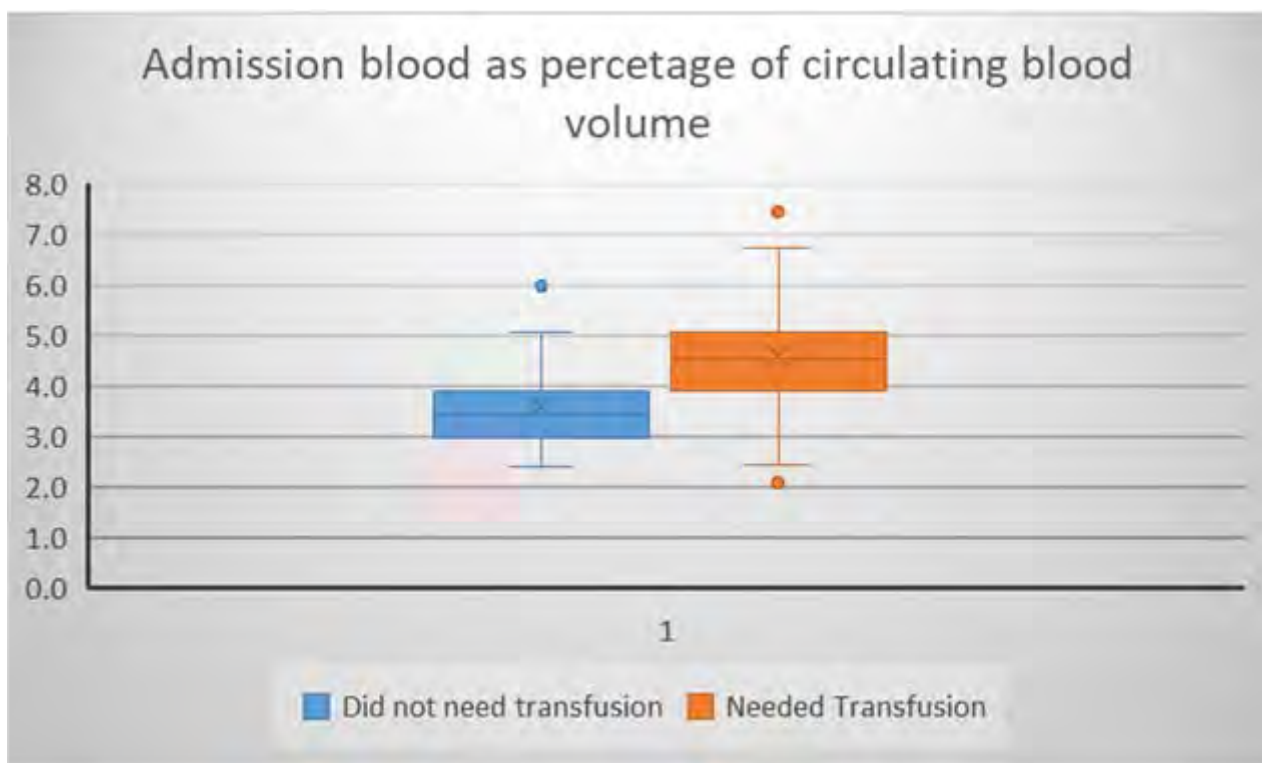
Results

74 babies included with birth weight ranges 351g – 1220g. Admission bloods comprised 2.6 – 8.9% of infants circulating blood volume (CBV), mean 3.9ml/kg (range 2.1 – 7.1ml/kg). There was a statistically significant correlation between percentage of CBV taken at admission and transfusion requirement in the first week of life ($p = 0.001$). All below 25 weeks required transfusion in the first week. Overall, 53% of survivors beyond 24 hours (severe IVH excluded) were transfused in the first week of life, with average Haemoglobin drop of 20% at day 7 (despite transfusion).

Conclusion

Standard admission bloods comprise a significant volume in the extreme preterm population. Sampling from the cord will reduce phlebotomy losses which may then reduce need for transfusion and improve haemodynamic stability at the time of transition. Evidence exists of feasibility and validity, with endorsement from national bodies such as the AAP^{1,3,4,5}. Designing QI projects based on these recommendations and exploring their potential to reduce transfusions could benefit our patients.

Graphs



Image

Gestation	Number	Admission bloods as a percentage of circulating blood volume (%)		Admission bloods ml/kg of birth weight (ml/kg)	
		Mean	Range	Mean	Range
22	4	7.121023	5.7 - 8.9	5.7	4.6 - 7.1
23	9	6.105536	4.9 - 7.5	4.9	3.9 - 6.0
24	11	4.704758	4.3 - 5.2	3.8	3.4 - 4.2
25	9	4.276165	3.6 - 5.1	3.4	2.9 - 4.1
26	12	3.782228	2.7 - 4.9	3	2.2 - 3.9
27	13	3.566337	2.6 - 6.0	2.9	2.1 - 4.8
All babies	58	4.576221	2.6 - 8.9	3.4	2.1 - 7.1

IMPLEMENTING SCHWARTZ ROUNDS IN A LEVEL 3 NICU TO SUPPORT STAFF WELLBEING AND COMPASSIONATE CARE

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¹KGH, ²Leicester Royal Infirmary

Background:

The neonatal intensive care environment is emotionally demanding, with staff regularly managing ethically complex and high-stress situations. Amid growing concerns about staff well-being, team cohesion, and burnout—particularly following an expansion in consultant numbers and an influx of new nursing staff unfamiliar with local dynamics—our Level 3 NICU introduced Schwartz Rounds as a structured forum to support emotional reflection and improve team connection.

Intervention:

We collaborated with the hospital's well-being department to initiate monthly Schwartz Rounds, tailored to the neonatal context. A multidisciplinary steering group selected themes relevant to NICU challenges, and each session followed the established Schwartz Round model—featuring a panel of storytellers, followed by facilitated discussion among all staff.

Outcomes:

Initial feedback highlighted increased emotional insight, improved cross-disciplinary understanding, and a greater sense of shared purpose. Staff reported feeling more supported and more connected to colleagues across different roles. Over time, participants described greater openness in communication and increased confidence in managing emotionally charged situations.

Conclusion:

Schwartz Rounds have proven to be a valuable tool in promoting emotional resilience, compassionate care, and psychological safety in the NICU. Their implementation has strengthened team dynamics and contributed positively to staff morale and patient-centered care. Our experience supports embedding reflective practice into routine NICU culture to sustain well-being and improve care delivery.

Breathe easier: Simulation-based teaching on troubleshooting resuscitaires to help both babies and clinicians breathe easier!

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Background: This project was done following a patient safety incident report where it was noted that oxygen was not being delivered to a neonate during resuscitation. Investigation identified gaps in team knowledge around resuscitaire setup and troubleshooting, prompting a targeted educational response.

The learning outcomes were:

- To be able to check and troubleshoot a resuscitaire accurately before deliveries.
- To have knowledge of back up options (e.g. Ambu bags, spare oxygen cylinders, cannister changes)
- To be familiar with parts of a resuscitaire and wall gas supply connections.

Methods: Two PDSA (Plan-Do-Study-Act) cycles of simulation-based teachings were undertaken over a two month period. Each of the sessions involved several realistic scenarios requiring troubleshooting of resuscitaires. Pre- and post-session questionnaires assessed staff confidence and familiarity with the different resuscitaire parts.

The second simulation session was adapted based on the first session's suggestions to increase realism whilst maintaining the key learning points. A written teaching guide with important learning points was then sent to all medical personnel to reinforce learning for those who attended and to share learning with those unable to attend the simulation sessions.

Results: Over the 2 sessions, there were 9 participants in total. Of these, before simulation teaching 33% were very familiar with the different parts of a resuscitaire while as shown in the graph, 44% were very confident with checking and setting up resuscitaires in preparation for deliveries. These proportions increased to 100% after simulations and all participants found the sessions useful for learning and improvement.

Conclusion: This quality improvement project was effective at dealing with the concerns raised from the patient safety incident in a prompt way. The simulation-based teaching was well received. The improved confidence ratings suggest staff are now better equipped to identify and troubleshoot resuscitaire problems helping to reduce the risk of future incidents.

Graphs

How confident are you with checking and setting up a resuscitaire?



Do Probiotics Reduce Parenteral Nutrition Use?

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Introduction

Probiotics (ProPrams) were introduced in the Belfast Trust (BT) neonatal unit (NNU) in October 2024. The predicted annual cost was ~£15,000. Funding was secured partly on the expectation that the expense would be offset by a reduction in the use of parenteral nutrition (PN). The aim of this review was to assess whether the introduction of probiotics was associated with reduced NEC rates, and PN usage.

Methods

Two groups were compared: infants born in the six months before (“PreProPrams”) and after (“PostProPrams”) the introduction. All infants born <32 weeks gestational age (GA) and admitted to BT NNU <7 days after delivery were included. Data on PN and probiotic administration were exported from the electronic health record using automated reports.

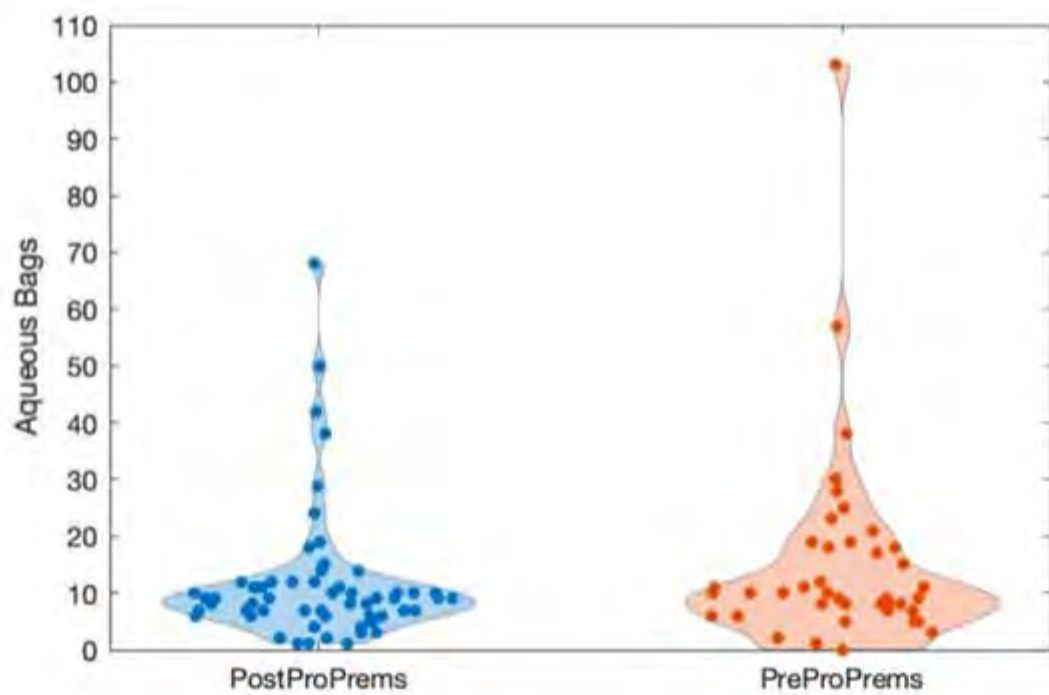
Results

102 infants were included (44 PreProPrams, 58 PostProPrams). The median GA was 28 weeks (interquartile range [IQR]=26-29) in the PreProPrams group and 28 (IQR=26-30) in the PostProPrams group. The PreProPrams rate of NEC (Bell’s stage >1) was 18% (n=8) versus 0% (n=0) after the introduction (p-value<0.01). The median number of aqueous PN bags administered in the PreProPrams group was 10 (IQR=6-18) compared to 9 (IQR=6-12) in the PostProPrams group (p-value=0.51). (Figure 1) Based on the current price of ProPrams and PN for BT, the mean net cost (probiotic + lipid/aqueous PN) per baby was £425 lower in the PostProPrams group (bootstrapped 95% confidence interval: -£1,745 to +£895).

Conclusion

The introduction of probiotics has been associated with a statistically significant reduction in the rate of NEC in preterm babies admitted to the BT NNU. We observed a decrease in the use of PN after the introduction of probiotics, but the difference was not statistically significant. Probiotics may reduce overall costs.

Graphs



SUPER START- Early access to mother's expressed breast milk for babies less < 34 weeks' gestational age

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¹The Jessop Wing, Sheffield Teaching Hospital

Background:

Mother's expressed breast milk (MEBM) is important for preterm and sick babies. Evidence has established that early access to MEBM, improves neonatal morbidity and mortality.

(<https://www.bapm.org/pages/perinatal-optimisation-pathway>). A quality improvement project was designed to improve rates of preterm babies receiving mother's expressed breast milk within six and 24 hours of birth.

Methods:

The improvement project commenced prior to this cycle. Data has been collected retrospectively for all babies born at less than 34 weeks' gestational age at the tertiary neonatal service in the Jessop Wing, Sheffield. The most recent data collection period was from August 2024 to December 2024. Information about the time of expression and time of EBM delivery to babies was analysed. Cases where first maternal EBM administration occurred after 24 hours of birth were also investigated to identify potential learning.

Results:

Between August'24 and November 24, 56 Babies were born at < 34 weeks' gestational age at the Jessop Wing in Sheffield. Of these, 41% (23/56) received mothers EBM at less than six hours of age and 75% (42/56) received EBM by 24 hours of age.

This was an increase from the audit in July 2024 which looked at data retrospectively over March'24 to July 24, where 38% and 65 % received maternal EBM within six and 24 hours after birth respectively.

Babies < 34 weeks gestational age receiving mothers EBM at less than 48 hours has remained stable at 83.9% (47/56) in this cycle compared with 82.6% in July 2024.

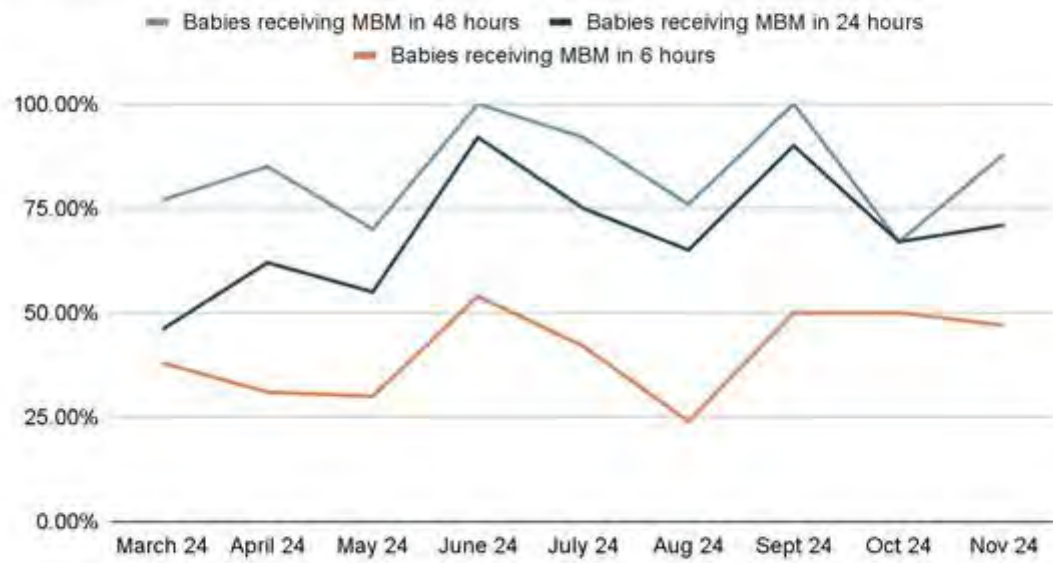
Conclusion:

The project has continued to maintain and improve upon rates of early EBM for infants born at less than 34 weeks gestational age. However, further initiatives are needed to achieve the gold standard of 90% infants receiving maternal EBM within 24 hours of age.

Graphs

March – Nov

Babies born <34 weeks who received MBM



Zero Delays, Zero Harm: a QIP to reinforce safety in the management of neonatal hypoglycaemia

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¹Lister Hospital, East And North Herts NHS Trust

Neonatal hypoglycaemia is a potential cause of neonatal morbidity and can cause long- term neurodevelopmental impairment if not promptly identified and managed. Following an MNSI review recommendation and to assess hypoglycaemia guideline compliance, an audit and QIP was undertaken to improve patient care and safety.

Aim:

To improve the timeliness of post-bolus glucose monitoring in neonates treated for hypoglycaemia with IV Dextrose through targeted MDT education.

Methods:

Cohort 1 (Pre- intervention): Retrospective review of 50 cases of neonatal hypoglycaemia in term and preterm neonates admitted to NICU between January 2022 and May 2024.

Cohort 2 (Post- intervention): Retrospective review of 30 cases of neonatal hypoglycaemia in term and preterm neonates admitted to NICU from March 2025 to June 2025.

Data was extracted via Badgernet, filtering for keywords 'neonatal hypoglycaemia', 'hypoglycaemia', and 'infant of diabetic mother'. Following data analysis from Cohort 1, a PDSA cycle introduced the following interventions:

1. Targeted teaching by our Practice Development Nurse, Resident doctors and Consultants to both nursing and medical staff within the department.
2. Regular reminders via 'message of the week' emails
3. Case discussions at the departmental clinical governance meetings, sharing the learning points from auditing Cohort 1

Results: All babies across both cohorts received maintenance Dextrose fluids after receipt of a Dextrose bolus. Results from Cohort 1 showed that only 48%(24/50) of babies had timely post- bolus monitoring. After Education (Cohort 2): 100% of babies that received Dextrose bolus (30/30) monitored within the required time frame.

Conclusion: The improvement in results is a testament to the efficient MDT teamworking on our unit; this was achieved within 3 months with no additional cost or equipment needed. Our approach, using structured communication, shared responsibility and regular refresher teaching, is easily scalable to other trusts and reinforces that clinical safety is a team outcome.

Improving the identification, monitoring, and management of Neonatal Jaundice in the SCBU and Postnatal Ward in a District General Hospital in Sri Lanka: A Quality Improvement Initiative

Antonypillai A¹, Faizal E¹, Amarasinghe C¹

¹Dgh Mullaitivu

Background:

Neonatal jaundice (NNJ) is a common yet potentially serious condition if not identified and treated promptly. This Quality Improvement (QI) project aimed to evaluate current practices in NNJ management, identify gaps, and implement targeted interventions in the Special Care Baby Unit (SCBU) and postnatal ward.

Methods:

Methods:

A QI initiative was conducted involving 62 neonates treated for jaundice between February and May 2025, focusing on gestational age, jaundice onset, phototherapy regimen, feeding methods, sepsis screening, and follow-up. A staff survey assessed knowledge and practices related to NNJ. Based on initial findings, key interventions were introduced:

1. A simplified jaundice screening tool.
2. Educational sessions on bilirubin nomograms and local and NICE guidelines.
3. Efforts to reduce delays in bilirubin testing and phototherapy initiation addressing the practical issues.

Outcome Measures:

Primary outcomes included time from identification of jaundice to bilirubin testing, time from diagnosis to initiation of phototherapy, and compliance with local and NICE guidelines. Secondary outcomes included improved staff knowledge and reduced readmission rates.

Findings:

Most neonates were term (82%) and of normal birth weight (65%), with jaundice onset typically between 24 hours and 7 days. Single phototherapy was sufficient in 61% of cases; no exchange transfusions or IVIG treatments were required. Documentation, feeding practices, and parental education were identified as areas needing improvement.

Survey results showed that 76.9% of respondents were nurses. While 58.3% correctly identified the age-in-hours nomogram as the appropriate tool, 23.1% reported delays in initiating phototherapy, and 8.3% expressed low confidence in managing NNJ. 83.3% of staff reported following existing NNJ protocols. Hands-on experience and formal teaching were strongly supported for confidence-building.

Conclusion:

The QI initiative highlighted strengths in early intervention and follow-up, while identifying gaps in documentation, guideline familiarity, and timely management. Educational interventions and protocol standardization are ongoing to enhance care quality and outcomes.

Neonatal Sepsis – Early identification and management: A Quality Improvement Initiative in the Special Care Baby Unit (SCBU) at DGH Mullaitivu, a Secondary Care Hospital in Sri Lanka

Antonypillai A¹, Faizal E¹, Sithamparanathan T¹

¹Dgh Mullaitivu

Background:

Neonatal sepsis is a leading cause of morbidity and mortality in neonates, particularly in low-resource settings. Early recognition and timely, standardized management are essential for improving outcomes. This Quality Improvement (QI) initiative was conducted in the Special Care Baby Unit (SCBU) of DGH Mullaitivu to strengthen compliance with national and international sepsis management protocols.

Objectives:

The primary aim was to assess and improve adherence to standard neonatal sepsis protocols, including early identification, timely antibiotic administration, use of a structured screening tool, documentation accuracy, improving reports availability and parental engagement.

Methods:

A retrospective audit of neonates treated for suspected sepsis was conducted over two Plan-Do-Study-Act (PDSA) cycles: November 2024–January 2025 (Cycle 1, n=24) and February–April 2025 (Cycle 2, n=31). Data sources included bed head tickets, drug charts, and screening checklists. A structured sepsis tool and updated drug chart were introduced in December 2024. Staff training, clinical posters, and multiprofessional discussions were implemented to reinforce best practices and address systemic gaps, such as delayed lab reports.

Results:

Cycle 2 showed notable improvements: screening tool use rose from <50% to 83.8%, documentation of parental communication increased from 54.2% to 96.7%. Number of lumbar punctures has been increased in the second cycle highlighting the standard guideline about the indication. Although antibiotics were administered within 1 hour in most cases, documentation inconsistencies highlighted the need for better time-recording practices. Blood cultures before antibiotics remained at 100%, while culture turnaround times worsened, prompting collaborative plans with lab services. Signature compliance on drug charts improved modestly but remained suboptimal.

Conclusion:

Implementation of structured tools, staff education, and targeted interventions improved protocol adherence across key domains. Continued PDSA cycles, focused documentation training, and cross-department collaboration are essential to sustain and enhance neonatal sepsis care outcomes

Embedding Multidisciplinary Review of Term Neonatal Admissions: A Sustained Quality Improvement Initiative Aligned with ATAIN

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¹St George's University Hospital NHS Foundation Trust

Background:

Avoidable term neonatal admissions disrupt mother–infant bonding, delay breastfeeding, and contribute to parental anxiety, while placing added pressure on neonatal services. In alignment with the national ATAIN (Avoiding Term Admissions Into Neonatal Units) programme, our tertiary neonatal unit introduced a structured, multidisciplinary review process to identify potentially avoidable admissions and implement targeted improvements in perinatal care.

Method:

Starting in April 2023, we established monthly multidisciplinary review meetings involving neonatologists, obstetricians, midwives, and neonatal nurses to include all key stakeholders. Each term admission (≥ 37 weeks) was systematically reviewed using a structured template, followed by team discussion to assess whether it was preventable. Themes were identified to inform improvement work, including changes to clinical pathways and team communication strategies.

Result:

Over a two-year period, 279 term admissions were reviewed, of which 18 (6.4%) were considered potentially preventable. Common reasons for admission included respiratory distress (64.5%) and hypoglycaemia (12.9%). Avoidable admissions were often linked to unclear escalation, variation in admission thresholds, and inconsistent communication between teams.

In response, we implemented several interventions using plan-do-study-act cycles, including the development of a respiratory admission pathway and cord gas guidelines, the revision of hypoglycaemia protocols, the introduction of regular multidisciplinary teaching sessions, and the launch of a monthly newsletter highlighting key data and learning from reviews. These measures aimed to improve clinical decision-making and support earlier intervention. Early feedback suggests clearer escalation and more consistent management of at-risk infants.

Conclusion:

This project has strengthened collaboration between neonatal, midwifery, and obstetric teams and is now embedded in routine governance. It has improved shared understanding, encouraged reflective practice, and reduced unnecessary term admissions. A re-audit is planned in the coming months to assess the sustained impact. Findings are shared locally, with plans for regional dissemination. We hope this model supports safer, more family-centred perinatal care elsewhere.

Service evaluation of perinatal post-mortem practice and re-audit of compliance with NHS England 'Interim Clinical Commissioning Urgent Policy Statement' guidance from 2018 to 2024

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¹Department of Histopathology, Manchester Royal Infirmary, ²Department of Paediatric Pathology, Royal Manchester Children's Hospital

Background:

NHS England published the 'Interim Clinical Commissioning Urgent Policy Statement: Perinatal post-mortem investigation of fetal and neonatal death' in 2022 to support greater standardisation in access to perinatal post-mortem investigations and placental examinations, as well as the prioritisation of available perinatal pathology capacity in the context of an ongoing shortage of paediatric and perinatal pathologists across the United Kingdom. This guidance was updated in 2024, removing the recommendations for minimum standards of examination.

Methods:

Perinatal hospital post-mortem report data from Manchester University NHS Foundation Trust were collected from three time periods: 01/10/2018-31/12/2018 (before policy publication), 01/10/2023-31/12/2023 (after publication), and 01/10/2024-31/12/2024 (after policy update). Compliance with minimum standards for perinatal post-mortem examination was measured, alongside case type, caseload, referring centres, type of pregnancy loss and post-mortem conclusion.

Results:

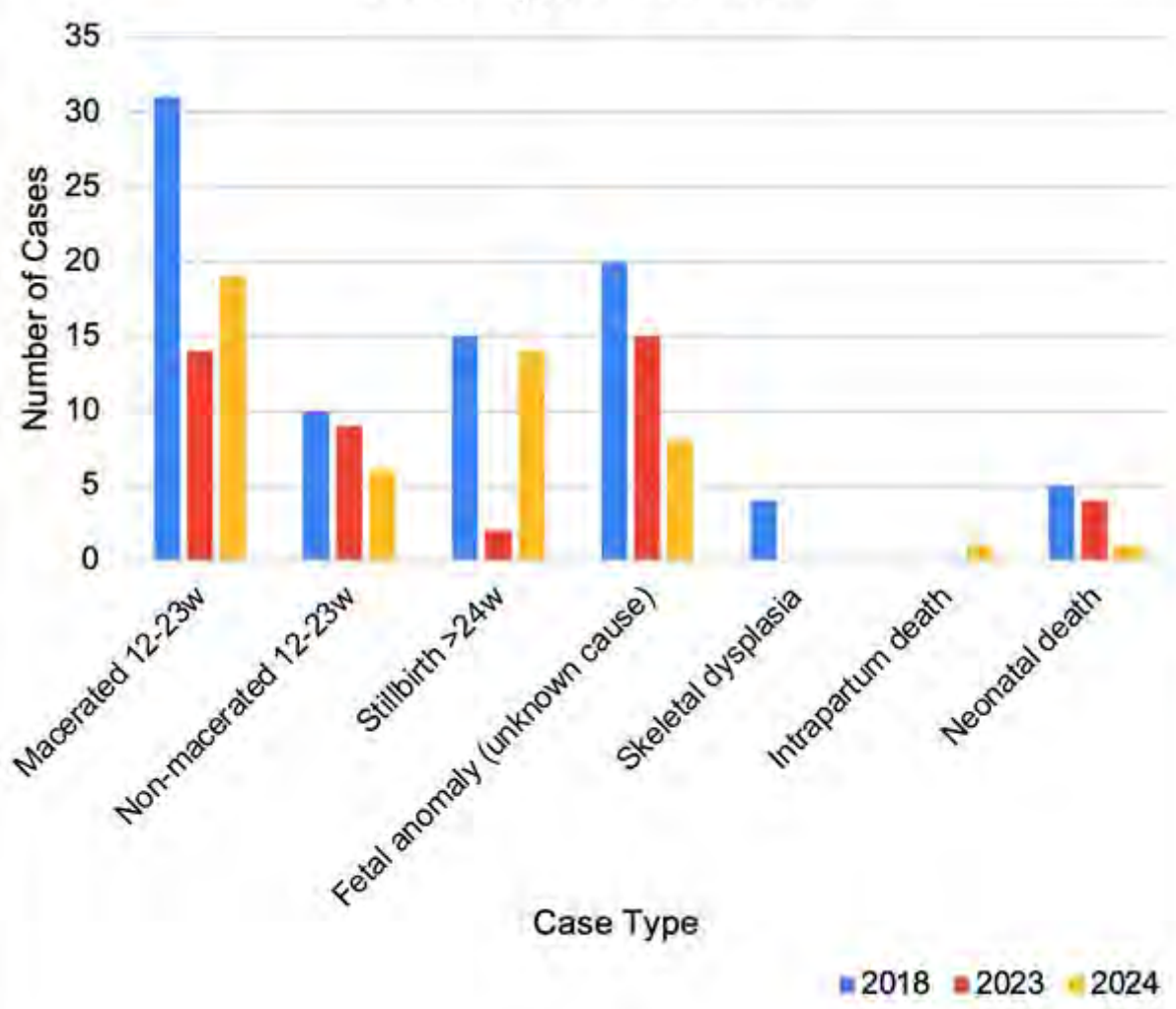
A sustained reduction of the number of perinatal post-mortems performed was seen when comparing 2018 (n=85) to 2023 (n=44) and 2024 (n=40), particularly affecting fetuses of 12-23 weeks completed gestation and fetal anomalies of unknown cause. This reduction appeared even across all referring trusts. The percentage of cases with a pregnancy loss of unascertained cause was greater in 2023 (43%) and 2024 (35%) than in 2018 (25%). For several components of the post-mortem exam, such as morphometric measurements, radiological examination, fetal organ weights and fetal histology, practices exceeded the minimum required standards in 2023/2024. Besides the increasing use of cytogenetic testing seen in 2023/2024, components of the post-mortem examination did not differ significantly when compared to 2018.

Conclusions:

A notable decline in the number of perinatal post-mortems has been identified following the policy's implementation and update. The standards of examination have remained similarly thorough before, during and after the policy was in place. The limited available pathology resources must be balanced against the continued demand for thorough perinatal care and investigation.

Graphs

Case Types Per Year



Implementation of BAPM Perinatal Optimisation Passports at a Tertiary Neonatal Unit

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¹King's College Hospital NHS Foundation Trust

Background: The British Association of Perinatal Medicine (BAPM) Perinatal Optimisation Passports aim to improve outcomes for preterm infants by standardising evidence-based practices and enhancing parental involvement. The tool includes a baby passport, used in antenatal counselling and shared with parents, and a clinical passport, which is completed and attached to the baby's medical records.

Aim: To assess BAPM passport use in infants born <34 weeks' gestation at King's College Hospital (KCH), a level III neonatal unit.

Methods: A quality improvement project was launched in July 2024. Teaching sessions and one-to-one support were delivered to the team to promote understanding and use of passports. Prospective data collection and analysis until May 2025: demographics, antenatal counselling, doctor grade and day of completion for both passports. Staff and parents surveys conducted.

Results:

- Population: 98 infants
- Median gestational age: 30.4 (22.1–33.9) weeks
- 52% male, 23.5% twins
- Baby passports: 70.4%, out of which 55% were also used in antenatal counselling. Median time to completion was 3 (1-29) days, 52.5% completed by senior doctors.
- Clinical passports: 89.7%, median time 2 (1-27) days, 59% completed by senior doctors.
- Passport completion was maintained in time, with 61.5% (baby passports) and 84.6% (clinical passports) completed in May 2025.
- Barriers encountered: acuity and workload, lack of awareness, frequent staff rotation, early discharges/repatriations, difficulty in coordinating timely discussions with parents.
- Survey: 85.7% of parents found baby passports extremely/very helpful, 93.4% of staff found them useful for antenatal counselling

Conclusion: BAPM passports have been successfully embedded into routine practice at KCH. Clinical passport completion was high throughout, whereas baby passport use was more challenging, requiring ongoing support. Continued emphasis is needed on its value as both antenatally, as a counselling tool, and postnatally, empowering parents and supporting Family Integrated Care (FICare) on the unit.

“This is US” – UVA Strategies for Normothermia in neonates

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¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital, Sri Lanka

Background:

Admission hypothermia in preterm infants contributing to significant morbidity and mortality. During my overseas training (UK), I have done a quality improvement (QI) project – “Mind the GAP”, Which demonstrated the structured interventions significantly improve the normothermia. This project at TH Badulla Neonatal Intensive Care Unit aimed to adapt and implement similar interventions to improve the thermal control.

This QI project - “This is US,” was designed to improve thermal care practices through UVA Strategies—Uniformity, Vigilance, and Adaptability at TH Badulla.

Objectives:

To increase the proportion of less than 34 Weeks(W) neonates admitted with normothermia (36.5°C–37.5°C) from a baseline of 52.4% in 2022 and 56.5% in early 2023 to ≥90% by the end of 2024.

Methods:

A prospective QI project was conducted using Plan – Do – Study – Act (PDSA) cycles.

Infants born from 1st of September 2023 to 31st of December 2024 at <34W and admitted to NICU from labour rooms and theatre were included. Those from postnatal wards and transferred from other centres were excluded. First four months dedicated to designing and implementing PDSA cycles.

The UVA Strategies involved: A QI team - conducted awareness trainings, displayed posters, and stickers to highlight normothermia importance, environmental optimization (delivery room temperature >26°C, pre-warmed equipment – hats and polythene bags), use of heated humidified gases during resuscitation and transport.

Results:

A Total of 234 neonates born at less than 34W were admitted. Of these 38 babies were excluded and 196 were included. Data were analysed monthly basis. The median gestational age was 29W (Lowest:24W). The median birth weight was 1.12kg (Lowest: 480grams). Median admission temperature was 37.2°C. Post – intervention normothermia improved to 95.2% in 2024 and reached 100% in the final 6 months.

Conclusion:

The UVA-based “This is US” QI strategy significantly improved normothermia rates in preterm neonates.

Image

ABSTRACTS DAY 1 – THURSDAY 15TH JUNE 2023**SESSION 1- Dr Geraint Morris & Dr Nicole Donovan**

Mind the 'GAP' - Gwent Action to Prevent hypothermia in neonates

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Introduction: Preterm infants are at risk of hypothermia, increasing mortality and morbidity. The 2020 Neonatal National Audit Programme (NNAP) data for our neonatal unit (NICU) showed that 67.3% of infants born <32 weeks had a normal temperature (36.5°C to 37.5°C) on NICU admission. This is below the NNAP target of 90% for this measure. Our objective was to introduce quality improvement initiatives enabling us to achieve this standard.

Method: Infants born between 1st October 2020 and 30th June 2022 at <32 weeks and admitted to NICU from labour ward and theatre were included. Those from the postnatal ward and transferred from other centres were excluded. Admission temperatures were recorded. We formed a quality improvement team and used proforma, awareness training, posters and stickers to highlight normothermia importance. We targeted a temperature of 26°C for delivery suite and utilised polythene bags, hats, trans-warmers and overhead heaters to prevent hypothermia. As an innovative practice, we introduced heated and humidified gases for use during resuscitation and transport.

Results: Total of 578 babies were admitted during the study period, out of which 119 babies were <32 weeks. 12 babies were excluded, and 107 babies were included. 98 babies (91.6%) had normothermia, 3 (2.8%) had hypothermia and 6 (5.6%) had hyperthermia on NICU admission. For the last 8 months no hypothermia was recorded.

Conclusion: Following our interventions and regular awareness programs, we achieved the NNAP goal. We advocate the use of heated and humidified gases for use during resuscitation and transport.

Clean Hands, Safe Babies: A Quality Improvement Audit Cycle on Hand Hygiene Compliance in the NICU - Teaching Hospital Badulla

Mohamed Hassan S¹, De Silva B¹, Pamarathne D¹, Jayaweera S¹, Rathnayake J¹, Mohamed Musthaffa F²

¹Teaching Hospital Badulla, Sri Lanka, ²Colombo South Teaching Hospital, Sri Lanka

Background:

Proper hand hygiene (HH) is a mainstay of infection prevention, especially in neonatal intensive care units (NICUs) where neonates are prone to healthcare-associated infections. An audit was conducted at the NICU of Teaching Hospital Badulla to assess HH compliance among healthcare workers (HCWs), followed by an intervention and re-audit to measure improvement.

Objectives:

To assess baseline HH compliance, implement structured interventions and re-evaluate for improvement.

Methods:

The World Health Organization (WHO) Five Moments for HH framework set as the audit standard. Observations were made by blinded, randomly assigned five trained HCWs using the WHO-tool. HH observed for one-hour sessions and compliance percentage (CP) was calculated in each moment and each HCW categories. The initial audit was conducted from 1/10/2023 to 30/11/2023. Then, health education programs and workshops were conducted in December 2023. The re-audit was done from 1/1/2024 to 29/2/2024.

Results:

During Initial-audit, 480 HH observations were made. Overall CP was 55%. HCWs specific compliance was highest among doctors(62.9%), followed by nurses(53.6%) and healthcare assistants(43.3%).

Compliance according to the WHO Five Moments for HH - before touching a patient (1), before an aseptic procedure (2), after body fluid exposure risk (3), after touching a patient (4), after touching patient surroundings (5) were 65.5%, 61.8%, 51.5%, 48.2% and 48.2% respectively.

In the re-audit, 500 HH observations were made. Overall CP was markedly increased to 92.8%. HCWs specific compliance improved significantly, with doctors achieving 96%, nurses 91.6% and healthcare assistants 90.6%. Compliance across all five WHO Moments also increased notably: 1 – 94.8%, 2 – 91.6%, 3 – 90.3%, 4 – 93.8% and 5 – 92.3%.

Conclusion:

Implementation of structured health education programs and strict HH policies lead to significant improvements in HH compliance among HCWs. Periodic audits and sustained educational reinforcement are important in maintaining high compliance and minimizing infection risk.

Project RESCUE: Resuscitation Excellence through Skill Consolidation and Up-skilling Efforts

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Background

Neonatal resuscitation is a life-saving skill essential for healthcare professionals in Neonatal Intensive Care Units (NICUs) and delivery settings. Ensuring sustained competency in these skills is crucial for improving neonatal outcomes. This quality improvement audit aimed to assess the baseline knowledge and practical skills in neonatal resuscitation among doctors, nurses, and midwives in the UVA Province of Sri Lanka and evaluate the impact of the Neonatal Life Support (NLS) program on improving these competencies.

Methods

A total of 118 healthcare professionals participated: 38 doctors, 40 nurses, 20 hospital midwives, and 20 field midwives. Baseline knowledge and skills were assessed via standardized written tests and practical evaluations. All participants then completed the structured NLS program, which included both theoretical and hands-on training sessions. Post-training assessments used the same tools. The audit covered multiple NLS sessions conducted from February to May 2024.

Results

Pre-training assessments showed that only 32% (38/118) met the competency standards: 47.3% of doctors (18/38), 20% of nurses (8/40), 40% of hospital midwives (8/20), and 20% of field midwives (4/20).

Following the NLS program, overall competency dramatically improved to 91.5% (94/118): 100% of doctors, 90% of nurses, 90% of hospital midwives, and 80% of field midwives achieved the required standard.

Discussion

The audit revealed critical initial gaps in neonatal resuscitation proficiency across all cadres. However, the NLS training led to significant and consistent improvements, confirming its effectiveness as a capacity-building intervention.

Conclusion

This audit highlights the vital role of regular, structured training like the NLS program in enhancing neonatal resuscitation skills. Ongoing training is essential to sustain high standards in neonatal care and ensure every newborn gets a safer start to life.

The TIMOTHY Project- Thorough Identification in Maternity Of the Transitional and High-risk baby.

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Background

Current Maternity Incentive Scheme (MIS) requirements are moving towards a model where 34-week gestation infants should be cared for on a neonatal transitional care unit, with the aim to reduce separation and hospital stay. Exploration of current local transitional care services highlighted areas for development that needed to be addressed before these infants could be admitted.

Methods

By creating a driver diagram the team were able to identify changes and interventions needed to safely expand our admission criteria to 34-week gestation infants. This highlighted that infants were not always being correctly identified as requiring transitional care- leading to potential safety concerns and poor audit data. The current identification used, used by midwifery staff at birth to assess the needs of all infants, was reviewed and discussed with the staff using it. Multiple issues were found and so a new identification tool was developed in collaboration with midwifery and neonatal staff.

Measurements

An audit was completed with the old and new identification tool to explore if the new tool was more accurate in identifying infants correctly as needing neonatal, transitional or extra care. Datix reports were also monitored closely for trends previously seen with the old tool.

Results

The new identification tool was more effective at accurately identifying at risk infants. However, compliance around completion of the tool remained poor.

Conclusion

The new identification tool is fit for purpose but more intervention is required to improve completion rates on delivery suite. A digital version may improve compliance as the delivery suite has recently moved to a digital system and this form remains on paper. The project has enabled us to develop a tool that we know is effective in identifying at risk infants and will provide us with the information required to move the project forwards.

Correlation between Caesarean Sections and Unexpected Term Neonatal Admissions: Insights from a One-year ATAIN (Avoiding Term Admission in Neonatal unit) Analysis.

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¹University Hospital Of Wales

Background:

In recent years, the focus on ATAIN has become an integral part in most NICUs around UK to reduce infant parental separation and reduce admission costs. Caesarean sections are being offered to mothers by choice lately and historically have been known to delay the normal physiological transition in babies.

Methods:

A retrospective analysis was conducted of all term (≥ 37 weeks gestation) neonatal admissions to the Neonatal Intensive Care Unit (NICU) at the University Hospital of Wales, Cardiff, between January and December 2024. Data were extracted from BadgerNet and corroborated with individual medical records. The focus was on identifying potentially preventable causes of admission, with particular emphasis on the association between mode of delivery and the need for respiratory support.

Results:

The Unexpected term admissions rate was 5.1% with an average of 20 admissions per month. 65% of them were Respiratory admissions (10% ventilated, with the majority requiring CPAP or Highflow). 4.6% of babies born by Elective sections had to be admitted with Respiratory requirements as compared to 1.6% born by spontaneous vaginal deliveries. This demonstrates a 3-fold increased risk of respiratory admissions born by elective sections compared to vaginal deliveries. 7.4% of babies born by Emergency section were admitted with Respiratory requirements. Elective section rates have gone up by 4.5% in 5 years. The duration of stay for respiratory admissions was a median of 2 days, rising to 13 days if invasive ventilation was required. Early introduction of feeds via a nasogastric tube facilitated quicker discharges.

Conclusion:

Caesarean sections have been associated with an increased risk of term neonatal respiratory admissions. These findings emphasise the need for coordinated, evidence-based perinatal strategies that target both clinical decision making and parental counselling.

A quality improvement initiative to achieve normothermia in the preterm golden hour

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Background:

Admission temperature is a key indicator of neonatal outcomes. In 2023, our Neonatal Intensive Care Unit (NICU) was identified as an outlier for normothermia by the UK's National Neonatal Audit Programme (NNAP). In response, we launched a quality improvement project (QI-NT) aimed at improving admission temperatures in neonates born <32 weeks of gestation.

Aim:

To assess the impact of the modified toolkit on hypothermia rates in neonates < 32 weeks' gestation admitted to our NICU.

Method:

We compared two cohorts of inborn NICU admissions: a 12-month pre-intervention group and a post-intervention group following the implementation of the QI measures. Using a modified BAPM normothermia toolkit, we introduced a three-point check system and applied Plan-Do-Study-Act (PDSA) cycles. A team of QI-NT champions, comprising nurses and doctors, is collaborating on this project to educate other staff on stepwise monitoring, the judicious use of thermoregulation resources, and accurate documentation in patient notes. The toolkit proforma was completed via a QR code for every admission.

Results:

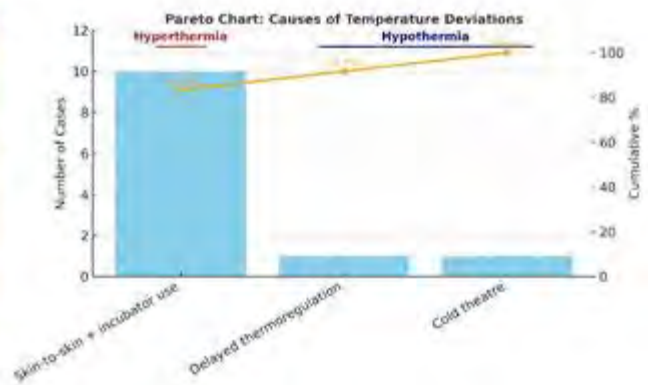
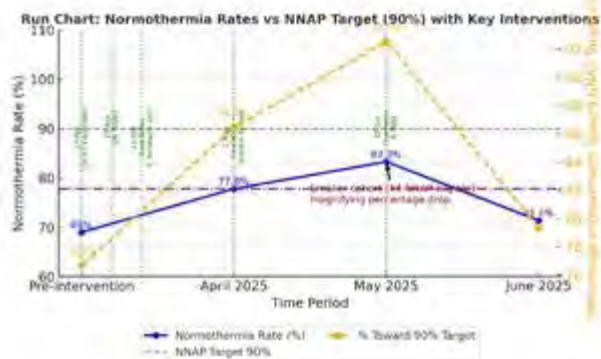
Pre-intervention, normothermia was observed in 69% of eligible neonates. After implementing the QI-NT, normothermia rates improved to 77% within 79 days. A total of 81 neonates were admitted, with 54 meeting the NNAP criteria. Among these, 12 were outside the normothermic range -10 were hyperthermic (extremely preterm, transported in incubators, and had skin-to-skin contact), and two out of two were hypothermic, managed with trans-warmers.

Conclusion:

We have demonstrated a significant improvement in admission normothermia rates following the implementation of the QI-NT. The findings also highlight the beneficial roles of transport incubators, trans-warmers, and ongoing temperature monitoring in maintaining normothermia during neonatal transfers. We plan to continue conducting additional PDSA cycles to identify key themes and actionable areas for further improvement, with the goal of optimising normothermia in vulnerable neonates.

Graphs

Improving Admission Normothermia in NNAP-Eligible Neonates Run Chart vs NNAP Target (90%) & Pareto Analysis with Key Interventions — Mean Normothermia Rate: 77.8%



Use of High-Flow Nasal Cannula in Very Low Birth Weight Infants: A Five-Year Retrospective Review of Respiratory Support Practices in Craigavon Area Hospital Neonatal Unit

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Background:

High-flow nasal cannula (HHFNC) is increasingly used in neonatal units as a non-invasive mode of respiratory support, but evidence regarding its efficacy and optimal use in very low birth weight (VLBW) and more immature infants remains limited. We undertook a five-year retrospective review to evaluate patterns of respiratory support and the characteristics of infants receiving HHFNC in our unit.

Methods:

All inborn babies admitted to the neonatal unit from 2019 to 2024 who received invasive or non-invasive respiratory support were identified. A total of 231 infants were included, of whom 82 had a birth weight <1500g. Data collected included gestational age, birth weight, mode(s) of respiratory support, and duration of support.

Results:

Among the 82 infants <1500g:

- 27 received HHFNC as part of their non-invasive support. These infants were more immature, had a lower average birth weight (mean 992g), and required longer non-invasive support (mean 23.9 days).
- Those managed with CPAP and/or low-flow oxygen alone were more mature, had a higher mean birth weight (1300g), and received significantly shorter non-invasive support (mean 6.7 days).

A similar pattern was observed among <1500g infants who also required invasive ventilation. Those who subsequently received HHFNC were lighter (1093g vs. 1310g) and had a significantly longer duration of total respiratory support (32 days vs. 13 days).

Comparable trends were noted in infants >1500g, although numbers were smaller. No infant received HHFNC without first or subsequently receiving CPAP.

Conclusions:

HHFNC was preferentially used in the most immature and smallest infants, despite limited evidence in this population. Its use was associated with a significantly longer duration of respiratory support. While causality cannot be inferred and confounding factors likely contribute, our findings mirror concerns in the existing literature. This practice warrants further prospective evaluation, particularly regarding its impact on outcomes in VLBW infants.

Thrive QI: Decreasing extra-uterine growth restriction (EUGR) in preterm infants

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¹Royal Victoria Infirmary

Background

Extra-uterine Growth Restriction (EUGR) is common in infants <32 weeks.

Impaired growth is associated with worse neuro-developmental outcomes.

Thrive MDT formed (ANNP, consultant, dietician, pharmacist, resident doctor), agreed common nutritional aim.

Aim

To increase the duration between infants < 32 weeks born with EUGR, from 5 to 10 infants without EUGR, by May 2025.

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Methods

Driver diagram (Image 1) identified:

- Outcome measure (Graph 1)
 - o Number of babies born without EUGR (between each EUGR infant) (g-chart)
- Process measures
 - o Time to full milk feeds
 - o Time of breastmilk fortification
 - o Occipital-Frontal Circumference(OFC) measurements/week
 - o Protein supplements
 - o Breastmilk feeding
 - o Intravenous protein on day 4
- Balancing measures
 - o Necrotising Enterocolitis
 - o Mortality

An enteral nutrition guideline was introduced in December 2023.

Initial measurement of process measures demonstrated that guidance was not followed.

A staff survey highlighted gaps in knowledge and variation in practice. Interventions have been focussed on:

- Improving staff knowledge (teaching, staff briefings)
- Standardising practice (Sunday OFC; supplementation guide)

To highlight changes in enteral feeding practice we have used:

- Staff education board
- Staff updates
- Nursing staff performing OFC measurements
- Supplementation guide - shortened version of guideline

Results

Between 4-15 infants born <32 weeks gestation per month (early discharges (< 1 week) and late admissions (> 1 week) excluded).

Process measures

New nutrition guidance advised increasing feeds faster and starting breast milk fortification earlier. Continuous measurement showed reduced age to full feeds, fortification and increased OFC monitoring were associated with our interventions.

Balancing measures

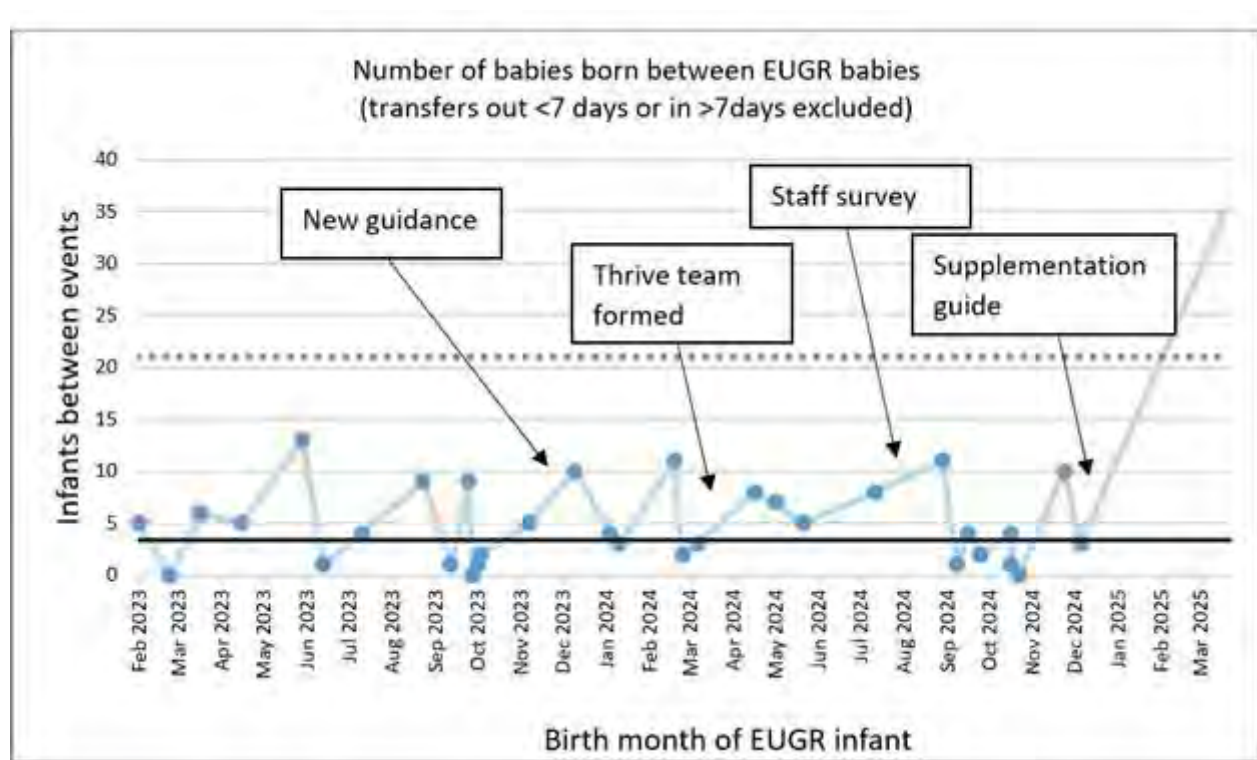
Monitored using National neonatal audit programme data.

Conclusion/Recommendations

A neonatal nutrition focussed QI team (Thrive) has been associated with less frequent occurrence of EUGR in infants born < 32 weeks GA.

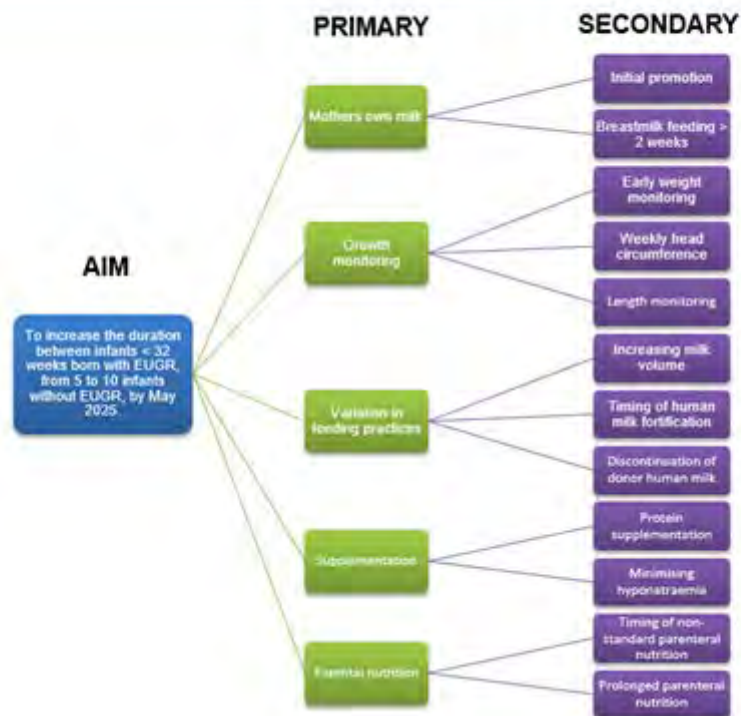
This has been associated with improvement in process measures to improve and monitor growth.

Graphs



Image

Thrive - Driver Diagram



Optimising Preterm Cord Management: A holistic synergy of Education, Innovation, and Lifestart in action

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¹King's College Hospital

Introduction:

Optimal cord management through delayed cord clamping (DCC) facilitates a physiological transition at birth offering significant benefits to preterm neonates. Inconsistency in DCC rates were attributed to a busy tertiary care involved in routine complex resuscitations.

Aim:

To increase DCC rates in preterm <34 weeks by implementing a holistic approach of educational packages and the use of Lifestart trolley thereby facilitating intact cord resuscitation.

Methods

Rates of DCC for infants < 34 weeks and admission temperature were audited over 12 months (January–December 2024) preceding our intervention.

A quality improvement project followed, involving a multi-disciplinary team of neonatologists, midwives, obstetricians and anaesthetists. Key barriers to optimal cord management observed were lack of confidence in prioritising DCC in complex conditions and in preterm needing immediate resuscitation. The Lifestart trolley was then introduced with a revised DCC guideline incorporating its use. A series of educational and interactive training sessions were held through newsletters, presentations, message of the week, multi disciplinary Lifestart simulations and demonstrations which significantly increased the confidence and awareness of the team with regards to DCC. Data was collected prospectively for 4 months using EPIC and Badgernet to monitor progress. Results were shared regularly across all staff groups.

Results were analysed using Mann Whitney U tests and Chi squared tests (SPSS ver21).

Results

The demographics of the patient populations pre and post intervention were not different. Following the intervention, DCC rates were significantly improved (76% vs 58% $p=0.036$). There were no differences in admission temperature, surfactant requirement or mode of surfactant delivery. Lifestart trolley was used in 27% of deliveries post intervention.

Conclusion:

Implementation of our educational package and the Lifestart trolley effectively improved delayed cord clamping rates in preterm infants. Additionally, we maintained good thermal care while using the Lifestart trolley.

Increasing hot clinical debriefing rates in a Tertiary Neonatal Unit

Bisheswar R¹

¹The Royal London Hospital

Introduction:

The World Health Organization recommends hot clinical debriefs following tasks, events, or shifts (“after-action” reviews), which supports team reflection, learning and patient safety [1]. Despite these benefits, staff often lack training and confidence, reducing practice even after traumatic events.

Aim:

- To increase the frequency of hot clinical debriefing within a tertiary neonatal unit.
- To teach a structured debriefing tool (preferred tool was the STOP5 tool, [2]) to improve staff education and subsequently increase the use of debriefs.

Method:

We surveyed doctors and nurses on previous training, confidence, leadership roles in debriefing, perceived benefits, and barriers. Over one month, staff logged hot debriefs or missed debrief opportunities including the event that occurred using a QR code. A presentation was given on clinical debriefing which included the benefits, barriers, the data collected from surveys and various structured tools that can be used. We displayed posters of the preferred debriefing tool, emailed resources, and held a drop-in workshop to practice debriefing of a non-medical task. We then re-audited debriefing rates the following month.

Results:

- 50% of staff had previously received teaching on clinical debriefing.
- 37.5% knew a structured debrief tool.
- 75% viewed debriefs as very beneficial; the rest as somewhat beneficial.
- Pre-intervention debrief rate: 55.6%, events logged which were debriefed versus not debriefed can be seen in Image 1.
- Post-intervention debrief rate: 70%, events logged can be seen in Image 1.

Conclusion:

Education and visual prompts can increase the rates of hot clinical debriefing even in a busy tertiary neonatal unit.

References:

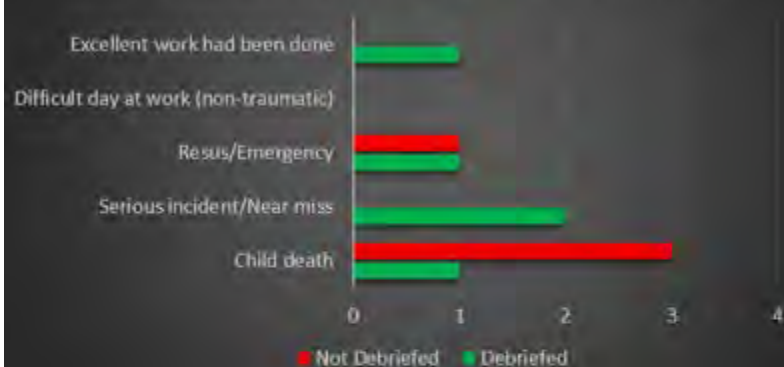
[1] Diaz-Navarro et al., Clinical debriefing: TALK© to learn and improve together in healthcare environments,

Trends in Anaesthesia and Critical Care 2021

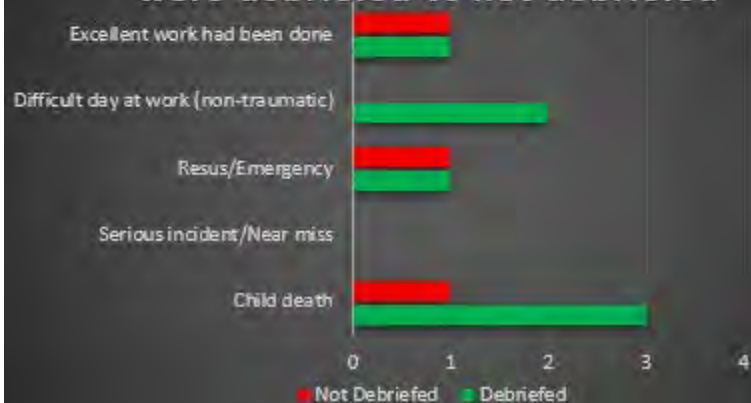
[2] Walker et al., STOP5: a hot debrief model for resuscitation cases in the emergency department. Clin Exp Emerg Med. 2020

Image

Pre-intervention: Events logged that were debriefed vs not debriefed



Post intervention: Events logged that were debriefed vs not debriefed



Does real-time Point-of-Care Ultrasound for neonatal Peripherally Inserted Central Catheter tip confirmation in NICU reduces the Catheter Line Associated Blood Stream Infection?

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Background:

Point-of-care ultrasound (POCUS) is an emerging diagnostic and procedural tool in the NICU. POCUS allows the clinicians for non-invasive, feasible and cost-efficient intervention which makes it a favourable investigation on the NICU.

The placement of neonatal Peripherally Inserted Central Catheter (nPICC) is a common procedure but one that does not come without inherent risk. Malpositioned nPICCs can lead to multiple adjustments which can increase the risk of catheter infection.

This Quality Improvement Project (QIP) aims to reduce number of repositions of nPICC and rate of Catheter Line Associated Blood Stream Infection (CLABSI).

Methods:

Step-1: Literature review

Step-2: Retrospective data analysis on number of X-rays and nPICC adjustments (October 2021 – April 2022)

Step-3: Implementation of real-time POCUS to confirm nPICC tip position (May 2022)

Step-4: Prospective data collection on nPICC malpositions, adjustments and CLABSI (May 2022 – April 2024)

In step 4, X-ray was done after the real-time POCUS to check the final nPICC tip position as per current national recommendation from BAPM.

Results:

Total of 212 nPICCs were analysed. Gestational age ranged from 22+6 to 39+4 weeks and birth weight from 410g to 3110g.

For the POCUS group, 21 repositions were performed for 20 catheters, averaging 0.31 repositions per nPICC inserted (n=67). In contrast, 53 repositions were performed for 41 catheters in the non-POCUS group, averaging 0.59 repositions per nPICC inserted (n=89).

54(81.1%) of catheters only required one X-ray in the POCUS group versus 46(51.7%) in the non-POCUS group.

CLABSI in POCUS group was 2.9%(2/67) compared to 5.6%(5/89) in non-POCUS group (p=0.699).

Table 1

Conclusion:

Introduction of real-time POCUS to confirm nPICC tip position in NICU significantly reduced number of malpositions and catheter adjustments. There was a reduction in CLABSI in POCUS group, but it was not statistically significant due to small number of patients with catheter infection.

Image

	Retrospective epoch	Prospective epoch		
	Non-POCUS group n=56	POCUS group n= 67	Non-POCUS group n=89	p-value
Optimal tip position on first attempt	36 (65.5%)	47 (70.1%)	47 (52.8%)	0.042
nPICC removed*	0	6	3	
No. of reposition for each nPICC				
Zero reposition	36 (64.2%)	47(70.1%)	47 (52.8%)	0.043
Single reposition	16 (28.6%)	19(28.4%)	31 (34.8%)	-0.494
≥2 repositions	3 (5.4%)	1(1.5%)	11 (12%)	0.027
Number of catheter reposition /nPICC	22 0.39/nPICC	21 (31.34 %) 0.31/nPICC	53 (59.55 %) 0.59/nPICC	
Number of x-rays done /nPICC**	80 1.43 /nPICC	83 1.23 /nPICC	146 1.64/nPICC	
Catheter associated bloodstream infection (CLABSI)	N/A	2 (2.9%)	5 (5.6%)	0.699
Radiograph				
Cost of X-ray (Mean±SD)	£2,720 (48.2±22.4)	£2,686 (41.2±16.3)	£4,964 (57.3±28.4)	<0.000
Radiation exposure (mSv)/nPICC (Mean±SD)	0.028 (0.029±0.013)	0.023 (0.024±0.01)	0.032 (0.034±0.02)	<0.000

*nPICC removed due to catheter either curled, looped or abnormal course on x-ray where repositioning was not possible

**Number of X-rays for single patient was missing so proportion was calculated from n = 66

N/A: Not Available

Antibiotic Resistance Patterns Observed in a Level 2 Neonatal Intensive Care Unit

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Background

Neonatal sepsis is a leading cause of morbidity and mortality, particularly for preterm and low birth weight babies. Common causative organisms include Group B streptococcus (GBS), *E. coli*, and coagulase-negative staphylococcus (CoNS). Recommended empiric antibiotics include benzylpenicillin and gentamicin for early onset sepsis, and flucloxacillin and gentamicin for late onset sepsis. The rise in antimicrobial resistance raises concerns and prompts increased local surveillance to ensure empiric antibiotics remain appropriate.

Aim

To evaluate the suitability of recommended empiric antibiotics for treating infections observed in babies admitted to the Royal Derby Hospital Level 2 NICU.

Methods

A retrospective, single-centre analysis of sepsis screens conducted on babies between January 1st and December 31st, 2023. Electronic patient records were accessed to identify causative organisms observed in blood, urine, and CSF analysis. Data collected included clinical characteristics, culture results, length of stay, and outcome. Statistical analysis was conducted using Fisher's exact test and Mann-Whitney U test for significance, and the Shapiro-Wilk test for normality.

Results

Among 262 sepsis screens conducted on 222 babies, 23 were culture positive (blood: n=22; urine: n=1). 26 isolates were observed, including CoNS (n=17) and *E. coli* (n=1). No GBS isolates were identified. The most common isolate observed was *Staphylococcus haemolyticus* (n=9), which showed resistance to gentamicin (n=5) and flucloxacillin (n=6). Fisher's exact test revealed marginally significant resistance to flucloxacillin (p=0.0500), and significant sensitivity to vancomycin (p<0.0001). Resistance to gentamicin was not statistically significant (p=0.1111).

Conclusion

CoNS, namely *S. haemolyticus* were the most common isolates observed, and showed resistance to common empiric antibiotics, supporting recent findings in Europe and Asia. While current empiric antibiotics remain effective, marginal resistance to flucloxacillin warrants further monitoring. Future research should assess local antimicrobial resistance trends, and update antibiotic stewardship guidelines accordingly.

Family Integrated Care implementation on a Level 3 surgical NICU

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Background:-

Family integrated care (FiCare) is the model of neonatal care that promotes a partnership with the parents and staff, improves neonatal and parental outcomes.

BAPM and BLISS have frameworks which recommend implementation for all neonatal units.

The team at GOSH were given an award to implement the FiCare project over a one-year period.

Aims:-

To introduce FiCare into NICU and to monitor changes following implementation.

Methods:-

Introduce:

Arts and crafts trolley for parents

Create a bedside family care booklet

Daily plan clipboards for parents and babies

Staff online education resource folder

Write guidelines such as mouthcare, eye care, swaddling, bathing, weights

Visit other London ODN neonatal units to gain support and insight into current practices

FiCare leads to attend all induction of medical, nursing and MDT staff members

Assess:

Pre, mid and post implementation surveys of MDT staff on NICU

Surveys of parents of current and past patients

Audits to review progress:

Triweekly weights, weekly head

circumferences and lengths

Admission anthropometric measurements

Use of bedside family care booklet

Use of daily plan clipboard

Results:-

Staff survey sent out to all staff associated with NICU- nurses, ACPs, doctors and AHPs. Positive and measurable change noted from pre-implementation to mid-implementation.

Conclusion:-

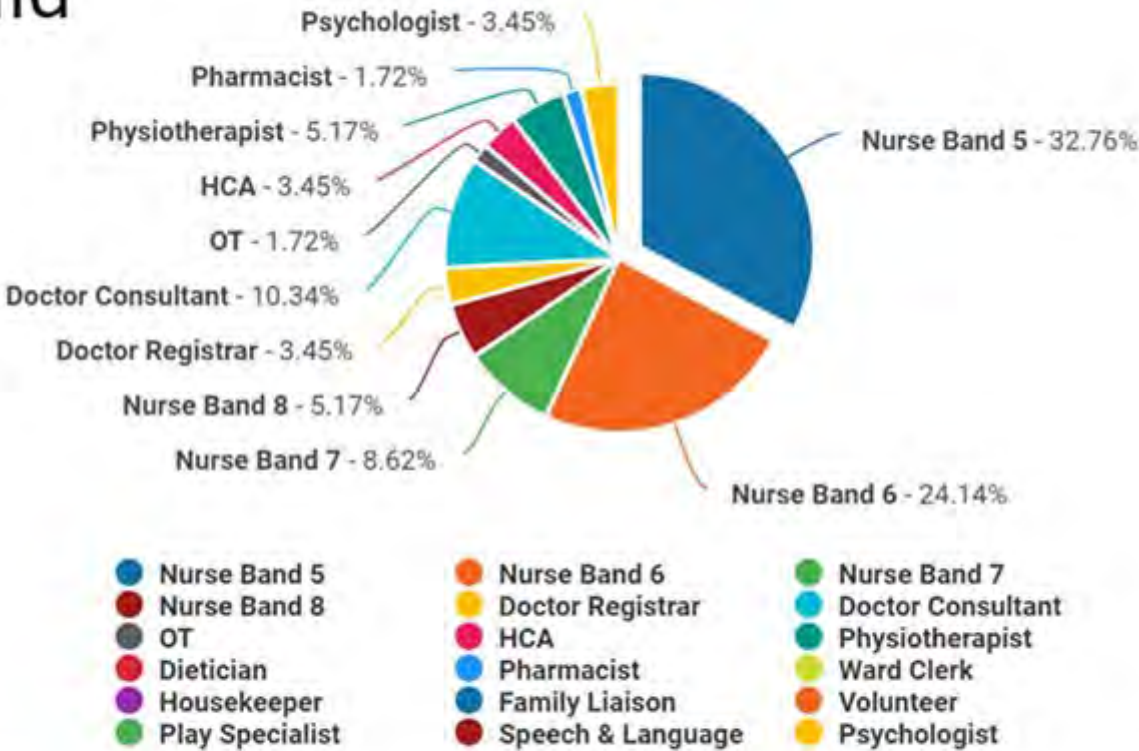
FiCare has been well accepted by the NICU and wider multi-disciplinary team. Parents have loved being encouraged to participate in ward rounds/daily planning of cares and feel more empowered.

This has had a positive impact on the baby's as they appear more calm, relaxed and have more restful periods as parents and staff are recognising their cues. Further input is needed to continue to progress this project and achieve the Bliss Gold award.

Graphs

What is your role?

Mid



Returns

Fig 1

Mid survey 63/123 (51%)

Image

FAMILY CARE ON NICU



NEONATAL INTENSIVE CARE UNIT
DOLPHIN WARD
GREAT ORMOND STREET HOSPITAL FOR CHILDREN



Tiny Minds Matter: Implementing a Neuroprotection Care Bundle in a Tertiary Neonatal Unit

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Background

Severe (grade 3-4) intraventricular haemorrhage (SIVH) is an often-devastating complication of preterm birth. Previous reports of quality improvement initiatives suggest that a neuroprotection bundle (NPB) might reduce SIVH rates. Benchmarking data from the Vermont Oxford Network revealed that the risk for SIVH for babies born in the Belfast Trust has been high (2020-2022 standardized rate: 1.3 [95% confidence interval: 1.0-1.7]).

Aim

To introduce a NPB in a tertiary neonatal unit aiming to reduce the rate of SIVH in preterm infants (<30/40).

Methods

A multidisciplinary team adapted and implemented a NPB in May 2024. The bundle was promoted by medical and nursing education sessions, a quiz, handover reminders, and incubator cards. Ongoing education was provided through governance meeting updates, newsletters, and a project noticeboard. Checklist completion was audited during October- June 2025. Weekly spot checks assessed real-life compliance. A validated logistic SIVH risk model was used to assess the impact on incidence when adjusted for antenatal factors.

Results

Median documented adherence to the NPB elements was 80% for the first 72 hours after delivery. There was no change over the audit period. For the first half of the audit period, median documentation completion for the first week after delivery was 37%. After messaging changes, it increased to 49%. Clinical spot checks highlighted N-PASS scoring as the area of poorest compliance (Image 1). Targeted teaching improved N-PASS completion rates (any N-PASS: Feb-March = 31%, April-June: 81%). The observed/expected rate of SIVH in inborn babies without congenital anomalies did not decline after the implementation (first year after: 6/6.0, two years before: 13/13.2) (Graph 1).

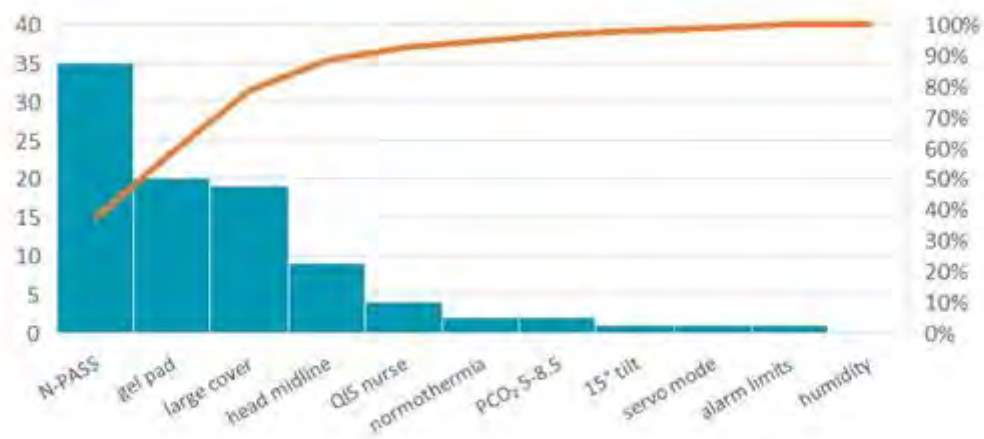
Conclusion

Our risk-adjusted pre-implementation rate of SIVH was lower than expected. Ongoing striving for increased compliance, auditing aspects of care and further education is needed before a reduction in rates of SIVH might be seen.

Graphs



Image



A Quality Improvement Project of NICU Laparotomies – Identifying Delays and Areas for Improvement

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Background:

Neonatal emergency laparotomies are time-sensitive interventions. Identifying the correct patient for whom on unit or NICU laparotomies (NLs) is preferable is imperative, as is conducting these procedures in a streamlined and safe way. To address the increasing practice of NLs a quality improvement initiative was established.

Methods:

A NL multidisciplinary working group was formed, and prospective audit commenced. Together with a simulation, human factors that could lead to delays and environmental concerns were identified. New guidance was developed including patient criteria, an itemised equipment checklist, baby positioning, and surgical environment setup to ensure an efficient pathway for successful NLs. During September and October 2024 repeat simulation and training occurred as embedding. Stakeholder feedback was collected in March 2025. Additional retrospective data has also been collected.

Results:

Between January and October 2024, 1.1 NL/month were performed, increasing to 1.5 NL/month between November 2024 to April 2025. Overall delay, defined as > 2 hours from decision for NL and 'knife to skin' decreased from a mean of 3hours 16 minutes to 2 hours 15 minutes post embedding. On examination of the delay for the teams assembling to undertake NL, of the 55% of cases pre-embedding with delay, all had blood product related delays, 40% had anesthetic review delay and 60% operative team unavailability (theatres staff, anesthetist or surgeon). Following embedding, of the 33% cases with delays, 100% were due solely to the unavailability of staff to undertake the procedure. Staff reported increased familiarity and satisfaction with the NL process after this quality improvement intervention.

Conclusions:

As staff gained experience, emergency laparotomies in the NICU increased. Efforts are ongoing to improve blood product availability and escalation plans for cases requiring an additional theatre team. A performance indicator of starting surgery within 120 minutes was confirmed, and further reevaluation is underway.

Image

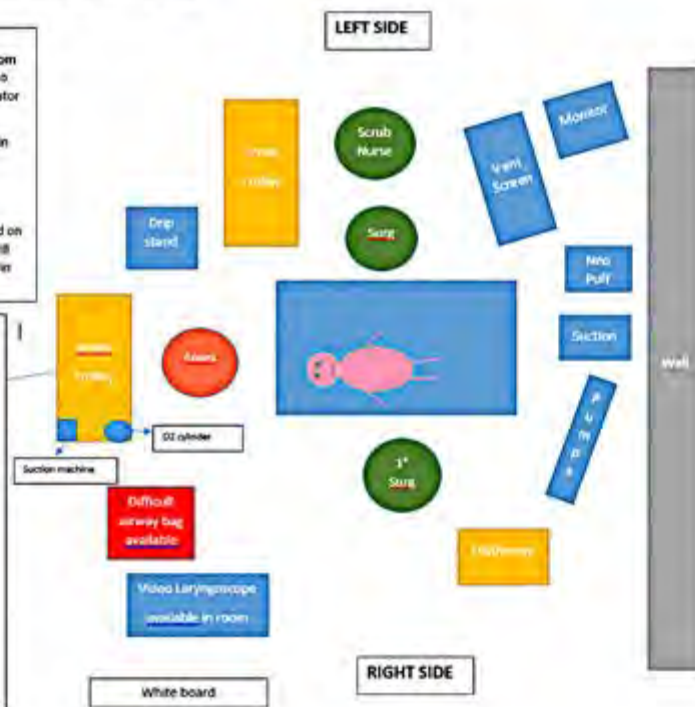
5.4.1 Floor Plan and summary consideration diagram for NICU laparotomy:

Pre-Op considerations:

Baby rotated prior to op – head facing room (unless on sensor medics ventilator) and to the right of the baby to the side of incubator
Operation site cleared of wires
Two cannulas/access in situ – ideally one in upper limb
NGT in place
Suction checked and working
Oxygen cylinder present, full and switched on – to be placed on anaesthetic trolley (this will be connected to an Ayre's T piece for use in case of accidental extubation)

Equipment required for anaesthetic trolley (from NICU):

- Laryngoscope with correct blade size and one extra with bigger/smaller blade
- Two face masks
- ETT tube x2 – one as per size used for baby and one smaller
- Introducer for ETT
- Fixation equipment for ETT
- Additional portable suction machine (to be used for airway suctioning)
- Nasogastric tube syringes
- 5 and 10ml syringes (for fluids/blood)
- Oxygen cylinder present, full and switched on
- capnography equipment (e.g. EMMA) present
- Stethoscope



Regular Growth Monitoring of Stable Preterm Newborns in the NICU

Banerjee A¹, Sundarapandian ², GUPTA R¹

¹Royal Preston Hospital, ²Torbay and South Devon NHS Foundation Trust

Background:

Growth monitoring in preterm neonates is essential to detect nutritional deficiencies early and prevent complications. In our NICU, while weight was routinely measured, length and head circumference were often missed. Using Kolb's Reflective Model, we assessed current practices and identified these gaps, prompting a structured quality improvement initiative for comprehensive growth monitoring.

Methods:

A baseline audit highlighted inconsistent practices and challenges. Tools like force field analysis identified drivers and barriers. Awareness was raised through weekly nutrition rounds, grand rounds, and educational posters. Parents were encouraged to assist in growth assessments. To standardize measurements, Sundays were designated "Measurement Day." Staff measured weight, length, and head circumference, with parental support when feasible. Weekly data were presented during Tuesday grand rounds using run charts to encourage adherence.

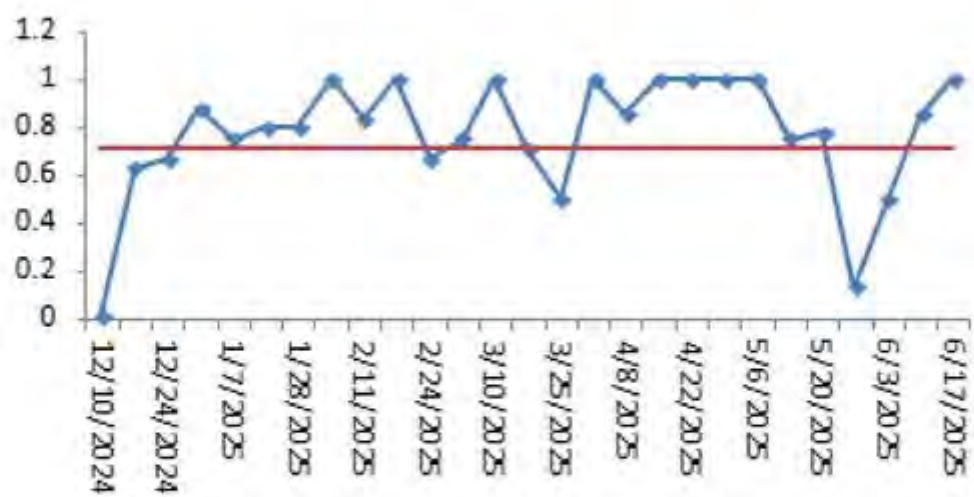
Results:

Initial compliance was low. In Week 1, none of the 7 stable preterm neonates had complete measurements recorded. Gradually, staff became more comfortable with the protocol. By Week 8, 100% of eligible neonates had all three anthropometric parameters documented as per protocol. Run charts showed consistent improvement and strong staff engagement over time.

Conclusion:

Regular feedback and reminders via rounds and meetings significantly improved adherence to comprehensive growth monitoring. However, inconsistencies in measurement techniques among staff were noted. This highlights the need for standardized training, hands-on demonstrations, and regular audits to ensure accurate and reliable anthropometric assessments moving forward.

Graphs



Continuous bicarbonate infusion via UAC for reducing bicarbonate boluses in preterms – a QIP

Pallickal A¹, Shaw E¹, Salamehova L¹, Barakat M¹, Hagoug G¹

¹Leeds Teaching Hospitals NHS Trust

BACKGROUND:

3982 extreme preterm births were recorded in the UK in 2019, representing 0.55% of total births. This cohort is at increased risk of intraventricular haemorrhages (IVH) due to their fragile germinal matrix and lack of cerebral autoregulation. They are also prone to metabolic acidosis, often receiving fluid or bicarbonate boluses, which can cause fluctuations in fluid volume and blood pressure.

There is paucity of literature addressing whether continuous bicarbonate infusions via umbilical arterial catheter (UAC), would reduce the incidence of metabolic acidosis, and thereby reduce the need for bicarbonate boluses/ corrections.

AIM:

To assess whether the use of continuous heparin bicarbonate infusions to maintain UAC patency in preterm babies, reduces the incidence of (i) metabolic acidosis and (ii) need for bicarbonate boluses.

METHODS:

A structured QIP over two Plan-Do-Study-Act (PDSA) cycles covering 3 epochs, was implemented at a Level 3 NICU.

Eligibility criteria: Babies born at < 28 weeks gestation or < 1 kg birth weight.

Data was collected from electronic patient records and paper charts in epoch 1 and 3. In epoch 2, education sessions and a new SOP on continuous heparin bicarbonate infusions for maintaining UAC patency were introduced. Prior to this, continuous heparin saline infusions were in use.

RESULTS:

Epoch 1: 05/07/2023 to 24/01/2024 (N=41)

Overall:

-Metabolic acidosis: 70.7%

-Bicarbonate correction: 51.2%

In babies with UAC on heparin saline:

---Metabolic acidosis: 80.7%

---Bicarbonate correction: 53.6%

---Hypernatremia: 73.3%

Epoch 2: SOP on continuous heparin bicarbonate infusions for UAC patency was introduced.

Epoch 3: 07/09/2024 to 14/01/2025 (N=14)

Overall:

-Metabolic acidosis: 50%

-Bicarbonate correction: 35.7%

In babies with UAC on heparin bicarbonate:

---Metabolic acidosis: 62.5%

---Bicarbonate correction: 37.5%

---Hypernatremia: 62.5%

CONCLUSION:

Continuous heparin bicarbonate infusion via UAC was associated with a reduction in metabolic acidosis and a decrease in use of bicarbonate boluses/ corrections in the study.

Use of buccal 25-hydroxyvitamin D from birth is associated with reduced 25-hydroxyvitamin D deficiency in extremely preterm and extremely low birthweight infants

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¹John Radcliffe Hospital, Oxford University Hospitals NHS Trust

Background: Extremely preterm/extremely low birthweight infants often have 25-hydroxyvitamin-D insufficiency/deficiency postnatally. ESPGHAN suggests routine supplementation of 400-700 IU/kg/day. Slow tolerance of milk in these babies and a lack of parenteral options limits supplementation in the first weeks of life.

Methods: Service evaluation compared biochemical investigations during the first 16 days after birth, before and after a change in route of early 25-hydroxyvitamin-D supplementation. Infants born <28 weeks' PMA/birthweight <1kg were included. These infants have 25-hydroxyvitamin-D checked around day 14.

The baseline cohort covered 24 months within 2022-2024. The buccal vitamin D cohort covered 8 months within 2024-2025. Figure 1 shows the clinical regimes for vitamin D provision in the first two weeks after birth for these two periods. The key change in the buccal time-period was the provision of 200 IU 25-hydroxyvitamin-D TDS (600 IU total) buccally from birth. The only contraindications for buccal 25-hydroxyvitamin-D were NEC Stage 3, bowel obstruction/perforation or gut atresia. Previous audit had shown good compliance with buccal vitamin D prescription (68% starting it in first 48 hours).

The only other change in nutritional practice during the buccal time-period was an increased focus on early phosphate measurement and correction.

Results: 190 infants were included. Table 1 shows demographic and biochemical characteristics. There was no statistical difference in birth gestation, birthweight or sex.

25-hydroxyvitamin-D concentration at first assessment increased in the buccal time-period. Deficiency reduced from 41% to 14%. 25-hydroxyvitamin-D was measured slightly earlier in the buccal time-period but regression showed persistent statistical significance after adjusting for day of measurement, as well as for phosphate, calcium, PTH and 2022/23 versus 2023/2024.

Conclusions: Use of buccal vitamin D was associated with reduction in deficiency in high-risk infants. Insufficiency remained prevalent. This protocol is easy to implement and overcomes limitations to supplementation when there are difficulties with milk tolerance.

Graphs

	Baseline (2022-2024) 24-month period	Buccal vitamin D (2024-2025) 8-month period
25-hydroxyvitamin D (Thorens 10,000 IU/mL)	In 2023-2024 only, 400 IU enteral given from 48ml/kg/day feed	200 IU TDS (600 IU daily) given buccally from birth. When infant reaches 120ml/kg/day feed this is switched to 400 IU enteral
Multivitamin containing 25- hydroxyvitamin D (Abidec or Dalivit if product shortage)	200 IU enteral given from 120ml/kg/day feed	200 IU enteral given from 120ml/kg/day feed
Breastmilk fortification containing 25- hydroxyvitamin D (Nutricia)	Full feed with full fortification provides approximately 350 IU/kg/day. Fortifier from 120ml/kg/day feed	Full feed with full fortification provides approx. 350 IU/kg/day. Fortifier started at 96ml/kg/day

Figure 1

Image

	Pre buccal 25- hydroxyvitamin D (2022-2024) 24-month period	Post buccal 25- hydroxyvitamin D (2024-2025) 8-month period
Number included	135	55
Female (n, %)	68 (50.3%)	26 (47.3%)
Gestation at birth (weeks; mean \pm SD)	26.1 \pm 2.0	25.9 \pm 1.9
Birthweight (grams; mean \pm SD)	810.8 \pm 205.3	792.0 \pm 170.0
First 25-hydroxyvitamin D (nmol/L; mean \pm SD)*	33.9 \pm 11.5	41.2 \pm 11.8
Categories of first 25-hydroxyvitamin D (n, %)		
Deficient (<30 nmol/L)	17 (41%)	5 (14%)
Insufficient (30-50 nmol/L)	21 (50%)	24 (65%)
Sufficient (\geq50 nmol/L)	4 (10%)	8 (22%)
Day after birth of first 25- hydroxyvitamin D assessment (mean \pm SD)*	14.7 \pm 0.2	13.6 \pm 0.3

Table 1: *p<0.05

Digitally Safer Together: Enhancing Maternity and Neonatal Handover Using Alertive and SBAR Integration.

Elamin N¹, Urus H¹, Ahmed A¹

¹East And North Heartfordshire

Background:

With the NHS-wide move from traditional bleep systems to digital communication platforms like Alertive, concerns arise regarding the clarity and safety of handover between maternity and neonatal teams.

Poorly structured digital communication may result in missing key clinical details, delayed neonatal involvement, and compromised care.

We initiated this QIP and regular audit to optimize the use of Alertive, and promote collaboration between teams during this transition.

Aim:

To enhance patient safety and timely neonatal care, improve the clarity of communication following the implementation of Alertive, encourage the use of structured SBAR handovers, and help deliver tailored training to support staff during workflow changes.

Methods:

A four-week cross sectional survey was conducted in May 2025 with 49 staff members' responses.

Data was collected via a QR linked survey assessing:

- 1-Confidence using Alertive
- 2-Understanding of urgency labelling messages
- 3-Frequency of incomplete messages
- 4-Open-text suggestions for improvement

A PDSA approach guided the intervention through three cycles:

PDSA 1: Staff education and distribution of reference guides

PDSA 2: Standardization of SBAR handover content with key clinical details

PDSA 3: Weekly feedback loop and case reviews at handovers and governance meetings

Early findings were shared in a joint maternity neonatal governance meeting. Ongoing audits are planned to monitor sustainability.

Intervention: A co-designed 3-step SBAR message template was introduced:

- 1-Urgency label
- 2-Clear title
- 3-SBAR content and extension number to call back if needed

Results:

1-Mean confidence using Alertive, assessed using a 5-point Likert scale: 3.9/5

2-Incomplete messages reported by 26.5%

3-63% understood urgency labels

4-Barriers Identified:

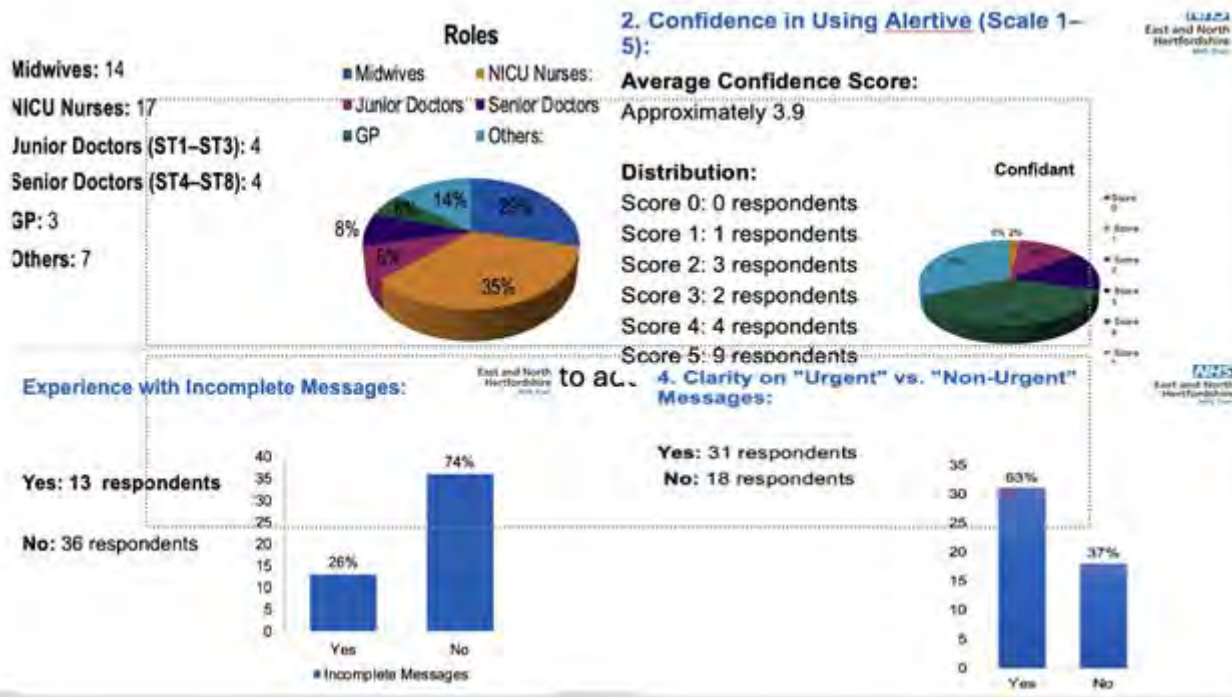
A-Missing key details

B- Reluctance to use Alertive stemming from the perception that typing is time-consuming.

Conclusion:

While Alertive improves traceability, clinical safety relies on structured messaging and user engagement. This QIP demonstrates that focused education, consistent feedback, and SBAR integration can enhance communication and improve neonatal care.

Graphs



Image

NEONATAL ALERT: COMMUNICATE SAFELY USING SBAR

Helping Midwives & Neonatal Teams Work Better, Together

3 SIMPLE STEPS TO A SAFE & SPEEDY HANDOVER:

Step 1: URGENCY
Mark as: Urgent or Non-Urgent

Step 2: CLEAR TITLE
Include:
 Location + Reason + Baby Name + NHS No (if known)

Step 3: USE SBAR STRUCTURE

S - Situation:
Gestation, Risks (e.g. sepsis, hypoglycaemia), CTG concerns after delivery, add mode of delivery, Apgar score, condition at birth

B - Background:
Mother's history Antenatal complications or scans

A - Assessment:
Any concerns: need **set of OBS** if possible, low sats, grunting, may need resus

R - Recommendation:
~ Ask NICU team to attend urgently ~ Call Ext. **4018** — **Minutes matter!**

"Let's communicate for safety, not just speed."
 Help us send the **right team** — **fast and ready.**

“Optimising Thermal Care at Admission for Preterm Infants in a Tertiary Neonatal Unit: A Quality Improvement Journey”

Kamupira S¹, Fitzpatrick S¹, Ashworth L¹

¹NICU, St Mary's Hospital, Manchester University Hospitals NHS Trust

Background

St Mary's Neonatal Intensive Care Unit (NICU) is one of the busiest tertiary NICUs in England, with approximately 1,000 admissions annually. In 2021, the unit was identified as an outlier in the National Neonatal Audit Programme (NNAP) for suboptimal admission temperatures in preterm infants (<32 weeks gestation), with normothermia achieved in only 58% of cases.

Aim

To improve admission normothermia in preterm infants to above 80%, with a stretch target of >90%, using the British Association of Perinatal Medicine (BAPM) normothermia toolkit.

Methods

An audit in 2021 revealed that 25% of infants had hyperthermia (>37.5°C) and 17% were hypothermic on admission, with one-third of the hypothermic infants being >29 weeks gestation. A fishbone analysis and driver diagram were used to identify key areas for intervention.

Plan-Do-Study-Act (PDSA) cycles were implemented to test changes, including;

judicious use of transwarmer mattresses,

introduction of NeoHelp bags,

availability of thermometers in delivery rooms,

pre-warming transport incubators to 37°C,

and the introduction of an admission nurse “floater” role.

Staff education and training were provided alongside other quality improvement initiatives, such as delivery room cuddles and the use of LifeStart trolleys for delayed cord clamping. Weekly communications and case reviews for all out-of-range temperatures supported ongoing engagement.

Results

Normothermia rates improved from 58% in 2021 to 74% in 2022, peaking at 82% in 2023. A slight decline to 77% in 2024 was attributed to inconsistent implementation of the “floater” role.

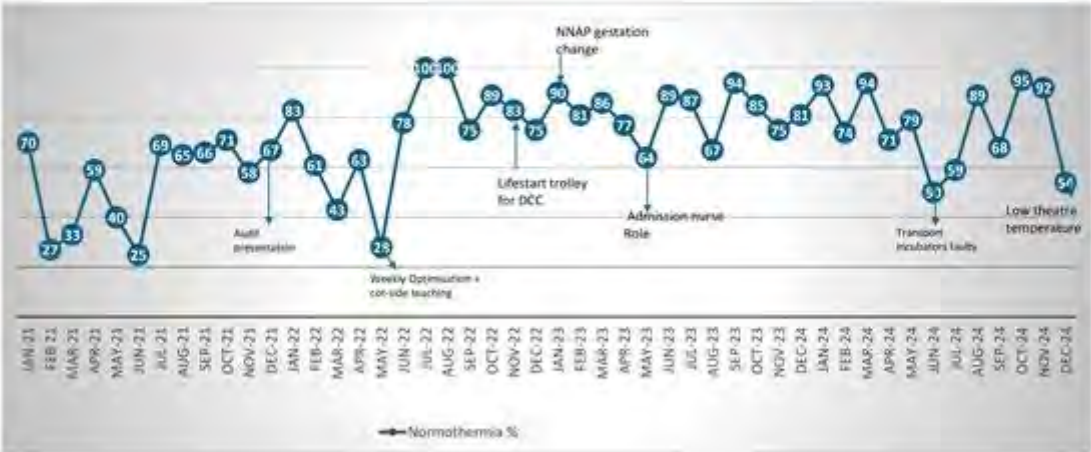
Challenges included workforce changes and maintaining staff engagement due to turnover in the quality improvement team.

Conclusion

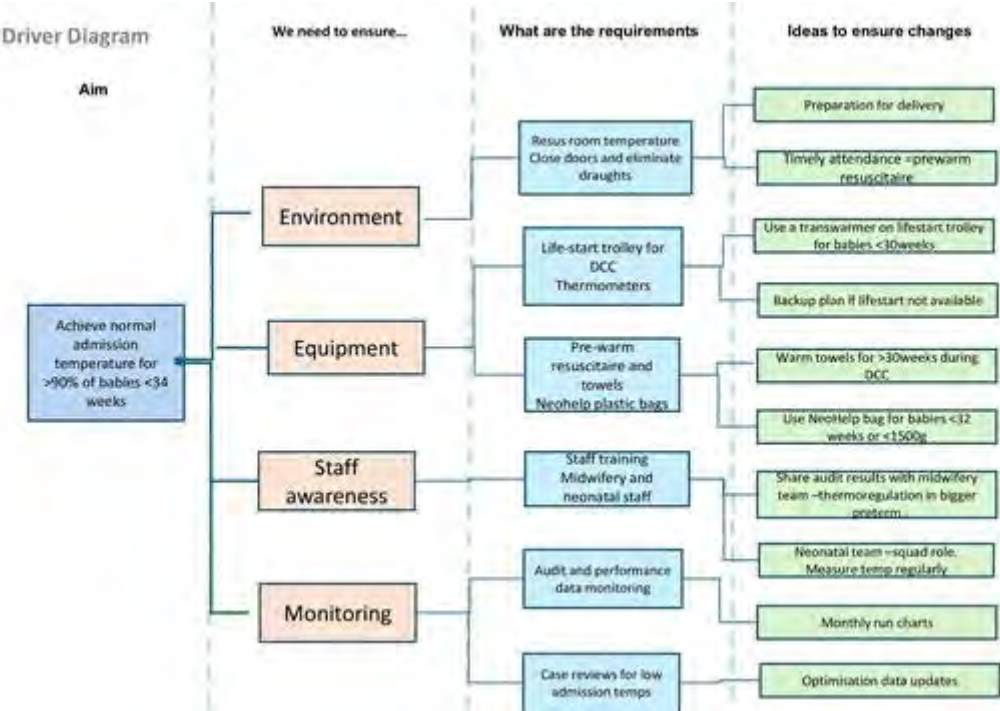
Structured quality improvement efforts led to sustained improvements in thermoregulation for preterm infants. The project aims to achieve 90% compliance in 2025, with a renewed focus on normothermia in infants >30 weeks' gestation and the development of an e-learning module as part of mandatory staff training.

Graphs

Percentage of admission temperatures 36.5-37.5°C- Jan 2021 to Dec 2024



Image



Improving Thermoregulatory Care on the Postnatal Wards – A Quality Improvement Initiative

Course K¹, Grimwood A¹, Tector G¹, Jones S¹, Hayward R¹, Pritchard S¹, Hart K¹, McLoughlin H¹

¹University Hospital Of Wales, Cardiff & Vale University Health Board

Background: Maintaining normothermia is a critical aspect of postnatal care. Through risk management mechanisms, we identified a high number of infants with hypothermia on the postnatal wards, of which a high number required admission to the neonatal unit (NNU), resulting in potentially avoidable mother-infant separation.

Aim: To improve thermoregulatory care practices, empower staff to detect and manage abnormal temperatures effectively, and reduce unnecessary NNU admissions related to hypothermia.

Methods: A multidisciplinary perinatal team of midwives and neonatal nurses was established.

Interventions targeted three key areas: parental and staff education, environmental optimisation, and equipment use. Thermoregulation education was incorporated into routine antenatal consultations. Staff received updated guidance on the correct use of handheld thermometers, 'hot cots', radiant heaters, and incubators. A training package reinforced best practices in managing thermal care. Equipment registers identified shortfalls, leading to appropriate procurement. Joint inspections with the estates team highlighted bedspaces susceptible to environmental fluctuations; these 'risk areas' were flagged for increased staff vigilance when caring for newborns in these locations.

Results: In the four months preceding the intervention, ten cases of suboptimal thermoregulation management were identified, 80% required NNU admission. 50% of those cases were considered as potentially avoidable. In the four months following implementation, this figure reduced to three cases (70% reduction from baseline). For those babies requiring NNU admission, there was a marked improvement in thermoregulation care and the MDT considered these admissions unavoidable due to respiratory support and hypoglycaemia management needs. The intervention improved thermal stability on the postnatal wards and reduced the need for neonatal escalation.

Conclusions: A proactive, multidisciplinary approach focused on awareness, education, and environment can significantly enhance thermoregulatory care for newborns. Empowering both staff and parents contributes to better outcomes, reduces avoidable neonatal unit admissions, and minimises infant-parent separation, supporting safer, more family-centred postnatal care.

Improving timely administration of IV antibiotics to neonates at risk of sepsis

Churms J¹, Drury T¹, Curwen C¹, Steward S¹, Howick S¹, Godwin S¹

¹Blackpool Teaching Hospital

Prompt antibiotic treatment is essential in neonatal sepsis. NICE guidelines recommend administering antibiotics within one hour (the 'golden hour') of the decision to treat. Following local guidelines, for babies with two or more risk factors present at birth, the decision to treat is defined as the time of birth. This project aims to increase the proportion of these high-risk neonates receiving their antibiotics within one hour to 60% by December 2025.

Retrospective data collection was done from manual review and electronic systems. Inclusion criteria were babies born with two or more sepsis risk factors. Time of birth, antibiotic prescription and administration time, risk factors and documented reasons for delay were recorded. Staff perceptions of awareness of neonatal sepsis and delay of antibiotic administration were assessed via a Microsoft Forms survey distributed to relevant teams.

Initial interventions included regular neonatal bulletins incorporating sepsis awareness, a 'sepsis week' with educational displays, posters with risk factors across key clinical areas, and integration of identification of at-risk babies into the maternity huddle. Further ideas include creation of pre-prepared 'sepsis packs' to expedite cannulation and antibiotic administration, and improving processes for hospital number generation for timely prescribing.

Baseline data showed a median time to antibiotic administration of 2h 14m and 0% of babies meeting the golden hour. Following regular neonatal bulletins, the median time was 2h 33m which improved to 1h 46m post-sepsis week intervention. From the survey, 100% of staff reported being aware of the 1-hour target, but none felt that was 'always' met. Common perceptions for delay included failed cannulation (n=22), lack of hospital number (n=21) and prescribing delays (n=15).

Delay of antibiotic administration is multifactorial. There is ongoing need for increasing awareness and targeting areas of delay. Our early data shows a promising improvement following intervention and efforts are continuing.

Somerset Neonatal Oral Antibiotics at Home: A Pilot Implementation and 5-Month

Review at Somerset NHS Foundation Trust

Krishnamurthy P¹, Gopalswamy V¹, Trad G¹, O'Sullivan S¹, Barbosa A¹, Mohammed S¹

¹Musgrove Park Hospital

BACKGROUND

Early-onset sepsis (EOS) in term neonates typically requires at least 36 hours of intravenous (IV) antibiotics, often extended due to elevated inflammatory markers or clinical concern. However, emerging evidence (Carlsen et al., 2024; Gifford et al., 2024) supports transitioning stable neonates to oral antibiotics after initial IV therapy. We aimed to introduce and evaluate a structured IV-to-oral antibiotic switch guideline, promoting early discharge, parental empowerment, healthcare sustainability, and continued patient safety.

METHODOLOGY

Following retrospective analysis (Nov 2023–Apr 2024), we identified 19 of 100 neonates who could have benefitted from earlier discharge on oral antibiotics. In February 2025, Musgrove Park Hospital became the second unit in the South West to implement a formalised guideline. Inclusion criteria: term neonates (≥ 37 weeks), CRP 15–50 mg/L with downward trend, negative cultures, stable observations, and parental consent for virtual review. After 36–48 hours of IV therapy, eligible babies were discharged to complete a 7-day course orally. Parents received red-flag education and participated in four days of secure video follow-ups, followed by a face-to-face review (with CRP) on Day 5. All documentation was digital and consumables returned.

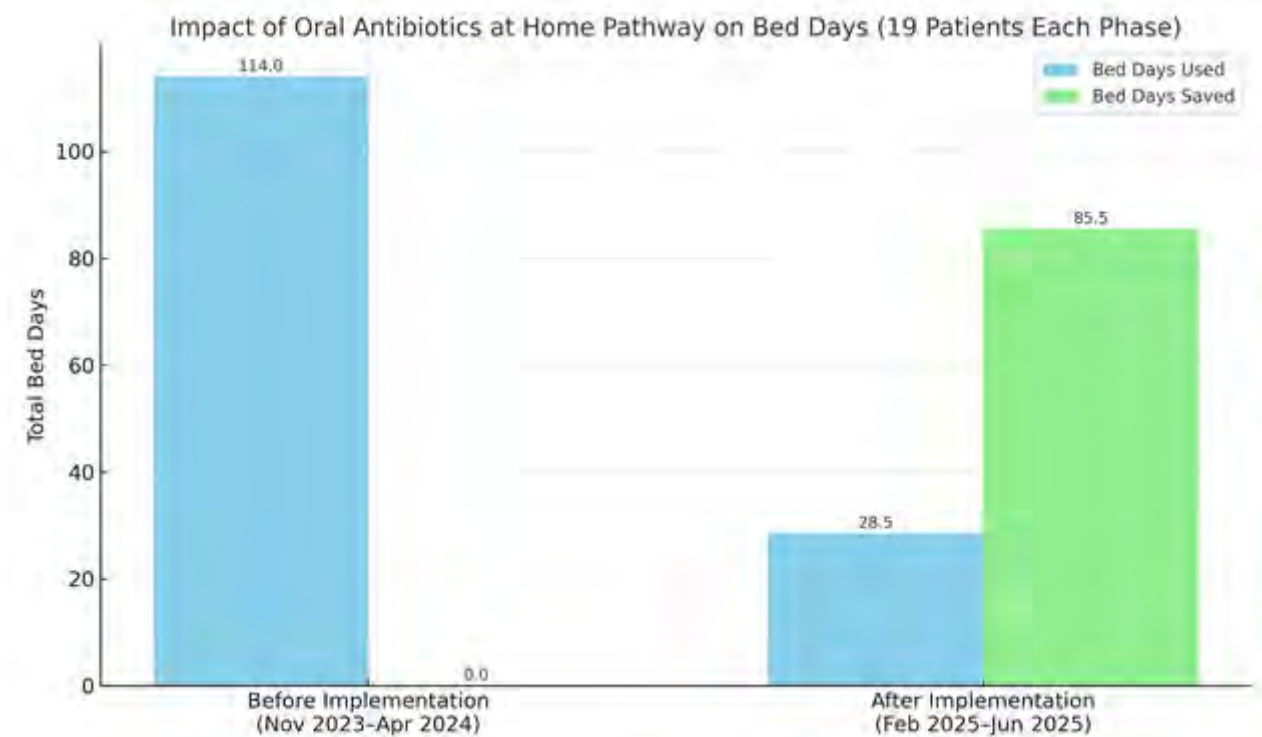
RESULTS

Pre-implementation, 19 neonates (10 received 7 days IV, 9 received 5 days) used 115 bed days (average 6 per baby). Post-implementation, 19 neonates were discharged at 36 hours, saving 85.5 bed days. No readmissions occurred. Nearly 70 video reviews were completed. Parental compliance and satisfaction were excellent. All consumables were returned, supporting sustainability. Average CRP reduction was 69.3% in the IV group vs 45.5% in the oral group, demonstrating effective infection control with oral antibiotics in stable infants.

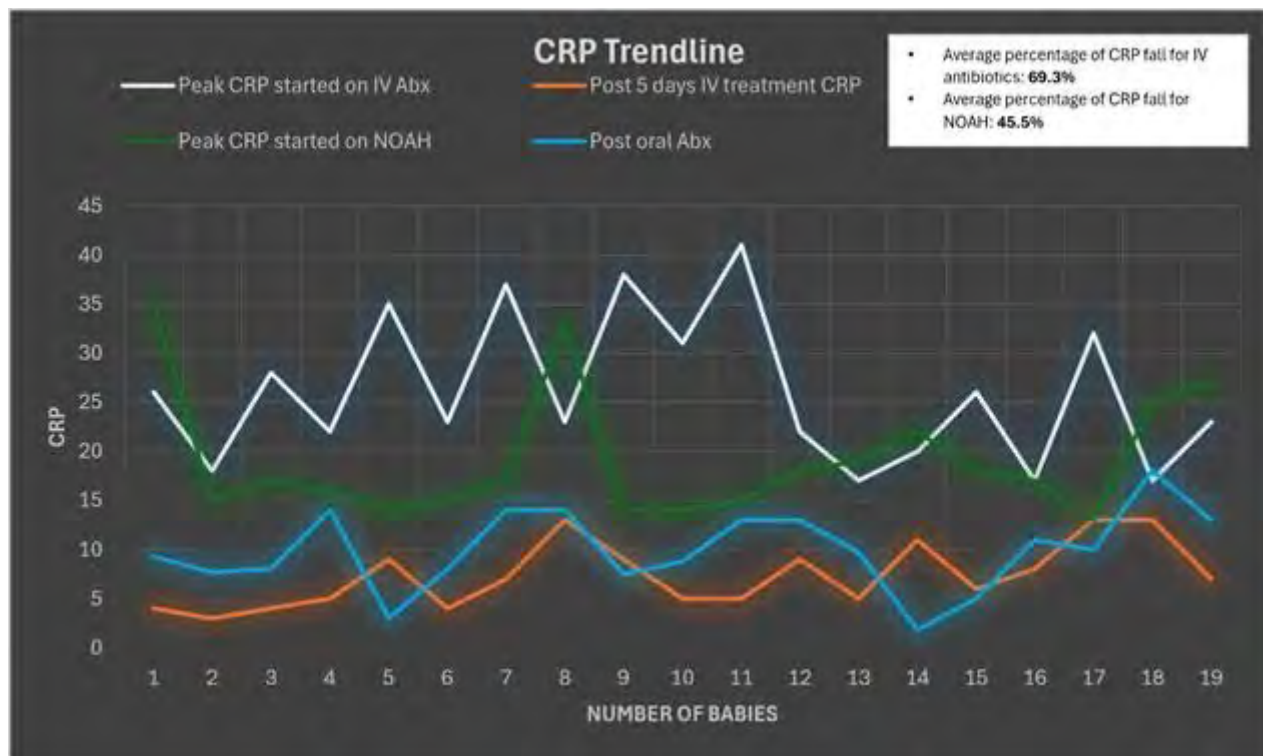
CONCLUSIONS

This pilot supports safe, early discharge using oral antibiotics in select neonates with EOS. It demonstrated strong safety, parental satisfaction, environmental responsibility, and substantial bed-day savings — offering a scalable model for wider implementation across UK neonatal units.

Graphs



Image



Improving Early MEBM Provision to Preterm Infants Born <34 Weeks' Gestation at UCLH

Singh A¹, Srinivasan L, Kortsalioudaki C, Stephney P, Yeung C, Cullinan K

¹University College London Hospital

Background:

Maternal expressed breast milk (MEBM) is the optimal source of nutrition for preterm infants, offering significant benefits such as reduced morbidity and mortality, and enhanced neurodevelopment. Early initiation of milk expression is essential to establish an adequate milk supply and support maternal lactation. This quality improvement project (QIP) aimed to increase the proportion of infants born at <34 weeks' gestation who receive MEBM within the first 6 and 24 hours of life.

Methods:

Monthly retrospective audits were conducted using electronic health records for all eligible infants born at University College London Hospital. Fortnightly multidisciplinary meetings were held to review cumulative data, identify barriers to timely expression, and implement targeted interventions. These included the distribution of parental education materials, appointment of a designated staff member per shift to support early expression, and education for midwives and neonatal nurses on accurate documentation practices.

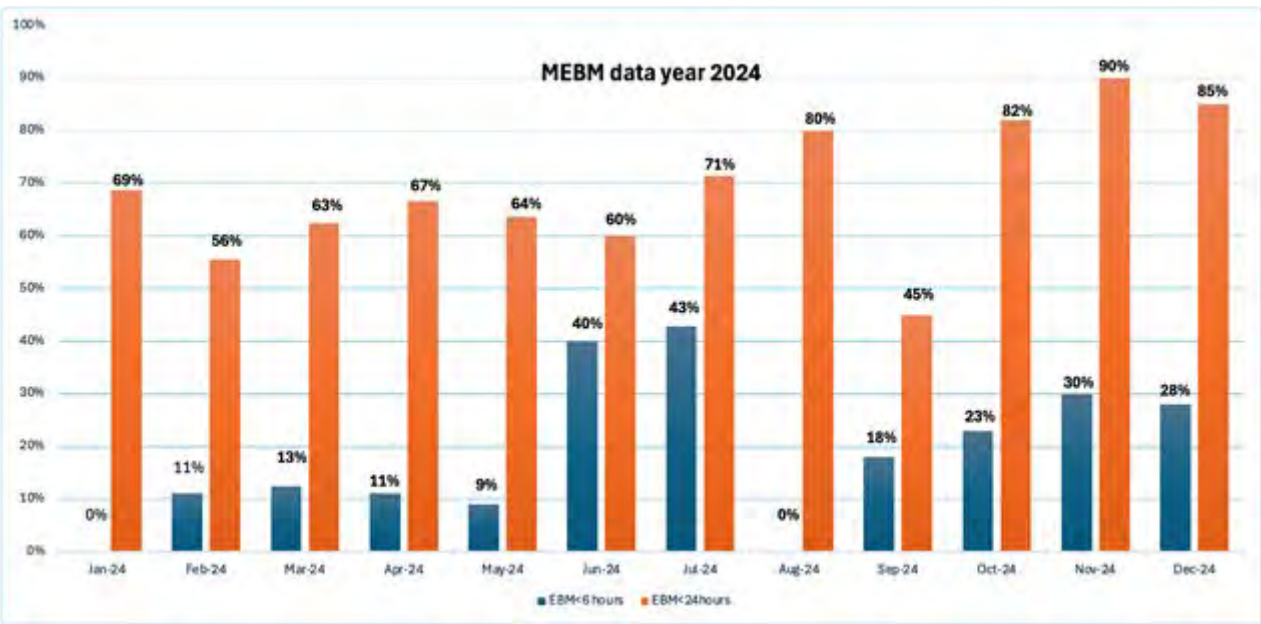
Results:

Over a 12-month period, the proportion of infants receiving MEBM within 6 hours of life increased from 0% to approximately 30%, while the proportion receiving it within 24 hours rose from 69% to 90%, thereby meeting the national target. Although there were periods when progress plateaued, timely adaptations ensured continued progress and improvement.

Conclusions:

While notable progress was made in achieving timely MEBM availability within 24 hours of life, improvements within the first 6 hours remained limited. Key challenges included limited engagement with maternity staff and a lack of integration across units. Although the national QIP has concluded, we continued to collect monthly data to ensure sustained improvement. Educational materials and early expression kits remain actively distributed to families of eligible infants to maintain momentum and reinforce best practices.

Graphs



Image

Improving Early MEBM Provision to Preterm Infants Born <34 Weeks' Gestation at UCLH

Anurag Singh, Candy Mae Yeung, Katie Cullinan, Pam Stephney, Christina Kotsaloudaki, Latha Srinivasan

UCLH is a member of the NHS Foundation Trust

Introduction

Maternal expressed breast milk (MEBM) is the optimal feeding form for preterm infants. It has been shown to decrease morbidity and mortality and improve brain growth and development.

Early expressing is key to ensure a ready supply of milk and supports mothers in establishing optimal milk production.

Project objective:

- To improve the proportion of preterm infants born <34 weeks' gestation who receive MEBM within 6 hours and 24 hours of life

Methods

A retrospective monthly audit was undertaken at UCLH as part of the national NeoTRIPS project.

Data were collected from the electronic records of all preterm infants born <34 weeks' gestation at UCLH between 1st January 2024 and 31st December 2024.

Fortnightly meetings were held to discuss cumulative results, aiming to identify barriers to early expression and delivery of MEBM, and design interventions to target these.

Results and Discussion

Across the twelve intervention cycles (year 2024) we identified the following barriers:



Figure 1. Barriers to early MEBM expression at UCLH.

Results and Discussion

As a result, we designed and implemented the following interventions:



Figure 2. Interventions to improve early provision of MEBM at UCLH.

Across the twelve months of intervention, average 19 % of neonates received EBM within 6 hours of birth and 71.5 % received EBM within 24 hours. Improvements were seen over first few months of project with proportion of infants receiving MEBM within 24 hours of life increasing from 67% to 90 %.

The improvement seen was sustainable over the following months, but this improvement plateaued. Not much improvement was seen for the proportion of infants receiving MEBM within 6 hours of life.

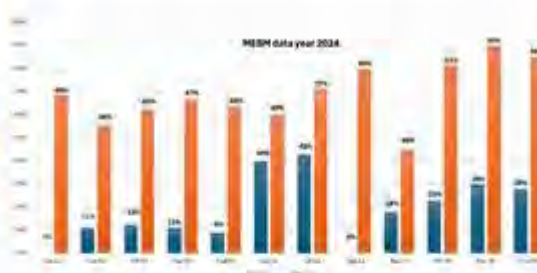


Figure 3. Percentage of preterm infants born <34 weeks' gestation at UCLH who received MEBM within 6 and 24 hours of life.

Recommendations

How some barriers were overcome

Solutions implemented:

- Had a designated member from obstetric/midwifery department join the project
- Assigned a designated member of staff from obstetric/midwifery department to provide lactation support in labour ward
- Implemented expressing guidance videos accessible through quick-scan QR codes for easily accessible information
- Distributed posters and leaflets across antenatal ward to enhance parental education around benefits of early expressing and MEBM feeding for preterm infants

Improving rates of admission normothermia in preterm infants

Danthanarayana L¹, Lee E¹, Gildea J¹, Obi O²

¹King's College London, ²Lewisham and Greenwich NHS Trust

Background: Preterm infants (<34 weeks) are highly susceptible to hypothermia, which increases rates of mortality and morbidity. Maintaining normothermia (36.5-37.5°C) and ensuring timely NICU admission are critical for achieving 'admission normothermia', a combined approach essential for thermoregulation. However, at Lewisham and Greenwich NHS Trust, no standardised process exists to ensure both components are consistently achieved.

Methods: Root cause analysis identified time awareness in theatre as a key barrier to admission normothermia. Our first PDSA cycle introduced timers on resuscitaires to prompt temperature checks at 15, 30, and 45 minutes post-birth. Concurrently, deferred cord clamping (DCC) and early administration of expressed breast milk (EBM) were introduced as part of a comprehensive neonatal thermoregulation and stabilisation care bundle. Primary outcome measures were the proportion of preterm infants (<34 weeks) with (1) temperature measured within one hour of birth, (2) NICU admission within one hour, and (3) an admission temperature between 36.5–37.5°C.

Results: Following timer implementation (November 2024 to January 2025), 93.33% of preterm babies (n=10 total) at UHL achieved admission normothermia compared to 82.95% at baseline (January to October 2024, n=54 total), representing an 12.51% increase. However, this change was not statistically significant ($p>0.05$, two-proportion z-test), likely due to the small post-intervention sample size.

Conclusions: This bundle of low-cost, simple interventions- including resuscitaire timers, deferred cord clamping, and early breast milk- was associated with improvements in all measured outcomes. While only one outcome (temperature) reached statistical significance, likely due to the small post-intervention sample size, our findings suggest this care bundle is highly replicable and has the potential to meaningfully improve neonatal outcomes, particularly in low-resource settings. Further PDSA cycles and extended data collection are recommended to assess longer-term impact and sustainability.

Comparing Colorimetric and Waveform Capnography in Neonatal Intubation: A Clinical Audit of Reliability, Safety and Implementation

Collins C¹, Hammond S¹, Bodnapu P¹, Batra D¹, Davies P¹

¹Nottingham University Hospitals

Background:

Accidental oesophageal intubation occurs in up to 40% of neonatal cases, with delayed recognition linked to serious outcomes, including hypoxic brain injury and death. This highlights the need for rapid, accurate confirmation of endotracheal tube (ETT) placement. Colorimetric capnography is commonly used in NICUs but has a false negative rate of up to 31%. Waveform capnography, a quantitative method widely used in adult and paediatric ICUs, is underused in neonates due to concerns about its reliability in low tidal volumes and higher dead space.

Aim:

To compare the clinical effectiveness and safety of waveform versus colorimetric capnography for neonatal ETT confirmation and assess staff perspectives on implementation.

Methods:

A prospective clinical audit was conducted in the NICU at Queen's Medical Centre, Nottingham. Data from 46 intubations (25 colorimetry, 21 waveform) were collected using standardised proformas. Primary outcomes included time-to-confirmation, first-pass success, number of attempts, and adverse events. Subgroup analyses considered gestational age, birth weight, clinical severity, and operator experience. FiO₂, oxygen saturation, and heart rate trends were monitored. Staff completed pre- and post-audit surveys on capnography preferences.

Results:

There were no statistically significant differences between colorimetric and waveform capnography in time to confirmation ($p=0.133$), first-pass success ($p=0.509$), or adverse events ($p=1$), performing similarly across all subgroups. There was one oesophageal intubation in each group. Waveform capnography demonstrated notable recognised this earlier (5s) as compared to colorimetry (15s).

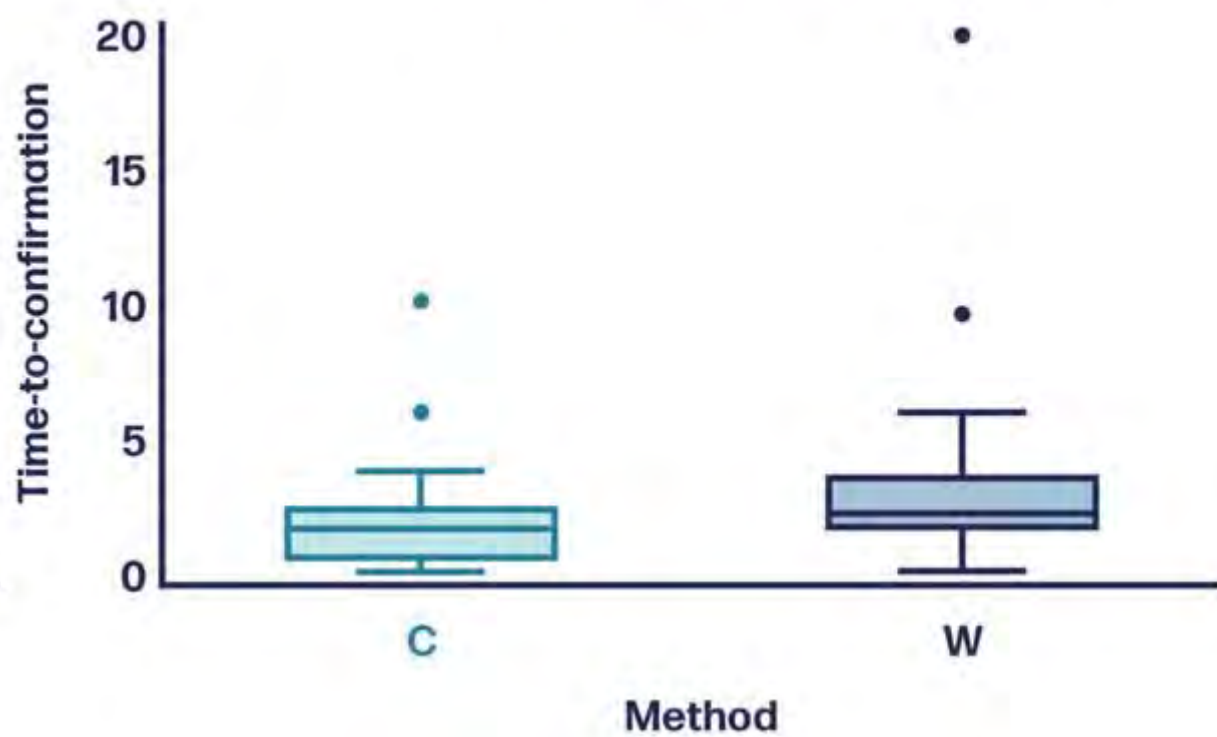
Despite concerns about its accuracy in neonates, waveform traces are reliable during peri-intubation. Survey data revealed 90% of clinicians support transitioning to waveform capnography in the NICU.

Conclusion:

This audit provides the first direct comparison of capnography methods in neonatal care, demonstrating waveform capnography is as effective as colorimetry, with an enhanced safety profile. These findings support broader adoption of waveform capnography in NICUs and challenge previous concerns about its neonatal accuracy.

Graphs

Time-to-confirmation by Method



Urine CMV Testing Compliance Re-Audit Following Failed Newborn Hearing Screens

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¹Hereford County Hospital, Wye Valley Nhs Trust, ²Hereford County Hospital, Wye Valley Nhs Trust,

³Hereford County Hospital, Wye Valley Nhs Trust, ⁴Hereford County Hospital, Wye Valley Nhs Trust

Background:

Congenital cytomegalovirus (cCMV) affects 1 in 100–200 live births and is a leading cause of sensorineural hearing loss. Prevention relies on prenatal education to reduce contact with saliva and urine from young children shedding CMV. Guidelines recommend CMV testing with two urine samples collected over 24 hours apart and within 21 days of life after a failed newborn hearing screen. Early diagnosis enables timely antiviral treatment, improving neurodevelopmental outcomes.

Aim:

To re-audit compliance with local CMV testing protocols following failed newborn hearing screening, assess improvements since the previous audit (April 2022–April 2023), and indirectly evaluate cCMV prevalence.

Methodology:

A retrospective review was conducted of infants referred for CMV testing between June and December 2024. Data from MAXIMS electronic records were analyzed for adherence to testing standards, sample timing, result review within 28 days, communication of results to GPs and carers, and hearing loss outcomes. Results were recorded and analyzed in Excel and compared with a previous audit of 33 infants.

Results:

Thirteen infants were identified (38% bilateral hearing loss at initial screen, 15% abnormal follow-up tests). All had two urine samples sent; 85% met the ≥24-hour interval, with all samples collected within 21 days. Results were actioned by 28 days in 85% cases, and communication to GPs or carers was documented in 46% (not previously assessed). No positive CMV cases were detected.

This improved from the prior audit (33 infants), where 67% had samples sent and 27% failed timing standards. Overall compliance rose from 55% to 77%.

Interventions:

Quality improvement efforts involved clinician reminders, parent education, and support from midwives for sample collection.

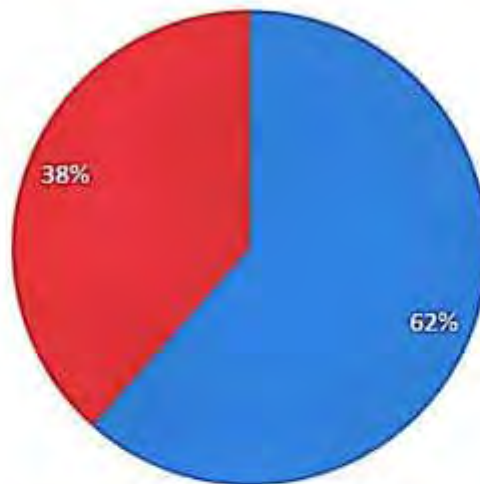
Conclusion:

The re-audit demonstrates improved adherence to CMV testing protocols; however, gaps in communication and documentation persist. Ongoing monitoring through re-audits and broader system-level interventions are essential to achieve full compliance and enhance early cCMV detection.

Graphs

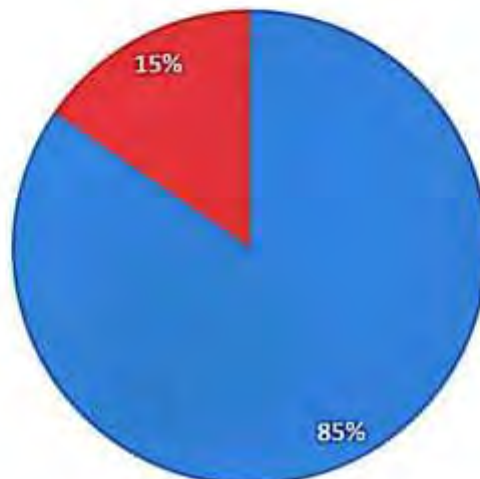
LATERALITY OF HEARING LOSS

■ Unilateral ■ Bilateral



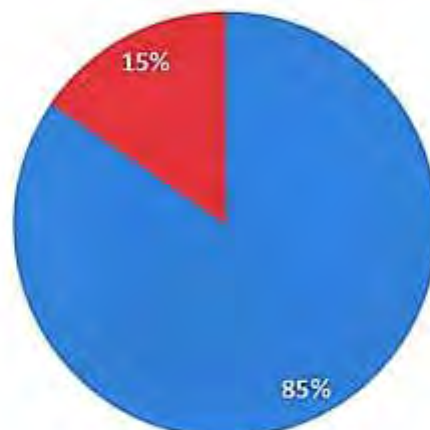
TIME TO CHECK URINE SAMPLE RESULTS

■ Within 28 days ■ >28days



TIME BETWEEN URINE SAMPLES BEING SENT

■ 24hrs apart ■ <24hrs apart



RESULTS OF SECOND HEARING TEST

■ Normal ■ Abnormal



Image

Case	HEARING TEST	TWO URINE SAMPLES SENT	URINE SAMPLES SENT 14HRS APART	URINE SAMPLES SENT IN FIRST 21 DAYS	URINE SAMPLES CHECKED IN FIRST 20 DAYS	END HEARING TEST	LETTER SENT TO PARENTS & GP
1	BILATERAL	YES	YES	YES	YES	ABNORMAL	YES
2	BILATERAL	YES	YES	YES	YES	NORMAL	YES
3	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
4	BILATERAL	YES	YES	YES	YES	NORMAL	YES
5	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
6	BILATERAL	YES	YES	YES	YES	NORMAL	YES
7	BILATERAL	YES	YES	YES	YES	NORMAL	YES
8	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
9	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
10	BILATERAL	YES	YES	YES	YES	NORMAL	YES
11	BILATERAL	YES	YES	YES	YES	NORMAL	YES
12	BILATERAL	YES	YES	YES	YES	NORMAL	YES
13	BILATERAL	YES	YES	YES	YES	NORMAL	YES
14	BILATERAL	YES	YES	YES	YES	ABNORMAL	YES
15	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
16	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
17	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
18	UNILATERAL	YES	YES	YES	YES	NORMAL	YES
Combined		90%	87%	94%	87%		90%

Patterns of presentation and diagnostic approaches in bilious vomiting neonates and infants: A 7-Year Retrospective Study in South Wales

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¹University Hospital of Wales, ²Singleton Hospital

Background

There are numerous causes for bilious vomiting in neonates and infants, which can signify surgical pathology. This requires urgent investigation to rule out malrotation and/or volvulus with an upper gastrointestinal contrast (UGIC) study. The urgent provision of contrasts can be challenging both in the region's tertiary paediatric surgical centre and other centres in South Wales. To further characterise the need for transfer of patients from those centres to University Hospital for Wales for investigation and management, understand the demographics and eventual diagnosis of bilious vomiters and inform future changes regional pathways, a retrospective review of investigation and management of these patients was undertaken.

Methods

Retrospective review of infants and neonates under 1 years old managed by the paediatric surgical team who underwent UGIC between Dec 2017 and May 2025. Details of eligible patients retrieved from electronically saved handover sheets and electronic patient records systems. Infants and neonates either managed directly by or discussed with paediatric surgical team.

Results

119 neonates and infants underwent UGIC in study period with 58% male. Patients present with median age 4 days. 58% presenting to UHW. Majority of UGIC did not highlight pathology (63%). Malrotation (with or without volvulus) was present in 17% of patients, and pathology requiring surgery identified by UGIC in 28% of patients. 44% of patients presenting outside of UHW needed transfer to UHW for UGIC. Only 26% of these transfers resulted in surgical intervention. Plain abdominal X-ray (AXR) also performed in 76% of presenting patients; abdominal ultrasound performed in 23%.

Conclusions

Demographics of studied patients compare similarly to published series. Provision of prompt UGIC remains a challenge for the region outside of the tertiary centre, particularly out of hours. This necessitates numerous transfers for investigation, the majority which did not result in surgical management.

Improving assessment and management of pain and sedation on the neonatal unit: an MDT approach

Caldwell C¹, Silva Junca M, Patel D, Anthony L, Aguirre D, Bushell R, Mason - Woods A, Scott K, Samuels T, Galton S, Ellison H, Khanna A, Mohamed M, Kandiah A, Amin P, Dhir L, Hamdy N, Gorak E, Quiambao A

¹Chelsea And Westminster Hospital

Introduction

- Babies admitted to neonatal units can experience 10-15 painful procedures daily (Barker et al)
- The aim of our project was to improve assessment and management of pain and sedation for inpatients on our tertiary surgical NICU.
- An MDT comprising doctors, nurses, occupational therapy, pharmacists, paediatric pain specialists, and our parent representative was established.

Methods

Assessment

- Assessment of pain was not standardised, although the Neonatal Pain and Assessment Score (NPASS) was incorporated into our electronic patient record (EPR). A notes audit in April 2024 was followed by a focus week in November 2024 which included teaching sessions on NPASS, and the notes audit was repeated in February 2025 (Fig 1)

Management

- A non-pharmacological pain management strategy was devised with several key components of family integrated care, developmental care and a focus on empowering the bedside nurse, parents and medical team to work together during painful procedures.
- We have focused on retinopathy of prematurity screening (ROP). A QIP has been established consisting of a parent questionnaire, a non-pharmacological implementation bundle, nursing and medical education, and is in progress.
- Pharmacological pain and sedation management was explored with our pharmacy team and paediatric pain specialists, and a literature search. An audit of post operative morphine use was conducted as a prelude to the introduction of nurse controlled analgesia pumps.

Results

April 2024, 0/12 NICU babies had NPASS scored in EPR.

February 2025, 5 NICU, 5 HDU and 5 SCBU notes were audited.

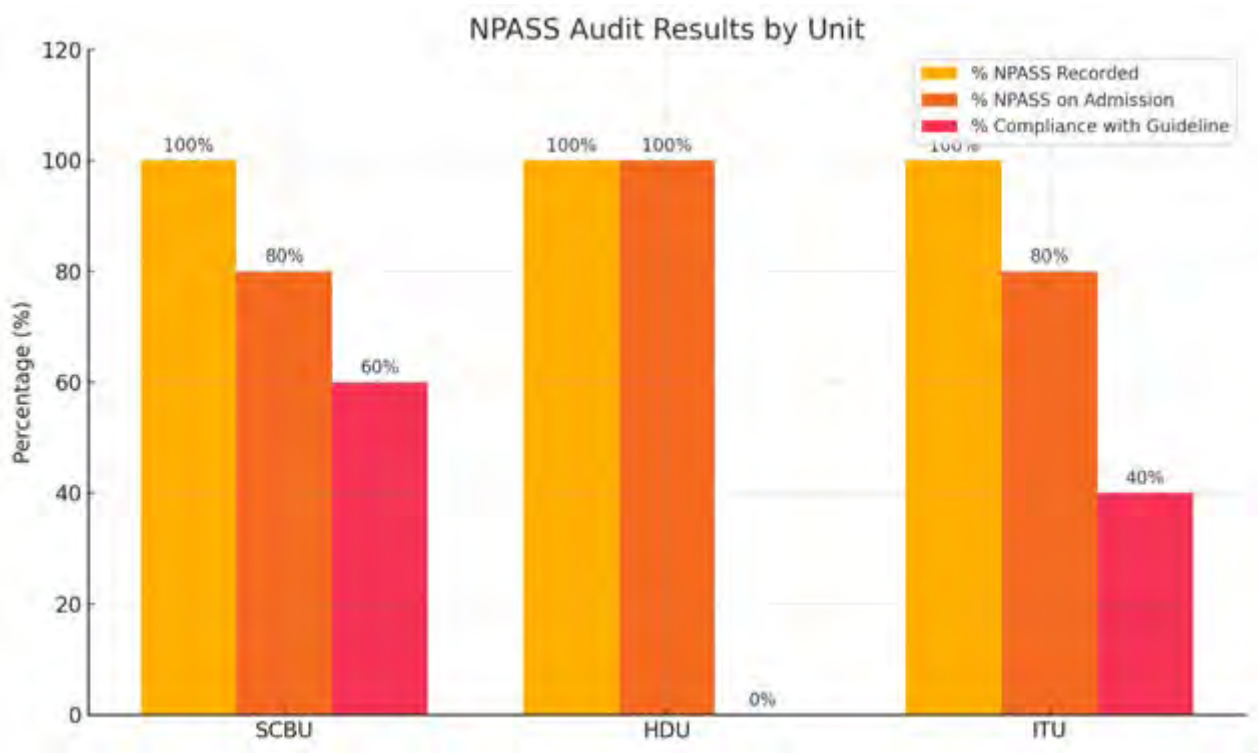
Figure 1

Conclusions

Previously, NPASS was not being used to document the assessment of pain.
Currently it is being recorded but not fully in compliance with the guideline.

Pain management has become a focus on our unit, with the ROP QIP and the introduction of NCAs both exemplifying our aim of continuous improvement.

Image



Improving Thermoregulation and Deferred Cord Clamping (DCC) in preterm infants

Significant improvements through simple low-cost interventions

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¹University Hospital Lewisham

Background:

Preterm infants (<34 weeks) are highly susceptible to hypothermia, increasing rates of mortality and morbidity. Maintaining normothermia (36.5-37.5°C) and ensuring timely neonatal unit (NNU) admission are a critical combined approach essential for thermoregulation. Deferred Cord Clamping (DCC) for at least 1 minute is vital for improved outcomes.

Aims:

Thermoregulation: To increase the proportion of babies <34 weeks with normal admission temperature (36.5-37.5°C), measured within an hour of birth

Deferred cord clamping (DCC): To increase the proportion of babies <34 weeks with deferred cord clamping for at least one minute.

Methods:

Thermoregulation: Time situational awareness in delivery settings was identified as a key barrier to normothermia. Our PDSA cycle introduced timers attached to resuscitaires, alarming at 15, 30, and 45 minutes post-birth, reminding staff to conduct temperature checks and prepare to transfer to the NNU.

Deferred Cord Clamping (DCC): Our PDSA cycle introduced immediate direct chest auscultation by the Neonatal Registrar, scrubbed and using a sterile probe cover over stethoscope for Caesarean section deliveries; reducing episodes of abandoned DCC safe, continuous assessment, providing reassurance of baby's stability.

Outcome measures:

Thermoregulation: Proportion of preterm infants (<34 weeks) with:

- admission temperature 36.5–37.5°C within one hour of birth
- admission temperature 36.5–37.5°C
- temperature measured within one hour of birth
- NNU admission within one hour

Deferred Cord Clamping (DCC): Proportion of preterm infants (<34 weeks) with:

- DCC (at least 1 minute)
- DCC (at least 1 minute) with no maternal contraindications

Results:

Thermoregulation:

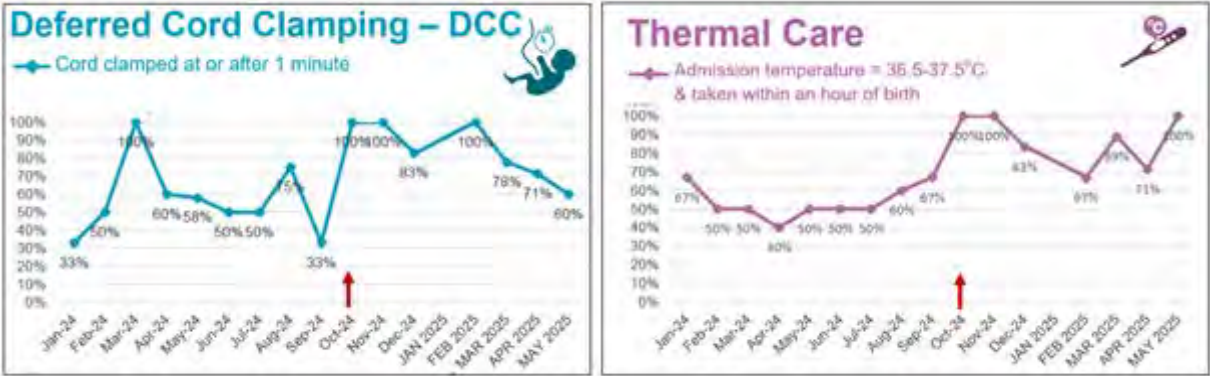
Normothermia with temperature taken within an hour of birth 67-100%; previously 40-67%.

DCC one minute now 83-100%; previously 33-75%

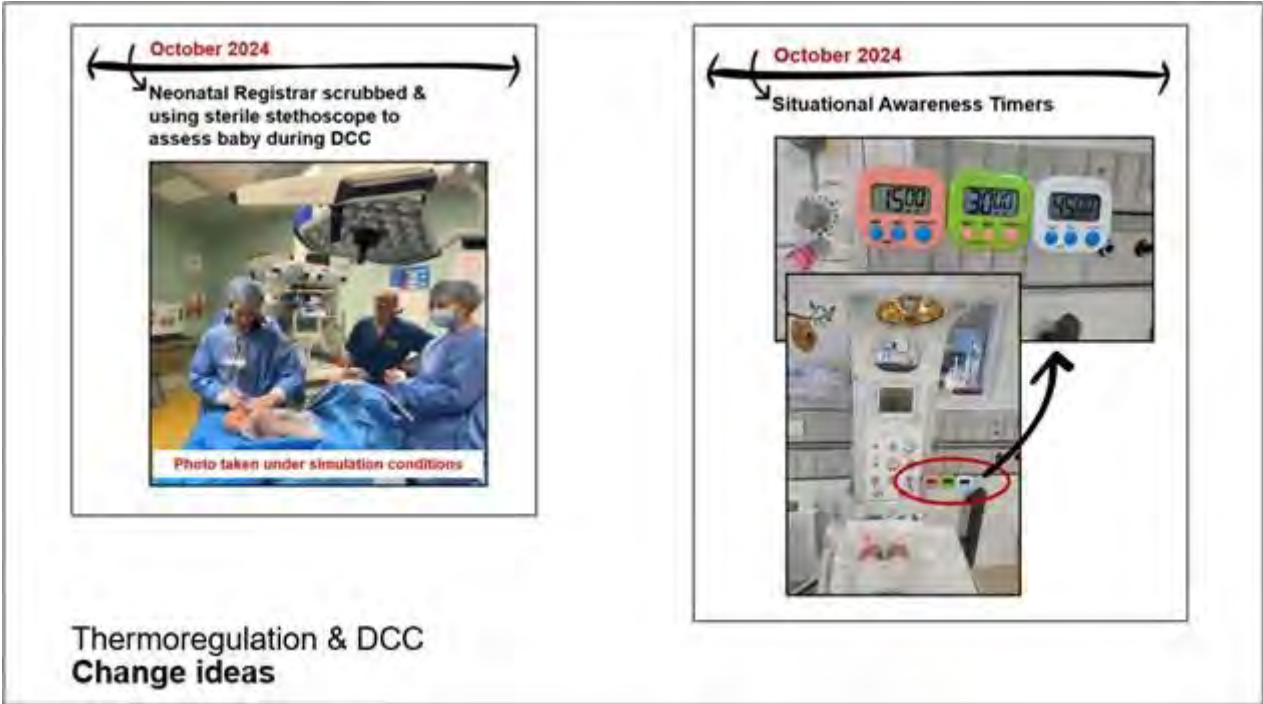
Conclusions:

Low-cost, simple interventions were associated with improvements in Thermoregulation and DCC. This care bundle is highly replicable with potential to meaningfully improve neonatal outcomes, particularly in low-resource settings. Further PDSA cycles and extended data collection will continue to assess longer-term impact and sustainability.

Graphs



Image



Callaghan, F	46
Crowley , R	57
Jewel, E	145

McCrudden, H	155
Pemarathne , D	179
Woodhouse, S	64

A

Ababio, E	28
Abbey, S	211
Abdalla, M	92
Abdalla, S	176
ABDUL AZEEZ, N	64
Abdulkadir, A	20
Adams, E	229
Adeleye, A	136
Adeoye, G	48
Adetokunbo , J	56
Adnan Ali, S	113
Adow, S	127
Aguirre, D	256
Ahmed, A	158, 230
Akhtar, B	146
Akporiaye, E	115, 124
Alexander, E	50
Alghriani, D	17, 18, 19
Alhassanin, A	27

Al-Muzaffar, I	39, 113
Alyaldin, E	56
Amarasinghe, C	160
Amin, P	256
Anderton, L	113
Andrews, M	90
Anthony, L	256
Antonypillai, A	160, 161
Argus, L	169
Armstrong, R	52
Arthur, J	56, 95
Arthur, S	51
Ashique, H	17
Ashour, A	48
Ashworth, L	237
Asokkumar, A	183
Atkins, E	121
Aughey, H	9

B

Balasundaran, K	113
Banerjee,	63
Banerjee, A	225
Banerjee, J	145
Banerjee, S	113
Banerjee, U	132
Barakat, M	228
Barbosa , A	246
Barnes, K	113
Barnes, K	150
Barr, B	146
Barr, K	121
Barrett, P	108
Bartle, D	9
Bartlett, A	80
Basu, A	108
Bate, T	132
Batra, D	252
Battersby, C	50
Bean, A	42
Bean , A	157
Bell, N	220
Bell- Davies, F	67

Ben-Ismaeil, B	113
Bennett, A	63
Bernard, I	113
Beynon, J	136
Bhat, R	176
Bhat, R	202
Bhavra, K	85
Bhise, N	113
Biring, J	146
Bisheswar, R	206
Black, S	146
Blewer, E	90
Bodnapu, P	252
Body, L	105
Bolton, J	74
Boxall, K	9
Bradley, G	148
Bradley , G	118
Bradley , M	143
Breeze-Jones, H	136
Burgess, S	121
Bushell, R	256
Butterworth , R	121

C

Caldwell, C	256
Cannell, S	74
Catone, J	59

Collins, L	149
Collins, L	78
Collis, V	211

Chang, C	64
Chaudhary, N	52, 55, 95
Chauhan, N	56
Chesshyre, E	5
Chevireddy, G	92
Chilvers, R	121
Chiutare, C	158
Choudhary , R	168
Chui , A	143
Churms, J	245
Clark, A	23
Cole, S	121
Collins, C	252

D

Damra, H	146
Danthanarayana, L	249
Danthanarayana , L	257
Davies, F	63
Davies, L	74
Davies, P	252
Davies, S	122
Davies-Colley, H	59
Davis, E	74
Dawson, A	67
De Silva, B	178
De Silva , B	133, 179, 181

E

Eissa, A	183
Ekanayake, N	20, 132
Elamin, N	158, 230
Elbehery, M	122

F

Fadipe, T	254
Faizal, E	160, 161
Faras, H	186
Farhat	63
Dominguez, S	
Farley, H	132
Farley, H	20
Farrow, A	182
Fatima, T	105

G

G, N	52, 55, 56, 94
Galton, S	256
Ganjigunta, V	61
Ganjoo, N	28
Garg, S	48
Gargasson , T	90
Gartland, A	108
Gee, A	108

Collum, R	121
Cooper, F	113
Corbett, C	188
Cordwell, J	121
Coupland, E	90
Course, C	141
Course, C	74
Course, K	238
Crowley, N	64
Cullinan, K	247
Currie, A	149
Curwen, C	245

Deierl, A	63, 145
Delaney, L	121

Dhir, L	256
---------	-----

Dileep, D	211
Dogar , D	27
Douthwaite, A	99
Drury, T	245
Duffy , D	21, 168
Duret, A	63
D'Urso , A	121
Dutta, R	20
Dutta, S	199

Ellison, H	256
Eltom, A	113
Evans, E	93
Evans , D	121

Fatima , T	168
Feleo, M	48
Felstead, S	95
Fernando, O	28

Fitzpatrick, S	237
Foster, E	127
Foster, R	213
Frudd, E	106

Goodfellow, M	39
Gopalswamy, V	246
Gorak, E	256
Gowda, H	30, 127, 211
Gowda , H	27
Goyal, S	186
Gozar, I	145
Graham, C	63

Ghouri, M	3
Gildea, J	249, 257
Gill, J	146
Glover, N	59
Glover Williams, A	50, 80
Godden, B	90
Godwin, S	245
Goel, N	113

g

group	50
-------	----

H

Hafez, M	44
Hagoug, G	228
Hall, L	9
Hamdy, N	256
Hammond, S	252
Han, T	15
Hanif, F	253
Harris, C	202
Harris, S	113
Hart, K	238
Hassan, H	94
Hayton, M	108
Hayward, R	238

I

Ilunga, K	90
Imonikebe, O	75
Inn Lee, E	257

J

Jacobs, S	20
Jafri, S	157
Jagga, M	113
Jago, R	74
Jalal, M	211
James, E	113
Janagill, M	57
Janakiraman, S	122
Jarvis, C	99
Javed, R	211
Jayaweera, S	133, 178, 179

K

Kamupira, S	237
Kandhari, A	113
Kandiah, A	256
Kariholu, U	145
Kawati, A	149
Kayode-Adedeji, B	113
Kennedy, V	46
Khanna, A	256

Green, C	121
Green, H	23
Green, S	56
Grimwood, A	238
Gronska, A	21

Gunasekaran, A	113
GUPTA, R	225

Hedge, S	9
Hemandas, H	28
Herath, S	133, 178, 181
Hernandez, C	115, 124
Higgins, S	121
Holden, S	52
Homfray, G	51
Hopkins, E	80
Houssami, J	4
Howick, S	245
Hughes, G	62
Hughes, S	74

Isaac, T	78
Ismaeel, R	122
Ives, R	150

Jeffreys, S	254
Jha, S	56
Job, S	95
Johnson, A	74
Johnson, Z	113
Joishy, M	113
Jones, G	28
Jones, R	215
Jones, S	238
Joshi, N	20

Knight, K	71
Kortsalioudaki, C	247
Koshi, S	80
Krishnamurthy, P	246
Krishnan, M	202
Krishnan, S	69

Kulkarni, A	21
Kulkarni, A	105

Kirolos, S	90	Kuttiyat Rayaroth, D	113
L			
Laurentya, O	52	Lewis, V	186
Lee, E	249	Linsley, T	90
Levene, I	229	Liyanage, C	181
M			
Maariyah , V	27	McNally, E	220
Mabyalane, B	67	Mcnamara, C	108
Macdougall, C	56	Meakes, A	63
MacFarlane, C	4	Miall, L	106
MacLeod , J	143	Milan , A	90
Madawala, P	211	Millen , J	69
Mahadev, K	211	Mintoft, A	57
Mahadevan , P	157	Mishra, A	118
Mahdi, R	46	Mohamed, A	48, 113
Mahoney, L	51	Mohamed, M	256
Maldar, H	56, 95	Mohamed Hassan, S	133, 178, 179, 181
Mallya , P	122	Mohamed Musthaffa, F	133, 178, 179, 181
Maniotopolous, G	62	Mohammed , S	246
Manzie, P	253	Molnar, Z	229
Maqsud, L	253	Moreno, M	229
Marie-Banane, M	67	Morris, C	74
Marsh , A	121	Morris, S	93
Mason - Woods, A	256	Moses, M	5
Matthew, E	145	Muralidharan, M	113
Mattison, K	69	Murphy, C	224
McCullagh, K	220	Muthiah, A	12
McCullough, K	155	Myint, T	158
McElderry, J	155	Myttaraki, E	78
McLoughlin, H	238		
N			
Naydeva-Grigorova, T	115, 124	Noureldein, M	211
Noori, M	145	Nunez Munoz, S	22
O			
O’Sullivan, S	246	Olakotan, O	62
Obi, O	249, 257	Olga, L	55
Odebunmi, O	150	O'regan, T	215
Oh, A	229	Osuntuyi, O	146
Ohemeng Owusu, A	57	Oyibo, I	141
Ojha , S	213		
O			
o'Brien, N	62		
P			
Pahuja, M	136	Pemarathne, D	133, 178

Palaniswamy, S	28
Pallickal, A	228
Papworth, S	80
Parish, A	46
Patel, D	256
Patel, V	61
Patel , D	224
Patwardhan, G	148
Paulose, A	74
Peers, L	253

Q

Quiambao, A	256
-------------	-----

R

Rajah, K	20
Rajaraman, N	30
Rajkumar, J	202
Rajsaravana Khumar, P	224
Rao, N	30
Rathnayake, J	133, 178, 179
Ravishankar, J	5
Reddy Hande, A	92
Reynolds, A	155, 220
Richards, J	21
Richardson, G	15

S

Sabin, K	121
Saeed, S	113
Saereesithipitak, P	199
Sage, J	136, 141
Saikowski, A	27
Saka, J	202
Salamehova, L	228
Samanta, S	108
Sammur, A	57
Samuels, T	256
Sand, L	99
Sathiyamurthy, S	63
Sathiyamurthy, S	145
Scott, K	256
Seepaul, S	146
Sehmi, H	224
Senaratne, R	181
Serrano-Llop, A	202
Serrano-Llop, A	176
Shah, J	67

Penman Wilson, R	199
Perez-Adamson, L	22
Petts, G	169
Pickup, M	113
Pillay, T	62
Ponnusamy, V	44
Praveen, K	113
Presswala, D	141
Pritchard, S	238
Purewal, N	85

Riley, E	105
Rizk, R	12
Rizvi, H	61
Robins, A	108

Rodrigues, C	63
Rodriguez-Hermida, D	176
Rodrigues, L	127
Rose, L	74
Rowley, S	141
Rushton, L	136

Shivamurthappa, V	63
Silva Junca, M	256
Singh, A	30

Singh, A	247
Sithamparanathan, T	161
Smith, C	42
Smith, C	36
Smith, G	74
Smith, P	15
Smith , C	157
Soundaram	75
Muthusamy, B	
Sparkes, H	12
Spencer, M	75
Spierson, H	46
Sproat, T	199
Sridhar Natti , M	113
Srinivasan , L	247
Stefkova, K	220
Stefkova, K	79
Stephen , J	118

Shahnawaz	113
Ansari, M	
Sharif, M	113
Sharma, N	80
Shaw, E	228
Shetty, S	21
Shine, B	229
Shirley , K	79

T

Tamiroy, G	215
Tan, L	66
Tarakeme, E	105
Tarakeme, E	168
Tector, G	113, 238
Thakkar, D	20
Thistlewaite, Z	108

U

Ullah, K	113
Urus, H	158

V

Valendez, C	48
Vasi, V	188
Verma, R	105

W

Wai, T	42
Walker, O	136
Ward , L	157
Webb, J	74
Wells, S	20
West, S	50
Whitfield-Brown, L	199

Y

Yasmeen, A	4
Yeung, C	247
Yong, J	48

Z

Zaitschenko, O	36
Zalewski, S	199

Stephney, P	247
Steward, S	245
Stott, A	93
Sullivan, C	67
Sundarapandian,	225
Surana, P	85

Thompson, N	79
Tobin, C	106
Tolentino, D	21
Tomlinson, C	50
Toney, Z	113
Trad, G	246
Trigg, C	186

Urus, H	230
---------	-----

Verner, A	188
Vinden, R	118

Wijewardena, K	181
Wilkins, E	46
Williams, E	52, 55, 74
Williams, S	74
Willis, S	113
Winfield, N	22
Wong, H	52, 55, 94

Young, K	143
Yousef, A	17

Zorro, C	176, 202
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Improving Family or Staff Experience – Abstract Submission

Table of Content

16 The Role of Debriefing After Neonatal Resuscitation – Resident Doctors' Perspectives from London
Ballheimer H¹, Bub K¹, Loucaides E², Lundy C²

¹Royal Free Hospital, ²The London Research Evaluation & Audit for Child Health (REACH) network

31 Service Evaluation: Are caregivers of high-risk infants satisfied with the quality of care received in a therapy-led neonatal neurodevelopmental follow up service?

Murphy R¹, Kromhout L¹, Fajemisin-Scott J¹, Athanasiou M², Penwarden S¹

¹King's College Hospital NHS Foundation Trust, ²Royal Free London NHS Foundation Trust

32 Up the DOSE: DGH Outreach simulation education

Ives R¹, Suciu M¹, Garland C¹

¹TMBU , RSCH

35 Exploring parental priorities for a digital intervention supporting mental health

Dullay S¹, Wong H²

¹University Of Cambridge, ²Rosie Hospital, Cambridge University Hospitals NHS Foundation Trust

73 Improving patient and family experience during treatment for early onset neonatal infection by grouping gentamicin and c-reactive protein (CRP) tests to reduce the frequency of blood sampling.

Price Z¹, Elanjikal Z¹, Clark A¹, Lawal T¹, Nair N¹

¹University Hospitals Bristol And Weston

81 Little Things Make a Big Difference:

A Multidisciplinary Quality Improvement Study Day for Neonatal Developmental Care

Evans R¹

¹Royal Wolverhampton Nhs Trust

82 Little Things Make a Big Difference:

A Multidisciplinary Quality Improvement Study Day for Neonatal Developmental Care

Luces K, Evans R¹

¹Royal Wolverhampton Nhs Trust

84 Digital Platform for Parents on the Neonatal Unit

Lok A¹, Burnett C, Barstow T, Burleigh C, Bradshaw O, Ayoub S

¹Bradford Royal Infirmary

87 Scan me in! The introduction of fingerprint entry system to a tertiary NICU

Douch C¹, Prior A¹, Crowley N¹

¹St George's Neonatal Unit

88 Honouring Loss, Sustaining Life: Social Value Investment in the Memory Milk Gift and the Creation of a Second Memory Tree

Atherton L¹, Wescott M, Smith K

¹Countess Of Chester, ²South, Central and West Commissioning Unit - Child Health Information Service, ³South, Central and West Commissioning Unit

97 Improving Patient, Family and Staff Experiences through a System-wide Approach to Neonatal Allied Health Professional (AHP) Provision.

English H, Hay K, Madden N, Willis S

101 Family informed care: A multi-specialty antenatal clinic for suspected surgical conditions

Broad S¹, Cowan S¹, Cullis P², Lamont P¹, Monnelly V¹

¹Simpson's Centre for Reproductive Health, ²Royal Hospital for Children and Young People

102 Family food provision in the East of England Neonatal units: exploring practices, challenges and opportunities

Vieira N¹

¹East Of England Neonatal ODN

103 Supporting bereaved families: developing a leaflet for care of the lactating breast after baby loss across care settings in the East of England

Vieira N¹, Peirce P²

¹East Of England Neonatal ODN, ²East Of England Neonatal ODN

104 Improving parental presence on neonatal ward rounds at York Hospital: A virtual ward round project

Jackson C¹, Sandhu S¹

¹York and Scarborough Teaching Hospitals NHS Foundation Trust

109 Improving personal and professional experiences for doctors facing breastfeeding challenges through peer support and education

Evans K¹, Clements R², Thomas L³, Priestman E²

¹Evelina London Children's Hospital, ²Liverpool Women's Hospital, ³Chelsea & Westminster NHS Foundation Trust

114 Enhanced Family Engagement – The Evolution of the Early Notification Scheme

Pells E¹, Mazlan M

¹NHS Resolution

117 THE IMPORTANCE OF INTRODUCING PAEDIATRIC BASIC LIFE SUPPORT TO ANTENATAL CLASSES: A CROSS SECTIONAL QUALITATIVE STUDY

Onyekwere D^{1,2}, Layyous M^{3,4}

¹Department of Paediatrics, University Hospital Kerry, ²Senior clinical lecturer, University College Cork (UCC), ³Maternity services Internship programme, UCC. , ⁴Department of O&G UHK

126 Please Follow My Cue, Aye? Clinical Application of Cue Based Feeding Scores within the Neonatal BadgerNet Electronic Patient Record

McKerracher L¹, McDonald H¹

¹NICU Ninewells

142 Prosiect Iaith: a co-produced quality improvement project to improve the experience of families in Singleton Neonatal Unit through language

Cosgrove E, Perkins L, Price L, Selman C, Lewis G

¹Singleton Hospital Neonatal Unit, ²Singleton Hospital Neonatal Unit, ³Singleton Hospital Neonatal Unit, ⁴Singleton Hospital Neonatal Unit, ⁵Singleton Hospital Neonatal Unit

144 Putting the (ED)I into NICU: Embedding inclusivity Rounds to tackle non-clinical determinants of neonatal health

Zilber E, Devlin H, Mason-Woods A, Patel D, Webbe J

¹Chelsea And Westminster Hospital

153 More than mistakes: Using DATIX to celebrate excellence

Odebunmi O¹, Ives R², Barnes K³

¹University Hospitals Sussex NHS Foundation Trust, ²University Hospitals Sussex NHS Foundation Trust, ³University Hospitals Sussex NHS Foundation Trust

154 Implementation of standardised neonatal parenteral nutrition across a neonatal network

Johnson B¹, Clarke S¹, Bucki R¹

¹West Midlands Perinatal Network

163 'Better Start, Better Future' charitably funded early intervention service in Wales- a family perspective.

Jon-Dare G¹, Elliott N, Carroll J

¹Cerebral Palsy Cymru

164 IMPROVING THE NEONATAL OUTPATIENT CLINIC EXPERIENCE FOR STAFF AND FAMILIES
A Quality Improvement (QI) Bundle

Porteous Z¹, Crowley R¹, Cocker I¹

¹St George's Hospital

165 Place of Birth in South Yorkshire: Informing families of their choices and when this may need to change

Smith C¹, Williams K², McGovern H¹

¹South Yorkshire LMNS, ²Yorkshire & Humber Neonatal ODN

175 Parental Stress in the NICU: The Impact of Integrated Psychological Support within a Family-Centred Care Model

Chaudhary N¹, Burgess H¹, Kantyka C¹, Thomson L¹, Lindsay S², Beardsall K¹

¹Cambridge University Hospital NHS Foundation Trust, ²University of Cambridge

196 Resident Doctor Wellbeing: The Power of Near-Peer Mentoring

Omar I¹, Mansoa V¹, Jafri A¹, Cant M¹, Koe J¹, Duckeck L¹, Dyson H¹

¹Jessop Wing, Sheffield Teaching Hospitals NHS Foundation Trust

198 Improving Trainee Confidence in Newborn Life Support (NLS) in Accordance with the RCPCH 2022 Standards of Practice

Roberts E¹, Garr R¹

¹Department of Paediatrics, Whiston Hospital

201 Early Conversations on the Neonatal Unit: Building Trust and Partnership in Care

Moore A¹

¹Bliss

207 Implementation of a Multidisciplinary NHS Staff Support Service for Postnatal care as per the recommendations of the Birth Trauma Report

Radha B¹, Srivastava S

¹East Surrey Hospital

209 Early Post-natal Skin to Skin Care for Extremely Preterm Infants: A Mixed-Methods National Survey of Contemporary Practices in UK Neonatal Intensive Care Units

Blewer E¹, Wood E¹, Barnett M¹, Nezafat Maldonado B¹, Flore A¹, Cawley P²

¹Evelina London Children's Hospital, ²Research Department of Early Life Imaging, Kings College

217 Implementing delivery room cuddles for babies requiring admission to a Neonatal Intensive Care Unit at birth

Nargotra M¹, Malick Basha M¹, Keen D¹, Ntovolou A¹

¹William Harvey Hospital, East Kent Hospitals University Nhs Foundation Trust

223 SURPRISE TO STRATEGY: MANAGING A CASE OF BLADDER EXSTROPHY

Kuttiyat Rayaroth D¹, Balasundaran K², Patel V³

¹Grange University Hospital, Aneurin Bevan University Health Board, ²Grange University Hospital, Aneurin Bevan University Health Board, ³Grange University Hospital, Aneurin Bevan University Health Board

226 Enhancing the provision of Antenatal Counselling at a Tertiary Neonatal Centre

Keen D¹, Chellen S¹

¹William Harvey Hospital

233 'Nell and the Neonatal Unit': A Software App to Support Siblings Through Neonatal Care

Cordwell J¹, Evans-Fry R, Duncombe R

¹Thames Valley & Wessex ODN, ²Child Health Innovations

234 A near-peer education programme in a tertiary neonatal unit: developing junior clinical fellows as educators and improving medical student experience.

Hucklesby D¹, Macdougall C¹

¹Cambridge University Hospitals NHS Foundation Trust

239 Human Milk Foundation (HMF) Norfolk Project

Weaver G, Ward J, Lowe L

¹Human Milk Foundation/Hearts Milk Bank

243 A moment that matters - a quality improvement project to improve rates of delivery room cuddles for all babies

Papneja B¹, Peterson J², Bogiatzopoulou A³, Seddon S⁴, Ratcliffe E⁵

¹Royal Oldham Hospital, Oldham, Manchester, ²Royal Oldham Hospital, Oldham, Manchester, ³Royal Oldham Hospital, Oldham, Manchester, ⁴Royal Oldham Hospital, Oldham, Manchester, ⁵Royal Oldham Hospital, Oldham, Manchester

248 Can PARCA-R be used to reduce the need for a full Bayley-III assessment at the 2-year neurodevelopmental follow-up clinic? - Comparison of Bayley-III and PARCA-R scores in a high-risk neurodevelopment follow-up cohort.

Jeffreys S¹, Perkins L¹

¹Singleton Hospital Neonatal Unit

250 Enhancing family experience through early discharge with oral antibiotics for Neonates with Presumed Early-Onset Sepsis

Krishnamurthy P¹, Gopalswamy V¹, Trad G¹, Mohammed S¹, O'Sullivan S¹, Barbosa A¹

¹Musgrove Park Hospital

255 Resident doctor experiences taking part in a national neonatal study group

Mckinnon K¹, Manjunath T¹, Aghababaie A¹, Elliott J¹, Edokpolor O¹

¹NeoTRIPs

The Role of Debriefing After Neonatal Resuscitation – Resident Doctors' Perspectives from London

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Background

Neonatal resuscitation is a high-pressure, time-critical intervention for infants experiencing perinatal asphyxia¹. These events are clinically and emotionally intense, requiring rapid decision-making and teamwork. "Hot debriefs"—structured reflections within 24 hours—support clinical learning, emotional processing, and quality improvement². Despite enthusiasm for debriefs, they are often overlooked due to workload constraints, a paucity of institutional guidelines, and insufficient facilitation training³.

Methods

Utilising the London Research Evaluation & Audit for Child Health (REACH) network, we disseminated two surveys across 25 London neonatal departments. The first survey, sent to a local nominated REACH leads, determined current local practices; triggers for debriefs, whether structured tools or guidelines were in use, and how debriefs were arranged. The second survey, disseminated across the resident doctor body in each department, delved deeper into debriefing practices and experiences.

Results

The first survey, with a 72% response rate (18/25), confirmed the absence of standardised tools or institutional guidelines. Debriefs were prompted by various events, including neonatal death, poor outcomes, or complex resuscitations. Consultants were reported to play key roles in organising and leading debriefs, with a range of other professionals mentioned less frequently. The second survey, completed by 73 residents (69% Senior House Officers, 31% registrars), showed most (93%) had participated in neonatal delivery room resuscitations, and 67% had joined at least one debrief. Qualitative thematic analysis identified six overarching themes to residents' experiences of these debriefs (Table 1).

Conclusions

While debriefing after neonatal resuscitation is widely recognised as best practice, it remains underutilised and unstandardised. Our surveys reveal a striking lack of consensus and institutional support for debriefing practices, despite residents recognising them as essential for emotional wellbeing, learning and improved clinical outcomes. Therefore, standardised debriefing protocols and protected time are essential to ensure these critical discussions are not overlooked.

Graphs

Code	Theme	Summary
"Hot and cold debriefs" "Routine debriefing after critical events" "Consistency and timing"	Structure & Routine	Respondents stressed the importance of structured debriefs, ideally combining immediate and delayed reviews
"Emotional processing" "Safe space" "Supportive leadership"	Emotional Support	Positive debrief experiences centred around emotional support
"Skilled facilitators" "Neutrality and non-judgmental tone" "Avoidance of blame culture"	Facilitation & Leadership	Effective leadership was felt to be critical; skilled and neutral facilitators enhanced reflective learning, poor facilitation led to feelings of blame and dissatisfaction
"Whole team participation" "Cross-professional learning" "Equal voices in discussion"	Multidisciplinary Involvement	The most valuable debriefs involved multidisciplinary teams, enhancing shared understanding, and learning across professional groups
"Protected time for debriefs" "Shift work considerations" "Optional attendance for emotional safety"	Accessibility	Accessibility issues were common; flexibility in scheduling and ensuring protected time for debriefs were highly valued
"Trust-wide debrief policy" "Debrief checklists/templates" "Training for facilitators"	Formal Guidelines & Training	Respondents called for formalised debrief processes at the organisational level, and formal training to standardise and strengthen debrief delivery

Table 1. Summary of Codes and Associated Themes from Neonatal Debrief Experiences

Service Evaluation: Are caregivers of high-risk infants satisfied with the quality of care received in a therapy-led neonatal neurodevelopmental follow up service?

Murphy R¹, Kromhout L¹, Fajemisin-Scott J¹, Athanasiou M², Penwarden S¹

¹King's College Hospital NHS Foundation Trust, ²Royal Free London NHS Foundation Trust

Background: The success of healthcare services depends largely on meeting the wishes and expectations of the patient and/or their caregivers. The aim of this service evaluation was to identify whether caregivers of high-risk infants are satisfied with the quality of care received in a therapy-led neurodevelopmental follow-up clinic (NDFUC) at King's College Hospital NHS Foundation Trust (KCH) established in line with NICE guidelines.

Methods: A prospective service evaluation using consecutive sampling of caregivers of high-risk infants known to the NDFUC. Infants were seen by a multidisciplinary team (including speech and language therapists, physiotherapists, occupational therapists) at 4, 8 and 12 months corrected gestational age. Satisfaction was assessed using the Parent Satisfaction Questionnaire for Neonatal Follow-up (PSQ-NFU), a 16-item questionnaire administered following the final appointment. The PSQ-NFU assessed various aspects of the service including the clinic environment, child-professional interaction, the communication style of the clinical team, accessibility of the referral process and the extent to which caregiver perspectives were valued. Responses were recorded using a 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. Data were collected between October 2022-October 2023. Descriptive statistics (counts and percentages), using SPSS software, were used to analyse findings.

Results: Forty-five (70%) caregivers completed the questionnaire. Mean scores were calculated for each item with overall satisfaction highest in items related to child-professional interaction (mean = 6.8), professional honesty about child's development (mean = 6.8), supporting understanding of corrected age (mean = 6.8) and caregiver involvement in care (mean = 6.8). The lowest-rated item was timeliness of clinic appointments (mean = 6.1); in response, the duration of appointments has since been extended to reduce waiting times.

Conclusion: Caregivers reported high levels of satisfaction across all areas of the NDFUC at KCH. These findings suggest strong alignment between caregiver expectations and service delivery.

Up the DOSE: DGH Outreach simulation education

Ives R¹, Suciu M¹, Garland C¹

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Background

Within district general hospital (DGH) settings, medical staff covering the neonatal rota have varied levels of neonatal experience — from foundation doctors to rotating paediatric trainees with intensive care experience. Neonatal emergencies may occur less frequently than in tertiary centres, but this can heighten pressure when they do arise. Simulation training improves preparedness and confidence in managing rare clinical events, yet in our region, DGH-based neonatal simulation outside tertiary teaching days can be infrequent.

Aims

1. To increase the frequency and availability of neonatal simulation opportunities across local DGHs.
2. To deliver sessions that participants found useful and relevant to neonatal care.

Methods

Mobile outreach simulation sessions were delivered at four local DGHs, tailored to the staffing mix, resources, and logistics of each site. Sessions lasted 1–2 hours and included clinical scenarios and procedural skills practice. Feedback was gathered using a post-simulation survey including Likert-scale questions on usefulness, prior simulation exposure, and suggestions for improvement.

Results

Seventy responses were collected across eight simulation sessions. Participants included: 33% paediatric SHOs, 14.3% FY2s, 11% GPs, 10% nurses, 10% registrars, 9% consultants. As shown in table 1, the sessions were rated highly useful (average 4.9/5), and 91% requested more outreach simulations. Two-thirds previously had undertaken neonatal simulations few times during their rotation or less. Challenges included variable nurse attendance, access to appropriate spaces, and competing clinical demands. Future sessions were adapted using participant feedback.

Conclusions

Outreach simulation sessions were well received by multidisciplinary staff in DGH settings, addressing a gap in local neonatal training and so helping improve staff experience. Despite logistical hurdles, sessions were effective and scalable. This outreach model is reproducible in other regions and sustainable while a simulation fellow is in post — with four further sessions planned this year.

Image

Table 1: Summarised results from simulation surveys

Sim location	Scenarios	Number of respondents	Average usefulness rating (1-5)	Proportion wanting further sims	Frequency of neonatal simulations	Key learning points	Requests for future sessions	Summary of positive feedback	Summary of areas to improve
Conquest 1	• Sim 1: Pneumothorax • Sim 2: Cord snap major haemorrhage • Skill 1: Chest drain • Skill 2: IO	11	4.9	• 11 (100%)	Not asked for this survey	• IO (7) • Chest drain (6) • Pneumothorax identification (1) • Procedural skills (1) • Neonatal resuscitation skills (4)	• UVC • HIE • PPHN • Obstruction • NLS • Simple resus • Difficult airway • Syndromic baby/hypoxia	• Approachable/helpful facilitator (4) • Informative (4) • Well organised (1)	• Longer session (2) • Provide NLS algorithm (1) • Presence of nurses/ midwives (1)
Conquest 2	• Sim 1: Extreme preterm aiming to facilitate DCC • Sim 2: Pulmonary haemorrhage • Skill 1: Intubation	11	4.5	• 11 (100%)	• Induction only (1) • Very occasional (1) • Monthly (2) • Weekly (1)	• DCC aspects (4) • Pulmonary haemorrhage management (4) • NLS (1) • Intubation (1) • Airway management (1) • Managing emergency scenarios (1) • Kit set up in A+E context (1)	• Pneumothorax (1) • Neonatal examination (1) • VLS and USA (1) • Paediatric life support sessions (1)	• Good facilitation (1) • Useful feedback (1) • Good simulation (1) • Learnt lots (1)	• Observations screen for observers (1) • Video of intubation/pulmonary haemorrhage for observers (1) • Less time practising intubation skills (1) • More time for questions at end (1) • Difficult to follow as observer (1) • Handout of theory (1) • Make us "feel the vibe" (1) • More sounds and high fidelity (1)
St Richards 1	• Sim 1: Pneumothorax • Sim 2: Cord snap major haemorrhage • Skill 1: Chest drain • Skill 2: IO	14	5.0	• 14 (100%)	• Never (2) • Induction only (1) • Very occasional (2) • Monthly (6) • Weekly (3)	• IO (5) • Chest drain (1) • NLS structure importance (5) • Escalate early (4) • Specific neonatal emergency practice (3)	• Septic child • Difficult to intubate • UVC/UAC x 2 • Neonatal cardiac arrest x 3 • Duct dependent lesion x 1 • PPHN • HIE	• Informative/good teaching (5) • Encouraging/calm facilitators (2) • Hands on/interactive (2) • Equipment familiarity (1)	• Nil negative feedback
St Richards 2	• Sim 1: Severe HIE • Sim 2: Airway obstruction • Skill 1: CFM use and interpretation • Skill 2: Meconium aspirator use	5	4.8	• 2 (40%) • 3 x not answered	• Never (4) • Induction only (2) • Very occasional (1) • Monthly (1)	• NLS steps (2) • Increased confidence (1) • Resuscitation checking (2) • Meconium aspirator use (1) • Early calling for help (2) • Team work (1) • Keep resuscitation heat on during resuscitation (1)	• Preterm	• No specific comments beyond thank you	• Nurses to attend (1)
St Richards 3	• Sim 1: Pulmonary haemorrhage • Sim 2: Preterm delivery with aim of DCC • Skill 1: Intubation	7	5.0	• 6 (86%) • 1 x finishing rotation that week	• Never (2) • Very occasional (1) • Monthly (2)	• Call for help early (1) • Increased neonatal emergency management (1) • Increased confidence different neonatal emergencies • Preparation towards preterm delivery (2) • Refresher of skills • Pulmonary haemorrhage management (2)	• More on babies already admitted • PPHN (2) • Indeterminate/ux (1) • Cardiac (1) • Therapeutic hypothermia (1) • Shock (1) • TdP (1) • Meconium aspiration syndrome (1)	• Excellent learning/ good opportunity (4) • Well run (2) • Useful to cover complex emergency situations (1)	• Increased debriefing time (1)
Worthing 1	• Sim 1: Pneumothorax • Skill 1: Chest drain	8	5.0	• 8 (100%)	• Never (2) • Very occasional (3) • Monthly (2)	• Chest drain (5) • Identification of pneumothorax (2) • Needle aspiration (2) • Knowledge refreshment (2) • Assessment/ management unwell infant (1)	• PPHN (3) • Intubation (1) • Cooling (1) • Extreme preterm (1) • IO insertion (1) • Umbilical lines (1) • Resus (1)	• Useful/good/great (5) • Supportive facilitators (2)	• Comment showing confusion around who could contribute to sim (1) • Sim fidelity uncertainty (1)
Worthing 2	• Sim 1: Cord snap • Skill 1: IO	6	5.0	• 6 (75%) • 1 x n/a • 1 x if on another placement	• Never (2) • Induction only (2) • Very occasional (3) • Monthly (1)	• Nix (1) • IO (2) • ETT fixation (4) • Intubation (1) • Neonatal emergency protocol (1) • Timely identification of cause (1) • Emergency scenario (1)	• Intubation (1) • UVC (3) • Chest drain (1) • More emergency scenarios (1)	• Helpful (3) • Useful to see without real emergency pressure (1)	• Neonatal nurses to join (1) • Difficult to see for observers (1)
Redhill	• Sim 1: Pneumothorax • Skill 1: Chest drain • Skill 2: IO	6	4.8	• 6 (100%)	• Never (1) • Very occasional (1) • Weekly (4)	• Visualising pneumothorax with coldlight (3) • Needle thoracostomy (1) • Procedural practice (1) • Chest drain (3) • IO (2)	• More sessions (1) • Paediatric sepsis (1)	• Really helpful (1) • Best simulation session all year (1)	• Longer time period without unit commitments (1) • Making participants blind to case scenario (1)
Overall average scoring			4.9	91%	66%				

Exploring parental priorities for a digital intervention supporting mental health

Dullay S¹, Wong H²

¹University Of Cambridge, ²Rosie Hospital, Cambridge University Hospitals NHS Foundation Trust

Background

Up to 50% of parents of infants admitted to the neonatal unit (NNU) experience mental health difficulties, including anxiety, depression, and post-traumatic stress disorder, which can persist beyond a year post-birth. A Bliss survey found that 61% of parents lack access to psychological services. Mental health apps can increase accessibility to support and are effective in reducing anxiety and depression. However, effectiveness is dependent on user engagement.

To inform digital intervention development for NNU parents, we aim to understand their unmet needs, explore the forms of support they had found helpful, and key app content and design features that may influence user engagement.

Method

We conducted in-depth semi-structured interviews with six sets of parents to explore their mental health and well-being experience. Questions were informed by a literature search and sought to explore emotional and practical challenges within the NNU, during the transition home and in the first year after discharge. Parents were encouraged to provide narrative accounts of their experiences and priorities. We sought their views on the perceived usefulness of a digital intervention.

Results/Outcomes

Parents in the NNU shared perspectives on preparedness and helpful support during admission; those who had been discharged identified sources of support and ongoing mental health needs.

Parents identified key factors to optimise a digital intervention post-NNU:

Mindset: Early support should align with short-term coping; later content can address long-term development and milestones.

Emotional reflection: Parents valued being prompted to reflect, especially via occasional journalling or brief questionnaires.

Motivation: Stage-based milestones (e.g., "first week at home") could encourage early use, similar to the 'Beads of Courage' programme.

Conclusion

A digital intervention may offer accessible, stigma-free psychological support for parents on NNU. It should be timely, practical and emotionally-attuned, designed to evolve with the parent's journey to maximise relevance, engagement, and long-term impact.

Improving patient and family experience during treatment for early onset neonatal infection by grouping gentamicin and c-reactive protein (CRP) tests to reduce the frequency of blood sampling.

Price Z¹, Elanjikal Z¹, Clark A¹, Lawal T¹, Nair N¹

¹University Hospitals Bristol And Weston

Background: NICE guideline NG195, 'Early onset neonatal infection', states that trough levels for the aminoglycoside antibiotic gentamicin should be known before the 2nd dose is administered at 36 hours (target <2mg/L). The aim of this audit was to establish whether the gentamicin level can be taken together with the 2nd CRP, at 18-24 hours post dose.

Method: Dosing and levels data was obtained from the drug chart and the electronic laboratory recording system, ICE™. All results were analysed using Microsoft Excel™.

Results: Data was collected from 116 newborn infants on the post-natal wards, born between 13/3/24 and 12/6/24 inclusive. Mean gestation at birth: 39+4 weeks (34+3 to 42+2 weeks). Mean birth weight: 3.47Kg (2.215Kg to 4.62Kg).

219 doses were administered with a mean time between the 1st dose and gentamicin level of 24hrs 13mins (10hrs 35mins to 45hrs 25mins).

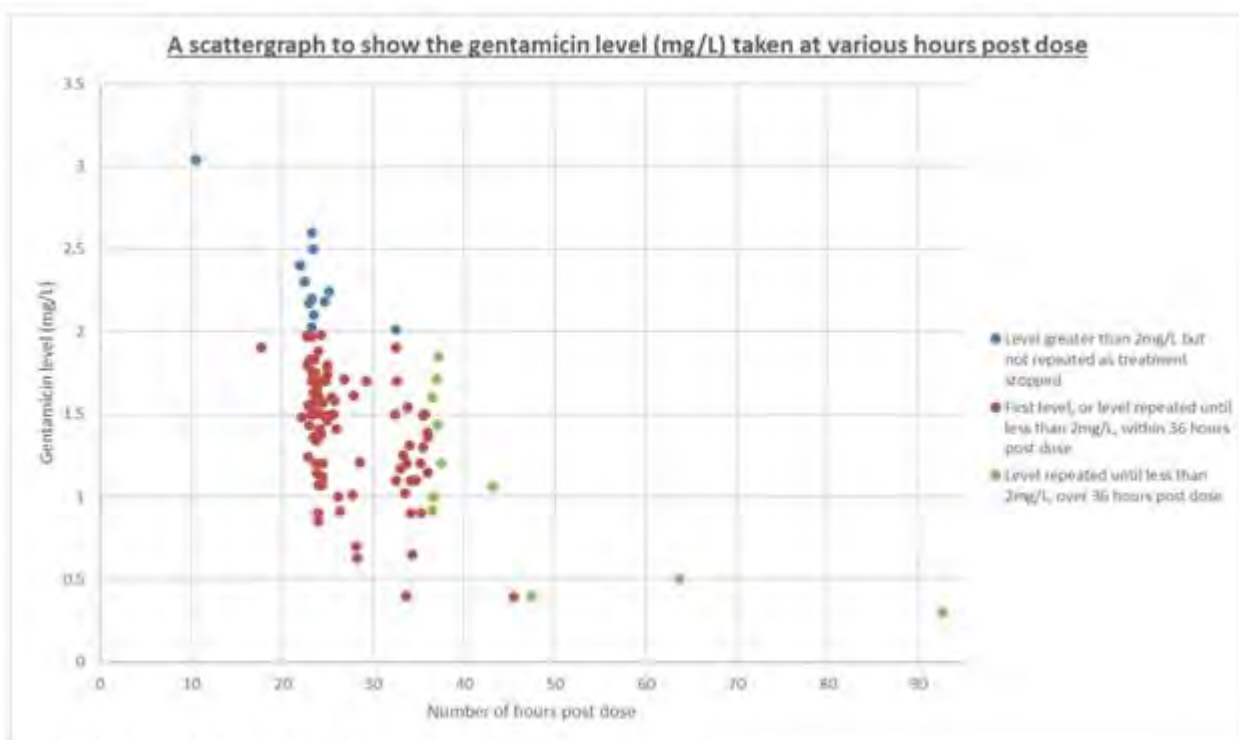
61.4% of initial gentamicin levels were <2mg/L, and nearly 80% of patients had a gentamicin level <2mg/L by 36 hours post dose. 8.8% of patients did not have a repeat level as the antibiotic course was stopped. 11 of the patients that required repeat (2nd) gentamicin levels had them taken more than 36 hours post dose. (see graph 1)

38.6% of patients required repeat gentamicin levels totalling 161 blood tests compared to 232 which would have been required if the gentamicin trough level was done separately.

Conclusions: Patients require a 2nd CRP at 18-24 hours post partial septic screen, so grouping the gentamicin level with this reduces the number of samples required by 31%, leading to improved patient and family experience.

A reduction in the number of blood tests results in cost savings for the Trust, as well as improved nursing flow due to fewer delays in waiting for 36-hour trough gentamicin levels in 61% of patients.

Graphs



Graph 1. The number of hours post dose for a gentamicin level to be <2mg/L.

Little Things Make a Big Difference:

A Multidisciplinary Quality Improvement Study Day for Neonatal Developmental Care

Evans R¹

¹Royal Wolverhampton Nhs Trust

Background

Developmental care enhances outcomes for preterm and vulnerable infants by reducing stress and promoting neurodevelopment. However, inconsistent training, high staff stress, and barriers to parental involvement hinder its consistent implementation. To address these challenges, New Cross neonatal unit introduced a multidisciplinary study day, featuring innovative tools such as recordings of light and sound inside incubators and parent testimonial videos, to foster collaboration and improve practice.

Methods

Feedback from developmental care ward rounds guided session design, which utilized a quality improvement framework. Sessions included:

- Clinical Psychology: Understanding team stress (Compassion Focused Therapy model), live formulations, and barriers to parental presence
- Dietetics: Neonatal nutritional requirements and weighing practices
- Nursing: Five pillars of Family Integrated Care
- Occupational Therapy: Role of OT and swaddle bathing techniques
- Physiotherapy: Optimising developmentally supportive positioning
- Speech and Language Therapy: Cue-based feeding workshops with video demonstrations

Staff attendance and feedback were evaluated post-session via structured surveys, with attendees rating each discipline's section as below expected, as expected, or above expected.

Results

The study day achieved a 91% attendance rate. Feedback revealed 41% rated sessions as "above expected," 58% as "expected," and only 1% as "below expected." Key themes included:

- Appreciation for Parent Perspectives: Videos and interviews offered new insights into the neonatal journey
- Increased Awareness of Developmental Care: Staff reflected on the impacts of light and sound within incubators
- Engaging and Interactive Learning: Interactive sessions and group activities fostered collaboration and reflection
- Improved Role Understanding: Sessions clarified the contributions of AHPs to neonatal care

Conclusion

The high attendance and positive reception highlight the feasibility and value of multidisciplinary study days in neonatal care. Future plans include refining session logistics, incorporating staff interviews, and assessing long-term impacts on practice.

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Lucas K, Evans R¹

¹Royal Wolverhampton Nhs Trust

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Digital Platform for Parents on the Neonatal Unit

Lok A¹, Burnett C, Barstow T, Burleigh C, Bradshaw O, Ayoub S

¹Bradford Royal Infirmary

Background

Parents with infants in neonatal care often experience heightened anxiety and emotional stress, compounded by the unfamiliar and complex clinical environment. Traditional communication methods such as face-to-face discussions and printed leaflets were not always timely, consistent, or accessible, especially outside hospital hours. There was a clear need for a more flexible, reliable, and parent-centred method of delivering information and support. The aim of this Quality Improvement project was to develop a digital platform that could deliver unit-specific, accessible information to parents before, during, and after their child's neonatal admission.

Methods

A multidisciplinary team collaboratively designed a digital platform using Padlet. Key features included a video tour of the unit, virtual ward round information, introductions to staff, educational content (feeding, procedures, parental involvement, how parents can be involved in caring for their babies etc), emotional support resources, and multilingual parental feedback. The platform was tailored to local needs but also included links to national resources. A small-scale pilot was conducted during a family event, and feedback was used to refine the content and design. Following this, the platform was fully deployed in June 2024, with QR codes distributed via posters, cards, and staff keychains to ensure ease of access both on the unit and at home.

Results

The platform improved communication and reduced parental anxiety by providing accessible, real-time information. Staff found the platform helpful in supporting parent education. Initial technical challenges and some resistance to change were mitigated through IT collaboration and ongoing education. Positive feedback from families highlighted the platform's value in improving the neonatal experience.

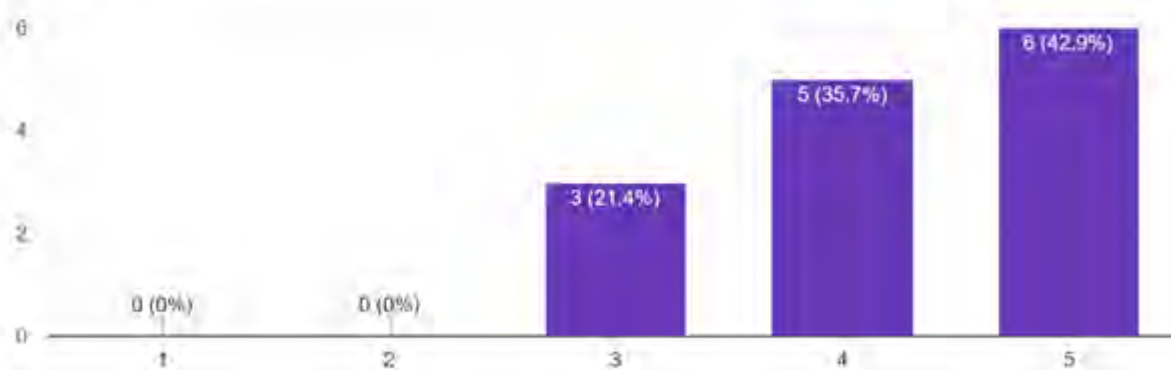
Conclusions

This project demonstrated that a thoughtfully designed digital solution can enhance communication and support for families in neonatal care. Ongoing evaluation and stakeholder involvement remain vital for long-term success and adaptability.

Graphs

On a scale of 1 (not helpful/not relevant) to 5 (extremely usefful), do you think the Padlet is a helpful resource for parents?

14 responses



Scan me in! The introduction of fingerprint entry system to a tertiary NICU

Douch C¹, Prior A¹, Crowley N¹

¹St George's Neonatal Unit

Background:

In line with Family Integrated Care Principles, parents should be encouraged to be with their baby as much as possible. Using a fingerprint entry system aims to make it easier for parents to enter the unit.

Methods:

Acquisition of the fingerprint scanners:

- Funding for the scanners was obtained via the unit charity, First Touch. Fundraised for by a bereaved family to benefit future parents on the unit
- Approval sought through hospital information governance and local governance processes
- Installed on both the high and low dependency areas of the neonatal unit

Introduction of the scanners to the unit:

- A standard operating procedure was produced which includes parent information and a pictorial flowchart to demonstrate how parents are registered and removed from the access system
- An 'Admission Bundle' was designed for all families' completion upon admission to collate as much information as possible about their needs as well as seeking written consent for scanner registration
- The administrative team were trained on how to register and remove parents alongside the nurses in charge for if there is an immediate need to remove a parent

Results:

Our scanner was launched on 13th of June. So far we have registered over 30 parents.

Feedback from a parent survey has shown 100% satisfaction in the process of registering on the scanner and unanimously agreement that the fingerprint scanner has improved the way parents now enter the unit.

100% of staff asked reported a reduction in the times they have needed to open the door and all would recommend it to other neonatal units.

Conclusions:

The introduction of a fingerprint scanner has been a lengthy but worthwhile process, involving governance, finance processes and training for staff. It has been well-liked in our unit and allowed parents easy, unlimited access to their babies.

Image



Honouring Loss, Sustaining Life: Social Value Investment in the Memory Milk Gift and the Creation of a Second Memory Tree

Atherton L¹, Wescott M, Smith K

¹Countess Of Chester, ²South, Central and West Commissioning Unit - Child Health Information Service, ³South, Central and West Commissioning Unit

Bereaved families who choose to donate expressed breast milk in memory of their baby make an extraordinary contribution to neonatal care. The Memory Milk Gift (MMG) provides a compassionate framework to honour their loss while enabling donor milk provision for vulnerable infants. Donor milk helps to support premature babies through nutrition and immune protection, most recipient babies are under 32 weeks and/or under 1kg.

NHS South, Central & West CHIS (Child Health Information Services) have established a small but impactful Social Value Fund to bring benefits, beyond their contracted service delivery, to support children and families. CHIS offer small grants to organisations running initiatives to improve health outcomes and patient experiences, especially for those facing adversity.

Aim:

To utilise social value funding to sustain the legacy of the initiative to continue to acknowledge bereaved families who donate breast milk and honour their loss.

Results:

CHIS recognised the emotional and clinical impact of the MMG and awarded targeted funding for a second Memory Milk Tree - a memorial for families to commemorate their babies and find solace through shared remembrance.

The new tree will be a vital awareness tool within healthcare environments, symbolising the gift of donor milk & fostering compassionate conversations in bereavement care.

Discussion:

Through this collaboration with CHIS' Social Value offer, the MMG continues to bridge bereavement and life-giving care, guided by empathy, equity, and the enduring impact of love in loss.

The MMG is part of the Milk Bank at Chester (MBAC), based at the Countess of Chester. MBAC is the largest milk bank in England, supplying 2,000 litres of screened, pasteurised donor milk each year for sick and premature babies to neonatal units.

This illustrates how social value when embedded in maternity and neonatal care drives positive patient experiences by supporting charitable arms of healthcare services.

Image



Improving Patient, Family and Staff Experiences through a System-wide Approach to Neonatal Allied Health Professional (AHP) Provision.

English H, Hay K, Madden N, Willis S

Background

Coventry and Warwickshire neonatal units (University Hospital Coventry & Warwickshire NICU, George Eliot Hospital SCBU and Warwick Hospital SCBU) see the highest number of pre-term births amongst the most vulnerable women with social complexities and babies frequently move between these units.

Existing provision didn't represent the full complement of AHPs nor the recommended staffing levels. Services were provided with minimal funding, often relying on goodwill, and staff with multiple responsibilities were unable to specialise and embed Neonatal AHP services.

Methods

Network AHPs recognised difficulties in providing high quality and equitable care and identified an innovative model of providing an AHP service across a wide footprint. Developing a system-wide neonatal AHP team is an ambitious but essential step toward providing equitable, safe, high-quality care for babies and families.

Pooling expertise allows efficient use of specialised skills and facilitates joint problem-solving. It supports clinicians working in smaller or lower-acuity units, who might otherwise operate in professional isolation, and prioritises those with the greatest clinical need rather than the centre with the best access.

Results

The LMNS AHP team provides input for all three neonatal units across the Coventry and Warwickshire LMNS. Alongside direct specialist care, the system approach also enables delivery of high-quality standardised staff training. By fostering collaboration, standardising care, and investing in the AHP workforce, the model has strengthened the overall neonatal care pathway. Patient and neonatal staff feedback has been overwhelmingly positive of a system approach.

Conclusions

Implementing a system approach is not without challenges. However, it has improved equity of specialist, targeted and universal AHP care for babies and families, raised the profile of neonatal AHPs, improved professional development opportunities for neonatal staff and developed the workforce. LMNS AHPs have been able to ensure equity and continuity of high-quality interventions for babies and families transferring between units.

Image

Results	
Patient and Family Feedback	Staff Feedback
94% Parents who responded said access to an AHP team and developmental support made a positive difference to how they felt about their stay on the unit and their baby's future development.	Confidence Scores pre and post training with LMNS AHP Team: 2.85/5 (pre) to 4.46 (post)
<i>"Without the AHP team: "I would have been more worried and would have had unanswered questions about my baby's milk diet and development."</i>	<i>"Thank you so much. Your passion, enthusiasm to work together and offer support is really enlightening and evident. Some really key important topics and a great conversation."</i>
<i>"I wouldn't have felt as confident to support my daughter's development on the unit and transitioning home. The team supported me to trust my intuition and my knowledge of my child."</i>	<i>"Really interesting and informative explanations on positioning, nutrition, skin to skin, parent psychology and the team. Thank you so much."</i>
<i>"I'm so grateful for these extra services, each and every person made my experience enhanced in such a dark time, keep up the great work."</i>	<i>"I now know who to ask about facilitating a better experience for babies."</i>

Family informed care: A multi-specialty antenatal clinic for suspected surgical conditions

Broad S¹, Cowan S¹, Cullis P², Lamont P¹, Monnelly V¹

¹Simpson's Centre for Reproductive Health, ²Royal Hospital for Children and Young People

Diagnoses of fetal surgical conditions provokes anxiety and uncertainty for expectant families, therefore timely and individualised antenatal care is vital. Our institution runs a monthly specialist multi-specialty clinic, facilitating regular contact between parents-to-be and the same fetal medicine obstetrician, midwife, neonatologist and paediatric surgeon. Through a service evaluation, we aimed to better understand families' antenatal care preferences when a fetal surgical condition is suspected or identified.

A single-site anonymous patient survey was distributed to families attending the clinic in 2024-2025. Summary statistics were performed for quantitative data alongside free text thematic analysis.

Eighteen families responded, with all reporting the clinic 'very helpful'. Importantly, 75% described feeling reassured after the clinic compared to 12.5% before. There was a reduction in anxiety after the clinic from 68% to 6.7%.

Clinician consistency was highlighted by parents as valuable, enhancing patient-clinician relationships. Providing individualised verbal and written communication before, during and after the appointment(s) ensured that families felt heard, respected and were well informed about the range of possibilities that may occur during pregnancy and beyond. Information provided at the clinic is often very detailed, however 94% families reported the level of detail to be 'just right' and 100% felt all their questions had been answered.

Communication with families extends post appointment, with each family sent an individualised letter. 100% of families found the letters 'very useful', an accurate representation of their appointment with several additional benefits identified (see Figure.1). Additionally, NICU tours were offered and this environmental preparation was highly valued by families.

Consistent multi-specialty clinical contact and individualised communication enhances families' experience, improves their understanding and prepares them for their uncertain journey ahead. This evaluation demonstrates family benefit of this clinic model. Multi-specialty combined antenatal clinics with individualised written information should be considered by services dealing with complex antenatal care.

Image

Figure 1. Evidence of positive family experience of clinic communication, including the individualised clinic letter (figure 1a) and through multi-specialty family-clinician verbal discussions (figure 1b).

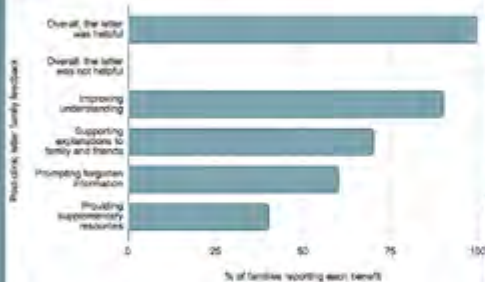


Figure 1a highlights specific family perceived benefits of receiving a letter after their clinic appointments. Importantly 100% families reported benefits from receiving a letter.



Figure 1b displays quotes from families, with free text frequently appreciating regular clinic sessions to facilitate communication channels.

Family food provision in the East of England Neonatal units: exploring practices, challenges and opportunities

Vieira N¹

¹East Of England Neonatal ODN

Background:

Parental involvement in neonatal care is increasingly recognised as essential for infant outcomes and family's well-being.

The GIRFT report (2022) underlines variation across food and drink facilities and food access to families. The NCCR (2019), the Neonatal Critical Care Service Specification (2024) and Bliss (2022) clearly demand the need for food and drink provision for parents on neonatal units.

Adequate parental food provision supports sustained presence, breastfeeding rates, mental health outcomes, and overall engagement in care.

Methods:

A cross-sectional survey was conducted across 17 units in the East of England to assess the availability, accessibility, and funding of food and drink for parents in December 2024. The survey explores type of food provision, how long food is provided to families, accessibility and funding.

Results:

All the 17 units provide snacks and hot drinks to families. In terms of equity in access to food, units have different criteria to who has access to a hot meal.

Discrepancy was also noted for how long parents have access to hot meals, varying between 14 days to discharge.

Funding seems to be absorbed by the NICU budget by 76% of the units, and the remainders vary between charity, a combination of NICU funding/charity and the Trust's Catering Department.

Common barriers to food provision included funding constraints and unclear policies.

Conclusions:

Parental food provision in neonatal units is inconsistent and overlooked, despite its potential to improve family integrated care. Parents are not considered visitors on neonatal units; they are part of the wider healthcare professional team and active players on the growth and development of their baby. Therefore, addressing this gap requires institutional commitment, clear policies, and integration with broader efforts to support parental presence and well-being. Further research and national guidelines may help standardise practices and ensure equitable support for all families.

Supporting bereaved families: developing a leaflet for care of the lactating breast after baby loss across care settings in the East of England

Vieira N¹, Peirce P²

¹East Of England Neonatal ODN, ²East Of England Neonatal ODN

Background:

Following the loss of a baby during pregnancy, birth, the neonatal period, or in infancy, lactation can occur regardless of gestation or infant survival. For bereaved mothers, this physiological response can be distressing and is often inadequately addressed. There is a clear need for sensitive, practical, and accessible information on managing lactation after loss.

This project aimed to develop a cross-section leaflet to guide staff and support parents in the East of England maternity, neonatal, paediatric, and community care environments.

Methods:

A multidisciplinary team including midwives, neonatal nurses, paediatric bereavement specialists, infant feeding leads, practice development nurses, and parent representatives co-designed the leaflet. A literature review and needs assessment were conducted, followed by iterative feedback from clinical staff and parental groups.

The leaflet covers physiological aspects of lactation after loss, emotional impact, milk suppression or donation options, memory making, and signposting to further support. It was designed to be inclusive, compassionate and adaptable for various care settings. The leaflet aims to be a tool that support professional conversations with families, and not to be only handed to families.

Results:

The leaflet was positively received across maternity, neonatal, paediatric, and community services. Early feedback suggests the leaflet helps to initiate conversation by normalising lactation, reducing distress, and support informed choices regarding breast care and milk expression or suppression.

Conclusions:

The development of a compassionate, evidence-informed leaflet for lactating breast care after baby loss addresses a significant gap in bereavement care. It is used across multiple settings ensures consistent messaging and supports a holistic approach to post-loss care. Further evaluation is underway to assess long-term impact on parental well-being and staff practice.

Improving parental presence on neonatal ward rounds at York Hospital: A virtual ward round project

Jackson C¹, Sandhu S¹

¹York and Scarborough Teaching Hospitals NHS Foundation Trust

Background:

The National Neonatal Audit Programme (NNAP) results for York Hospital concerningly demonstrated that parents were present for 34.6% of consultant-led ward rounds in 2022 and 33.7% in 2023 (compared to 47.2% and 38.7% nationally).

We conducted a survey over 2 months in 2021 to understand the barriers for parents attending ward rounds which included health issues, childcare demands and lack of transport. Feedback suggested parents would prefer alternative methods for joining ward rounds, including video calls.

To encourage more parental presence and involvement on ward rounds, we trialed virtual ward rounds, giving families access to medical updates on their baby's care from anywhere.

Methods:

In November 2024, we introduced the virtual ward round using WhatsApp video calls on Android Phones. Families would inform their nurse the day before if they were unable to attend the following mornings ward round. We would then set up a WhatsApp call the next day. During this video call families would have the opportunity to ask questions and see their babies. After the call a feedback link would be sent.

Results:

Over a 6-month period from November 2024 to May 2025 the virtual ward round has been used frequently. We have had 6 responses on our feedback form. All families felt it was useful to attend the virtual ward round, felt they were able to get an update on their baby's condition and would attend remotely again in the future. The main barriers to attending in person included work, childcare, and timings of ward rounds. Our NNAP results for parental presence on ward rounds in 2025 has increased to 44.2%.

Conclusions:

The feedback demonstrates that families feel this a useful addition to the Neonatal Unit at York Hospital and we plan to widen its use in the next year.

Improving personal and professional experiences for doctors facing breastfeeding challenges through peer support and education

Evans K¹, Clements R², Thomas L³, Priestman E²

¹Evelina London Children's Hospital, ²Liverpool Women's Hospital, ³Chelsea & Westminster NHS Foundation Trust

Background:

With 81% of parents choosing to initiate breastfeeding and yet only 1% exclusively breastfeeding at 6 months of life, there are significant challenges to most feeding journeys. Doctors receive minimal education on breastfeeding and can struggle to support the patients they encounter in a variety of healthcare settings. When doctors transition to parenthood themselves, difficulties with breastfeeding lead to misplaced shame and guilt, which act as a barrier to seeking skilled support.

Objectives:

- To support doctors with personal breastfeeding difficulties through an online peer-support network
- To provide evidence-based education about common breastfeeding problems, allowing doctors to provide better support to families

Methods:

In 2024 the Medics Lactation Community (MiLC) peer support group was established online, for medical doctors who are lactating or breastfeeding. Posts for support are moderated by a volunteer group of doctors, who have undergone formal training in breastfeeding peer support. This ensures initial replies are evidence-based and signpost to reputable resources. Ongoing moderation ensures comments are kind and professional, in-keeping with group rules.

Results:

Since conception, MiLC has gained over 3800 members across the UK who are reading and engaging with content on the platform daily. Posts for support cover a wide range of breastfeeding topics including establishing milk supply, poor newborn weight gain, nipple trauma, medication use and balancing feeding with returning to shift work. Members working in neonatal settings stated they were “astounded by how little I knew about breastfeeding, despite it being part of my day-to-day job” and after joining MiLC report “enjoying spreading all my newfound knowledge around at work”.

Conclusions:

MiLC provides valuable emotional and practical breastfeeding support to doctors transitioning to parenthood, expanding their feeding knowledge and allowing them to better support families in all clinical settings. Future work includes the development of a range of educational resources.

Enhanced Family Engagement – The Evolution of the Early Notification Scheme

Pells E¹, Mazlan M

¹NHS Resolution

Background

NHS Resolution has delivered reliable and comprehensive indemnity solutions for the NHS for 30 years, offering the best value for public funds and supporting open, compassionate care in which litigation (where required) is not seen as a barrier to transparency. Our aim throughout everything we do is to make outcomes better for patients and better for staff.

NHS trusts have to tell us about maternity incidents which meet certain criteria related to a baby's MRI brain scan. Under the Early Notification (EN) Scheme, a team of clinicians and lawyers work together to investigate circumstances where babies have suffered specific brain injuries at birth, to find out if the harm was caused by clinical negligence. The team completes early investigation into the care and provides compensation if the three-part legal test shows there has been clinical negligence.

Families, Trusts and other stakeholders had feedback that families needed more information about the EN Scheme, more frequent updating and to feel heard during the EN process.

Aim

To improve family experience of the EN Scheme by listening to families, reduce language and literacy barriers and using feedback and insights to inform changes to the EN Scheme. This aligns with our strategic priorities to support maternity and neonatal improvements.

Methods

The following enhancements were made:

- Proactive, more inclusive and accessible communication with families earlier and at multiple points throughout the EN process, to improve their understanding of the various stages involved.
- Develop resources and products for families and Trusts to improve awareness of the EN Scheme.
- Strengthen processes to hear from families and use this to improve the Scheme.
- Grow, develop and utilise the expertise of the family liaison team to support and improve family engagement.

Conclusion

Enhanced engagement has transformed families into empowered collaborators

Image

Results

Interventions from 1 April 2024 (babies born on or after 1 October 2023)	Impact
<p>Families were informed about NHS Resolution and the EN Scheme earlier and on more than one occasion - during Duty of Candour conversations / letters, towards the end of the MNSI investigation and by way of an EN Introduction letter sent by our team as the MNSI investigation was nearing completion.</p> <p>Early communication with the trust seeking up to date family contact details, information about the baby's clinical condition and preferred language enabled us to engage in a sensitive manner that was personalised to the family.</p> <p>If we were unable to complete the triage and clinical review stages of the EN process in the expected timeframe, we began updating families.</p> <p>Supported our internal teams with additional training and sharing learning from feedback.</p>	<p>Feedback from families and stakeholders about enhanced family engagement:</p> <ul style="list-style-type: none"> o More personalised and timely engagement appreciated o Alternative methods of contact offered (telephone, teams, emails) o Resources helpful to support understanding of EN process o Process feels transparent <p>We have responded to 93% of families who contacted the EN team within 2 working days (data from October 2024-April 2025).</p>
To improve the understanding, inclusivity and accessibility of our communication with families we have a professional language service procured and had our family letters and resources plain English assured.	<p>Language services</p> <ul style="list-style-type: none"> • 78 translations completed, 16 languages.
We asked for permission for a legal investigation to be completed.	100% of families who were eligible for the permission process were approached and of these 96% of families have given their permission for a legal investigation to be started.
In collaboration with families and our maternity voices advisory group, we developed multiple resources and products in various formats, to improve awareness of the EN Scheme.	<p>Data analytics:</p> <ul style="list-style-type: none"> o Animation – 405 views o EN webpage – 6874 views o Support pages for families and carers – 6679 views o Frequently Asked Questions for families and carers – 386 views

THE IMPORTANCE OF INTRODUCING PAEDIATRIC BASIC LIFE SUPPORT TO ANTENATAL CLASSES: A CROSS SECTIONAL QUALITATIVE STUDY

Onyekwere D^{1,2}, Layyous M^{3,4}

¹Department of Paediatrics, University Hospital Kerry, ²Senior clinical lecturer, University College Cork (UCC), ³Maternity services Internship programme, UCC. , ⁴Department of O&G UHK

Introduction:

Over 23,000 and 2,200 annual Paediatric-Out-of-Hospital-Cardiac-Arrest (POHCA) occur in the USA and Ireland respectively^{1,2}. Lowest survival rate are in cases below 1 year of age with higher incidence and mortality compared to other age groups of children^{3,4}. Effective bystander and first-responder rescue is the foundation for subsequent professional treatment of children in cardiac arrest⁵

Aims

To evaluate the attitudes and preferences of pregnant mothers in introducing paediatric basic life support (PBLs) to in-hospital antenatal classes.

Method

Cross-sectional Qualitative study in the obstetrics, gynecology's, and Paediatrics department in University-Hospital-Kerry. A 10-question survey was issued to women gestational age 20 weeks onwards in September 2024. The data collected and analyzed using descriptive statistics.

Results

Seventy-five mothers participated in the survey. Sixty percent were aged between 26-35 years old, and 41% were primigravida. Notably, 70% of respondents strongly agreed on the importance of having PBLs skills. 65% expressed a willingness to undergo BLS training. Despite this, 60% had never received any form of BLS training, either paediatric or adult training. Furthermore, 64% believed that PBLs should be included in routine antenatal classes; with 59% preferring to receive the training before childbirth, 17% opting for both antenatally and postnatally. 98% agreed that PBLs training should be provided to all parents. 'Interest in the topic' is the commonest encouraging factor in participants (33%). However, personal time constraints are identified as the most common obstacle to participation (37%), followed by lack of childcare (28%).

Conclusion

This study highlight a strong desire among expectant mothers for PBLs to be integrated into antenatal classes. A majority not only recognize the importance of learning PBLs but are also willing to participate in training sessions.

Incorporating PBLs into antenatal classes will play a crucial role in enhancing infant outcomes and ensure parents are better equipped to handle POHCA.

Please Follow My Cue, Aye? Clinical Application of Cue Based Feeding Scores within the Neonatal BadgerNet Electronic Patient Record

McKerracher L¹, McDonald H¹

¹NICU Ninewells

Background

Cue based feeding (CBF) is increasingly recognised as a feasible neurodevelopmental care intervention within neonatal units, assisting sick and preterm babies in the transition from nasogastric tube feeding to direct breastfeeding or responsive bottle feeding,¹ in line with UNICEF UK BFI Standards.² It is felt to be associated with improved infant-caregiver interaction³ and shorter duration of hospital stay. It is acceptable to both parents and staff and with no evidence of harm⁴

Objectives

Following successful quality improvement implementation of a cue-based feeding approach in the Ninewells NICU commencing in August 2022,⁵ our aim was to integrate the CBF scores within the BadgerNet Neonatal Electronic Patient Record (EPR) in order to fully embed cue based feeding into day to day practice.

Methods

Through Ninewells NICU MDT focus groups and collaboration and co-design with BadgerNet, a change request was submitted to enable documentation of CBF scores within the EPR at every feeding opportunity.

Results

In June 2024, Version 66 of BadgerNet updates was released, enabling neonatal staff to enter babies' cue based feeding scores within the 'Update Feeds' section of the 'Fluids & Feeding' tab. Clinicians are now able to view raw feeding scores as well as a graphical representation of score trend over time within the 'Scoring' tab.

Conclusions

All UK neonatal units with full BadgerNet EPR can now enter CBF scores within the clinical record, providing teams with additional insights into individual babies' feeding readiness. This information can help inform bespoke discussions and shared decision making with parents about the acquisition of their baby's oral feeding skills over time; appropriate timing of nasogastric tube removal and discharge planning.

Image



Prosiect Iaith: a co-produced quality improvement project to improve the experience of families in Singleton Neonatal Unit through language

Cosgrove E, Perkins L, Price L, Selman C, Lewis G

¹Singleton Hospital Neonatal Unit, ²Singleton Hospital Neonatal Unit, ³Singleton Hospital Neonatal Unit, ⁴Singleton Hospital Neonatal Unit, ⁵Singleton Hospital Neonatal Unit

Background

Communication with families is central to delivering high-quality care in the Neonatal Intensive Care Unit (NICU). In accordance with the BLISS Baby Charter and the Welsh Government's "More Than Just Words" standards, we must ensure an equitable and inclusive service for families whose preferred language is not English. Retrospective audit of BadgerNet entries over 8 weeks in 2024 revealed a weekly median of 0% capture of parental language, defined as both parents' primary languages or one parent in single-parent families. Capturing this data accurately was identified as the first step in understanding and meeting families' linguistic needs.

Methods

We formed a multi-disciplinary team, including a Welsh-speaking parent partner, and together developed a SMART aim to increase weekly parental language capture by 30% for babies admitted to Singleton NICU over 8 weeks. A PDSA cycle was initiated in August 2024, which involved modifying the "Family Details" sheet to include parental primary language. The intervention was reinforced through an awareness campaign involving MDT huddles, posters, and staff champions to promote engagement.

Results

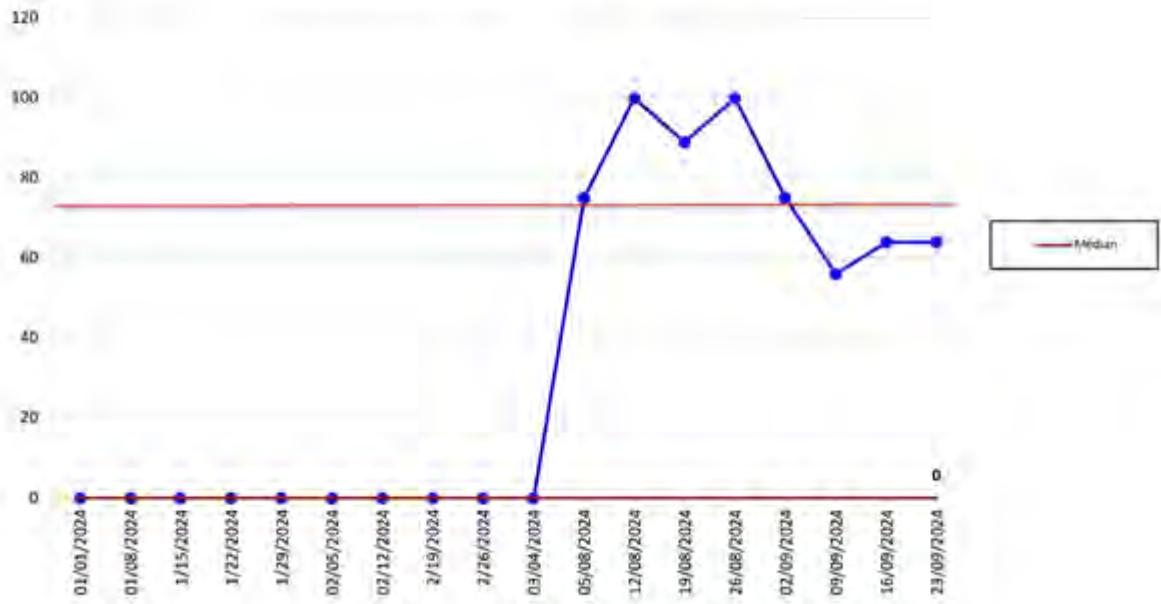
Post-intervention audit over 8 weeks showed we exceeded our SMART aim, as weekly capture of both parents' languages rose to a mean of 78% (see graph).

Conclusions

Capturing parental language data is a fundamental step in understanding and addressing linguistic needs in the NICU, and this improvement laid the groundwork for "Prosiect Iaith". Motivated by our improved understanding of Welsh language standards and our inspiring parent partner, our next aim is to embed a positive Welsh language culture within our unit. Collaborations with the health board's Welsh Language Officer and Swansea University academics are now guiding our development of co-produced Welsh language standards for our unit, which will be implemented using quality improvement methodology. This work aims to serve as a model for other neonatal units across Wales.

Graphs

% capture of both parents primary language



Putting the (ED)I into NICU: Embedding inclusivity Rounds to tackle non-clinical determinants of neonatal health

Zilber E, Devlin H, Mason-Woods A, Patel D, Webbe J

¹Chelsea And Westminster Hospital

Background:

Health inequality contributes to poor outcomes across the UK. In particular, socio-economic conditions are major determinants of health. National data show babies born into the most deprived or non-white families are significantly more likely to die, experience neonatal brain injury or have low birth weight. These disparities perpetuate intergenerational cycles of poor health. As healthcare professionals, we have a duty to promote the health of all patients by actively addressing these inequalities.

Methods:

We established a monthly, multidisciplinary 'Inclusivity Round' at a tertiary NICU to provide a structured forum for discussing non-clinical factors influencing patient care. This initiative was co-designed with parents to ensure that family perspectives were integrated, and aims to:

- Share experiences and learning from recent clinical cases
- Identify barriers and opportunities for improvement
- Promote a unit culture where families voices are heard and all can access equitable care

Staff were anonymously surveyed before the first and after the seventh Inclusivity Round to assess change in their confidence and perceptions of how equality, diversity and inclusion (EDI) were managed within the unit.

Results:

Eight Inclusivity Rounds were held since October 2024 (Table 1). Presentations on clinical cases explored a wide range of social, economic and psychological challenges faced by families. Several sessions led directly to tangible changes (Table 1).

Survey results showed marked improvement in staff confidence.

- Initial survey (n= 13): 15% of staff felt 'quite' or 'very' confident managing EDI issues, 45% believed the unit managed EDI 'moderately' or 'very' well.
- Follow up survey (n= 11): 45% of staff felt 'quite' or 'very' confident managing EDI issues, 80% believed the unit handled EDI 'moderately' or 'very' well.

Conclusions.

The Inclusivity Round is a low-cost, impactful intervention to engage staff and improve awareness and management of non-clinical factors in neonatal care.

Image

Table 1. Summary of the first 8 Inclusivity Rounds held at our tertiary NICU.

Presenter	Date	Topic	Outcomes
Consultant	24/10/2024	The impact of language barriers	Digital translation tool available at the Trust promoted among staff.
SpR	28/11/2024	Homelessness and neonates	Identified unrecognised care need for patient, impacting ongoing care provided to family
ANNP	23/01/2025	Fostering for children with complex health needs/disability	Departmental teaching on disparities in fostering
SpR	27/02/2026	Migrant health	New way of documenting social history on the electronic patient record implemented to improve access to information.
SpR	27/03/2025	Long-term NICU stay and update to NICU legislation	Staff educated on The Neonatal Care (Leave and Pay) Act and a poster made and put up on the unit to disseminate information to families.
SpR	24/04/2025	Genetic conditions and testing in NICU: a family experience	Discussed ethics and practicalities of genetic testing in infancy; intergenerational experiences of genetic conditions within families.
SpR	22/05/2025	Ethical issues around family/healthcare team conflict	A dedicated psychosocial tool 'HEART' developed by one of SpRs and incorporated into antenatal counselling proforma. HEART Tool: H- Home and Heritage E- Education, Employment, Ethnicity A- Age and Abilities R- Religion and Spirituality T- Trauma and Trust
External speaker	26/07/2025	Experience of LGBTQI+ parents of infants admitted to NICU	Novel external research as well as previous research done on the unit presented and discussed. Plans for further work on communication and on inclusive breastfeeding support.

More than mistakes: Using DATIX to celebrate excellence

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¹University Hospitals Sussex NHS Foundation Trust, ²University Hospitals Sussex NHS Foundation Trust, ³University Hospitals Sussex NHS Foundation Trust

Background: According to the GMC's Good Medical Practice "Everyone has the right to work and train in an environment which is fair, free from discrimination and where they are respected and valued as an individual". Fostering civil and compassionate workplace cultures enables staff to work effectively and in the best interests of patients.

The objective of this project is to boost staff morale and learn from successes. This scheme has been running over the last 5 years with strong engagement.

Methods: The "Good Care" category existed within the hospital DATIX system but was not being utilised. Staff emails were sent to raise awareness, with information that nominees would receive their feedback along with a Certificate of Excellence. Also, pictorial guides were created to help staff navigate the system to enable seamless submission with regular reminder posters displayed in strategic locations on the unit.

A recent survey assessed staff perceptions on the scheme's usefulness and requested suggestions for improvement. As a result, QR codes were introduced to allow staff to submit positive feedback directly from mobile devices, not just via trust computers. Nominees are now also put forward for the unit's "Star of the Month" award.

Results: Since inception in 2020, 154 positive datixes have been submitted. Image 1 depicts a sample of the feedback received. Majority involved effective teamwork, communication, problem solving and having a positive, supportive attitude to work. A 2025 survey showed 88% of staff reported a significant positive impact on morale, 84% of respondents feel the scheme has helped create a better and productive work environment.

Conclusion: Improving staff experience through this culture change has a positive impact on workplace morale. Staff feel more motivated and valued which may indirectly contribute to better patient care.

Reference- Good Medical Practice 2024. Domain 3 Colleagues, Culture and Safety.

Image

Sample responses of positive feedback

"Genuine passion for education and patient safety"

"A beacon of light during stressful times!"

"The team remained cheerful and professional throughout the stressful experience and guided one another through a difficult shift"

"His approach greatly increased self-confidence in my abilities"

"Most supportive and kind supervisor anyone could wish for"

Implementation of standardised neonatal parenteral nutrition across a neonatal network

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¹West Midlands Perinatal Network

Background: Parenteral nutrition (PN) is a vital component of neonatal care where gastrointestinal immaturity or disease prevents nutritional requirements being met by the enteral route. In 2022 the Neonatology GIRFT report¹ recommended network-wide standardisation of PN. The West Midlands Perinatal Network is comprised of 14 neonatal units, with 10 of these being level 2 and 3 units and therefore requiring a PN provision. The aim of this project was to create PN formulations to meet the needs of the population, to develop resources for administration and provide educational materials to upskill staff at unit level.

Methods: This was a multiprofessional project between the network nutrition team (network pharmacists and network dietitian) working collaboratively with the Network Clinical Nutrition Group. PN formulations were agreed, derived from ESPGHAN² and NICE³ recommendations. Detailed Network PN guidance and prescriptions were created to support local implementation. The network nutrition team provided network wide and bespoke unit training and offered virtual 'drop-in' sessions each month to identify specific training needs. Additional resources were developed for use at unit level:

- Recorded presentation
- PN workbook with example calculations
- Crib sheets
- Posters

Results: 9 out of 10 of units have successfully transitioned to using network standardised PN with positive feedback from the individual unit teams. A network wide PN walkabout and audit is currently underway to assess whether PN administration fully aligns with network guidance and identify any further gaps in education.

Conclusions: Standardised network PN has reduced variability in practice, supports equitable and timely access to PN and has improved nutritional care across the network. Network-wide training has supported the individual unit teams to implement the new PN guidance.

References:

1. Adams, E.; Harvey, K & Sweeting, M. (2022) Neonatology GIRFT Programme National Specialty Report
2. ESPEN/ESPEN/ESPR/CSPEN. Guidelines on Pediatric Parenteral Nutrition. Clin Nutr 2018;37:2306e8.
3. NICE (2020). Neonatal parenteral nutrition [NG154]

‘Better Start, Better Future’ charitably funded early intervention service in Wales- a family perspective.

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¹Cerebral Palsy Cymru

Background

Use of the third sector to aid provision of early detection and early intervention (EI) for infants at high risk of cerebral palsy (CP) is recommended in national neonatal care reports, but referrals may be delayed due to concerns over escalating parental stress.

Better Start, Better Future (BSBF) is a charitably funded EI service at Cerebral Palsy Cymru in Wales, for families with high-risk infants (0-2 years). The service is co-delivered by therapists and a family support practitioner who has lived experience of CP, alongside local neonatal follow-up pathways.

Aim: to explore parents’ perceived value of a third sector EI service at times of high stress.

Participants and Methods

17 parents of high-risk infants (0-9months) sequentially referred to BSBF, completed the Karitane Parenting Confidence Scale (KPCS)-a self-report measure of parental confidence and efficacy during infant co-occupations. A score <39 is the clinically accepted cut-off for low confidence. Immediately following an initial 2-hour co-delivered, individualised intervention session, families completed a feedback questionnaire.

Results

Prior to intervention, 14/17 (82%) of parents reported feelings of stress and low confidence in participating in their infant’s daily cares. 8/17 (47%) had KPCS ≤39. Following the intervention, 100% of parents reported integrated peer support as being very valuable. All parents with initially low self-confidence additionally identified BSBF as providing individualised, practical activities for home, an opportunity to discuss their concerns and reported an increase in confidence.

Conclusion

Parents of high-risk infants welcomed delivery of BSBF EI alongside NHS services. Integrating peer support and counselling within EI recommendations was found to be very valuable by parents of high-risk infants and especially those with low confidence and self-efficacy. Early referral to third sector EI service is indicated for all families of infants at high-risk of CP.

IMPROVING THE NEONATAL OUTPATIENT CLINIC EXPERIENCE FOR STAFF AND FAMILIES

A Quality Improvement (QI) Bundle

Porteous Z¹, Crowley R¹, Cocker I¹

¹St George's Hospital

BACKGROUND

Multi-faceted QI project in the Neonatal Unit at St George's Hospital. Survey showed Resident Doctors lacked confidence in the outpatient setting. Some patients received multiple appointments contributing to DNAs and reduced parent satisfaction; other higher-risk infants were not being followed up as per National guidance.

AIM

By August 2025, we aim to improve the clinic experience for resident doctors and families by increasing education around clinic consultation, streamlining clinic referrals and ensure all patients are seen in the right place, at the right time, by the right person.

METHODS

Multifaceted QI project with two completed PDSA cycles.

1. Clinic Guide for Resident Doctors
 - a. Produce guide for clinic
 - i. Identifying learning opportunities including work-based assessments, IT guidance, structuring clinic, dictation guide, follow up, referrals, common clinic problems and introduction to Denver developmental assessment
 - b. Standardise neurological examination in the outpatient clinic via teaching session
2. Create and implement a follow up guideline
 - a. NICE, BANNFU and comparable unit guidelines reviewed
 - b. Production of guideline with two pathways for higher risk infants and lower risk infants.
 - i. Including appointment booking, additional specialist clinics and length of follow up

RESULTS / CONCLUSIONS

Qualitative feedback from resident doctors showed guide has improved the clinic experience by clarifying their role, highlighting learning opportunities, and reducing anxiety around common complaints. Improving their confidence about frequency of follow up and joint working with primary care ensures appointments are utilised more effectively and has the potential to reduce costs for both families and Trusts. The guideline has optimised clinic referrals for higher and lower risk infants. These QI projects have had a positive impact for our patients but there is still room for improvement. Ongoing QI ideas include standardised clinic documentation, Denver developmental assessment, standardise neurological examination and parent information leaflet on follow up.

Place of Birth in South Yorkshire: Informing families of their choices and when this may need to change

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¹South Yorkshire LMNS, ²Yorkshire & Humber Neonatal ODN

Background:

Personalisation and informed choice in maternity care was one of the key findings in Better Births (2016 NHSE) and described as central to ensuring the best care for birthing people.

Feedback from families in South Yorkshire, who go on to receive neonatal care, consistently describe receiving limited information in pregnancy about the potential of needing neonatal care and the impact this may have upon place of birth. They felt they were unable to make informed choices about place of birth due to this. Many families highlight the juxtaposition between the emphasis upon informed choice in maternity care and the change in this when threatened preterm labour occurs. This contributes further to their feelings of loss of control at an emotional and challenging time.

Method:

In South Yorkshire, the Local Maternity and Neonatal System and Yorkshire and Humber Neonatal ODN worked collaboratively with service users to co-produce a resource that is accessible and widely available to those receiving maternity care.

Result:

This animation aims to support informed choice by providing localised information about place of birth whilst raising awareness of the potential need for neonatal care and how this may change place of birth. It is now regularly played in antenatal clinics and other locations where those receiving maternity care visit and shared on social media.

<https://www.youtube.com/watch?v=-GM6XXGdpdw>

Conclusion:

This co-produced animation aims to raise awareness in pregnancy of the potential need for neonatal care and how this may impact upon place of birth. Hence, improving family experience.

It highlights the benefits of working collaboratively as a perinatal team with service user engagement.

Image

Did you know
you can choose where to have
your pregnancy care and give birth?



Parental Stress in the NICU: The Impact of Integrated Psychological Support within a Family-Centred Care Model

Chaudhary N¹, Burgess H¹, Kantyka C¹, Thomson L¹, Lindsay S², Beardsall K¹

¹Cambridge University Hospital NHS Foundation Trust, ²University of Cambridge

Background:

Family Integrated Care (FIC) significantly reduces parental stress and improves neonatal outcomes, including feeding, growth, neurodevelopment. We evaluated factors causing parental stress in a tertiary neonatal unit (NICU) practicing FIC and whether a commissioned psychological support team improved parental experience.

Aim:

The study aimed to identify stressors affecting parents during NICU admission, the contributing triggers, and the impact on parent-baby bonding using validated questionnaires, as well as to evaluate the presence of psychological support on parental experience on NICU.

Methods:

Parents of neonates admitted to a tertiary NICU completed anonymous electronic surveys during two periods: Nov 2022- Nov 2023 (n=35) and Jan- June 2025 (n=40). The 2025 cohort had access to regular psychological wellbeing support, while 2023 had limited support. The surveys assessed anxiety, bonding, and stress factors. Data were analysed using descriptive statistics and chi-square tests.

Results:

In 2025 cohort emotional experiences remained mixed, but fewer parents reported feeling upset. Environmental stressors like alarms and noise persisted and staff communication was of some concern. Overall, fewer parents in 2025 found the NICU stay stressful (77.5% vs 85.7%, p 0.36). Compared to 2022-2023, there were improvements across several key areas on parental experiences in NICU in 2025. Neonates had more skin-to-skin (STS) care in 2025 cohort, with 87.5% initiating STS within the first week and 70% practising it on most days, compared to 60% (p 0.0063) and 43% (p 0.018) respectively in 2022–2023. Parent-baby bonding strengthened, with 90% reporting loving and protective feelings, and fewer reporting disappointment or resentment.

Conclusions:

Despite ongoing environmental stressors and some communication issues, 2025 cohort reported a more positive experience and the access to psychological wellbeing support was associated with improved parent-baby bonding, increased STS care, and reduced stress levels during NICU admission. This highlights the value of FIC and psychological support.

Image

Table: Comparison of NICU Parent Experiences – 2022/23 vs. 2025

Category	2022/23 (n=35)	2025 (n=40)
Demographics:		
Number enrolled	35	40
Parent Respondents	Mother: 22; Father: 9 Other: 4	Mother: 31; Father: 9
Ethnicity	UK: 27; Other white BG: 2 Black Caribbean: 0 Mixed: 1; Asian: 2 Prefer not to say: 3	UK: 29; Other white BG: 7 Black Caribbean: 1 Mixed: 1; Asian: 2
Pregnancy:	Singleton: 32; Multiple: 3	Singleton: 35; Multiple: 5
Inborn/Outborn	Inborn: 33; Outborn: 4	Inborn: 30; Outborn: 10
Mode of Delivery	Vaginal: 18; CS: 22	Vaginal: 18; CS: 27
Gestational Age	<28w: 11 28-36+6w: 15 >37w: 9	<28w: 10 28-36+6w: 23 >37w: 7
1. Parental Anxiety:		
Other Caring Responsibilities	54% (n=19)	52% (n=21)
Parental Emotions	Mostly mix of worried & calm Some felt upset Not relaxed or content	Mostly worried; Mix of calm, relaxed, tense Least felt upset or content
Parental Role Issues:		
Most Stressful	Separation, not holding, protecting baby	Same – separation, helplessness, pain procedures
Least Stressful	Feeling staff closer to baby and unable to share with family members	Same as
2. Parent- Baby Bonding:		
Feelings toward baby	90% felt loving & protective 1/3 felt some disappointment	90% felt loving and protective 5% aggressive or resentful
Skin to skin (STS)		
Skin-to-Skin Timing	60% within 1 week 40% of those within 24h 5 had STS after 1 month	87% within 1 week 52% of those within 24h Only 1 had STS after 1 month
STS Frequency	Most days: 43% (n=15) Few times/ week: 9 Rarely/never: 28% (n=10)	Most days: 70% (n=28) Few times/ week: 8 Rarely/never: 10% (n=4)
3. Stress factors in NICU:		
Stressful Environmental Factors:		
Most Stressful	Monitor alarms, noise	Monitor alarms, constant noise
Least Stressful	Staff presence, sick babies nearby	Same – other babies/staff numbers not stressful
Staff interaction Issues:	Conflicting messages, jargon, fast pace	Conflicting updates (10%), poor communication
Other Concerns Raised	EBM help, finances, distance, Skin to skin access	5 parents reported ongoing external concerns
Overall Stress of NICU Stay	Stressful: 86% (n=30) Little or not stressful: 14% (n=5)	Stressful: 77% (n=31) Little or not stressful: 23% (n=9)

Resident Doctor Wellbeing: The Power of Near-Peer Mentoring

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¹Jessop Wing, Sheffield Teaching Hospitals NHS Foundation Trust

Background

Neonatal units present a highly rewarding yet intensely challenging environment for resident doctors, characterised by high acuity, complex decision-making, and a steep learning curve.

Recognising mentoring as a valuable tool for personal and professional development, a near-peer scheme was introduced to empower resident doctors to thrive through guidance and reflection with senior trainees.

Aim

To enhance resident doctor wellbeing during their neonatal rotation via a near-peer mentoring scheme, evaluating the scheme's impact on resident doctors' professional development and overall experience, along with mentor workload and satisfaction.

Methods

Launched in 2023 at the Jessop Wing, the mentoring scheme initially paired ST1-3 mentees with ST4-ST8 mentors. Expanded in 2025, it now includes clinical fellows and ST4-ST5 trainees in their first registrar post at a tertiary neonatal unit, paired with ST6-ST8 neonatal GRID/SPIN trainees as mentors. Mentee uptake was 85% to 100%. The scheme included an introductory meeting and check-ins to debrief or offer developmental support.

We adapted the scheme to include a mentor-mentee contract and mentoring skills e-learning for mentors. Post-rotation surveys were conducted. This assessed perceptions of support, wellbeing and professional development for mentees, and workload and satisfaction for mentors.

Results

87.5% of mentees found the mentoring scheme beneficial, reported an improved experience during their post. 62.5% of mentors reported no significant workload increase. Qualitative feedback highlighted mentorship aided mentees navigate clinical challenges, e-portfolios and career decisions. Key themes included: "feeling heard and supported," and "safe space". Mentors reported satisfaction and personal enrichment, noting mentee openness facilitated collaborative planning.

Conclusion

This mentoring scheme demonstrably enhanced resident doctor experience and wellbeing, cultivating a vital supportive culture within the neonatal unit. As an easily implementable and impactful intervention for resident wellbeing, we strongly advocate for its adoption in other neonatal units.

Improving Trainee Confidence in Newborn Life Support (NLS) in Accordance with the RCPCH 2022 Standards of Practice

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Background:

Attending deliveries can be a stressful part of a resident doctor's job role. In 2022 the RCPCH published an updated 'Standards of Practice' guideline to outline recommended requirements for departmental induction into newborn life support. We undertook a quality improvement project to evaluate trainees' experience at our hospital.

Methods:

A survey was sent to all resident doctors in the department between August 2022 and February 2023. Following intervention, the survey was re-shared in June 2023 and March 2024.

Results:

From 11 respondents in the pre-intervention survey, over 70% (8) did not have NLS certification prior to starting in post, with a further 18%(2) obtaining it during their post. The number of deliveries attended with a senior before attending independently ranged from 0-10+, with a third of respondents feeling they wanted more support, and two thirds expressing they would have found a 'sign-off sheet' useful. Trainees felt that 8 of the 13 RCPCH recommendations for induction were not included in their induction to NLS, e.g. 'theory behind NLS algorithm'.

The survey results were shared with the neonatal lead for the department and all paediatric consultants to highlight areas for improvement. A 'Delivery attendance competency form' was created to ensure all trainees were supervised for a minimum of three deliveries.

In the post intervention surveys, there was improvement seen in the number of RCPCH recommendations met in induction (5 to 10). The number of trainees asking for support remained the same (approximately one third). All respondents felt the sign-off sheet intervention was not useful, due to logistical reasons.

Conclusions:

Our work highlighted the importance of delivering NLS inductions in line with RCPCH standards to improve trainee confidence. Competency sign off sheets may not be the best way to ensure appropriate supervision leads to confident NLS providers but more information is required.

Early Conversations on the Neonatal Unit: Building Trust and Partnership in Care

Moore A¹

¹Bliss

Background:

Bliss has engaged with families and healthcare professionals to explore how early conversations about a parent's or carer's individual circumstances build trust and support partnership in care, leading to more individualised support. This work highlighted the need for structured, practical resources to guide early conversations between staff and families in a way that is compassionate, consistent, and equity-driven.

Effective communication is central to equitable FICare. Families experiencing health inequalities often face barriers to meaningful conversation and partnership. Staff frequently report lacking confidence and time for these sensitive conversations. Without structured tools, opportunities for personalised care may be missed.

Aim:

To co-create and pilot a structured early conversation tool across four neonatal units over six weeks, supporting 100 early conversations and identifying improvements to refine the tool for a second pilot phase.

Methods:

Bliss co-created a structured conversation tool with parents and professionals. The tool covers:

- Physical and emotional wellbeing
- Pregnancy and birth experience
- Hopes, wishes, and personal beliefs
- Practical and financial circumstances
- Involvement in care and decision-making
- Communication and information needs

The tool will be piloted across four neonatal units, aiming for 100 early conversations with families. This number was chosen to provide a broad, diverse sample and meaningful qualitative feedback to guide development. Feedback will be collected from staff and parents through surveys, interviews, and WhatsApp.

Results:

The pilot begins in July, with findings ready for the conference. This is one of the first UK projects to co-create and pilot a structured early conversation tool across three ODNs, involving units with diverse populations and contexts. This multi-site approach is expected to generate rich insights to inform future development.

Conclusion:

This work offers a practical, co-created approach to embedding structured early conversations into neonatal care as a foundation for equitable, individualised FICare.

Implementation of a Multidisciplinary NHS Staff Support Service for Postnatal care as per the recommendations of the Birth Trauma Report

Radha B¹, Srivastava S

¹East Surrey Hospital

Back ground

The Birth Trauma report from May 2024 highlighted the pressing need to address the optimisation of postnatal care for the new mother and baby. Female workers represent a significant proportion of the NHS Workforce; their wellbeing is essential for a successful healthcare system. The long healthcare waiting lists makes it challenging for female staff on sick/maternity leave to access compassionate care while undergoing major life events such as having a new baby or going through menopause.

Methods

With a consultant paediatrician and a consultant obstetrician and gynecologist (O&G) working with the occupational health department and the trust chief executive, the pilot service was launched in January 2025. An intranet self-referral form to the service was created for triage of the staff member and their new baby in joint consultant clinics. The infant feeding lead midwife supported the service as necessary. In the postnatal clinic, staff who were new mothers and their babies up to 12 months after birth were supported. The Menopause Support Service for staff was another arm of the service led by the O&G Consultant.

Results

Staff feedback has been overwhelmingly positive to the pilot service provided. The pilot project also received a letter of appreciation from the HRH Princess of Wales' office at the Kensington palace for aligning with the work for the Early Years' support (figure 1). The Trust is addressing funding issues to be able to continue the service long-term.

Conclusions:

Tailored support will help to create a more compassionate, resilient work environment; this will boost NHS staff productivity, reduce staff sickness and improve the standards of patient care. There are no published consultant-led holistic postnatal support service for NHS staff; this hence represents a novel model of care which will hopefully be piloted nationally.

References

1. Birth Trauma Report | Theo Clarke

Image



KENSINGTON PALACE

From: Miss Natalie Barrows, M.V.O.,
Deputy Private Secretary to H.R.H. The Princess of Wales

Private and Confidential

7th May, 2025

Dear Dr. Radha and Ms. Srivastava,

Thank you for your letter of 27th January to The Princess of Wales regarding the mother and baby postnatal care service you have created. Please accept my apologies for the delay in responding.

It was really kind of you to take the time to write, and your generous words of support for Her Royal Highness's early years work were greatly appreciated. Your initiative to support new mothers through holistic services must be so valuable to the women who use them. As you note in your letter, ensuring maternal wellbeing in the period following birth has such a critical influence on both the mother and child's health for the rest of their lives.

I have passed your letter to my colleagues at the Centre for Early Childhood for their consideration, who will be in touch should they need any more information.

Thank you, once again, for writing to The Princess of Wales, who would have me send her warmest thanks and very best wishes.

Yours Sincerely,
Natalie Barrows

Dr. Bindu Radha, Consultant Paediatrician,
Ms Shalini Srivastava, Consultant in Obstetrics and Gynaecology,
East Surrey Hospital

Early Post-natal Skin to Skin Care for Extremely Preterm Infants: A Mixed-Methods National Survey of Contemporary Practices in UK Neonatal Intensive Care Units

Blewer E¹, Wood E¹, Barnett M¹, Nezafat Maldonado B¹, Flore A¹, Cawley P²

¹Evelina London Children's Hospital, ²Research Department of Early Life Imaging, Kings College

Background: Skin-to-Skin Care (SSC) is the method of parents or caregivers holding their baby against their bare chest. Hesitation appears to arise when facilitating early SSC for extremely preterm infants within the first days from birth, a time when the risk of intraventricular haemorrhage (IVH) is highest. Variation in national and regional SSC practice is likely.

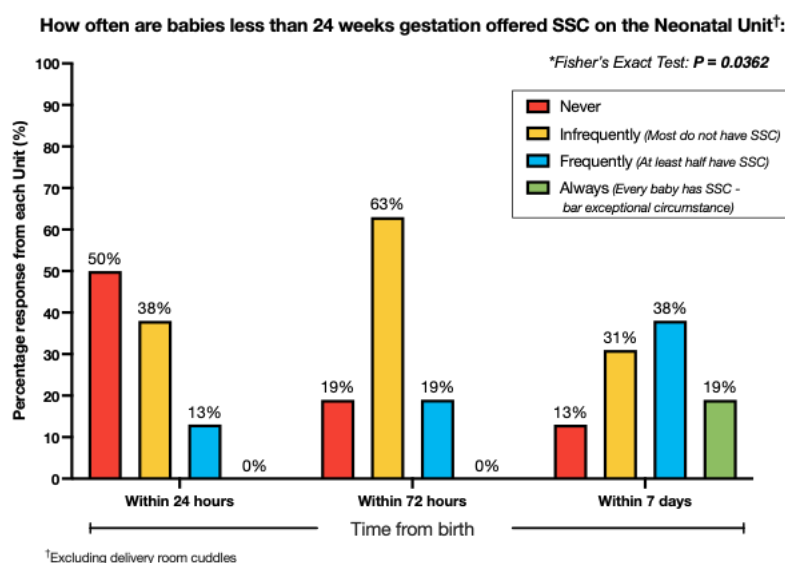
Aim: To survey SSC practice for extremely preterm infants in Neonatal Intensive Care Units (NICUs) within the UK to understand current variations in practice and opportunities for improvement in care.

Method: A 13-question digital survey was developed, with specific attention to SSC for infants born < 24 weeks gestation. The survey included multiple-choice, 5-point scale, and free text response formats. It was distributed to all London NICUs, and shared nationally via the Operational Delivery Network (ODN) Care Coordinators.

Results: Sixteen responses are received to-date, including a 100% response rate from London NICUs co-located with a maternity centre (n=8), and from 46% of UK ODNs (n=6/13). Routine SSC was reported by 15 (94%) units across all gestations, with 15 (94%) reporting this was consistently achieved for infants <27 weeks, and 9 (56%) consistently achieved for <24 weeks gestation. Reported frequency of SSC for infants <24 weeks gestation is significantly different, and increases within 24 hours, 72 hours and 7 days from birth (Figure 1). 6 (38%) units have an IVH prevention guideline; of these, SSC was specifically encouraged in 3 (50%).

Conclusion: Substantial variation exists in SSC practice for extreme preterm infants across UK NICUs. Whilst most offer SSC routinely, its implementation < 24 weeks is often delayed or infrequent, especially in the early postnatal period. A structured review of current evidence is needed to inform SSC protocols for the most immature infants, particularly in the early days from birth.

Graphs



Implementing delivery room cuddles for babies requiring admission to a Neonatal Intensive Care Unit at birth

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¹William Harvey Hospital, East Kent Hospitals University Nhs Foundation Trust

Background:

Delivery room cuddles (DRC) or birthday cuddles for babies requiring admission to the neonatal unit at birth, have been shown to be beneficial for both the baby and the parents. DRC promote bonding and have calming effects. Early skin-to-skin contact increases breastfeeding soon after birth. For some extremely premature babies, that first cuddle in the delivery room may be the only chance their families have to hold their babies while they are still alive.

Aim:

For all babies requiring neonatal unit admission at birth, fulfilling safety criteria, to have DRC.

Method:

We conducted multiple PDSA cycles, implementing changes and measuring their effect, involving all key stakeholders (maternity, anaesthetics, neonates, parents).

- PDSA 1 – November 2024- January 2025: retrospective data collection for baseline, forcefield analysis, fishbone diagram, creation of the DRC team
- PDSA 2 – February 2025: nursing teaching, identifying the team's reservations
- PDSA 3 – March 2025: DRC guideline rolled out
- PDSA 4 – April 2025: raising awareness across all teams, staff poster creation
- PDSA 5 – May 2025: doctors' teaching, DRC simulation training
- PDSA 6 – currently ongoing: sharing results, positive reinforcement, safety surveillance

Results:

DRC were inconsistently undertaken in our unit. Team anxiety for adverse events, impact on normothermia and normoglycaemia was identified. Baseline data from 2024 showed no adverse events during DRC, no correlation between DRC and hypothermia or hypoglycaemia on admission. After teaching, training and having implemented the DRC guideline, significant improvement in DRC uptake was shown (April'25: 33% VS May'25: 90%). No adverse events, no significant increase in time to admission or hypothermia on admission found.

Conclusion:

Standardising DRC practice with a guideline, staff teaching, training and team communications helped us effectively promote and implement DRC, achieving very high compliance, safely, with minimal resistance, in very short time.

SURPRISE TO STRATEGY: MANAGING A CASE OF BLADDER EXSTROPHY

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¹Grange University Hospital, Aneurin Bevan University Health Board, ²Grange University Hospital, Aneurin Bevan University Health Board, ³Grange University Hospital, Aneurin Bevan University Health Board

Background

Bladder exstrophy is a rare, complex congenital anomaly involving the genitourinary, musculoskeletal, and gastrointestinal systems. With an estimated incidence of 1 in 40,000 live births, antenatal detection is helpful for parental counselling, delivery at specialist centre with multidisciplinary expertise. In the UK, this care is centralised to Royal Manchester Children's Hospital and Great Ormond Street Hospital. Despite advances in antenatal imaging, some cases remain undiagnosed until birth, presenting significant challenges in early recognition to timely transfer to specialist care.

Case Report

We report a full-term neonate with intrauterine growth restriction, born via spontaneous vaginal delivery, following an uneventful pregnancy and normal antenatal scans. At birth, the infant presented with exposed bladder mucosa, bifid external folds with rugosity, bilaterally palpable gonads in the inguinoscrotal region, a short flat phallic structure with epispadias, an anteriorly placed anus and radiological evidence of pubic symphysis diastasis. Multidisciplinary coordination facilitated prompt stabilization and surgical planning. Initial management included covering the exposed bladder with sterile cling wrap. Sex assignment was deferred due to differences in sex development (DSD) pending specialist evaluation. After stabilization, the infant was transferred to a specialist centre. Further evaluation revealed no associated renal, spinal or cranial anomalies.

Echocardiography identified an anomalous origin of the right coronary artery from the left coronary sinus, not requiring intervention. The infant subsequently underwent successful closure of bladder exstrophy with inguinal hernia repair. Karyotyping confirmed a male genotype with no chromosomal abnormalities. The infant remains well on follow-up and is scheduled for genital reconstruction at one year of age.

Conclusion

This case highlights that bladder exstrophy may be missed in antenatal screening, emphasising need for awareness. Early recognition, supported by a strong understanding of the presentation, is crucial for ensuring timely transfer for multidisciplinary management at a specialist centre, which are key to optimising outcomes.

Enhancing the provision of Antenatal Counselling at a Tertiary Neonatal Centre

Keen D¹, Chellen S¹

¹William Harvey Hospital

Background

Antenatal Counselling (AC) plays a vital role in supporting families for the arrival of their infant and helps facilitate the delivery of key components of perinatal optimisation. Successful counselling will empower families to make informed decisions regarding their infants' care, providing a modicum of agency in what can feel like a desperate situation.

Delivering AC is a skill and requires striking a careful balance of hopes & expectations, without overwhelming parents with information. There is no toolkit or formal training process for delivering effective AC. Variation in the information that is delivered is compounded by differences in clinical expertise amongst rotating trainees. This was reflected in our own feedback, highlighting a need for training and standardization in the provision of AC.

Methods

We set out to improve the quality of AC delivery in a fashion that would be relatively consistent between clinicians. Using a multi-disciplinary team approach consisting of the perinatal team and parental advisors we have designed and implemented an AC pack, the components of which are;

- 1) Counselling proforma
- 2) BAPM Extreme Preterm Outcomes Infographic
- 3) BAPM Parent Passport (Translated into 25 languages)
- 4) Colostrum Expressing Kits
- 5) Trainee Education
- 6) Unit specific extreme preterm counselling leaflet

Results & Conclusions

The new AC pack was launched in April 2025 with good uptake. We are in the process of delivering education on its use and actively monitoring its delivery. This will include a teaching session at doctors induction aimed to support trainees to develop this vital skill. It is hoped that this initiative will improve both; our family experience and delivery of perinatal optimisation components.

‘Nell and the Neonatal Unit’: A Software App to Support Siblings Through Neonatal Care

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¹Thames Valley & Wessex ODN, ²Child Health Innovations

Objectives

To develop an innovative, child-friendly app to support and educate primary school-aged children whose sibling is admitted to a Neonatal Unit (NNU), offering both information and psychological strategies to promote coping and emotional wellbeing. Initial funding was received from TVW ODN and an NIHR grant.

Methods

Family Integrated Care is increasingly recognised for its benefits to infants and parents in the neonatal setting. However, older siblings may receive less focus, despite the emotional challenges they face. The arrival of a new baby can be a time of significant adjustment, particularly when specialist neonatal care is required.

This project developed a software application for tablets and smartphones to help siblings understand the neonatal environment, equipment, and staff. Through interactive stories, animations, and games, the app fosters understanding, emotional coping, and shared conversations between parents and children.

Two initial storylines were created - one about a preterm baby and another about a term baby requiring surgery. Co-production was central from the start, involving families to ensure content relevance and impact. A focus group of seven families with previous neonatal experience, including input from siblings, reviewed a beta version of the app and proposed content.

Results

Feedback was highly positive. Families described the app as valuable and said it would have benefited their own experiences. Thematic analysis of focus group discussions highlighted areas for refinement, including game functionality, pacing, accessible language, and age-appropriate information about breastfeeding. Children offered creative, insightful suggestions that shaped further development.

Conclusion

Nell and the Neonatal Unit seeks to improve the neonatal experience for siblings and promote whole-family wellbeing, aligning with the principles of Family Integrated Care. Developed with families' input, the app is engaging, accessible, and age-appropriate. A demonstration version will be available at the conference, with future storylines focusing on discharge and transition home in progress.

A near-peer education programme in a tertiary neonatal unit: developing junior clinical fellows as educators and improving medical student experience.

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Background

Most medical students and foundation doctors have limited exposure to neonatology. For junior clinical fellows (JCFs) starting work in a tertiary NICU the learning curve is steep, and teaching within that environment can seem daunting and overwhelming. However, the GMC list contributing to a positive working and training environment as one of the duties of a doctor (GMC, 2024). Potential barriers to JCFs delivering teaching include feelings of inadequacy, time pressures and lack of opportunities. Similarly, for medical students, a placement in neonatology, particularly within a large tertiary centre can be intimidating and nerve-racking. We aimed to support JCFs with the transition from learner to educator, whilst also enhancing learning opportunities for medical students in NICU.

Methods

A four-week structured near-peer teaching programme was designed to support 5th-year medical students undertaking Student Selected component (SSC) placements. This involved JCFs coordinating a buddy system, facilitating case-based discussions and offering clinical shadowing sessions. Feedback was collated following each SSC placement.

Results

All medical students agreed that the teaching topics were relevant, interesting and pitched at the right level. All strongly agreed the buddy system was helpful and beneficial. Furthermore, medical students commented that the teaching programme brought continuity, aided their engagement and deepened their learning opportunities during the placement. JCFs reported the programme was an accessible teaching opportunity and empowered them to teach within NICU. This in turn helped consolidate their own knowledge and aided their confidence and development. Challenges encountered included adapting to differing learning styles and shift patterns.

Conclusions

This near-peer teaching programme is mutually beneficial for JCFs and medical students. Medical students gained clinical knowledge and an understanding of neonatal practice, whilst JCFs were empowered to develop their teaching skills and contribute to a positive working and training environment.

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Human Milk Foundation (HMF) Norfolk Project

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Background:

Pasteurised donor human milk (DHM) is fed to an estimated 800,000 infants annually in 70+ countries. The usual indication for its use is as a supplement to maternal colostrum and later milk when the mothers of preterm and low birthweight infants have not yet established a sufficient milk supply. Globally, when DHM is available, it may also be used as a supplement in a wide range of clinical scenarios.

With financial support from Norfolk County Council via Start for Life funding, the HMF has embarked on the second year of a project in which those previously diagnosed with Type 1 or Type 11 Diabetes or with gestational Diabetes have been offered the opportunity to enrol in a programme whereby they can access additional lactation and breastfeeding support together with access to DHM if their infant's maternal milk intake requires supplementing.

Method:

Provide information about the project to all those with diabetes at 28 weeks of pregnancy or when diagnosed if later. Specialised lactation support and access to DHM is available to those who consent to this. The DHM is available prior to and after discharge home if required.

Results:

In the first 12 months, lactation information and support were provided to 434 families at the Norfolk and Norwich University Hospital. DHM was supplied to 40 families all of whom reached their stated breastfeeding goals at midwifery discharge. Interviews with the participants at 6-8 weeks indicates a desire for the wider availability of DHM for the infants of diabetic mothers.

Conclusion:

The results from the first year of this project show that a combination of lactation and breastfeeding support and access to DHM when clinically indicated can lead to improved breastfeeding rates at midwifery discharge and at 6-8 weeks and enable more families to achieve their initial feeding goals.

A moment that matters - a quality improvement project to improve rates of delivery room cuddles for all babies

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Background:

Delivery Room Cuddles (DRCs) provide parents with the chance to hold their baby prior to admission to the neonatal unit (NICU). Our hospital is a tertiary neonatal unit providing medical care to infants from 22+0wks gestation. Before starting this QIP, we did a retrospective review which revealed that DRC was occurring in only 40% of infants born in our hospital & admitted to NICU.

Methods:

We established a QIP team from enthusiastic stakeholders, medical & senior nursing professionals & developed our QIP aim: To increase DRC rate to >90% of inborn infants by July 2025. We have implemented a multi-pronged approach to address key issues & barriers & work towards making DRC standard practice. PDSA cycles have been used to refine & progress this QIP.

- Cycle 1 (Feb – March 2025): Gathered feedback from professionals about their understanding of performing DRC;
- Cycle 2 (March 2025): Created simulation-based photographic guides to illustrate the appropriate steps for facilitating DRCs and integrated this measure into handover huddles;
- Cycle 3 (April – May 2025): Integration of DRC within delivery room simulation scenarios and working with maternity educators to promote the QIP across the MDT.

Results: Our QIP launched beginning of March 2025 and the QIP team is utilizing monthly p-charts to track and analyse progress. Data from first half of June 2025 shows an improvement to 90% of inborn infants receiving DRC prior to NICU admission. We will have complete data for end of June and July to present at the conference.

Conclusion: -Facilitating a DRC is a simple but powerful moment for newborns and their parents and can be a positive experience for professionals.

-Successful QIP's require cultural change within the healthcare team. Changes in practice can be stressful to the wider team.

-Our QIP team found that proactively gathering feedback, providing photo guides and utilising a PDSA cycle approach have helped this project to progress and show initial improvement.

Graphs

Relative % of infants admitted directly after birth who received a delivery room cuddle (DRC)

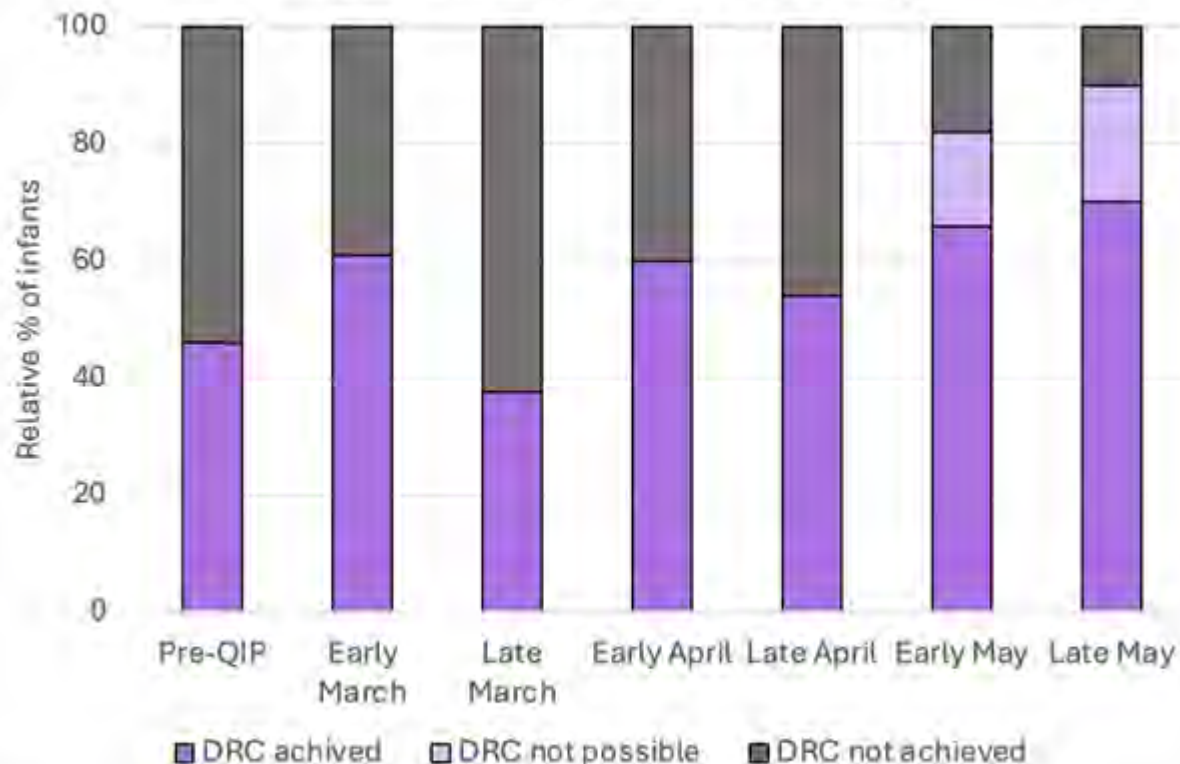


Figure 1: Bar chart illustrating our progress with the DRC QIP to date. The data show a steady and encouraging rise in the rate of DRC's

Image

A moment that matters - a quality improvement project to improve rates of delivery room cuddles for all babies

Having a baby who requires admission to the neonatal unit is often an unexpected and traumatic experience for parents. The uncertainty and separation from their baby can be extremely stressful. Facilitating moments where parents can fulfil their parental role by being in contact with and a source of love and comfort to their baby is essential. One of the simplest ways of doing this is through making delivery room cuddles a standard practice for all babies, including those born extremely preterm or extremely unwell.

Once the baby has been stabilised, role allocation for the cuddle should be performed.



Transferring the baby into the parent's arms should be done slowly and carefully, ensuring maintenance of respiratory support.



Delivery room cuddles (DRC) involve staff taking a few minutes to allow parents to have contact with their baby whilst ensuring continued provision of life-sustaining treatments, such as ventilation. To do this safely it is important that the cuddle is performed in a coordinated manner with a professional allocated to remain present at the parent's side to ensure respiratory support is maintained (ie rPAP/CPAP seal maintained or ETT tube does not dislodge) and a professional allocated to monitoring the baby's observations.



For ventilated babies, DRC can be performed either with the baby connected to the transport ventilator, or the Neopuff, whichever works best in the available space



Baby is safely placed fully into their parent's arms with staff present and monitoring respiratory support

DRC should be facilitated with both parents wherever possible. In situations where the mother may be under GA, the DRC should occur with the father/non-birth parent or birth partner.

If you have any questions or comments about this project email jennifer.peterson@nca.nhs.uk

Can PARCA-R be used to reduce the need for a full Bayley-III assessment at the 2-year neurodevelopmental follow-up clinic? - Comparison of Bayley-III and PARCA-R scores in a high-risk neurodevelopment follow-up cohort.

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Background

NICE guideline NG72 (2017) recommends enhanced developmental follow-up for high-risk infants in their first two years. Two commonly used tools are the Bayley Scales of Infant Development (3rd ed., 2006), a structured, clinic-based assessment lasting 60–90 minutes, and the PARCA-R, a validated parent-completed questionnaire. Despite differences in delivery, both have shown good agreement in overlapping cognitive domains.

During the COVID-19 pandemic, our hospital implemented a Bayley/PARCA-R hybrid model to reduce face-to-face contact. Concerns emerged about the PARCA-R's accuracy compared to the more comprehensive Bayley tool. This service evaluation aimed to assess the correlation between PARCA-R and Bayley cognitive scores and determine whether relying on PARCA-R alone might influence clinical outcomes.

Methods

Fifty-five infants scheduled for two-year neurodevelopmental assessments between October 2023 and December 2024 were included. Data collected included demographics, gestation, birth weight, indication for follow-up, discharge status, referrals, neurodevelopmental outcomes, and scores from both assessments.

Cognitive percentile scores and developmental descriptors from both tools were compared to evaluate alignment and identify discrepancies in classification.

Results

Of the 55 infants, 23 were excluded due to incomplete data—commonly due to early discharge, relocation, or missed appointments. Of the 32 analysed, 18 showed differing outcomes. Sixteen scored higher on Bayley than PARCA-R, while two scored lower. As expected, lower gestational age and birth weight were associated with poorer outcomes. No gender-based differences were found. The score discrepancies between PARCA-R and Bayley were statistically significant ($P = 0.00099751$).

Conclusions

Only one infant had a clinically relevant discrepancy that might have delayed intervention if PARCA-R had been used in isolation. However, clinic review ensured appropriate follow-up. PARCA-R may be a valuable screening tool at two-year follow-up. Infants with low scores should proceed to full Bayley assessment, while those scoring well could undergo a limited assessment unless concerns arise.

Enhancing family experience through early discharge with oral antibiotics for Neonates with Presumed Early-Onset Sepsis

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Background

Hospitalisation of neonates with early-onset sepsis (EOS) can be emotionally and logistically challenging for families. Traditional intravenous (IV) antibiotic regimens prolong inpatient stays, often separating families from their support systems and creating anxiety. Recent data (Carlsen et al., 2024; Gifford et al., 2024) suggest that oral antibiotics are a safe alternative for stable neonates. Our aim was to implement an oral antibiotics pathway prioritising early discharge, safety, and an improved family experience.

Methods

Following retrospective review at Musgrove Park Hospital, we identified 19 term neonates who could have benefitted from earlier discharge. In February 2025, we launched a family-centred oral antibiotics guideline. Inclusion criteria: term neonates (≥ 37 weeks), CRP 15–50 mg/L with downward trend, negative cultures, normal observations, and parental consent for remote follow-up. After 36–48 hours of IV therapy, eligible babies were discharged to complete a 7-day oral course at home. Families received education on red flag signs, medication safety, and virtual contact protocols. Follow-up included four days of video reviews and a Day 5 face-to-face check with repeat CRP. Families returned all consumables, and all documentation was paperless.

Results

All 19 families reported a significantly improved experience, citing comfort of being home, reduced disruption to bonding, and confidence due to clear education and daily contact. Nearly 70 virtual consultations were completed, allowing continuous support without travel. No readmissions occurred. Bed day savings (85.5 days) were a secondary benefit, but parental empowerment and satisfaction were the primary gains. Families actively participated in the care plan and expressed gratitude for being trusted partners.

Conclusion

This model placed families at the heart of neonatal care. By replacing extended hospital stays with structured home treatment, we delivered safe, personalised care while respecting family dynamics. The approach is replicable and sets a benchmark for family-integrated neonatal practice.

Resident doctor experiences taking part in a national neonatal study group

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¹NeoTRIPs

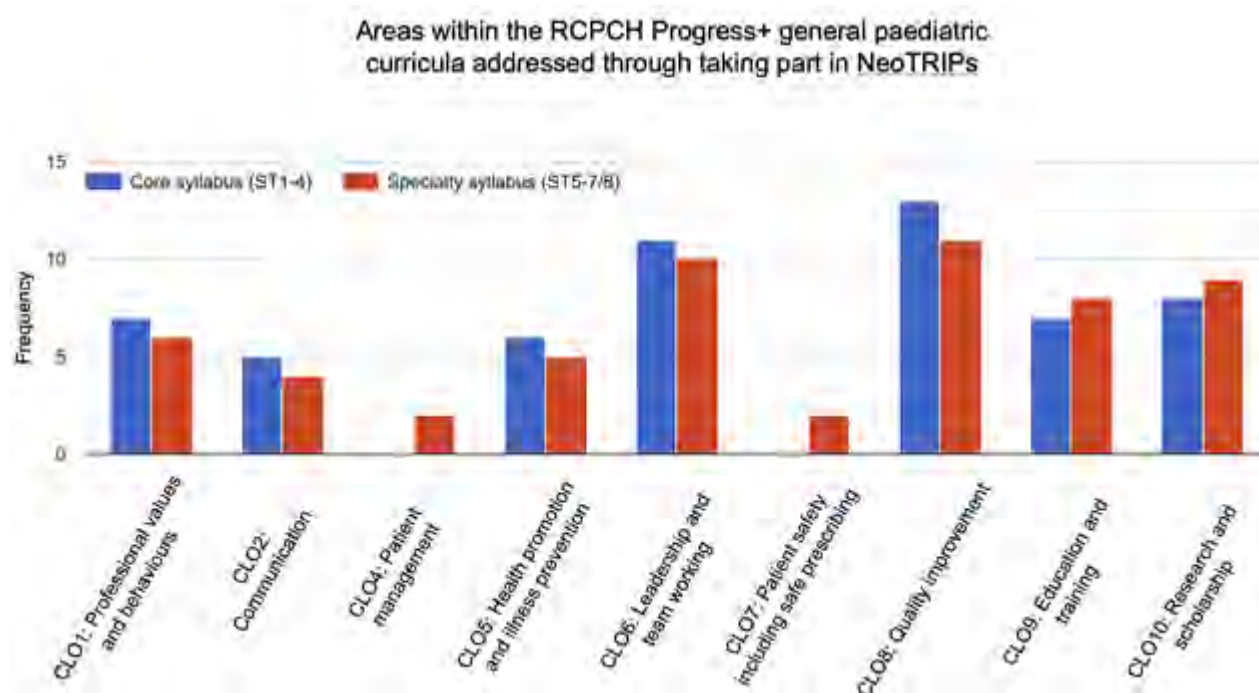
NeoTRIPs is a national neonatal group affiliated with BAPM, using the vast resident doctor network to undertake national, multi-centre research and QI projects, with an aim to improve neonatal care. Created in 2019, it is led by resident doctors with consultant oversight. Over 100 resident doctors have contributed as central committee, regional leads, and local leads to conduct projects successfully. We surveyed resident doctors who have contributed to NeoTRIPs to understand their experiences, and ways to improve and support others.

We surveyed all resident doctors who had participated in NeoTRIPs. We gathered their degree of involvement and demographics. We asked them to map their experiences to the RCPCH Progress+ curricula, and describe what skills they had learnt. We asked if being part of NeoTRIPs had contributed to career progression. Finally, we gathered information about ways we could improve the experiences of resident doctors within NeoTRIPs. Questions included open-ended questions and 5-point Likert scales.

Respondents (n=23) had been part of NeoTRIPs at all levels, involved in 1-9 projects. Respondents felt being part of NeoTRIPs had helped them complete their RCPCH curriculum objectives (mean score 4/5), in both the general paediatric (Figure 1) and neonatal subspeciality curricula. Respondents felt more confident completing QI and research projects after involvement (mean scores 3.9/5 and 3.7/5 respectively). Respondents felt being part of NeoTRIPs had helped their career progression, both into GRID and Consultant posts (mean score 4/5). Team members reported that communication across the wider network could be improved around progress and outcomes of projects.

Resident doctors taking part in a national neonatal study group provides opportunities to gain confidence in QI and research, meet curriculum objectives and compete for GRID and consultant posts. As a central committee, we aim to improve the overall communication to the wider team.

Image



A

Aghababaie, A 255
Athanasίου, M 31

B

Balasundaran, K 223

Ballheimer, H 16
Barbosa , A 250
Barnes, K 153
Barnett, M 209
Barstow, T 84
Beardsall, K 175
Blewer, E 209

C

Cant, M 196
Carroll, J 163
Cawley, P 209
Chaudhary, N 175
Chellen, S 226
Clark, A 73
Clarke, S 154
Clements, R 109

D

Devlin, H 144
Douch, C 87
Duckeck, L 196

E

Edokpolor, O 255
Elanjikal, Z 73
Elliott, J 255
Elliott, N 163

F

Fajemisin-Scott, J 31

G

Garland, C 32
Garr, R 198

H

Hay, K 97

I

Ives, R 32, 153

J

Jackson, C 104
Jafri, A 196
Jeffreys, S 248

K

Kantyka, C 175
Keen, D 217, 226

Atherton, L 88
Ayoub, S 84

Bogiatzopoulou, A 243
Bradshaw, O 84
Broad, S 101
Bub, K 16
Bucki, R 154
Burgess, H 175
Burleigh, C 84
Burnett, C 84

Cocker , I 164
Cordwell, J 233
Cosgrove, E 142
Cowan, S 101
Crowley, N 87
Crowley , R 164
Cullis, P 101

Dullay, S 35
Duncombe, R 233
Dyson, H 196

English, H 97
Evans, K 109
Evans, R 81, 82
Evans-Fry, R 233

Flore , A 209

Gopalswamy , V 250

Hucklesby, D 234

Johnson, B 154
Jon-Dare, G 163

Krishnamurthy, P 250
Kromhout, L 31

Koe, J	196	Kuttiyat Rayaroth, D	223
L			
Lamont, P	101	Lok, A	84
Lawal, T	73	Loucaides, E	16
Layyous, M	117	Lowe, L	239
Lewis, G	142	Luces, K	82
Lindsay, S	175	Lundy, C	16
M			
Macdougall, C	234	McGovern , H	165
Madden, N	97	McKerracher, L	126
Malick Basha, M	217	Mckinnon, K	255
Manjunath, T	255	Mohammed, S	250
Mansoa, V	196	Monnelly, V	101
Mason-Woods, A	144	Moore, A	201
Mazlan, M	114	Murphy, R	31
McDonald, H	126		
N			
Nair, N	73	Nezafat Maldonado , B	209
Nargotra, M	217	Ntovolou, A	217
O			
O’Sullivan , S	250	Omar, I	196
Odebunmi, O	153	Onyekwere, D	117
P			
Papneja, B	243	Peterson, J	243
Patel, D	144	Porteous, Z	164
Patel, V	223	Price, L	142
Peirce, P	103	Price, Z	73
Pells, E	114	Priestman, E	109
Penwarden, S	31	Prior, A	87
Perkins, L	142, 248		
R			
Radha, B	207	Roberts, E	198
Ratcliffe, E	243		
S			
Sandhu , S	104	Smith, K	88
Seddon, S	243	Srivastava, S	207
Selman, C	142	Suciu, M	32
Smith, C	165		
T			
Thomas, L	109	Trad , G	250
Thomson, L	175		
V			
Vieira, N	102, 103		
W			
Ward, J	239	Williams, K	165
Weaver, G	239	Willis, S	97

Webbe, J	144
Wescott, M	88

Wong, H	35
Wood, E	209

Z

Zilber, E	144
-----------	-----

Transitions and MDT Working – Abstract Submissions

Table of Content

8 London InFed (Scoping Infant Feeding Support) Phase 1: Neonatal Services

Mustapha M¹, Kelly L¹, Wells L¹, DaSilva I¹, Carty B¹, Atkins E¹, Yissau A¹, Jagodzinski J¹

¹London Neonatal ODN

24 MDT working on the postnatal ward to improve feeding support for those babies re-admitted with excessive weight loss

Congdon L¹, Hamilton S, Gray S, Rea H

¹University Hospital Bristol

34 A Different Perspective: The Resident Doctor Neonatal Nursing Shift

Nicallen-roeder K¹, Cockburn K¹, McKerracher L¹

¹NHS Tayside

37 Perinatal Optimisation (PO)– Implementing a Multidisciplinary Team (MDT) for Continuous Quality Improvement (QI) at a Local Neonatal Unit

Mitra N¹, Amos N¹, Thorpe D², Woolridge R²

¹Department of Neonatology, East And North Hertfordshire Nhs Teaching Trust, ²Department of Obstetrics and Gynaecology, East and North Hertfordshire Teaching NHS Trust

43 Design and implementation of MoNET Wales - Multiprofessional Neonatal Emergency Training for neonatal teams in Wales

Jones C¹, Brown L¹, Al-Muzaffar I¹, Kollamparambil T¹, Kumar Pitchaikani P¹, Jones J¹, Cook B¹

¹Welsh Risk Pool

45 From Diagnosis to Discharge: Co-Designing a Safer Transition to Perinatal Palliative Care for Babies Born Alive

Kumar A¹, Manoo K¹, Palanisamy B¹, Mahadevan S¹, Okongwu I¹, Varsami M¹, Aladangady N¹

¹Homerton Healthcare NHS Trust

54 Facilitating short term home NG feeds: SING Home pathway

Gilbert H³, Boothby E², Egan N¹, Simpson S¹, Mishra A¹

¹Bolton NHS Foundation Trust, ²North West Deanery, ³Manchester Medical School

58 Multidisciplinary nutrition ward rounds: working collaboratively to optimise nutrition in preterm babies

Wilkins E¹, Spierson H¹, Kumar D¹, Simner A¹, Templeton J¹, Sirajudin Z¹, Hobbs L¹

¹Royal Bolton Hospital

76 A Service Development Project: do parent-led ward rounds on a neonatal unit improve family experiences?

Wood F¹, Clements E¹, Bevan V¹, Race L¹

¹Southmead Hospital, North Bristol Trust

86 Outcomes of extremely preterm infants born in non-tertiary hospitals in a single neonatal network

Jain P¹, Ratnavel N²

¹Guy's And St Thomas' NHS Foundation Trust, ²Bart's NHS Trust

98 Delivery of a neonatal teaching programme for the maternity team at Croydon University Hospital

Sand L¹, Palatino J¹, Douthwaite A¹

¹Croydon University Hospital

100 Implementing Multi-Disciplinary Team (MDT) Surveillance Meetings for Infants Discharged Home under the Neonatal Community Outreach Team (NCOT).

Evans R¹, Franks T, Hussain S, Davis A

¹Royal Wolverhampton Nhs Trust

111 Review of temperature monitoring practices during passive and active cooling in MNSI investigations.

Shore H¹, Page L¹

¹Mnsi

112 Oral feeding outcomes of infants born with Oesophageal Atresia at discharge from NICU: two centre study.

Phillips S¹, Yap J², Thomas V², Edwards L³

¹Cambridge University Hospitals, ²Leeds Teaching Hospitals NHS Foundation Trust, ³University of Lancashire

116 Enhancing Multidisciplinary Collaboration in a Tertiary Surgical Neonatal Unit Through Inclusive Simulation Training

Sage J¹, Wyllie T¹

¹University Hospital Of Wales

119 DEFINING AN IRISH QUATERNARY NEONATAL PATIENT COHORT USING ACUITY AND SAFETY STANDARDS

Hickey A¹, Dunne J¹, Hughes D¹, Hughes G¹, Faughan C¹

¹Childrens Health Ireland

120 Replacing formula with donor breast milk (DBM) as a supplement to mother's own milk (MOM) in high-risk infants impacts positively on MOM production and breast milk feeding (BMF) on discharge: South West Neonatal Network (SWNN) experience (2010-2024)

Wach R¹, Budd C¹, Copeland M², Roy A², Boldick E², Keen A³, Rose C¹

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125 BAPM Conference Abstract: Transitions and MDT working - The Development of New Neonatal Therapy Service to Support the Transition from the Neonatal Unit to Home.

Cashin H¹, Manton M, Canale N, Warmisham E, Atter C, Barnes N

¹Cwm Taf Morgannwg Health Board

131 Successful Use of Videolaryngoscopy for Endotracheal Intubation in a Nano-Prem Infant: Supporting Transition and Resuscitation at Birth – A Case Report

Walsh C, Kumar D, Sundaram S, Spierson H

¹Neonatal Unit, ²Neonatal Unit, ³Neonatal Unit, ⁴Neonatal Unit

134 Implementing a pathway for intravenous to oral antibiotic switch in neonates – a six-month review

Heighton E¹, Kenton E¹, Bhandari S¹, O'Hare C¹, Nelson M¹, McDougall R¹, Smith C¹

¹The Simpson Centre for Reproductive Health, Royal Infirmary of Edinburgh

137 Title: Delayed Cord Clamping in Babies Born at the Threshold of Viability (22 Weeks' Gestation): Benefits and Challenges.

Adams E¹, Kamupira S¹

¹NICU, St Mary's Hospital, Manchester University Hospitals NHS Trust, ²NICU, St Mary's Hospital, Manchester University Hospitals NHS Trust

138 An Unusual Wound in a Neonate – a MDT approach

Henry C¹, Husain Z¹, Deorukhkar A¹

¹Nottingham University Hospitals NHS Trust

139 Transition and MDT approach: Isolated Fetal Ascites in a Late Pre-Term Infant – a case report

Driscoll K, Ingram E, Konnuru S

¹Royal Preston Hospital

140 A retrospective audit of early postnatal care and feeding practices in late preterm infants in an LNU

Apostu I¹

¹Lister Hospital/east And North Hertfordshire Nhs Trust

162 PEARL: Postnatal Early Antibiotic Review for Low-Risk Babies – Transitioning neonates with culture-negative early onset sepsis home with oral antibiotics

Leach H¹, Scally N¹, Thakur D¹, Tarakeme E¹, Brown R¹, Duffy D¹

¹St George's Hospital

172 Neonates to Paediatrics – a smooth journey or bumpy ride?

Patel S¹, Thomas R², Watts T³

¹Nottingham University Hospitals, ²Sheffield Children's Hospital, ³Evelina London Children's Hospital

174 Title: The impact on growth parameters of a multi-disciplinary nutrition service on the Neonatal Unit (NNU) in Cardiff.

Brown L¹, Cosgrove E

¹University Of Wales, Cardiff

180 Screening for Social Determinants of Health through parent informed design: transitioning from antenatal care to the neonatal unit

Evans K¹, Nezafat Maldonado B¹, Jones M¹, Parks J¹, Wood E¹, Spencer C², Cawley P¹

¹Evelina London Children's Hospital Neonatal Unit, ²Guys and St Thomas NHS Foundation Trust

187 Development of a new service pathway: The initiation of a Multidisciplinary Neonatal Follow-up service (MDT Clinic) to streamline patient care

Tabassum S^{1,2,3}, Kift S^{1,4}, O'Byrne C^{1,2}, Dunlevy F^{1,3,4}

¹The Coombe Hospital, ²Children's Health Ireland, ³Royal College of Surgeons Ireland, ⁴Trinity College Dublin

191 Early Multidisciplinary Collaboration and Post-Mortem Genomic Sequencing in a Preterm Infant with Rapid Respiratory Collapse: A Learning Case of Alveolar-Capillary Dysplasia

Henry C¹, Eason J¹, Deorukhkar A¹

¹Nottingham University Hospitals NHS Trust

194 Implementation of a Cross-site Perinatal Preterm Optimisation plan

Abdalla S¹, Serrano-Llop A¹, Zorro C¹, Krishnan M¹, Elhussein A², Thakur S², Bhat R^{1,2}, McKenzie A¹, Jacob B^{1,2}, Ashoor G³, Jabak S³, Church C³

¹Neonatal Unit, Denmark Hill, King's College Hospital NHS Foundation Trust, ²Neonatal Unit, Princess Royal University Hospital, King's College Hospital NHS Foundation Trust, ³Maternity Unit, King's College Hospital NHS Foundation Trust

203 'In it together' - improving perinatal service provision for babies on Transitional Care

Hayward R¹, Tector G¹, Pritchard S¹, Course K¹, Wilkinson H¹, Johncock K¹, Protheroe Davies L¹, Parsons-Jones T¹, Church C¹, Cox W¹, Nesbitt D

¹Cardiff & Vale University Health Board

204 Service evaluation of the new development of a transitional care unit in a large tertiary hospital

Unluer U¹, Morar N¹, Fatima T¹

¹St. George's University Hospital

205 Two Lefts That Needed a Right Heart Calling

Raviendran N¹, Sen S¹

¹Noble's Hospital, Isle Of Man

208 Double Bubble Trouble – Second SCID Baby in the Isle of Man!

Raviendran N¹, Sen S¹

¹Noble's Hospital, Isle Of Man

214 Title: Reinvigorating Neonatal Transitional Care (NTC) at Great Western Hospital: Service Expansion and Impact

Emery N¹

¹Great Western Hospitals NHS Foundation Trust

221 Neonatal stroke Series

Said M¹, Sen S¹

¹Noble Hospital

227 A Neonatal Puzzle: TTC7A Mutation Presenting with Intestinal Atresia and Immunodeficiency

Abdalla S¹, Krishnan M¹, Nanjundappa M¹, Kronfli R¹, Dogra H¹, Josifova D², Worth A³, Bhat R¹

¹King's College Hospital NHS Foundation Trust, ²Guy's and St Thomas' NHS Foundation Trust, ³Great Ormond Street Hospital for children NHS Foundation Trust

232 Continuity, Trust and Transition: A Case for Relationship-Based Therapy in the First 1000 Days

Mckeown F¹, Hall L, Smith L, Mazlan M¹, Muir L

¹Simpsons Centre For Reproductive Health

235 Wee Wonders: The case for enhanced and supported transitions for moderate preterm infants

Mckeown F¹, Muzlan M¹, Pettinger K

¹Simpsons Centre For Reproductive Health, Edinburgh

240 Improving Early Nutrition through Buccal Colostrum Administration in Gaza: Clinical Culture Change Driven by Crisis

Qudieh A¹, Al-Sersawi D², Abdaljawwad R³, Mousa H¹, Nofal S¹, Dhahir H¹, Ajweh Y⁴, Al-Soufi R⁴, McKerracher L⁴

¹Gaza Infant Nutrition Alliance, NICU Nasser Medical Complex, ²Gaza Infant Nutrition Alliance, NICU Al Helo Hospital, ³Gaza Infant Nutrition Alliance, NICU Al Aqsa Hospital, ⁴Gaza Infant Nutrition Alliance

241 Mapping Neonatal Neurodevelopmental Follow-up Practices Across the KSS Region

Ahmed H¹, Pryce R¹, Mohammedi A², Jones K², Silva M³, Walsh A⁴, Hopper A¹, Casewell C³, Bobby J³, Higgins S³

¹University Hospitals Sussex NHS Foundation Trust, ²KSS ODN, University Hospitals Sussex NHS Foundation Trust, ³KSS ODN, University Hospital Southampton NHS foundation Trust, ⁴KSS ODN, Bedfordshire Hospitals NHS foundation Trust

242 Neonatal jaundice at home: A postcode lottery

Michaud Maturana M¹, Cornwell J¹, Pillay K¹, Mena J¹, Loucaides E¹

¹The London Research, Evaluation and Audit for Child Health (REACH) Network

244 A Rare Case of Megacystitis and Megacolon

Toeima I¹, Batey N¹, Eason J¹

¹Nottingham University Hospital NHS Trust

251 Five Lives, One Plan: Multidisciplinary Transition Planning in a Quadruplet Delivery at 25+5

Bandaru M¹, Flockton H, McKilligan K, Meena V

¹John Radcliffe Hospital, OUH NHS FT

London InFed (Scoping Infant Feeding Support) Phase 1: Neonatal Services

Mustapha M¹, Kelly L¹, Wells L¹, DaSilva I¹, Carty B¹, Atkins E¹, Yissau A¹, Jagodzinski J¹

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Background: Infant Feeding Support (IFS) plays a vital role in neonatal and maternity care, shaping health outcomes for babies and families. Despite national frameworks like the UNICEF Baby Friendly Initiative (BFI), IFS delivery across NHS services remains inconsistent in terms of training, staffing, and resources. The London InFed project was launched to assess current IFS provision in neonatal services across London.

Aims: Phase 1 focused on identifying staff involved in IFS, assessing funded/protected time for this work, and exploring how the Operational Delivery Network (ODN) could support improvements.

Methodology: A mixed-methods approach was used: an online survey (n = 108) of neonatal and maternity staff, and structured interviews (n = 7) to explore experiences in more depth. Quantitative data were analysed using Excel; interview transcripts underwent thematic analysis.

Key Findings:

- IFS Time Allocation: 915 hours/week were dedicated to IFS, but only 54% were funded. Many staff lacked protected time, delivering IFS alongside other duties (graph 1).
- Workforce Diversity: Most respondents were nurses (37% - image 1) in Local Neonatal Units (43%), with only 11% identifying as Black or from another ethnic minority—well below London NHS workforce averages (52.1%).
- BFI Training: 63% of respondents matched with Breastfeeding Alliance role descriptors, 59% identifying as 'Healthcare Professionals'. Only 43% accurately knew their unit's BFI accreditation status. Just 22% had funded time for BFI-related work.
- Challenges: Staff cited high workloads, limited supervision and training, unit culture, and the spread of parental misinformation as barriers to effective IFS.
- ODN Role: Staff called for structured training, mentorship, and CPD funding.

Conclusions: These findings, though limited in scope, align with previous research, which highlight dedicated time, training, and equitable support are essential. The next phase should focus on family experiences to inform more inclusive, family integrated care.

Graphs

London sector	Number of respondents	Total IFS hours per week	Funded hours per week (%)	Unfunded hours per week (%)
NCL	21	290	66 (23%)	224 (77%)
NEL	11	154	97 (63%)	57 (37%)
NWL	13	175	153 (87%)	22 (13%)
SEL	16	212	100 (47%)	112 (53%)
SWL	7	84	81 (96%)	3 (4%)
Total	68	915	497 (54%)	418 (46%)

Image

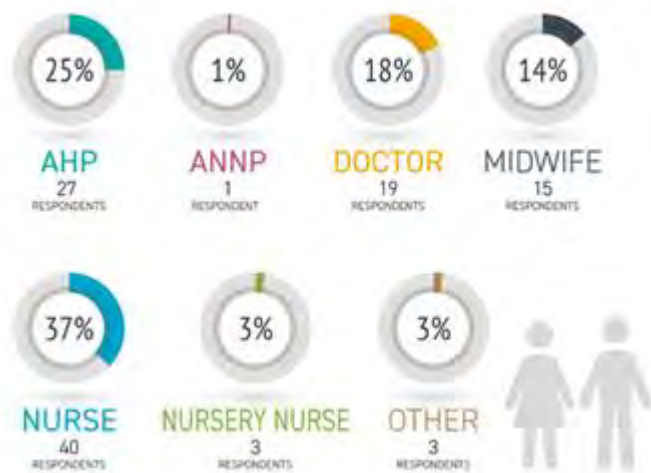
Respondents by sector



Number of Respondents



Respondents by profession



MDT working on the postnatal ward to improve feeding support for those babies re-admitted with excessive weight loss

Congdon L¹, Hamilton S, Gray S, Rea H

¹University Hospital Bristol

Background:

Our team of neonatal doctors and infant feeding midwives want our clinical service to better support families who want to breastfeed. This is important for the long-term health of the infant, mother and planet.

We questioned whether we were following best practice for those babies who lost >10% of their birthweight on day 3-5 and were re-admitted to our postnatal ward.

From our practice we suspected there was mixed advice offered by doctors and midwives leading to inconsistent feeding support.

There is a clear and detailed trust guideline to support clinicians and families called: 'Assessment of feeding, and weight management for term healthy babies'. We looked at how well we were following this guideline, made interventions to improve practice and then re-evaluated practice.

Methods:

Electronic patient records were reviewed to assess compliance with the guideline over two retrospective QI cycles.

First cycle:

- All babies re-admitted from Dec 22 – Sept 23 with weight loss >10%
- Total of 34 babies

Second QI cycle:

- All babies re-admitted from Mar 24 – July 24 with weight loss >10%
- Total of 26 babies

Results:

Positive changes were seen in many areas including:

- Responsive feeding rates improved to 60% (from 9%)
- Feeding plan volumes were correct in 74% cases an improvement from only 42%
- Incorrectly limiting feed duration dropped from 29% to only 12%

Conclusions:

The collaborative interventions made led to improved compliance with the guideline in most areas. These interventions included changing the pathway of care from doctor-led feeding plans to midwife-led feeding plans, teaching sessions and poster creation. Wider learning relates to the importance of joined up MDT working and consideration of the patient journey through services.

A Different Perspective: The Resident Doctor Neonatal Nursing Shift

Nicallen-roeder K¹, Cockburn K¹, McKerracher L¹

¹NHS Tayside

Background

Neonatal care is a multidisciplinary practice which relies on medical, nursing, and AHP colleagues working effectively together. It is well recognised that effective MDT working enhances both staff and patient experience as well as patient outcomes.¹

Junior medical staff shadowing nursing staff has been trialed in other centres, with improved understanding of MDT roles as a result.²

Aims of project:

- Enhance working relationships between medical and nursing staff
- Deepen understanding and appreciation of nursing role within neonatal team
- Enable medical staff to develop additional practical skills and knowledge

Methods

Shifts were allocated as part of junior rota over a two year period. Medical staff were expected to attend the nursing handover. An appropriate nursing colleague was identified to mentor the resident doctor for the duration of the nursing shift.

Both medical and nursing participants were subsequently surveyed to assess their experience of the shift. Likert scales were used to assess enjoyment and perceived value, with free text boxes to allow specific skills, highlights, or concerns to be noted.

Results

Medical feedback was overwhelmingly positive with good response rate. Nursing feedback was significantly harder to obtain, although was generally positive. Both teams highlighted specific skills shared. Nursing staff raised concerns about additional workload, particularly when staffing shortages were not taken into account when planning shifts. Some medical staff felt shifts would be more effective if learning outcomes were identified beforehand.

Conclusions

Medical and nursing staff found these shifts enjoyable and valuable. Following feedback received, learning outcomes have been co-designed and will be shared with both staffing groups going forward. Care needs to be taken to ensure that nursing staffing workload is not unnecessarily increased.

Perinatal Optimisation (PO)– Implementing a Multidisciplinary Team (MDT) for Continuous Quality Improvement (QI) at a Local Neonatal Unit

Mitra N¹, Amos N¹, Thorpe D², Woolridge R²

¹Department of Neonatology, East And North Hertfordshire Nhs Teaching Trust, ²Department of Obstetrics and Gynaecology, East and North Hertfordshire Teaching NHS Trust

Background

The 'Perinatal Optimisation Care Pathway' is the process of reliably delivering evidence-based interventions in the antenatal, intrapartum and neonatal periods to improve preterm outcomes.¹ However, there is wide variation in practice amongst operational delivery networks (ODN's)². Reliable delivery of PO measures is dependent on a "strong teamworking culture, high quality communication habits and pursuit of common goals within perinatal teams"³.

Aim

To improve delivery of PO interventions for preterm births < 34 weeks' gestation through MDT working.

Methods

An MDT comprising of an obstetrician, preterm-birth midwife, ANNP, and a neonatologist worked with QI tools to align goals with BAPM, NNAP, and SBLv3 performance metrics. The team established goals in April 2024 and embarked on a PDSA plan for the PO pathway.

Results

During this study period (May 2024 to April 2025), 72 eligible mothers and 89 babies < 34 weeks' gestation were identified.

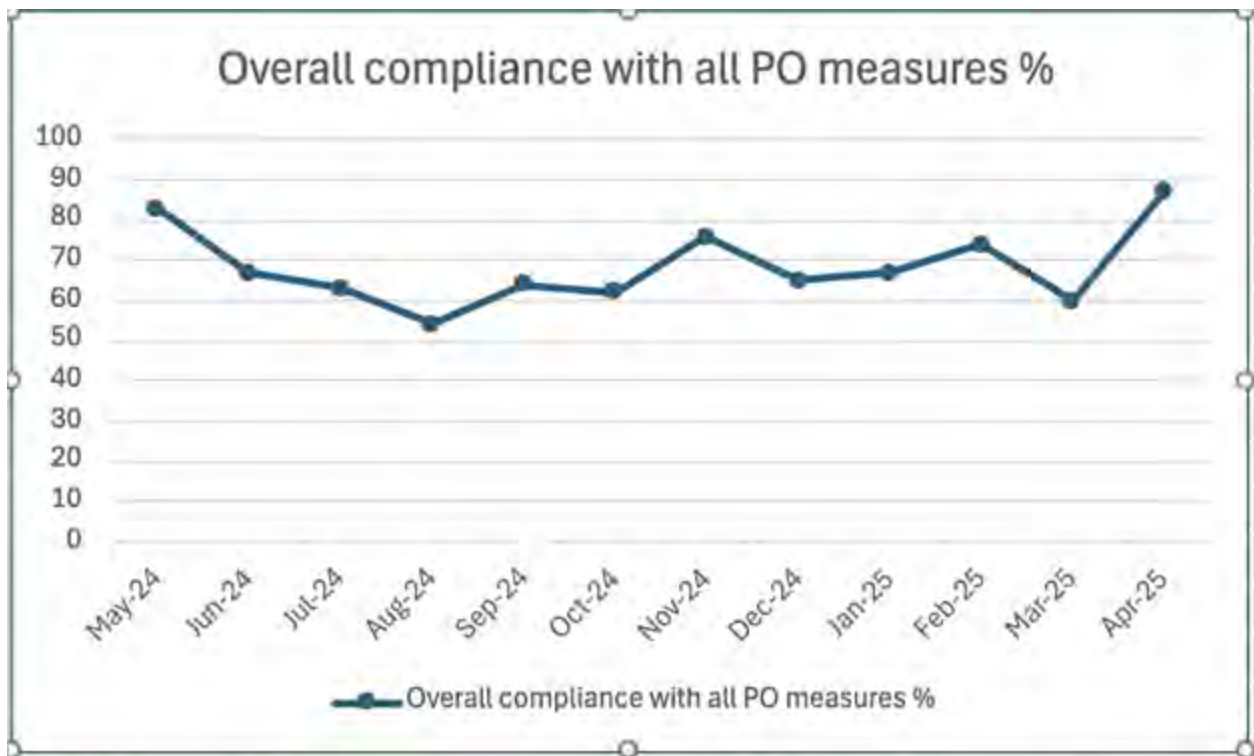
Overall PO compliance ranged from 54 % to 87.5%(Figure.1), The average compliance in 2nd half of the year was 71.5% as compared to 65.5% in the 1st half. 97% compliance was achieved for "Right place of birth". Individual/multiple measures were targeted for improvement. For example, in the first half of the study period, the average compliance of normothermia was 56.7% (range 50-100%), and for the 2nd half was 91.5%. We shared monthly statistics; validated the data for ODN and LMNS dashboards; and achieved sustained QI.

We disseminated learning monthly; held MDT study days with shared goals(Image); and conducted in-house training. In April 2025, we launched the use of perinatal passports and plan to audit this soon. Also, we collaborated with other projects such as "Golden Drops" and strived to foster a positive culture.

Conclusion

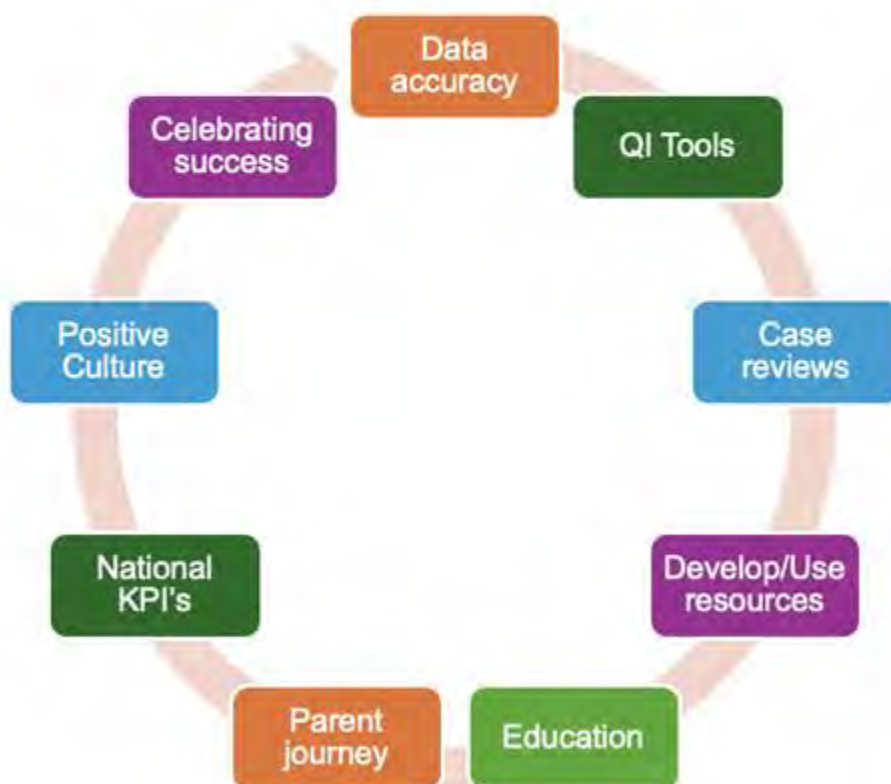
We established a PO-MDT and through a cycle of ongoing continuous QI, targeted PO measures resulting in improved engagement and compliance.

Graphs



Image

Figure 1.PO MDT goals and scope of work



Design and implementation of MoNET Wales - Multiprofessional Neonatal Emergency Training for neonatal teams in Wales

Jones C¹, Brown L¹, Al-Muzaffar I¹, Kollamparambil T¹, Kumar Pitchaikani P¹, Jones J¹, Cook B¹

¹Welsh Risk Pool

Background

MoNET Wales is a standardised, all-Wales training programme, designed to enhance teamworking across the perinatal sector and improve outcomes for babies and families. Coordinated by the Welsh Risk Pool, it addresses the findings from the Maternity and Neonatal Safety Support Programme Discovery Report 'Improving Together for Wales' (2023) and is supported by BAPM standards (2022).

Aim:

- **Specific:** Implement MoNET Wales across all neonatal services in NHS Wales, focusing on human factors to improve patient safety and the overall culture within neonatal services.
- **Measurable:** Achieve improvements in patient outcomes, teamworking, communication and culture - measured by clinical outcome data, pre- and post-training surveys and a Safety Attitude Questionnaire.
- **Achievable:** Deliver a structured training programme over a 12-month pilot phase, with local faculty facilitating, with support from a national team.
- **Relevant:** Promotes the use of clinical guidelines, including BAPM frameworks and MNSI investigation recommendations.
- **Time-bound:** Complete the pilot phase within 12 months and evaluate effectiveness.

Methods: Designed for the multiprofessional team in local units, involving interactive presentations with themes incorporated into scenario-based learning within the clinical environment, enabling the testing of systems, and to encourage local QI.

Results: A 12-month pilot with implementation support started in January 2025 and to date, 46 courses have been held, with over 300 staff attending. There are 98 MoNET Wales faculty members who have undergone development training. Participants have rated the programme 9.2 out of 10, highlighting a significant positive impact.

Conclusion: MoNET Wales has demonstrated that a standardised approach to neonatal training across NHS Wales is achievable and is well received. It demonstrates a high-quality training model that addresses critical needs identified in the MatNeo report. The ongoing commitment by national and local teams ensures that MoNET Wales will continue to evolve and positively impact neonatal care across Wales.

Image

BAPM. (2022). *Service and Quality Standards for Provision of Neonatal Care in the UK*. Retrieved from [Service and Quality Standards for Provision of Neonatal Care in the UK | British Association of Perinatal Medicine](#)

Maternity and Neonatal Safety Investigations. (2024). *Maternity safety recommendations 1 April 2023 to 31 March 2024*. Retrieved from [Annual publication of maternity safety investigation recommendations](#)

Public Health Wales NHS Trust. (2023). *Improving Together for Wales: Maternity Neonatal Safety Support Programme Cymru Discovery Phase Report*. Retrieved from <https://phw.nhs.wales/services-and-teams/improvement-cymru/our-work1/matneossr/report/>

From Diagnosis to Discharge: Co-Designing a Safer Transition to Perinatal Palliative Care for Babies Born Alive

Kumar A¹, Manoo K¹, Palanisamy B¹, Mahadevan S¹, Okongwu I¹, Varsami M¹, Aladangady N¹

¹Homerton Healthcare NHS Trust

Background

Perinatal palliative care for babies born alive with life-limiting conditions is complex and emotionally charged. Local mortality reviews, complaints, and staff feedback highlighted fragmented care planning, delays in palliative transition, and lack of structured support for lactation following neonatal death. We aimed to develop a unified, multidisciplinary pathway to support clearer, more consistent and compassionate care during this transition.

Methods

We sought input from across the MDT and stakeholders, including neonatologists, nurses, midwives, psychologists, AHPPPs, and chaplains. The process was guided by lived experience, including from bereaved parents. We included detailed guidance on lactation and milk donation, in response to feedback from a bereaved family. Implementing the BAPM framework, the pathway covers eligibility screening, symptom control, communication planning, bereavement support, and care across settings including NICU, labour ward, hospice, and home.

Results

The final pathway includes:

- HOPE form (see figure 1(i) & figure 1(ii))- structured communication tool for documenting agreed preferences in case of clinical emergencies
- Defined postnatal and discharge responsibilities
- A ready-reference directory of referral contacts and resources across hospital, community, and hospice settings (see figure 1 (iv))

Early feedback from staff and parents was positive, with clearer communication, improved team confidence, and more proactive support. The MDT welcomed the clarity and shared ownership the pathway empowers.

Conclusions

This project demonstrates how collaborative, inclusive, family-informed pathways can improve safety, confidence, and experience during the most vulnerable moments in neonatal care. The driving force was not metrics, but meaningful partnership and an ethical commitment to reducing preventable distress for babies, families and staff alike.

Image

Appendix 6: Referral forms and resources for families

Forget-Me-Not Perinatal Bereavement Team:

Email: fmn-perinatalbereavement@nhs.net
 For more information and support for bereaved families to
www.homerton.nhs.uk/foundation-trust

SH:
 (working hours Monday to Friday 8 am to 6 pm, for out of hours
 and), email: sh@homerton.nhs.uk
 or text: 07540 0243 (24/7)

CCNT:
 (working hours Monday to Friday 8 am to 6 pm, for out of hours
 and), email: ccnt@homerton.nhs.uk
 or text: 07540 0243 (24/7)

Referral form can be found on the website at the top right corner
 or www.homerton.nhs.uk/foundation-trust
 or 020 7540 0243 (24/7)
 1 0222, email: info@homerton.nhs.uk

Referral form can be found on the website at the top right corner
 or www.homerton.nhs.uk/foundation-trust
 or 020 7540 0243 (24/7)
 1 0222, email: info@homerton.nhs.uk

Referral form can be found on the website at the top right corner
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 or www.homerton.nhs.uk/foundation-trust
 or 020 7540 0243 (24/7)
 1 0222, email: info@homerton.nhs.uk

(iv)

(i)

(ii)

Figure 1 – toolkit excerpts
 (i), (ii) HOPE proforma,
 (iii) summary flowchart of pathway
 (iv) referral and resource directory

(iii)

Facilitating short term home NG feeds: SING Home pathway

Gilbert H³, Boothby E², Egan N¹, Simpson S¹, Mishra A¹

¹Bolton NHS Foundation Trust, ²North West Deanery, ³Manchester Medical School

In 2021, GIRFT report for our NICU highlighted longer length of stay for babies between 32-36 weeks gestation compared to other NICUs. Feed establishment was the most common reason for delay in discharge.

Methods:

A baseline audit was done between September-November 2024 for babies born between 30 to 36 weeks gestation. For 24 babies in this group, the range of time from being half orally fed to full oral feeds was 1 to 18 days with a median of 5 days. No babies were discharged on short term NG feeds. A short term feeding guideline and Parent Information Leaflet was devised and a QI project was launched with MDT collaboration involving a 3rd year medical student, speciality trainee doctor, discharge planning co-ordinator, outreach team lead and a consultant. Education and training for nursing and medical staff was implemented and a short term NG feeding book was created on SCBU to document training for parents and offer of home NG feeds.

Result: Reaudit between Feb-May 2025 showed 4 babies (Eligible=20) discharged on short term NG feeds. Exploring reasons for babies whose parents were not approached (n=5) and parents who declined (n=7), highlighted education and training issues for parents and lack of awareness of the pathway amongst staff. Feedback from parents for short term NG feeds was excellent. All babies sent home on NG feeds were established on oral feeds within 72 hours with good weight gain.

Conclusion:

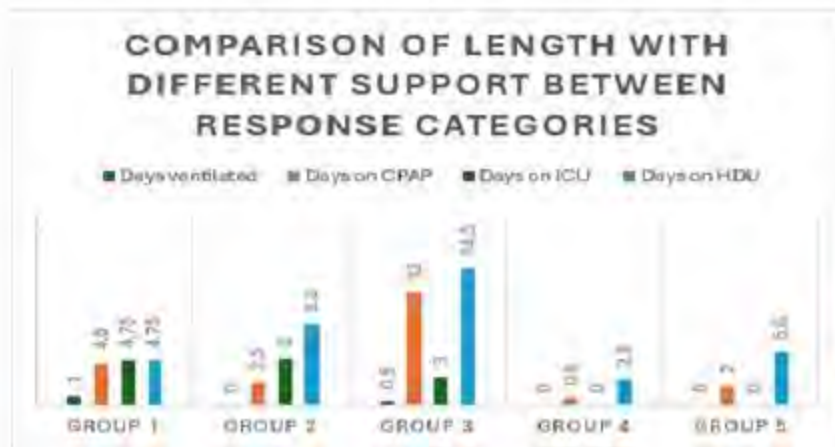
There has been progress in discharging babies on short term NG feeds and barriers identified to improve the pathway.

Action plan:

Weekly MDT drop in sessions are being planned from SALT team, dietician, outreach team and volunteers for education for parents

Creation of a resource board for staff and parents and inclusion of discussion of eligible babies daily on morning handover and huddles.

Graphs



Comparing the number of days on different support and in different areas of the unit between the different groups. Group 4 and 5 had the fewest number of days ventilated, CPAP, ICU and HDU compared to groups 1-3

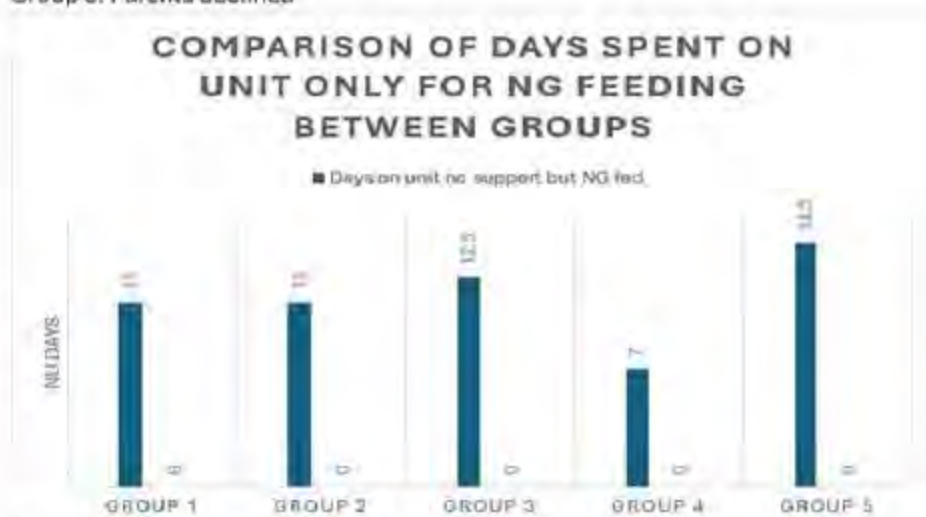
Group 1: Babies discharged on short term home NG feeds

Group 2: Not suitable for home NG feeds due to medical reasons

Group 3: Other (parents approached too late or no documented reason)

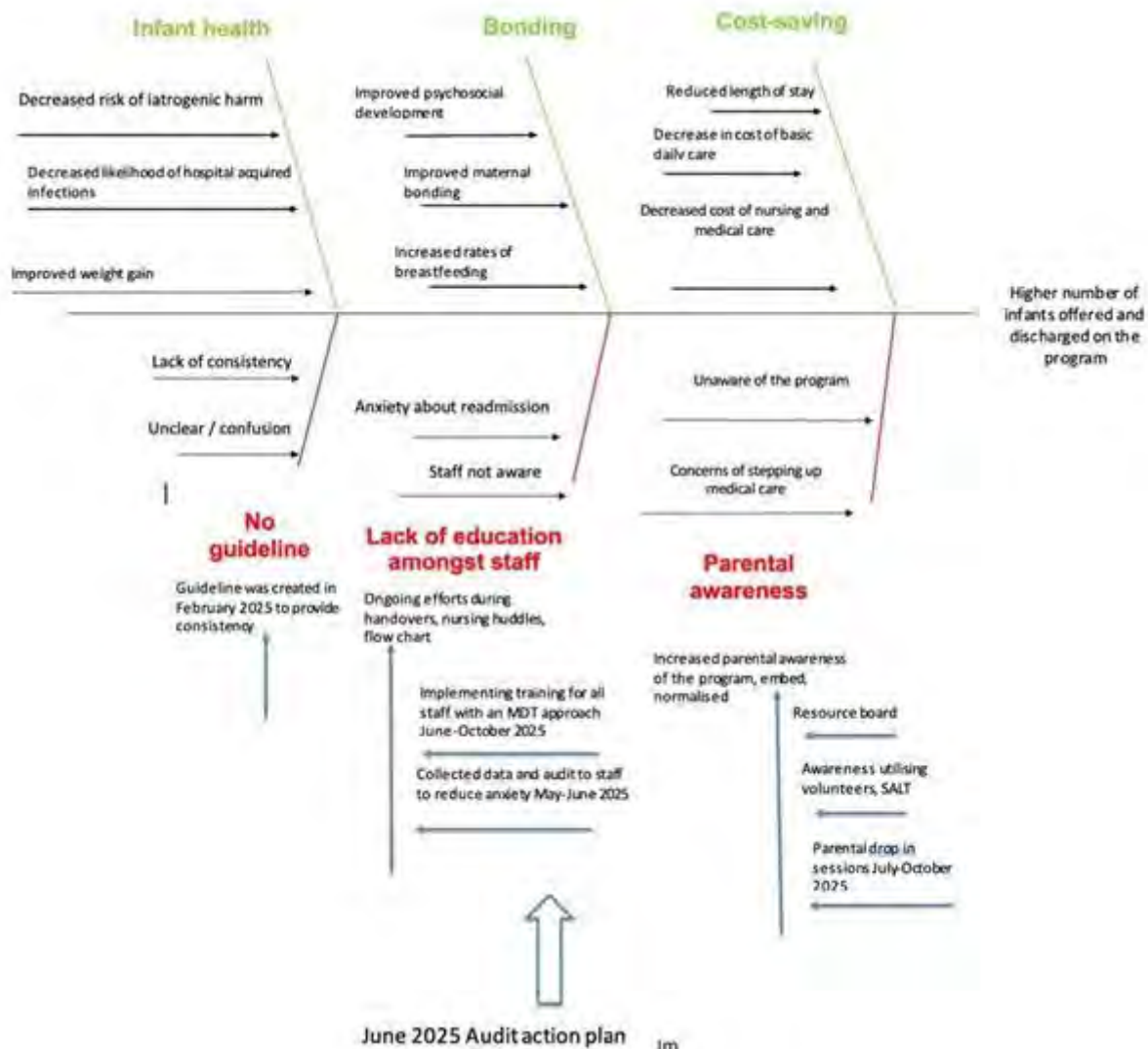
Group 4: Not approached

Group 5: Parents declined



Comparison of number of the days spent on the unit only for NG feeding. Group 5 (parents declined) spent the longest time being NG fed on the unit. Group 4 (not approached) spent the shortest time being solely NG fed on the unit.

Image



Multidisciplinary nutrition ward rounds: working collaboratively to optimise nutrition in preterm babies

Wilkins E¹, Spierson H¹, Kumar D¹, Simner A¹, Templeton J¹, Sirajudin Z¹, Hobbs L¹

¹Royal Bolton Hospital

Introduction

Optimal nutrition plays a critical role in reducing complications of prematurity, especially Bronchopulmonary Dysplasia (BPD). European guidelines recommend enteral intakes of 115-160 kcal/kg/day and protein intakes 3.5-4 g/kg/day¹.

The 2023 British Association of Perinatal Medicine (BAPM)² BPD toolkit highlights the importance of involving neonatal dietitians and speech and language therapists (SALT) in collaborative nutritional care. Since February 2023, our tertiary NICU has integrated allied health professionals (AHPs) with 0.4 working time equivalent (WTE) SALT and 0.3 WTE dietician support- substantially below national recommendations (1.77 and 1.88 WTE respectively).

Methods

A baseline audit (Jan-March 2024) found only 20% of infants born <32 weeks received dietetic review.

In response, weekly multidisciplinary nutrition ward rounds (NWR) were launched in January 2025, involving neonatologists, dietitians, SALT and a SCBU Band 6 nurse. Infants older than 2 weeks of age with nutritional concerns were discussed.

PDSA cycle image.

Results

NWRs facilitated timely, team-based decisions on managing issues like oral feed aversion, reflux and tongue-tie. It also supported initiation of short-term home nasogastric feeding and SALT-led pre-feeding skills to assist the transition to oral feeding.

Staff feedback highlighted earlier access to multidisciplinary care, improved team communication, greater role clarity, and enhanced implementation of nutrition plans. It increased team collaboration and plan consistency.

Challenges included the need for protected time to maximise attendance. A re-audit (Jan-March 2025) demonstrated its success with dietician input having increased to 65%.

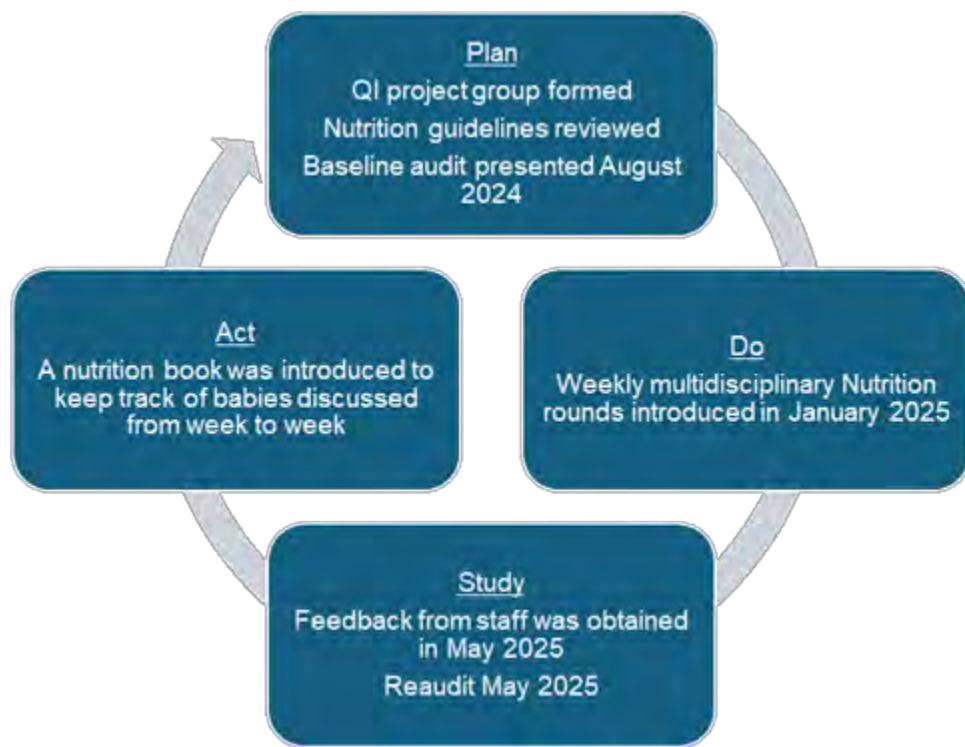
Conclusion

Regular multidisciplinary nutritional ward rounds have proven to be an effective, collaborative approach to enhancing preterm nutrition, in line with BAPM recommendations, and a valuable use of limited AHP resources.

References

1. ESPGHAN. (2022). Enteral nutrition in preterm infants: Position paper.
2. British Association of Perinatal Medicine. (2023). BPD Toolkit: December 2023.

Image



A Service Development Project: do parent-led ward rounds on a neonatal unit improve family experiences?

Wood F¹, Clements E¹, Bevan V¹, Race L¹

¹Southmead Hospital, North Bristol Trust

BACKGROUND

Many crucial aspects of neonatal care, such as continuous monitoring, medically-led ward rounds and 1:1 nursing, can enforce a model of "care-by-staff" and inadvertently reduce parental confidence. Integrating a parent-led ward round can promote family-integrated care, known to positively impact upon outcomes for babies (e.g. reduced infection rates and earlier discharge) and parents (e.g. improved parental wellbeing and parent-baby relationships). A team of multidisciplinary professionals developed an innovative family-led ward round to improve family-integrated care in a tertiary neonatal unit.

AIMS

1. To ascertain if a newly developed parent-led ward round is feasible in a busy neonatal unit.
2. To assess the effectiveness of this service development in line with the principles of family-integrated care.

METHODS

- Scoped existing practice: visited neonatal units with parent-led ward rounds.
- Engaged relevant stakeholders: co-production with staff and parents.
- Established the 'who' (parents, dietitian, speech and language therapist, clinical psychologist, occupational therapist, physiotherapist, neonatal nurse and neonatal consultant) and 'how' (once per week, special care cots initially).
- Developed a protocol: exploring parental views on care-giving, wellbeing and concerns about discharge, as well as their baby's development, feeding and growing.
- Adapted & scaled: sought parental and staff feedback to inform practice.

RESULTS

Ward round delivered over one year period. Parents described the round as holistic and supportive, an opportunity to ask questions and a useful way to shape their baby's care. At times, it was described as 'overwhelming', which shaped more of an opt-in approach. Staff described the round as feasible and helpful.

MESSAGE

It is feasible and effective to deliver a family-led ward round in special care and can enhance parental experience. We recommend further evaluation using specific measures of parental experiences, including confidence, presence on the unit and readiness for discharge and continued evaluation of practice.

Outcomes of extremely preterm infants born in non-tertiary hospitals in a single neonatal network

Jain P¹, Ratnavel N²

¹Guy's And St Thomas' NHS Foundation Trust, ²Bart's NHS Trust

Aim:

To review and evaluate the clinical outcomes and challenges associated with the delivery and immediate postnatal care of extremely preterm infants (<27 weeks' gestation) born in non-tertiary units across London from September 2024-March 2025.

Background:

The BAPM executive summary recommends extremely preterm births be managed in facilities co-located with designated Neonatal Intensive Care Units. Births in non-tertiary settings remain a concern and are associated with added mortality and morbidity when transferred postnatally.

Methods:

Cases of incorrect place of birth were identified via daily network notifications. The review included infants born <27 weeks in non-tertiary units and subsequently transferred to tertiary centres by the Neonatal Transport Service (NTS). Each case was escalated to relevant hospitals and Local Maternity and Neonatal System (LMNS) leads and discussed at LMNS meetings. Analysis focused on demographic characteristics, perinatal optimisation measures and short-term postnatal outcomes.

Results:

Eighteen cases were identified, with a median gestational age of 24+3 weeks and median birth weight of 717.5 grams. Male and female infants were equally distributed. Deliveries included 12 vaginal births and 6 emergency C-sections. Median referral time was 1.5 hours. NTS median dispatch and stabilisation times were 33 minutes and 3 hours 25 minutes, respectively. Highest number of cases were identified from north-east London LMNS. Two infants required out-of-sector transfers due to capacity limitations. Three mothers completed antenatal steroids; 13 received magnesium sulphate. Delayed cord clamping was done for 6 infants. Common maternal risk factors included late booking, premature rupture of membranes, prior preterm births, cervical incompetence, sepsis, smoking, twin gestation, hypertension and gestational diabetes. Short-term postnatal outcomes are represented in the accompanying figure.

Conclusion:

This review highlights the ongoing challenges on transfer of extremely preterm infants out of non-tertiary units. Concurrently, an intrauterine transfer thematic tool was developed, focusing on antenatal optimisation, timely transfer and system-level improvements.

Graphs

Total number of infants

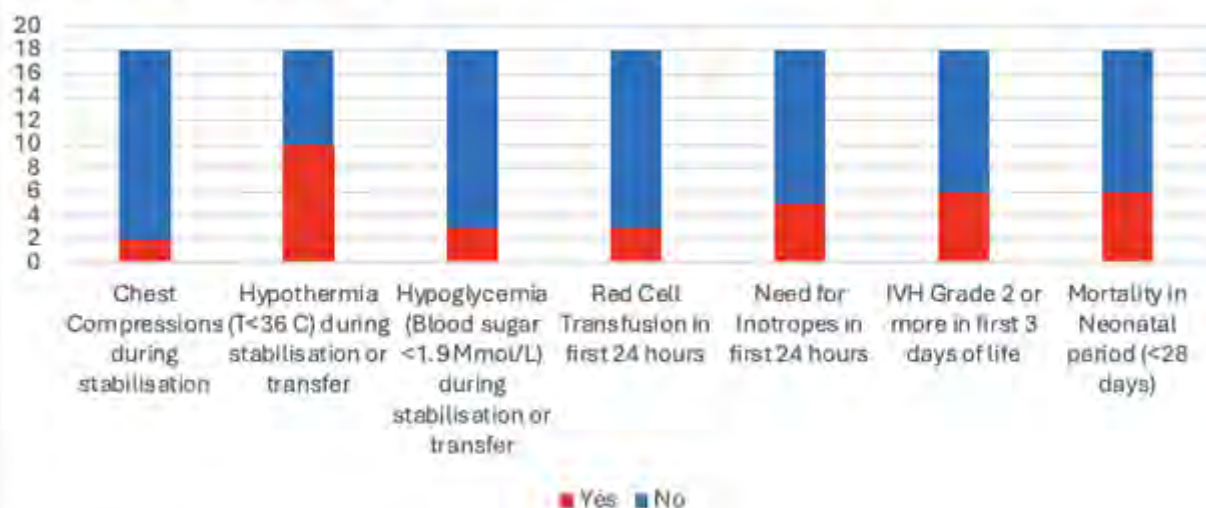


Figure: Short term postnatal outcomes

Delivery of a neonatal teaching programme for the maternity team at Croydon University Hospital

Sand L¹, Palatino J¹, Douthwaite A¹

¹Croydon University Hospital

Background

The neonatal team at Croydon Hospital identified several common neonatal topics that were frequently poorly managed on labour ward and the postnatal ward. Despite guidelines being available, the neonatal team were often asked about the Kaiser Permanente (KP) Sepsis Calculator and how to interpret the results, management of neonatal hypoglycaemia and hypothermia, cord gases and perinatal optimisation in preterm labour.

Methods

We created and designed a one hour teaching session which became part of the mandatory midwifery teaching days at Croydon University Hospital. This session was held by a neonatal senior house officer and registrar once a month.

A pre and post session questionnaire asked the attendees to rate their confidence in the management of KP sepsis calculator, neonatal hypoglycaemia and hypothermia, cord gases and perinatal optimisation in preterm labour.

Data were analysed using Excel.

Results

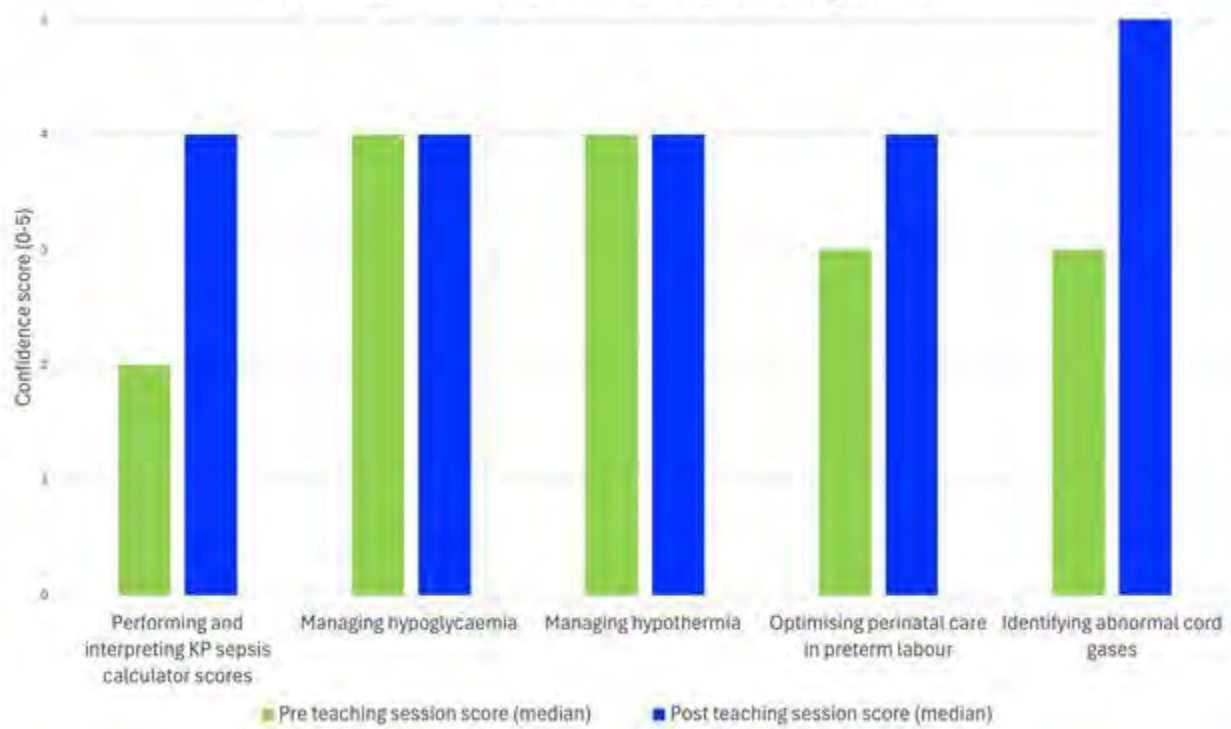
Three sessions have been held so far between April to June 2025. The teaching sessions were attended by midwives, health care assistants and maternity support workers. A total of 45 pre session questionnaire results and 36 post session results were available. The median confidence scores (ranging from zero to five) increased or remained the same following the teaching sessions. The median score for confidence in performing and interpreting KP sepsis calculator scores increased from two to four and identifying abnormal cord gases increased from three to five. 78% of respondents said their expectations of the teaching sessions were met, whilst 22% attendees' expectations were partially met.

Conclusions

The teaching sessions run by the neonatal team were a success in improving knowledge on important neonatal topics. This will ultimately improve patient care provided to neonates at Croydon University Hospital as well as improve the collaborative work between the neonatal and maternity team.

Graphs

Confidence score before and after teaching session



Implementing Multi-Disciplinary Team (MDT) Surveillance Meetings for Infants Discharged Home under the Neonatal Community Outreach Team (NCOT).

Evans R¹, Franks T, Hussain S, Davis A

¹Royal Wolverhampton Nhs Trust

Background: With the introduction of embedded Speech and Language Therapy (SLT) and Dietitian (DT) services, there has been a significant increase in the number of infants discharged home for short-term tube feeding over the course of the past 3 years.

It became apparent that there was a disparity between the expectations of the SLT & DT services regarding growth and feeding on discharge compared to those of NCOT. This resulted in inconsistent advice offered to parents, difficult conversations between MDT members and suboptimal outcomes in terms of growth and feeding.

Method: Weekly surveillance meetings were established from February 2025, attended by the SLT, DT and NCOT Teams. Infants receiving Level 2-3 NCOT support (BAPM, 2025) were discussed. A survey was conducted to gather feedback from staff attending the meetings.

Results: 22 meetings took place between February – June. 40 separate infants were discussed resulting in individualised feeding and growth plans. In addition, 6 joint MDT home visits were carried out.

There was an 80% survey response rate. 100% of all respondents indicated that, following the implementation of the meetings, there was an increase in how supported they felt in making feeding and growth decisions and in their understanding of other MDT roles with infants on discharge. 88% of respondents felt more confident in approaching colleagues for feeding and growth support. In additions, qualitative feedback was overwhelmingly positive.

Conclusion: Regular MDT meetings have been effective in improving working relationships/collaborative working, ensured consistent advice and have allowed for individualised advice from expert teams/enhanced provision.

We have also highlighted where further learning is required; specific teaching sessions have been scheduled. Next steps are to measure outcomes for the infants/families, identify pathways for high-risk infants and to collect data to support a business case for funded MDT outreach services.

Image

We are now facilitating safer early discharges home and allowing babies to reach their full growth potential

Productive meetings, making more robust decisions regarding feeding and growth

Improved collaborative working and decision making

Consistent advice, improved NCOT knowledge

Review of temperature monitoring practices during passive and active cooling in MNSI investigations.

Shore H¹, Page L¹

¹Mnsi

Introduction

The experience from MNSI is that guidance relating to continuous temperature monitoring during passive cooling practices has been variably interpreted.

Current recommendations from the Resuscitation Council UK state 'once A,B,C have been stabilised and a decision has been made to offer (passive) cooling ... Passive cooling requires monitoring of rectal temperature'.

The BAPM framework states 'Infants starting any form of therapeutic hypothermia,should have their temperature continuously monitored ideally using an intracorporeal (e.g. rectal) temperature probe'.

Methods

A review of 20 MNSI investigations of term infants, born following labour who had cooling in the last 12 months was completed. The referrals came from a range of NICUs, LNUs and SCUs.

Results

This review has shown that in 50% of these investigations when passive or active cooling was started, this was not done in line with guidance in relation to ensuring continuous temperature monitoring was available.

In 5 investigations the resuscitaire was turned off in the delivery suite. In 2 investigations the neonatal admission temperature of the infant was 'unrecordable'.

In 8 investigations there was a delay greater than 30 minutes (range 30-150 minutes) from the start of cooling to the commencement of continuous temperature monitoring. This was due to delay in starting or no availability of rectal monitoring equipment.

In 1 investigation active cooling was started and there was no rectal temperature recorded for the first 120 minutes.

Conclusion

This review provides evidence of the need to be more prescriptive in the advice given in relation to commencement of cooling therapy. MNSI suggests that future guidance is explicit that any infant being considered for cooling should be kept normothermic until admission to the neonatal unit. If a decision is then made to cool, a rectal probe should be inserted prior to commencement of either passive or active cooling measures.

Oral feeding outcomes of infants born with Oesophageal Atresia at discharge from NICU: two centre study.

Phillips S¹, Yap J², Thomas V², Edwards L³

¹Cambridge University Hospitals, ²Leeds Teaching Hospitals NHS Foundation Trust, ³University of Lancashire

Background:

Oesophageal atresia (OA) is a rare but complex condition that can impact on early feeding experiences of infants. The clinical data on feeding experiences and outcomes related to OA and relationship to prematurity have not previously been reported.

Methods:

Retrospective review of electronic medical records of infants born with oesophageal atresia admitted to two surgical NICUs in the UK between September 2023 and August 2024 were analysed using a joint protocol including demographic, surgical and outcome data.

Results:

20 infants were eligible for inclusion in the study.

5% of infants were born extremely preterm, 15% very preterm, 35% moderate-late preterm and 45% at term.

Timing of repair was variable across the group, 55% of infants had immediate repair and the remaining 45% of infants a delayed repair.

20% of infants achieved the family's feeding goal of breast, bottle or combination breast / bottle feeding at discharge.

Five of the term infants (56%) and one of the premature infants (9%) achieved total oral feeding by discharge.

55% of preterm infants remained fully tube dependent at time of discharge.

None of the infants who had a delayed repair achieved total oral feeding by discharge.

There was a trend for improved feeding outcomes with greater gestational age at birth.

Conclusions:

OA significantly impacted on an infant's ability to achieve total oral intake and for families to achieve their feeding goals. Delayed primary anastomosis appeared to impact on infants' progress with oral feeding and prematurity increased the risk of being fully tube dependent. This has clinical implications for the approach and timing of feeding support for infants with OA in NICU and beyond.

Reference:

Kenny S.E. (2021). Getting it Right First Time (GIRFT) Paediatric Surgery. GIRFT Programme National Speciality Report

Enhancing Multidisciplinary Collaboration in a Tertiary Surgical Neonatal Unit Through Inclusive Simulation Training

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¹University Hospital Of Wales

Simulation-based education is a well-established tool in neonatal care, offering a safe environment to rehearse clinical scenarios, refine technical skills, and improve team communication. Traditionally, neonatal simulation training has focused on medical and nursing staff; however, the complexity of neonatal care demands a broader, multidisciplinary approach. This project explores integration of multidisciplinary team (MDT) members, including pharmacists, into simulation training within a tertiary surgical neonatal unit.

The project involved designing and delivering high-fidelity simulation scenarios reflecting real-world neonatal emergencies and perioperative challenges. Participants included resident doctors, consultants, advanced neonatal nurse practitioners, nurses, midwives and pharmacists. The training aimed to enhance role clarity, interprofessional communication, and collaborative decision-making in high-stakes neonatal care, as well as giving fresh perspectives on scenarios from colleagues with varied backgrounds.

Preliminary feedback highlighted the value of inclusive simulation in fostering mutual understanding of roles, improving confidence in interprofessional interactions, and identifying potential risks. Pharmacists contributed critical insights into medication safety and prescribing under pressure. These contributions enriched scenario realism and team dynamics.

Literature supports the use of multidisciplinary simulation to reduce errors, strengthen team work to improve neonatal outcomes (1,2). Including non-traditional participants such as pharmacists aligns with recommendations for holistic, systems-based training alongside our unit ethos.

This project demonstrates that inclusive simulation training is both feasible and beneficial in a tertiary neonatal setting. By embedding all relevant professionals into training, neonatal teams can better prepare for complex clinical situations, enhancing patient safety and care quality. We look forward to further developing an even wider MDT input including physiotherapy and occupational therapy colleagues.

References

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2. Yousef N, Moreau R, Soghier L. Simulation in neonatal care: towards a change in traditional training? Eur J Pediatr. 2022 Apr;181(4):1429-1436

DEFINING AN IRISH QUATERNARY NEONATAL PATIENT COHORT USING ACUITY AND SAFETY STANDARDS

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¹Childrens Health Ireland

Ireland does not have a quaternary neonatal service. A legacy model whereby infants requiring surgical or specialist complex care are looked after in PICU (paediatric intensive care) persists. A new National Children's Hospital (NCH) will open in 2026 with a purpose built NICU (neonatal intensive care unit). Operational models for the future service have been proposed without validated data to inform planning. Significant discordance exists between locally collected neonatal and hospital acquired data.

A multidisciplinary group was set up to define the neonatal cohort using BAPM acuity standards. Safe placement was defined by nursing ratios (BAPM). The aim was to map patients to a future NCH location and identify those who could be cared for in alternative settings or teams.

Methods: Neonatology admission criteria were agreed. Between October 2024 and February 2025, on 4 randomly chosen days, data validation exercises were completed by the group (neonatology, surgeons, PICU, general and respiratory paediatrics, therapists, and transformation). Consensus on acuity, safety, current and potential NCH setting was reached for each infant. Those who could be cared for in alternative settings were identified.

Results: 157 episodes of care were studied. Daily median (range) number of intensive care patients was 14(7-19), 13(9-18) high dependency and 13(11-22) low acuity patients. Of those 21 (10-23) met criteria for a critical care cot in NCH. 2(1-4) patients were identified as suitable for alternative care. Twenty four percent of patients were deemed unsafely placed

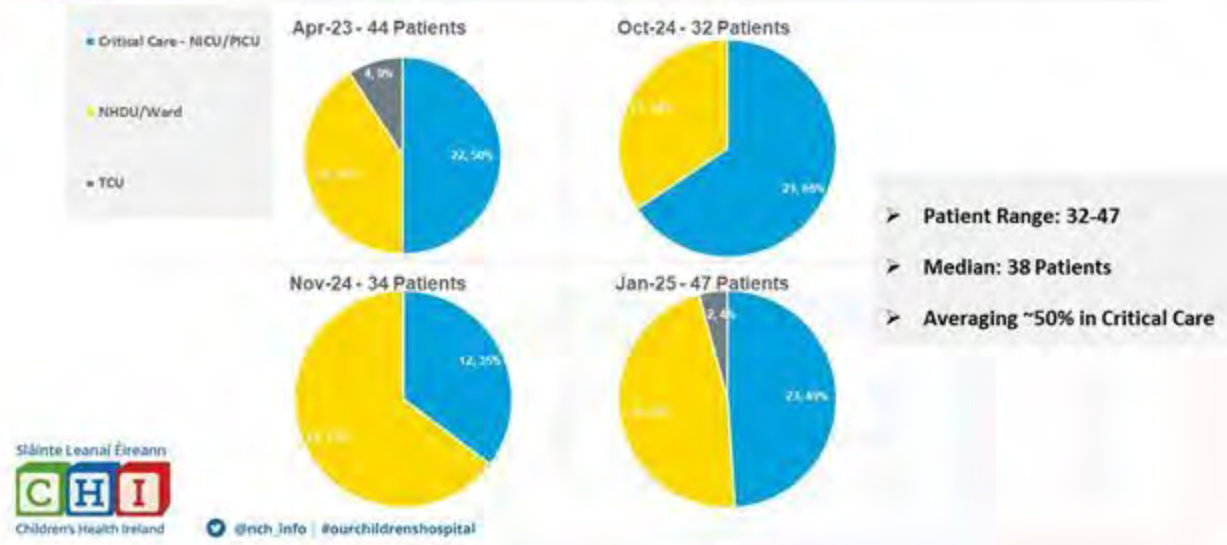
Conclusions: The requirement for neonatal critical care cots for the new national service is approximately 21(12-23). In the absence of an operational NICU, this cohort will require PICU cots. NCH NICU service plans have been revised in line with these validated data. Neonatal nurse staffing levels to meet safety standards are required. Accurate routine neonatal data collection is essential for service planning.

Graphs

Data Validation Analysis

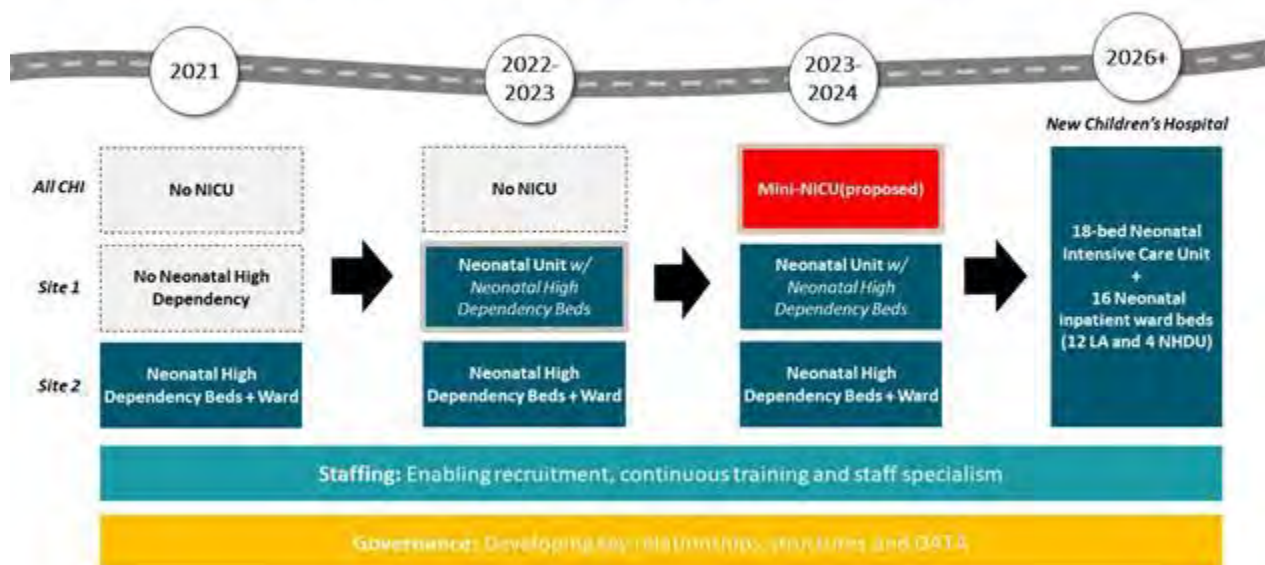


Database review of 4 daily samples of Neonatology inpatient Data: Future Patient Location



Image

Neonatology at Children's Health Ireland: The Vision



Replacing formula with donor breast milk (DBM) as a supplement to mother's own milk (MOM) in high-risk infants impacts positively on MOM production and breast milk feeding (BMF) on discharge: South West Neonatal Network (SWNN) experience (2010-2024)

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Background

DBM is increasingly used as a supplement to MOM in those at risk of necrotising enterocolitis. There are concerns that this may discourage mothers from producing their own milk. The aim was to investigate whether using DBM instead of formula as a supplement to MOM in high-risk infants (born <32 weeks' gestation until 33 weeks' corrected age) in SWNN impacted on MOM production and BMF at discharge. Donor milk bank opened in Bristol in 2011. DBM became available to SWNN in 2014 and to all high-risk infants in 2018. Expressing MOM and breast feeding are encouraged.

Methods

Data extracted from SWNNMB database and BadgerNet. Individual feed days for high-risk infants in SWNN classified as MOM, DBM, formula or a combination. Feed at discharge, SWNN units only, classified as exclusive BMF, mixed feeding or exclusive formula.

Results

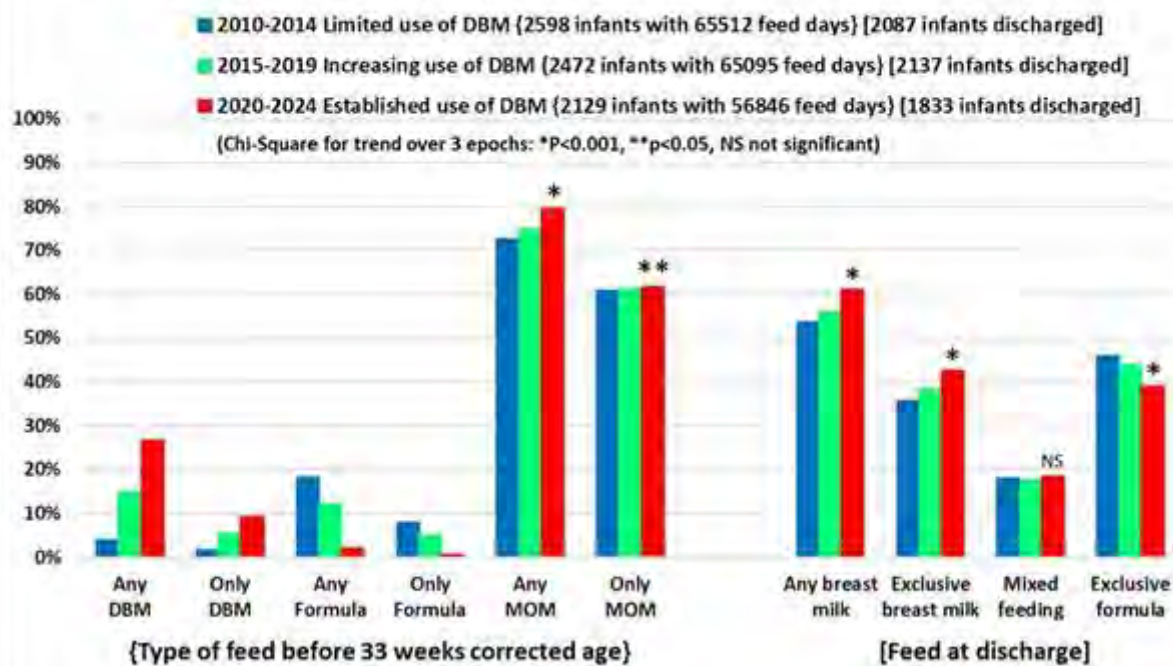
In 2024, the SWNNMB recruited 136 donors, pasteurised 930 litres of DBM (discard 12%) and distributed 820 litres of DBM to the SWNN (417 high-risk infants). With increasing supply of DBM (over 3 epochs) there has been a rise in DBM feeds with concomitant reduction in formula feeds (figure 1). In 2020-2024 'any DBM' is used in 27% (mostly with MOM) and 'only DBM' in 9% of feeds. The use of DBM has not discouraged mothers producing their own milk. Over the study period, 'any MOM' feeds increased from 73% to 80% ($p<0.001$), at discharge those receiving 'any breast milk' increased from 54% to 61% ($p<0.001$), exclusive BMF increased from 36% to 43% ($p<0.001$), and exclusive formula feeding declined from 46% to 39% ($p<0.001$).

Conclusion

The SWNNMB provides sufficient DBM for high-risk infants in the SWNN. The use of formula in high-risk infants is almost eliminated. Providing DBM as a supplement to MOM has impacted positively on MOM production and BMF at discharge.

Image

Figure 1. Type of feed as a percentage of total feed days for high-risk infants (<32 weeks gestation up to 33 weeks corrected age) and feed at discharge in SWNN



BAPM Conference Abstract: Transitions and MDT working - The Development of New Neonatal Therapy Service to Support the Transition from the Neonatal Unit to Home.

Cashin H¹, Manton M, Canale N, Warmisham E, Atter C, Barnes N

¹Cwm Taf Morgannwg Health Board

One year ago, funding allowed the design and implementation of a community based multi-disciplinary neonatal therapy follow-up service, that focuses on early therapy intervention for babies and families upon their transition from the neonatal unit to home. The service is made up of the following professionals: Physiotherapist; Occupational Therapist; Dietitian; Speech and Language Therapist; Psychologist; and a Clinical Coordinator.

Creating a co-produced service with families was important as it supports a move from expert led and siloed models of input to a truly MDT service who listen to and meet the needs of preterm babies and families. From the outset, the service was shaped by parents with lived experience, ensuring that family perspectives were embedded in its foundation. After running the service for a one-year we ran a series of co-production events to hear the voices of the babies, parents and other professionals who had been using our service in order to inform, update and enhance the second year of service delivery. To support inclusive participation, families were offered a choice of engagement methods. Each session provided refreshments, childcare support, and thank-you gifts, allowing parents to fully engage. Discussions focused on initial and ongoing contact with the team, and included a dedicated question on the "voice of the baby." Feedback was overwhelmingly positive, 100% of participants rated the sessions five stars. The team also collaborates with consultants and outreach professionals health visitors, educators, and students, fostering a broad and inclusive network. Specialist baby groups with perinatal mental health visitors and our psychologist have gained excellent feedback with a focus on the developing parent-infant relationship. Our service has been described by our parents as: 'Like a comfort blanket' and 'Anxiety reducing.' Families reported they felt listened to and not alone. To date 93 families have been supported by with 825 contacts provided.

Graphs

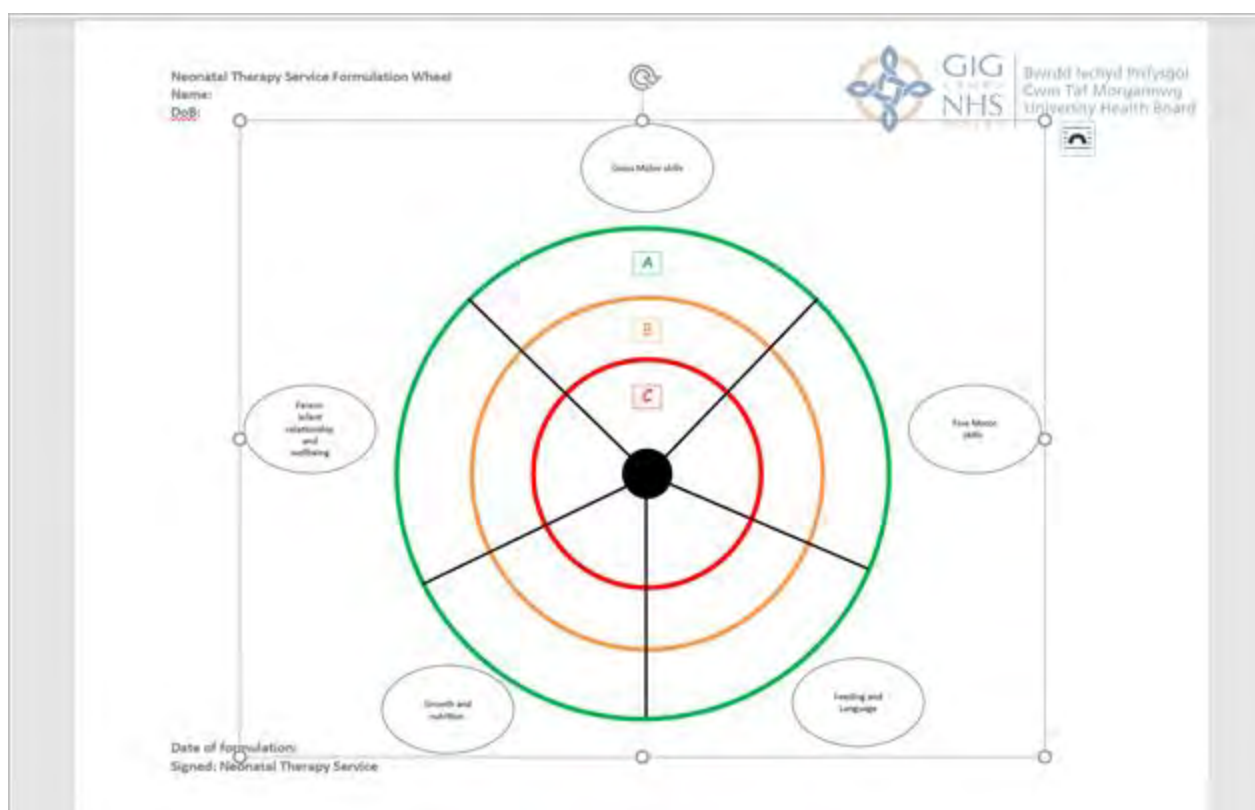




Figure 1. CTM Neonatal Therapy Service Delivery Model

Successful Use of Videolaryngoscopy for Endotracheal Intubation in a Nano-Prem Infant: Supporting Transition and Resuscitation at Birth – A Case Report

Walsh C, Kumar D, Sundaram S, Spierson H

¹Neonatal Unit, ²Neonatal Unit, ³Neonatal Unit, ⁴Neonatal Unit

Background

Nano-prem infants present significant challenges during airway management, due to their extremely small size and delicate anatomy. Endotracheal intubation is a critical intervention in neonatal stabilisation, particularly difficult in this population. Videolaryngoscopy (VL) has emerged as a valuable tool, offering clear advantages over direct laryngoscopy (DL) including improved visualisation, increased first-pass success rates, and reduced complications compared to traditional DL^{1, 2}. Recommendation is that NICUs have a video laryngoscope to support the management of difficult airways³. Within our NICU, the C-MAC video laryngoscope is routinely used for intubation and less invasive surfactant administration (LISA) across all gestational ages. VL also significantly improves the procedural success of LISA^{3, 4}. This report highlights the successful use of VL for a nano-prem infant weighing 351 grams.

Case Presentation

A primigravida mother presented in spontaneous preterm labour at 22 weeks' gestation. Initial intubation attempts in the delivery room using DL by senior clinicians were unsuccessful. After multiple failed attempts, a videolaryngoscope with a size 0 blade was employed, and endotracheal intubation was successfully achieved on the first attempt under video guidance. The baby remained stable throughout. They later experienced an unplanned extubation and was reintubated successfully on the first attempt using VL.

Conclusion

Videolaryngoscopy (VL) proved highly effective for endotracheal intubation in this difficult airway scenario, highlighting its reliability in complex airway management and challenging the conventional use of size 00 blades. Integrating VL into routine NICU practice can improve success rates and reduce complications, with staff familiarity and confidence being key. This case adds to the growing evidence supporting VL as a vital tool in managing difficult airways in neonates, especially in high-risk, extremely low birth weight infants. NICUs should continue to train staff on advanced airway management to ensure optimal care for this vulnerable population.

Image

References

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2. Lingappan K, Neveln N, Arnold JL, Fernandes CJ, Pammi M. Videolaryngoscopy versus direct laryngoscopy for tracheal intubation in neonates. *Cochrane Database of Systematic Reviews*. 2023.
3. North West Neonatal Operational Delivery Network. *Difficult Airway Guideline*. Reference number GL-ODN-06. Main Author(s): Difficult Airway Special Interest Group. Target Audience: All Provider Trusts within the North West Neonatal Operational Delivery Network. Ratified by: All locality NSGs and SMT. Date Ratified: 11/10/2018 (rewritten and ratified 26.1.22). Review Date: 11/10/2021, 26.1.25. Version: 1.0. Document status: Final.
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Implementing a pathway for intravenous to oral antibiotic switch in neonates – a six-month review

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Background:

The Reduction of Intravenous Antibiotics in Neonates (RAIN) trial showed non-inferiority for early switch to oral antibiotics compared to full course of intravenous (IV) antibiotics for probable neonatal early-onset sepsis. We launched a similar pathway in NHS Lothian and evaluated the first six months.

Methods

A specific IV to oral antibiotic switch proforma and monograph were created, and staff training provided.

From October 2024, babies born at ≥ 35 weeks' gestation treated for suspected early-onset infection, with elevated CRP, negative blood culture and no remaining clinical concerns were switched from IV antibiotics to oral Co-Amoxiclav (RAIN dosing) for a further five days treatment.

Appropriate babies were identified from electronic patient records. Information gathered included signs/risks for infection, CRP, key treatment and discharge dates, deviations from protocol and any representation to hospital within two weeks of discharge. Parent feedback was obtained via telephone following treatment completion.

Results:

24 babies were included in the pathway. 24 hour CRP values ranged 12-68 mg/L. One baby had a CRP of 1 but was treated for chest x-ray changes. On average, babies were discharged almost two days earlier than had they been on the old pathway. Two babies were erroneously prescribed an antibiotic dose or duration that differed from protocol – this was rectified in real time. Two of the 24 babies presented to hospital within two weeks of discharge but neither had infection. Parental opinions on the pathway were consistently positive, with key benefits including earlier discharge home and easy administration.

Conclusions:

Implementation of IV to oral antibiotic switch for neonates treated for suspected early-onset infection has provided a safe treatment option with good parental satisfaction and reduced hospital stay. Regular surveillance in the early stages of implementation was useful in enabling protocol variations to be addressed promptly.

Title: Delayed Cord Clamping in Babies Born at the Threshold of Viability (22 Weeks' Gestation): Benefits and Challenges.

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Background:

Delayed cord clamping (DCC) has been shown to reduce the risk of a premature baby dying soon after birth¹. However, evidence supporting its benefits in infants born at the threshold of viability (22 weeks' gestation) remains limited. During a local mortality review, clinicians questioned whether DCC should have been attempted for 22-week twins delivered via caesarean section.

Aim and Method:

To evaluate the feasibility, barriers, and short-term outcomes of DCC in infants born at 22 weeks' gestation who received active management at birth. A retrospective review was conducted of admissions to a tertiary NICU over a 2.5-year period starting January 2023.

Results:

A total of 21 infants were included (10 inborn, 11 postnatal transfers). DCC was performed in 52% of cases.

Reasons for immediate cord clamping included:

- Bradycardia (<60 bpm) in 50% of cases
- Precipitate delivery, neonatal team not present at birth
- Placental separation immediately post-delivery

Key findings:

- DCC was more likely when the neonatal team was present and prepared.
- In 4 cases, DCC was achieved despite initial bradycardia.
- Two infants showed signs of life only after remaining on placental circulation.
- A common challenge reported was the short umbilical cord length.

Two infants who received DCC had admission haemoglobin (Hb) <120 g/L:

- One born via C-section (Hb 92 g/L)
- One had DCC following abruptio placenta (Hb 81 g/L)

Conclusion:

DCC is feasible in infants born at 22 weeks' gestation and may be associated with higher admission haemoglobin and reduced need for early transfusion. However, caution is advised during caesarean deliveries to ensure the infant remains below the level of the placenta.

Reference: Delaying umbilical cord clamping for two minutes cuts deaths in premature babies, studies show. J. Wise BMJ 2023;383:p2680

Graphs

	DCC (n=11)	No DCC (n=10)
Birth weight (g)	347–580 (Mean: 488)	450–607 (Mean: 500)
Duration of DCC	30 sec – 5 min (Median: 60 sec)	—
Mode of birth	Vaginal: 10, C-section: 1	Vaginal: 8, C-section: 2
Admission Hb (g/L)	81–162 (Median: 133)	101–148 (Median: 124)
Blood transfusion <12h	50%	60%
Inotropes <12h	70%	70%
Survival to 44 weeks GA	6 (55%)	5 (50%)

An Unusual Wound in a Neonate – a MDT approach

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Background:

Congenital wounds are rare. We present a term baby born with talipes and an unusual painful wound to the dorsum of the left foot. This evolved into a necrotic eschar requiring debridement. The differential diagnosis has varied requiring a MDT approach to investigation and management with the neonatal team coordinating the complex care.

Methods:

Multiple teams were involved with the baby during their admission. These included Tissue Viability, Plastics, Vascular, Microbiology, Dermatology, Radiology, Cardiology, Genetics and Haematology. Experts at Birmingham Women and Children's Hospital were contacted.

Results:

A tentative diagnosis of an antenatal pressure ulcer was made and the wound reviewed by Tissue Viability and Plastics. Swabs grew Group B streptococcus and an antibiotic course completed. The wound was dressed but continued to deteriorate.

The baby was transferred to a tertiary neonatal unit for ongoing vascular and plastics input. MRI of the foot showed extensive ulceration almost to the level of the bone. Duplex vascular scan showed good flow in all vessels to the foot, despite this a neonatal ischaemic event may have occurred earlier in pregnancy and collateral blood flow established. As such, a MRI head was performed ruling out concomitant stroke. Echocardiogram and thrombophilia screen were normal. Following advice from Genetics, homocysteine levels were sent and reported as normal. Versajet debridement and biopsy were undertaken in Nottingham and following joint review with Dermatology, the baby sent to Birmingham for further specialist care.

Conclusion:

Neonatal wounds and skin lesions usually heal well. Differential diagnoses have ranged from antenatal pressure ulcer, neonatal limb ischaemia and haemangioma. Despite the extensive investigations and MDT involvement, the diagnosis remains unclear, the wound has not healed and skin grafts have failed. The baby is receiving ongoing and burdensome specialist care from Birmingham and is likely to need significant rehabilitation to preserve foot function.

Transition and MDT approach: Isolated Fetal Ascites in a Late Pre-Term Infant – a case report

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¹Royal Preston Hospital

Background:

Isolated fetal ascites is rare; it can occur due to a multitude of reasons with genetic causes making up 43.3% of cases whilst the commonest structural abnormality as a cause was gastrointestinal 29.4% (1) with intestinal perforation making up 7% of cases (2). It is often resolved spontaneously with some studies finding 50%-80% resolved by the first few weeks of life (3). Survival rates of 74% have been quoted in those diagnosed after 24 weeks (4). There are a few case reports like this case with meconium ileus presenting with bowel obstruction and ascites (5). However, despite meconium ileus being a common presenting feature of cystic fibrosis in 20% of cases (6), presentation such as this is rarely described in literature.

Case report:

Mum presented at 34+4 weeks with reduced fetal movements. Obstetric evaluation identified rapidly progressing fetal ascites within 48 hours resulted in an emergency section and delivery of a baby at 35 weeks gestation. Post-natally, gross abdominal distension noted with further imaging demonstrating perforation leading to transfer for surgical review at quaternary centre within six hours of birth. Exploratory laparotomy showed an extensive pseudocyst with meconium peritonitis. Further laparotomy revealed fecal contamination due to sigmoid colon perforation with subsequent genetic testing confirming a diagnosis of Cystic Fibrosis.

Conclusion:

In this case the team worked cohesively to deliver an optimal outcome. This began with the recognition and deterioration of isolated fetal ascites by the screening and fetal medicine team. The neonatal and surgical team were able to identify this infant as a sick neonate needing transition without a clear cause at the time, meaning they were already being transferred as soon as perforation identified. We here highlight the strength of a well-functioning multi-disciplinary team, and an Integrated Healthcare System resulting in excellent prognosis in this rare presentation.

Image



A retrospective audit of early postnatal care and feeding practices in late preterm infants in an LNU

Apostu I¹

¹Lister Hospital/east And North Hertfordshire Nhs Trust

Background:

Late preterm infants i.e., 34+0-36+6 weeks gestational-age (GA) are at higher risk for feeding difficulties, hypoglycaemia, jaundice, and re-admissions. Early postnatal care and support could influence outcomes.

Aims

To evaluate

- Infant characteristics, indications, NICU admissions
- Feeding practices

Methods:

A retrospective audit of late preterm infants over 3 months was conducted. Anonymised data using predefined variables was collected from case records and analysed.

Results:

During the audit period, there were 1,126 live births of whom 43 (3.8%) were late preterm and formed the study population. Patient characteristics are shown (Table-1).

19/40 (47.5%) infants were admitted to NICU: of them, 7 had RDS needing non-invasive ventilation (NIV) with intravenous fluids; 8 needed NIV but no fluids; and 4 infants needed feeding support via nasogastric tube (NGT). Amongst the 19 NICU infants, GA ranges were 34+0-34+6 weeks (n=11); 35+0-35+6 weeks (n=6); 36+0-36+6 weeks (n=2).

Indications for NICU admission included: RDS (n=15); feeding support (n=4); Of 12 infants with RDS- a higher prevalence was noted at 34+0-34+6 wks (n=10) than 35+0 -35+6 weeks (n=5), and 36+0-36+6 weeks (n=1). The distribution of infants admitted to NICU for feeding support were: 34+0-34+6 weeks (n=2), 1 each for the other two categories.

In the 1st 4 hrs: majority (n=17) received breast milk, the rest received formula feeds (n=14) or intravenous fluids (n=9). 30 mothers had prebirth intention to breastfeed.

Modes of initial enteral feeds were via NGT (n= 17); exclusive breastfeeds (n=14); nil-by-mouth (n=9). 38/40 (95%) infants commenced enteral feeds within 24hrs of life. At discharge from hospital, 31 infants (77.5%) received breastmilk (n= 26 exclusively breastfeeds; n=5 combined feeding).

Conclusions

Late preterm infants had varying indications for NICU admission. A large proportion were able to establish early enteral feeds and sustained breastfeeding at discharge. Further, Transitional-care pathways were developed, and breastfeeding projects were undertaken, and a reaudit is planned.

Graphs



Variable	Total (n = 43)
Total eligible infants	43
Excluded (notes not found)	3
Included in analysis	40
Gestational age (weeks)	34+0 to 36+6
• 34+0 to 34+6	11 (27%)
• 35+0 to 35+6	9 (23%)
• 36+0 to 36+6	20 (50%)
Birth weight (g)	1705 to 3580
• < 1800	2 (5%)
• 1800–2499	20 (50%)
• 2500–2999	14 (35%)
• ≥ 3000	4 (10%)
Antenatal steroids administered (number of infants)	10 (25%)
• Full course	8 (20%)
• Incomplete course	2 (5%)
Length of hospital stay (days)	1 to 41

PEARL: Postnatal Early Antibiotic Review for Low-Risk Babies – Transitioning neonates with culture-negative early onset sepsis home with oral antibiotics

Leach H¹, Scally N¹, Thakur D¹, Tarakeme E¹, Brown R¹, Duffy D¹

¹St George's Hospital

Background:

Traditionally, neonates with Early Onset Sepsis (EOS) receive a full course of intravenous (IV) antibiotics. Evidence supports switching clinically well, culture-negative neonates to oral antibiotics after 36 hours IV therapy, continuing treatment safely at home. We developed, implemented and evaluated a pathway for this clinical practice change.

Methods:

An initial audit and evidence review made the case for change. An MDT focus group (neonatology, paediatric infectious diseases, microbiology, pharmacy, transitional care nurse) devised an evidence-based guideline with supporting resources, switching eligible infants (≥ 35 weeks gestational age, ≥ 2 kg, culture-negative) to oral amoxicillin after ≥ 36 hours IV therapy, to complete 7 days of treatment at home. This quality improvement project utilised Plan-Do-Study-Act cycles with stakeholder engagement and iterative refinement. A repeat contemporaneous audit analysed adherence, length of hospital stay (LOS), safety (28-day sepsis recurrence), parent feedback, and cost savings.

Results:

From September 2024 to March 2025 51 patients with suspected EOS had clinical findings and elevated CRP, warranting prolonged antibiotic treatment. Of these, 39 (76.4%) were eligible for oral antibiotics, and 30 (76.9% of eligible neonates) were switched. There were no episodes of bacterial sepsis recurrence within 28 days of treatment. Median LOS reduced from 6.0 to 4.0 cot days when switched, saving us £105,000 annually in neonatal costs alone. Parental satisfaction was high (9.3/10): getting home earlier, ease of oral administration and avoidance of further cannulation were major themes.

Conclusion:

Transitioning eligible neonates with EOS to oral therapy after 36 hours IV antibiotics is safe, reduces LOS, enhances family experience, and is cost effective. The structured, iterative approach with multidisciplinary stakeholder engagement and sustainability planning was key to successful implementation of the new guideline. We are currently supporting trusts in London to adopt this guideline. Wider implementation offers national resource optimisation, cost reduction, and benefits for families and the NHS.

Neonates to Paediatrics – a smooth journey or bumpy ride?

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Background:

More babies are surviving Neonatal Unit (NNU) care with increasing medical complexity. 50% of children under 2-years of age admitted to Paediatric Critical Care Units (PCCU) are NNU graduates; conversely, only 5% NNU graduates require PCCU admission, and fewer need direct admission to PCCU.

Aim: collate multi-disciplinary colleagues' experiences and opinions to inform a new national 'Neonates to Paediatrics' Transition Framework.

Methods:

We distributed bespoke surveys to NNU, PCCU and General Paediatrics colleagues across the United Kingdom. Data collected included: availability of local/regional guidance, colleagues' experiences and their perceived needs of parents, colleagues and the framework.

We completed a mixed methods thematic analysis.

Results:

185 responses were received from a wide range of multidisciplinary colleagues. We compared responses from NNUs and PCCUs (general paediatrics responses are being analysed).

All three groups expressed similar views on the appropriate timing of transition (42-44 weeks CGA) with overarching themes on perceived needs of clear communication regarding prognosis and future health-care needs. There were emotively worded responses on upskilling NNU colleagues, and PCCU capacity affecting transfers.

Positive experiences were similar: early multidisciplinary team involvement, PCCU teams meeting families on NNUs, parental visits to PCCU, and clear communication with families.

Challenging experiences reported related to clinical cultural differences and difficult family adjustments.

NNU respondents reported challenges with lack of clear patient ownership, poor communication between teams and reluctance from PCCU to engage with transition and accept babies for PCCU admission.

PCCU colleagues reported challenges around conflict between families and healthcare teams, preparing families for the future, specifically a perceived lack of candour relating to prognosis during discussions before transfer.

Conclusion:

This evidence supports recommendations for early multidisciplinary collaboration, family-integrated care and clear communication with parents on prognosis and future healthcare needs to improve neonatal to paediatric transition experience for babies, families and healthcare teams.

Graphs

Is local/regional guidance available?

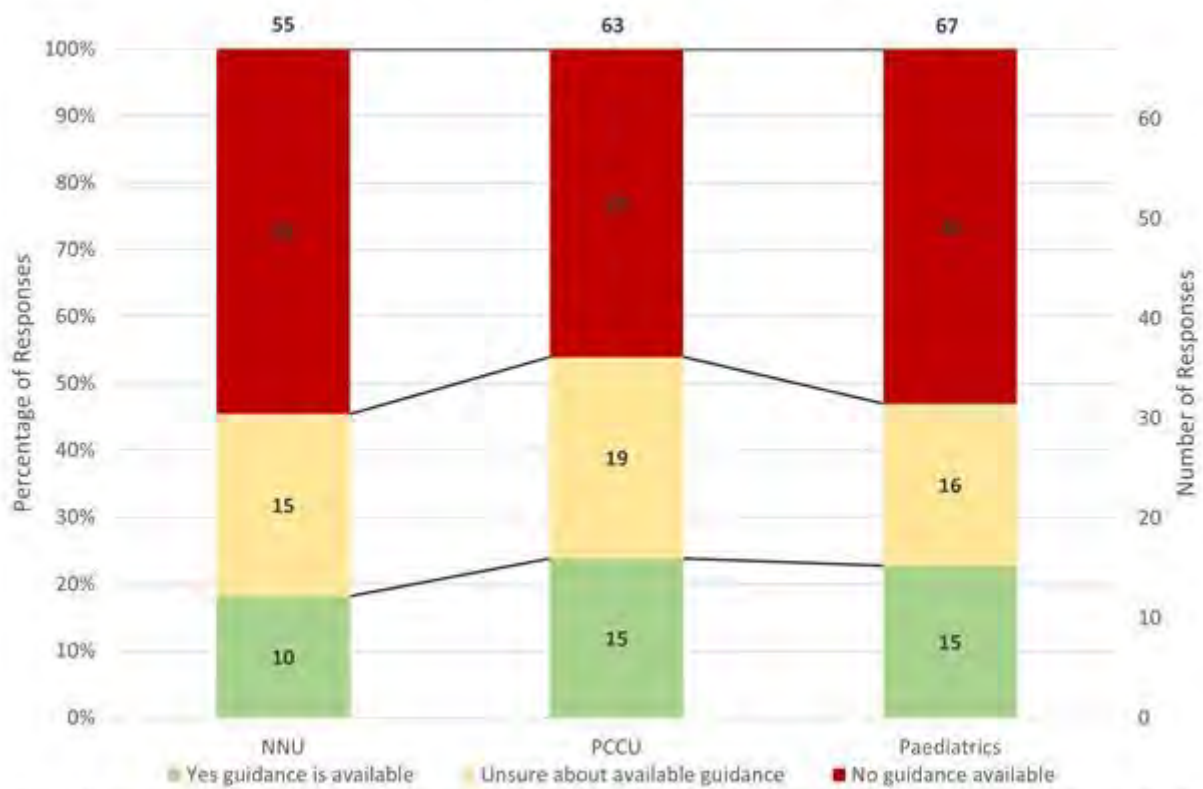


Figure 2: Survey responses across NNU, PCCU and Paediatrics with numbers of whether guidance is available and known about.

Title: The impact on growth parameters of a multi-disciplinary nutrition service on the Neonatal Unit (NNU) in Cardiff.

Brown L¹, Cosgrove E

¹University Of Wales, Cardiff

Title: The impact on growth parameters of a multi-disciplinary nutrition service on the Neonatal Unit (NNU) in Cardiff.

Elin Cosgrove & Lisa Brown

UHW Cardiff.

Background

Cardiff NNU is a regional centre for surgery and cardiology. Results of a retrospective audit over 5 months from July to December 2022, reviewed weight gain in those most at risk of growth failure. It showed that babies are falling a median of 1.54 centiles (Median change in SDS weight of -1.04), during their admission (N=46). Head circumference was also reviewed.

Method

Considering these results, and the new appointment of allied health professionals, we developed a format for an MDT nutrition service, using a multi-staged approach. The following aims were assimilated by the group:

The team should include; neonatologists, trainees, infant feeding experts, pharmacists, dietician and speech and language therapists.

A focussed weekly nutrition round will target babies at high risk of growth failure.

Meet recommended standards of care defined by NICE (2) and ESPGHAN (1) for feeding infants enterally and parenterally.

Results

Following a period of imbedding practice, the audit was repeated over 6 months in 2024. Both audit groups had similar patient demographics. Post implementation, the data showed that babies were discharged closer to their birth weight median weight loss of -0.62 SDS. Head circumference also showed a positive increase in SDS. Mean values showed a similar trend.

Conclusions

Through working together as an MDT, we have shown that we can improve growth in infants at the highest risk of growth failure. Our combined efforts are improving the quality of nutritional care for our patients.

References

www.nice.org.uk/guidance/ng154. NICE, 26 February 2020

Enteral Nutrition in Preterm Infants (2022): A Position Paper From the ESPGHAN Committee on Nutrition and Invited Experts. J Pediatr Gastroenterol Nutr. Embleton ND et al. Feb 2023

Image

Figure 1. Results table

	Pre implementation group, 2022	Post implementation group, 2024
Median change in weight during admission, SDS	-1.04 = fall of 1.54 centiles	-0.62 = fall less than 1 centile,
Mean Change in weight during admission, SDS	-0.89 = fall of 1.3 centiles (n=46)	-0.53 = fall less than 1 centile (n=48)
Mean change in head circumference, SDS	+0.13 = increase over birth centile (n=33)	+0.19 = increase over birth centile, (n=36)
Median change in head circumference, SDS	-0.09 = just under birth centile	+0.23 = increase over birth centile

Screening for Social Determinants of Health through parent informed design: transitioning from antenatal care to the neonatal unit

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¹Evelina London Children's Hospital Neonatal Unit, ²Guys and St Thomas NHS Foundation Trust

Background:

Babies admitted to the neonatal unit are more likely to be from socio-economically disadvantaged families. The Maternity Disadvantage Assessment Tool (MDAT) is a screening tool used by midwives to assess social complexity, but such screening rarely exists for admissions to the NICU. Due to the sensitive nature of social risk factors screening, it is important to engage families in co-development.

Objectives:

To co-develop a screening tool with families that can be used in a tertiary NICU setting to identify families who would benefit from additional support, building on available tools and the MDAT.

Methods:

We performed a systematic review, identifying six neonatal screening tools in use in high-income settings with positive short-term results. We adapted these tools and the MDAT into a NICU screening tool with contributions from families, the family integrated care team, the specialist nurses, midwifery team, and neonatal doctors. We held an online focus group, where parents of ex-neonatal patients were invited to discuss and provide feedback on the tool.

Results:

Feedback emphasised the importance of context, so that families can understand the utility of being asked such personal and sensitive questions. A parent information leaflet was subsequently co-designed to introduce the tool (Figure 1). Based on parental suggestion, the tool was separated into two parts to be less intrusive, one with demographic questions on the day of admission, and a second, later section aimed at babies likely to stay on the neonatal unit for longer than 14 days.

Conclusion:

We developed a sensitive and concise screening tool through multi-disciplinary and parental collaboration that ensures that antenatal knowledge about social determinants of health is transferred to the NICU. This tool allows identification of families who may benefit from additional support to ensure the best outcomes for all babies. Next step includes a pilot of the tool.

Image

Social Determinants of Health

Screening on the NNU

When your baby is admitted to the NNU, staff will ask **every** family some questions about their family, home, work, finances and other circumstances.

This can feel strange.

Why are they asking me such personal questions?

Are they going to tell social services?

How is answering these questions going to help us?



We know that baby's in NNU do better in the long term if their family are well supported. Therefore we want to learn about any issues that affect you so we can offer as much support as possible.

Example of Issue	Potential Solutions from the NNU team
Black mould in home	Letter from doctor to housing department
Struggling to visit as travel costs are expensive	Apply to special fund to help with travel costs
Other children in the family are struggling	Contact relevant charity to provide support

Development of a new service pathway: The initiation of a Multidisciplinary Neonatal Follow-up service (MDT Clinic) to streamline patient care

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¹The Coombe Hospital, ²Children's Health Ireland, ³Royal College of Surgeons Ireland, ⁴Trinity College Dublin

Background:

Preterm infants, particularly those born before 30 weeks of gestation or weighing less than 1500g, are at increased risk for neurodevelopmental complications. Additional risk factors such as intraventricular haemorrhage (IVH), sepsis, meningitis, and intrauterine growth restriction (IUGR) further elevate this risk. These high-risk infants require structured, multidisciplinary follow-up aligned with international standards (e.g., NICE, AAP, CPS), to monitor development and provide timely interventions. Traditionally, families have had to attend multiple separate appointments with various specialists - such as neonatologists, occupational therapists, speech and language therapists, dietitians, physiotherapists, nurse specialists, and lactation consultants - resulting in significant logistical and emotional burdens, including transportation challenges, childcare needs, work absences, and inconsistent care plans.

To address these challenges, a multidisciplinary team-MDT clinic was established within our tertiary care maternity hospital. This integrated model consolidates care into a single clinic visit, enabling coordinated assessments and interventions. The MDT clinic supports early identification of developmental concerns, streamlines care delivery, and promotes optimal outcomes for preterm and high-risk infants, while reducing the burden on families.

Methods:

A twice-monthly MDT clinic, comprising a neonatologist, occupational therapist, speech and language therapist, and dietitian was launched in March 2025 to assess neurodevelopmental outcomes at the 3-4 months corrected age visit. A five-month audit is underway, reviewing 20-30 infant visits to evaluate service quality. Effectiveness will be assessed through clinical data and parent feedback. The MDT workflow is outlined in Appendix 1.

Results:

Preliminary findings show reduced appointment frequency, improved satisfaction, and more efficient, collaborative follow-up. Early data suggest timely assessments and referrals. Parent feedback is expected to reflect high trust and satisfaction.

Conclusion:

The MDT clinic improves care quality, family experience, and staff efficiency. Early evidence supports continued investment in integrated neonatal care.

Image



Figure: Flowchart showing MDT clinic visit planning and procedure

Early Multidisciplinary Collaboration and Post-Mortem Genomic Sequencing in a Preterm Infant with Rapid Respiratory Collapse: A Learning Case of Alveolar-Capillary Dysplasia

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¹Nottingham University Hospitals NHS Trust

Background:

Rapid respiratory deterioration in neonates presents a diagnostic challenge. When common causes such as severe RDS, pulmonary hypoplasia, poor perinatal adaptation, sepsis, congenital heart disease, and structural lung problems are excluded, rare developmental lung disorders must be considered. Alveolar-capillary dysplasia (ACD) with misalignment of pulmonary veins (MPV) is uniformly fatal, typically caused by pathogenic variants in the *FOXF1* gene. We present a case of a male infant born at 33+2 weeks gestation.

Methods:

Within 12 hours of life, following routine admission to the neonatal intensive care unit, the infant had developed severe hypoxaemia and metabolic acidosis. Initial imaging suggested duodenal atresia. Management was tailored to the common causes described. Despite timely escalation of maximal support, including high frequency oscillatory ventilation, inhaled nitric oxide, inotropes, and negative diagnostic mini laparotomy, he died at 48 hours of age.

Results:

Post-mortem examination was inconclusive. PMRT was undertaken by a multidisciplinary team, comprising neonatology, paediatric surgery, cardiology, radiology, biochemistry, and clinical genetics. Trio whole-genome sequencing of retained samples identified a de novo pathogenic *FOXF1* variant, confirming the diagnosis of ACD and MPV. Genetic counselling estimated recurrence risk of 1%.

Conclusion:

Early consideration of developmental lung disease is essential in neonates with unconventional and rapidly worsening hypoxemia. For a large proportion of babies with this condition, a diagnosis is not made. The presence of other congenital anomalies may prompt further investigations to rule out syndromic associations. Early coordination of a multidisciplinary team improves clinical decision making, rapid diagnosis, and helps communication with families. Post-mortem genomic testing targeting the *FOXF1* gene is vital when conventional post-mortem fails to provide a diagnosis. Introduction of genomics into neonatal pathways improves the family experience after an unexpected bereavement by providing answers. It also enables informed decision making about future pregnancies and enhances learning on the neonatal unit.

Implementation of a Cross-site Perinatal Preterm Optimisation plan

Abdalla S¹, Serrano-Llop A¹, Zorro C¹, Krishnan M¹, Elhussein A², Thakur S², Bhat R^{1,2}, Mckenzie A¹, Jacob B^{1,2}, Ashoor G³, Jabak S³, Church C³

¹Neonatal Unit, Denmark Hill, King's College Hospital NHS Foundation Trust, ²Neonatal Unit, Princess Royal University Hospital, King's College Hospital NHS Foundation Trust, ³Maternity Unit, King's College Hospital NHS Foundation Trust

Background: King's College Hospital (KCH) has two maternity and neonatal units in South East London (DH surgical NICU; PRUH LNU). With around 9000 deliveries/year, approximately 150 infants were delivered <34 weeks in 2024. Over the years, prior quality improvement efforts by separate teams focused on enhancing preterm outcomes.

Aim: To implement a comprehensive Perinatal Preterm Optimisation Plan across both neonatal units. To ensure all aspects of the British Association of Perinatal Medicine (BAPM) Preterm Passport tools are integrated into care, alongside previous existing projects.

Methods:

- Creation of a cross-site multidisciplinary Perinatal Preterm Optimisation team (April 2024): consultant-led and formed by neonatal doctors and nurses, breastfeeding supporters, obstetricians, and midwives. Support from Health Innovation Network (HIN) representatives.
- Oversight of ongoing Quality Improvement Project (QIP): implementation of BAPM Passports, improvement of antenatal counselling, antenatal preterm intervention cards, Optimal cord management (OCM), thermoregulation, birthday cuddles, early breastmilk.
- Database for prospective data collection and analysis
- Monthly meetings








Results:

- Antenatal counselling improved through routine use of BAPM passports and introduction of a standardised documentation template.
- Antenatal preterm intervention cards are routinely displayed on the maternity whiteboard for imminent preterm deliveries, as a reminder for the team to complete all required antenatal interventions.
- Improved OCM rates supported by introduction of LifeStart (May 2025: 92.3%)
- Birthday cuddles are routine practice (May 2025: 84.6%), maintaining thermoregulation
- Time to first mum's milk improved, with most infants consistently receiving it within 24 hours (May 2025: 76.9%, median time 3 hours)
- Monthly newsletters to showcase performance and potential improvement

Conclusion:

The establishment of a Preterm Optimisation team facilitated successful implementation of multiple QIPs, resulting in improved preterm care across both units. Monthly newsletters to the wider team promoted shared learning and increased awareness of perinatal preterm optimisation interventions and their outcomes.

Image

April 2025 results	Denmark Hill	Princess Royal
Antenatal Steroids  (For all babies born before 34 weeks)	100% (10/10)	66% (2/3) 1 mother did not have time for 2 nd dose
Antenatal Magnesium Sulphate  (For all babies born before 34 weeks)	100% (5/5)	N/A - No babies born <30 weeks
Antibiotics  (For all babies born before 34 weeks - where mum was on antibiotics)	100% (7/7) 2 elective sections with no SROM (one multiple pregnancy)	100% (4/4)
Optimal Cord Management  (For all babies)	76% (9/10) Not offered for 1 delivery due to obstetric decision (MCDA)	66% (2/3) 1 baby born in poor condition
Thermal Care  (For all babies born before 34 weeks)	66% (6/10) 1 not recorded 1 admitted >1h 2 babies with admission T > 37.5	66% (2/3) 1 baby had admission T 36.3
Early Breast Milk  (For all babies born before 34 weeks)	First EBM <6 hours of birth 30% (2/10) First EBM <24 hours of birth 100% (9/9) First EBM <48 hours of birth 100% (9/9) Hours to first EBM (median) 11 hours 1 baby passed away at 5 hours of life and did not receive MEBM	First EBM <6 hours of birth 33% (1/3) First EBM <24 hours of birth 33% (1/3) First EBM <48 hours of birth 66% (2/3) Hours to first EBM (median) 10 hours 1 baby transferred to DH but passed away and did not receive MEBM
	Baby passport 80% (8/10) Clinical passport 90% (9/10)	Baby passport 66% (2/3) Clinical passport 66% (2/3)

*ACKNOWLEDGEMENTS:

- Very good antenatal optimisation efforts cross-site, especially at DH with 100% of eligible babies receiving all antenatal interventions.
- Early MEBM achieved within 24 hours (DH 100%, PRUH 66%)
- Antenatal counselling documentation (DH 90%, PRUH 100%)

*SUGGESTIONS:

- Birthday cuddles happen in 100% of babies across sites, but post-cuddle temperature is only checked and documented in half of babies. **Please make sure you check & document both pre-cuddle and post-cuddle temperatures.**
- Continue to support mothers & document early breastmilk expression which should happen **ideally within 2 hrs of delivery.**

HUMANS OF NICU

Clare Church



"In my role as quality improvement and transformation lead midwife, I am excited to be working alongside colleagues in both maternity and neonatal to continue improving our preterm optimisation"

'In it together' - improving perinatal service provision for babies on Transitional Care

Hayward R¹, Tector G¹, Pritchard S¹, Course K¹, Wilkinson H¹, Johncock K¹, Protheroe Davies L¹, Parsons-Jones T¹, Church C¹, Cox W¹, Nesbitt D

¹Cardiff & Vale University Health Board

Transitional Care (TC) is a service for babies who require support after birth but do not require admission to the Neonatal Intensive Care Unit (NICU). Mothers remain the primary care providers (PCPs) for babies, with medical and nursing support. Currently, over 20 babies are managed daily by the TC perinatal team in Cardiff. In the past year, this unique service delivered by a perinatal team of neonatal medical and nursing staff, midwives, nursery nurses and midwifery care assistants, has undergone significant changes, ensuring more babies stay with their PCPs after birth.

Joint teaching sessions, delivered by neonatal and maternity services to TC staff, has included topics such as thermoregulation, breastfeeding and preventing hypoglycaemia. These have had a positive impact on patient care.

The addition of neonatal nurses (Neons) working on TC have augmented the 24-hour care provided by nursery nurses. They have been instrumental in supporting breastfeeding, conducting observations, giving medications and helping with naso-gastric feeds. By triaging patients (using observational scores) patient safety has improved with earlier medical reviews and prompt escalation of care.

A morning perinatal team 'huddle' ensures all TC patients are discussed; care plans made, and tasks allocated. Highlighting patients for a midwifery-led discharge has improved the efficiency of discharging babies from TC, resulting in improved patient flow from NICU to TC.

Previous facilities on TC included a room used as the perinatal office and resuscitation room. Babies requiring procedures or imaging were separated from their PCP and taken to NICU. TC now has a dedicated treatment room, reducing the average separation time from 90 to 40 minutes.

The TC Unit Performance tracker (TCUP) database has been developed to record TC admissions. It provides monthly infographics and will monitor changes in patient demographics as we align with BAPM recommendations regarding babies suitable for TC.

Service evaluation of the new development of a transitional care unit in a large tertiary hospital

Unluer U¹, Morar N¹, Fatima T¹

¹St. George's University Hospital

Background

An 8 bed Transitional Care unit (TC) was established on the postnatal ward in a large tertiary hospital staffed by neonatal nurses and midwives, working alongside parents to deliver family integrated care (FiCare) to babies who would otherwise be admitted to the Neonatal Unit (NNU). Admission criteria were as per BAPM guidelines.

Methods

Retrospective data collected from electronic medical records was analysed for demographics, admission details and feeding methods.

Results

84 babies were admitted in the first 3 months for an average of 3.6 days. The median gestation was 38/40. The median age of admission was day 2 of life.

46% of admissions were from NNU, 27% from theatre/delivery suite and the rest from postnatal ward. Most admissions were for NG feeding and prematurity.

Nursing care provided on TC reduced term admissions to NNU and enabled quicker discharge from NNU following short periods of respiratory distress.

On average 3 babies a month were admitted to NNU from TC for increased care needs. 57% of babies were discharged directly home from TC.

Initial data revealed low breastfeeding rates. This was promptly identified and addressed with the infant feeding team who provided more feeding support and education, increasing rates from 42% to 71%. Early introduction of top-up milk prior to establishing breastfeeding is currently being addressed to prevent misconceptions and anxiety around breastfeeding.

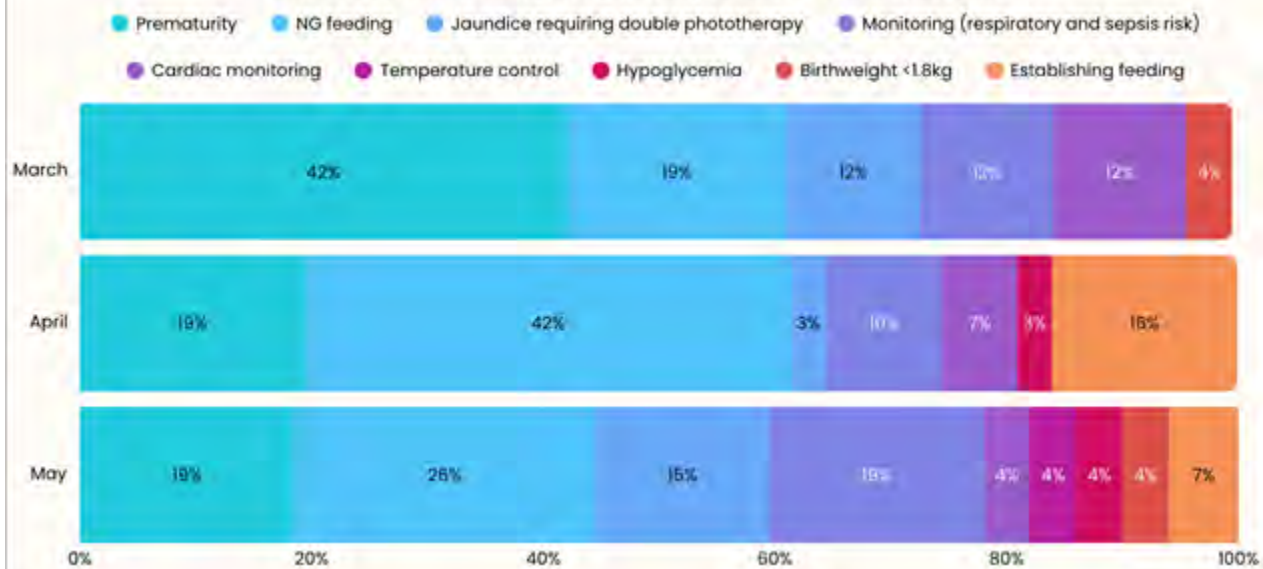
Conclusion

In 3 months, TC has enabled 84 babies, who may otherwise have been separated on NNU, to remain with their mothers. FiCare and multidisciplinary team working enabled the success of this unit with new relations forged between neonatal nurses and midwives, supported by the infant feeding and medical teams.

Early and contemporaneous auditing highlighted feeding issues enabling prompt, sustainable resolution. The care being delivered is being continually assessed using a Plan-Do-Study-Act framework, highlighting further areas for improvement.

Graphs

Chart demonstrating the primary reason for admission:



Two Lefts That Needed a Right Heart Calling

Raviendran N¹, Sen S¹

¹Noble's Hospital, Isle Of Man

Background: A rare but serious congenital disease, left atrial isomerism (LAI), a component of heterotaxy syndrome, has a global incidence of roughly 1 in 10,000 to 40,000 live births.

Extrapolating this data to the Isle of Man's birth rate, there should be 1 in 20-30 years and we have our very first own this year.

Case Report: Created via IVF and born at 34 weeks, Baby D was delivered via emergency C-section due to reduced fetal movements.

She was initially planned to be delivered at Liverpool as was found during antenatal scan to have LAI, but was delivered here instead.

A 12 lead ECG and 24 hour tape ECG were normal. To prepare for any eventuality, all neonatal staff were trained in the use of the defibrillator's pacing function.

ECHO findings at birth confirmed LAI and showed a bidirectional PDA with interrupted IVC. A repeat scan was done 10 days after and showed closure of the PDA .

Ultrasound abdomen showed the liver extending across the upper abdomen, with appearances suggestive of duplication of the hepatic veins. The liver's right lobe appears normal and in the left upper quadrant, it appears to mirror the right lobe. Polysplenia was noted too.

Diuretics were started and patient was discharged on her 22nd day of life in stable condition. She was also started on Penicillin prophylaxis.

Discussion: This case highlighted that delivering care to a high-risk child with limited resources required proper advance planning to manage any complications.

Whilst it's important to respect mother's autonomy, the care of the child should be our priority as complications could've resulted in an emergency air transfer at short notice.

We'll continue to monitor Baby D's care moving forward in the community using a multidisciplinary approach guided by our tertiary team based at Alder Hey Hospital.

Double Bubble Trouble – Second SCID Baby in the Isle of Man!

Raviendran N¹, Sen S¹

¹Noble's Hospital, Isle Of Man

Background: Globally, the estimated X-linked SCID male births are 1 per 60000. Extrapolating this data to the Isle of Man's birth rate of around 600 per year, we should've 1 SCID baby per 100 years! Defying all odds, we've an uncle-nephew duo with the same diagnosis. This abstract focuses on the nephew but briefly mentions the differences in treatment between them.

Case Report: It was unsurprising that Baby R would've this condition since he was tested via chorionic villi sampling. Born at 34 + 4 weeks via normal vaginal delivery, he was born in good condition with no resuscitation required. He was treated for suspected sepsis and that has resolved. Baseline bloods were unremarkable and the A1555G gene test was negative.

Management plan include commencing prophylactic antibiotics and scheduling of IVIG when Baby R is approximately 6 weeks old. The IVIG will be given 3 weekly. To monitor him, weekly bloods will be done and before setting in the IVIG, viral serology and CMV PCR samples would be required. He'll be followed up post-discharge after housing formalities has been sorted by our local multidisciplinary team with close guidance from the tertiary team based at Great Ormond Street Hospital, London.

Conclusion: Delivering a high-risk baby in a remote island definitely reminded us to be sensible about our hygiene, the cost it entails and to be mindful about the transition from NICU to home. Thankfully, parents are well educated on the necessary post-discharge precautions. We're delighted to hear that Baby R has a complete donor match (unlike his uncle who had an unconditioned haploidentical stem cell infusion complicated by hyper-acute grade 4 graft-versus-host-disease, with recent conditioned matched unrelated donor peripheral blood stem cell transplant).

Gene therapy is on the table but that'll be something to look out for in the future.

Title: Reinvigorating Neonatal Transitional Care (NTC) at Great Western Hospital: Service Expansion and Impact

Emery N¹

¹Great Western Hospitals NHS Foundation Trust

Background

In line with CNST requirements and to improve outcomes for late preterm infants, the Neonatal Transitional Care (NTC) service at Great Western Hospital was expanded in 2025 to include infants from 34 weeks' gestation. Prior to this, care was limited to those ≥ 35 weeks. The service aimed to optimise care closer to the family unit, reduce unnecessary neonatal admissions, and improve flow across maternity services.

Methods

Key service changes included relocation of NTC to a designated area on the postnatal ward and an increase in NTC cot capacity from 6 to 8. A staffing restructure supported this, including appointment of a dedicated senior neonatal nurse. Rotational placements of enthusiastic nursing staff, and shift-based allocation of midwives and maternity support workers. Data were collected using BadgerNet, supplemented by internal audits, parent surveys, and staff feedback.

Measurements

We reviewed the number and gestation of infants admitted to NTC, frequency of neonatal unit transfers, parent satisfaction, and staff-reported confidence and workload. Additional quality indicators included re-admission rates and breastfeeding outcomes. A redesigned infant identification tool was introduced to guide safe and appropriate NTC admissions.

Results

Following implementation, the proportion of infants < 36 weeks cared for on NTC increased without adverse events. Neonatal unit transfers for feeding support decreased. Staff confidence improved, and parents reported higher satisfaction with the continuity of care. Audit data also supported earlier discharge readiness and improved breastfeeding rates at discharge.

Conclusion

Expansion of NTC to include infants from 34 weeks' gestation, supported by staffing and structural changes, is both feasible and beneficial. This model may support national goals to reduce term admissions to neonatal units and promote family-integrated care.

Neonatal stroke Series

Said M¹, Sen S¹

¹Noble Hospital

Title: Perinatal Stroke Series from the Isle of Man

Authors: Dr Marwa Said, Specialty Paediatrician, Dr Samarnath Sen, Consultant Paediatrician

Institution: Nobles Hospital, Isle of Man

Neonatal Stroke is a rare but significant cause of acute neurological injury in term and preterm infants, with long –term consequences including cerebral palsy, epilepsy and cognitive impairments. We present a case series of two babies who developed Perinatal stroke .

Cases

Perinatal Stroke - Case 1

Baby T was born by a Caesarean section in a good condition but developed a dusky episode at approximately 1 hour of age and was admitted to the Neonatal Unit.

He was monitored for hypoglycaemia in view of maternal gestational diabetes .

Mother had a BMI over 50.

Baby T was noted to have a right sided focal seizures on the day 2.

A full Septic screen was performed and a loading dose of phenobarbitone was given.

MRI on that day showed extensive left sided temporo-parietal stroke.

Perinatal Stroke- Case 2

Baby T was admitted to the neonatal unit at approximately 5 hours of age after having 2 episodes of rhythmic jerky movement suggestive of focal seizures

Baby T was born 41+5 w in good condition by induced CS. His mother was an ex-smoker with (BMI more than 30) who developed acute chorioamnionitis.

A full Septic screen was performed and a loading dose of phenobarbitone was given.

MRI showed right large ischemic stroke frontal-parietal motor cortex.

Discussion

We discuss the timing of the presentation and the different aetiological causes and the possible link of Obesity contributing to the Perinatal strokes. This was a very rare set of events, and this highlighted the importance of prompt investigations, making a quick and accurate diagnosis and proper acute and long-term management planning for this serious condition .

A Neonatal Puzzle: TTC7A Mutation Presenting with Intestinal Atresia and Immunodeficiency

Abdalla S¹, Krishnan M¹, Nanjundappa M¹, Kronfli R¹, Dogra H¹, Josifova D², Worth A³, Bhat R¹

¹King's College Hospital NHS Foundation Trust, ²Guy's and St Thomas' NHS Foundation Trust, ³Great Ormond Street Hospital for children NHS Foundation Trust

We report a case of a preterm female infant born at 32+3 weeks' gestation via category 1 caesarean section for fetal bradycardia, following antenatal identification of exomphalos, intra-abdominal bowel dilatation, and fetal growth restriction. Postnatal examination revealed a small exomphalos and clinical signs of intestinal obstruction. Early abdominal imaging supported the suspicion of intestinal atresia. On day 2 of life, she underwent exploratory laparotomy, revealing multiple intestinal atresia. Surgical intervention included resection of atretic segments, Roux-en-Y gastrojejunostomy, and formation of an ileostomy. She retained 30 cm of small bowel with no colon, consistent with severe short bowel syndrome (SBS).

Postoperative management included parenteral nutrition, prophylactic antibiotics, and gradual introduction of minimal enteral feeds. At four weeks of age, imaging revealed portal venous gas, prompting treatment for suspected necrotising enterocolitis (NEC). Concurrently, genetic testing confirmed compound heterozygous pathogenic mutations in the TTC7A gene, associated with multiple intestinal atresia and combined immunodeficiency. Immunological evaluation demonstrated lymphopenia and low CD4+ counts. She was commenced on IVIG replacement therapy, cotrimoxazole, and fluconazole prophylaxis.

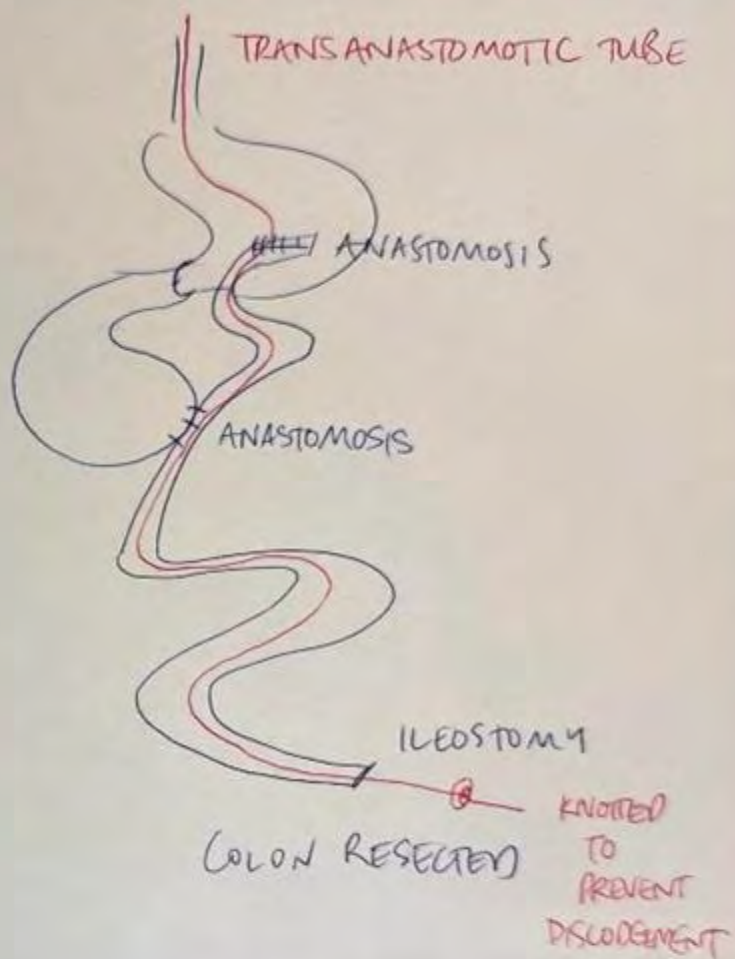
Given the high risk of intestinal failure-associated liver disease (IFALD), bespoke PN and liver protective strategies were initiated. Bone marrow transplantation is under consideration for future immunological deterioration or recurrent infections. She remains clinically stable under close multidisciplinary follow-up involving neonatology, paediatric surgery, immunology, gastroenterology, genetics and nutrition teams.

Conclusion:


This case underscores the complexity of managing TTC7A-related intestinal and immunologic disease in the neonatal period and highlights the importance of early genetic diagnosis, coordinated multidisciplinary care, and individualised nutritional and immunological management.

Graphs

Roux EN Y
GASTROJETUNOSTOMY

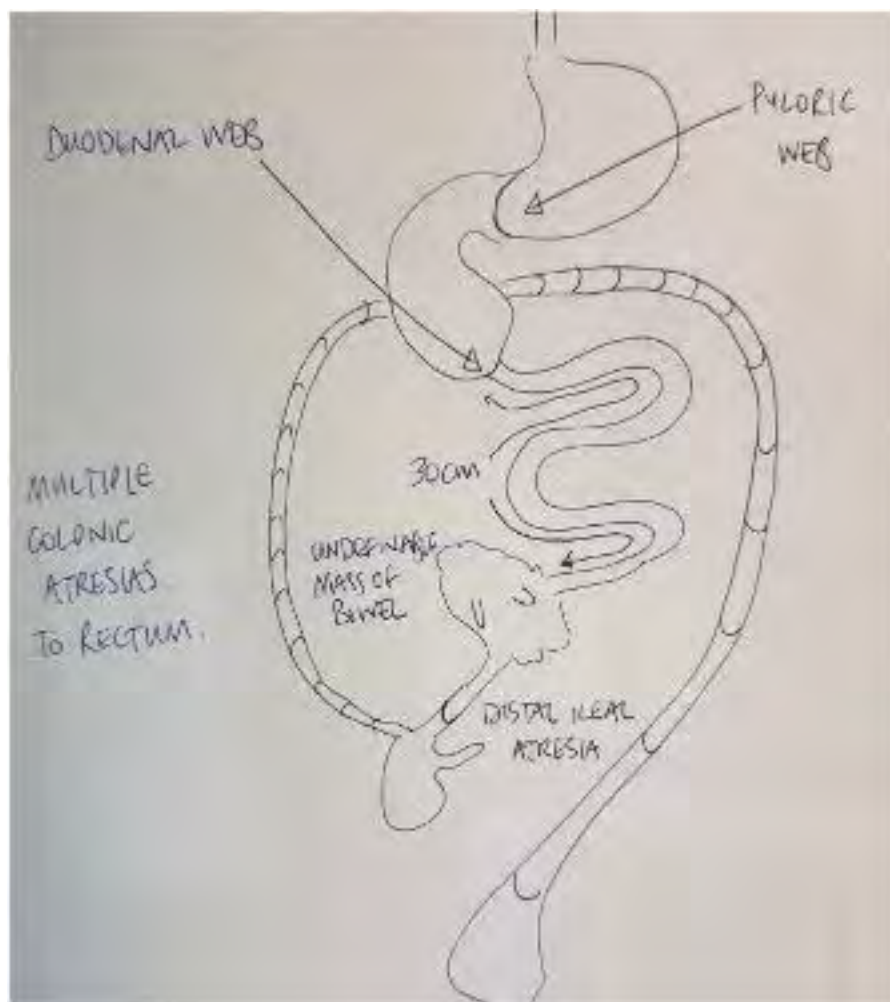


STAPLED RECTO SIGMOID
? RECTAL ATRESIA



A small diagram showing a stapled rectosigmoid anastomosis, which is a surgical connection between the rectum and sigmoid colon. It is drawn as a T-shaped structure with a central vertical line and two horizontal lines branching out.

Image



Continuity, Trust and Transition: A Case for Relationship-Based Therapy in the First 1000 Days

Mckeown F¹, Hall L, Smith L, Mazlan M¹, Muir L

¹Simpsons Centre For Reproductive Health

Background:

Parents of preterm infants encounter vast numbers of professionals during the neonatal period. This period presents significant emotional and psychological challenges including guilt, disconnection and loss of control. Abrupt transition from neonatal to paediatric services following discharge further compounds this and amplified for parents from low socio-economic status.

Trust and communication in parent-staff relationships is critical, especially in the first 1000 days of life, where early intervention can mitigate the impact of neurological injury.

Aim:

To highlight the importance of parent-staff relationships and supported transitions through a case example of a high-risk infant and his family.

Case:

A male infant born at 29 weeks gestation, required prolonged ventilation and developed extensive periventricular leukomalacia. Significant family social history including economic deprivation, social isolation, financial challenges, homelessness, previous disengagement with services and parental childhood trauma. Despite this, parents remained consistently engaged in therapy. At two-years old, the child received a diagnosis of quadriplegic cerebral palsy. The parents trust in relationships formed in the neonatal unit and sustained therapist involvement appears crucial to the optimal outcome achieved. In mum's words: "having someone who gets it, who I can trust, means I know I can do the best for my child".

Relevance:

Research highlights the influence of social-history and deprivation on the outcome for high-risk infants. An influence often detrimental and associated with poorer engagement and developmental outcomes. This case reaffirms the profound impact of therapeutic relationships on parental engagement and developmental outcomes in high-risk infants. Whilst this case considers one individual, the challenges of service transition and the protective role of parent-therapist partnerships are applicable across all neonatal units as well as community services. It reinforces the vital role therapists can play during vulnerable times of transition for children with ongoing needs, and their involvement should be structured into long-term services planning.

Wee Wonders: The case for enhanced and supported transitions for moderate preterm infants

Mckeown F¹, Muzlan M¹, Pettinger K

¹Simpsons Centre For Reproductive Health, Edinburgh
Background

Moderately preterm infants are at higher risk of neurodevelopmental impairment compared to their term equivalents. However, they are rarely included in developmental outcome studies or follow-up programmes when compared to those born less than 32 weeks gestation. We describe the Wee Wonders Group (WWG), established to enhance the transition and follow up of moderate preterm's (born 32-34+0 weeks) and the outcomes of this pilot study.

Aims

To explore the relationship between enhanced follow up and transition support on parental mental health

Assess the influence of enhanced follow-up on developmental outcomes for moderate preterm infants at two key developmental time points

Method

Quasi-experimental pilot study of moderate preterm follow-up. Comprised of three groups:

Intervention group (IG) 1 received enhanced inpatient AHP input and Wee Wonders Group.

IG2 received enhanced AHP input as an inpatient only.

Comparison group – retrospective group who received standard follow-up care.

Main outcome measures: Ages and stages Questionnaire at 13-15 months & 27-30 months; maternal mental health referral before child's 3rd birthday; number of recorded child health visitor contacts.

Results

Table one provides a summary of demographic details for all groups and main outcomes.

Overall outcomes were significantly improved for those who received input both in the neonatal unit and in the follow up group. However, improvements in infant developmental outcomes and parental mental health, were only sustained for three years post birth for those who also attended WWG.

Conclusion:

Enhanced AHP input on neonatal units improves short-term outcomes for Moderate Preterm infants. However, this is only maintained when inpatient support is transitioned into follow-up. Reduction in mental health referrals and health visitor contacts suggests improved transition and parental well-being, even in the presence of antenatal mental health diagnosis. Overall, the intervention appears to improve developmental outcomes, maternal mental health, and provide cost effective health services.

Image

Demographic Data Summary					
	Intervention Groups (Births June 2021-May 2022)		Comparison (Births June 2020-May 2021)		Statistical difference between groups
	N	%	n	%	
Total	62	59.62%	42	40.38%	P-Value (95%)
Eligible	40	64.52%	32	76.19%	0.050
Ineligible	22	35.48%	12	28.57%	0.894
					0.292

Outcome Data Summary									
Group	IG1		IG2		Comparison		IG1 vs IG2	IG1 vs Comparison p-value (95%)	IG2 vs Comparison
	N	%	N	%	N	%			
ASQ 13-15mo									
Normal	28	93.33%	8	80.00%	19	67.86%	0.465	0.000	0.017
Abnormal	2	6.67%	2	20.00%	12	42.86%	0.000	0.000	0.000
Incomplete	0	0.00%	0	0.00%	1	3.57%	0.000	0.000	0.000
ASQ 27-30mo									
Normal	29	96.67%	4	40.00%	22	78.57%	0.057	0.000	0.010
Abnormal	1	3.33%	3	30.00%	7	25.00%	0.000	0.000	0.000
Incomplete	0	0.00%	3	30.00%	3	10.71%	0.000	0.000	0.000
Maternal Mental Health Referrals									
	2	6.67%	3	30.00%	12	43.00%	0.685	0.030	0.051
Health Visitor Contacts									
Mean per infant	27.43	-	44.60	-	43.39	-	0.401	0.045	0.486

Improving Early Nutrition through Buccal Colostrum Administration in Gaza: Clinical Culture Change Driven by Crisis

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Background:

Prior to the current crisis, buccal colostrum administration was not routine practice in Gazan neonatal units. In April 2024, the Gaza Infant Nutrition Alliance (www.gina.org.uk) was established to support clinicians to help mothers provide as much breastmilk to their babies as possible, in line with Infant and Young Child Feeding in Emergencies (IYCF-E) recommendations.

Aim:

To introduce and promote buccal colostrum administration in three NICUs in Gaza, not only as a simple nutritional and immunological intervention but to encourage early expressing and establishment of maternal milk supply.

Methods:

In partnership with the neonatal MDT, the Gazan GINA team introduced buccal colostrum in Nasser Complex, Al Aqsa and Al Helou NICUs between December 2024 and May 2025. Working alongside GINA colleagues outside of Gaza, an existing neonatal enteral feeding guideline was adapted for the Gazan context, with emphasis on early expressing and protecting milk supply throughout. Training and bedside coaching were provided to neonatal staff and mothers alike. Privacy screens were created to enable mothers to have skin to skin with their babies in the NICU. Mothers received breastfeeding peer support from GINA volunteers via WhatsApp as they expressed.

Results:

In December 2024 buccal colostrum administration was essentially non-existent in all three neonatal units. In June 2025, it is now part of routine care with ~70% receiving buccal colostrum in Al Aqsa, ~65% in Nasser Complex and ~40% in Al Helou. This shift in practice is reported to have had a positive impact on neonatal outcomes as well family & staff experience.

Conclusion:

Despite extremely challenging conditions, there has been successful clinical culture change in three NICUs in Gaza. Buccal colostrum administration was previously overlooked but is now seen as essential- not just as a medical intervention but as a deeply important act of human connection and care.

Image

Neonatal Enteral Feeding Risk Assessment*

(Please note ALL babies should receive regular buccal colostrum as soon as possible after birth)



Highest Risk Babies

- <28 weeks gestational age or birth weight <1000 grams
- Small for gestational age (<2nd percentile) especially if associated with absent or reversed end diastolic flow
- Perinatal hypoxic-ischaemic insult with evidence of end organ injury
- Hypotensive or unstable ventilated babies
- Additional risk factors for gut hypoperfusion e.g. haemodynamically significant ductus arteriosus, co-existing congenital heart disease

Introduce buccal colostrum as soon as possible after birth

Start maternal breastmilk feeds @ 12-24 mL/kg/day as 2 hourly boluses as soon possible thereafter

Advance feeds once tolerated after 24 hours old @ 30 mL/kg/day (see Appendix 1).

Continue to monitor feed tolerance regularly with cares

Moderate risk babies

28+1 to 31+6 weeks gestational age without additional risk factors (including clinically stable ventilated babies)

Introduce buccal colostrum as soon as possible after birth

Start maternal breastmilk feeds @ 24 mL/kg/day as 2 hourly boluses as soon possible thereafter.

Advance feeds as tolerated @ 30-40 mL/kg/day (Appendix 1)

Continue to monitor feed tolerance regularly with cares

Standard risk babies

≥32 weeks gestational age without additional risk factors

Introduce buccal colostrum as soon as possible after birth

Start full maternal breastmilk feeds @ 60-90 mL/kg/day as 2 to 3 hourly boluses as soon possible thereafter

Advance feeds as tolerated @ 30-40 mL/kg/day (Appendix 1)

Continue to monitor feed tolerance regularly with cares

Please ensure all mothers receive expressing and lactation support from the GINA team as soon as possible after birth and throughout their baby's admission

*Adapted for GINA with permission- West of Scotland Neonatal Enteral Feeding Guideline, published, 19.12.24
GINA Neonatal Enteral Feeding Risk Assessment v1 January 2025

Mapping Neonatal Neurodevelopmental Follow-up Practices Across the KSS Region

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Background:

Early neurodevelopmental follow-up is essential for high-risk infants after neonatal care, yet services across regions often vary in structure, resources, and accessibility. This survey aimed to explore current practices within the Kent, Surrey, Sussex (KSS) region to identify strengths, gaps, and opportunities for alignment.

Methods:

An electronic survey was distributed to 14 neonatal units across KSS, collaboratively designed by a team including University Hospitals Sussex Trust and the KSS Neonatal Operational Delivery Network members. The questionnaire captured details about inclusion criteria, assessment tools, clinic models, referral processes, and follow-up pathways.

Results:

All 14 units responded. All units include infants born <30 weeks or <1000g, with additional inclusion of those with HIE, major congenital anomalies, and neurological conditions.

Follow-up is predominantly face-to-face (94%), with most units offering care in both hospital and community settings. Assessment tools like Bayley Scales of Infant and Toddler Development (BSID 3rd or 4th edition), Hammersmith Infant Neurological Examination (HINE), Schedule of Growing Skills (SOGS) and Prechtl's General Movement Assessment (GMA) were used inconsistently, and some units reported no standardised tools due to resource constraints. Clinics ranged from joint multidisciplinary (58%) to separate reviews, with care often led by neonatal consultants, physiotherapists, or general paediatricians.

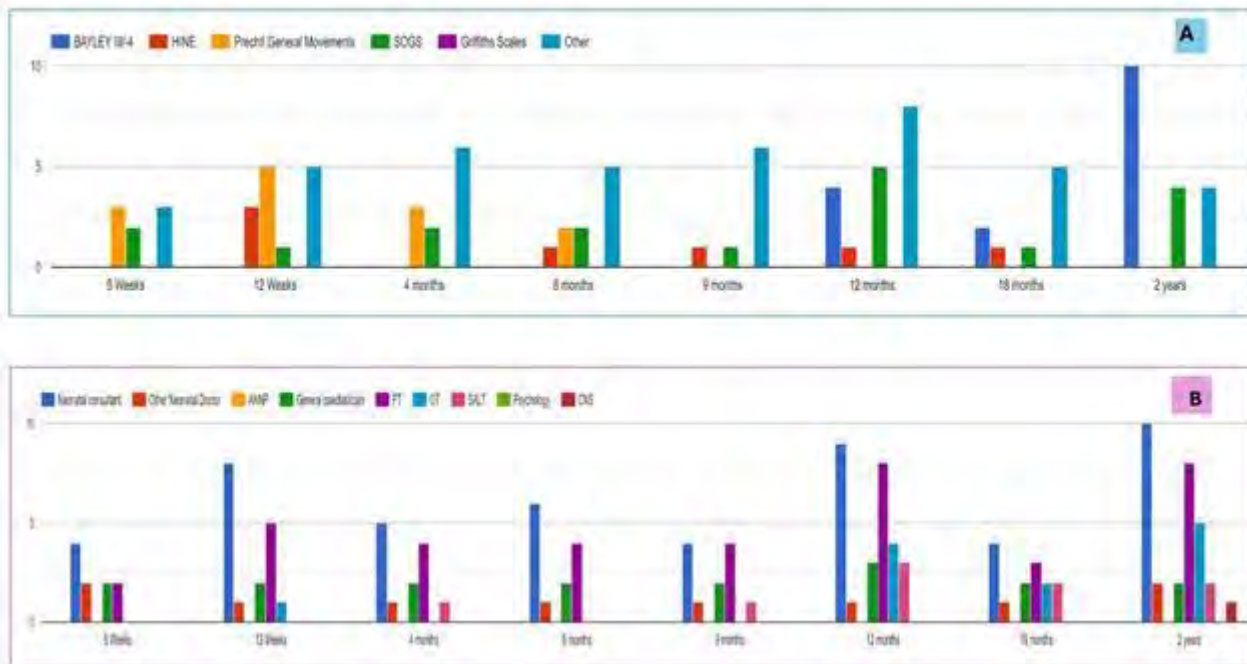
Referral to community services was common, but wait times varied widely, ranging from a few weeks to over 6 months. Only 50% of units confirmed a process to follow up on referral outcomes, and no units had parent satisfaction surveys in place. Feedback highlighted significant disparities in staffing, MDT availability, and funding across units.

Conclusion:

This survey reveals marked variability in neurodevelopmental follow-up across the KSS region. While many units offer dedicated care for high-risk infants, inequities in access to MDTs, standardised assessments, and timely referrals highlight the need for regional alignment, shared guidelines, and investment in sustainable services.

Image

Figure 1: Shows the different type of assessment carried out by the 14 neonatal unit across the region (a) and the variable health care professional contributing to the assessment process



Neonatal jaundice at home: A postcode lottery

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¹The London Research, Evaluation and Audit for Child Health (REACH) Network

Background

Approximately 60% of term and 80% of preterm babies develop jaundice in the first week after birth (1). Visual inspection alone is not sufficient to estimate bilirubin levels, and neonates with suspected jaundice will undergo either non-invasive transcutaneous bilirubinometry (TcB), or blood tests for serum bilirubin (SBR). Jaundice treatment with phototherapy is usually performed in inpatient settings, though home phototherapy is safe, cost-effective and preferred by families (2,3). We aimed to assess current practice across our region regarding the availability of at-home testing and treatment for jaundice.

Methods

Via the regional resident doctor-led research network "REACH", we surveyed availability of community neonatal jaundice care in all London NHS Trusts providing postnatal care. Clinician-reported responses were transcribed onto a spreadsheet and quantitatively summarised.

Results

Responses from 20 out of 26 sites (77%) were received and analysed. Only four sites (4/20, 20%) reported having the capacity to perform both TcBs and SBRs in the community, whereas the majority (14/20, 70%) had only TcB available, and two sites (2/20, 10%) could only collect SBRs in the community. SBRs were synonymous with lab samples, but one site could additionally run spun samples.

Only a third (7/20, 35%) of sites could provide phototherapy in the community, and of those, two reported it was rare in practice.

Conclusions

We have found that at least one mode of community bilirubin measurement is available in all 20 London Trusts that responded, but that community treatment is only available in a minority. This discrepancy suggests a 'postcode lottery' with regards to basic community jaundice services. Lack of home treatment means longer hospital admissions, with likely physical and psychological consequences, which may disproportionately impact families struggling with finances, mental health difficulties, or other caring responsibilities. Development of equitable community neonatal jaundice services should be a priority.

Graphs

Community bilirubin measurements available in London
NHS Trusts

- TcB
- SBR
- Both TcB + SBR



A Rare Case of Megacystitis and Megacolon

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A rare case of megacystitis and megacolon

Background:

Megacystis-Microcolon-Intestinal Hypoperistalsis Syndrome (MMIHS) is a rare genetic disorder characterised by bladder and bowel dysmotility.

The most common antenatal sign is an enlarged bladder without mechanical obstruction. Classically, the microcolon is diagnosed after birth when babies undergo gastrointestinal contrast studies to investigate abdominal symptoms, such as bilious vomiting or an inability to pass meconium.

A typical pattern of postnatal manifestations of this disease is prolonged dependence on parenteral nutrition due to the non-mechanical bowel obstruction caused by hypoperistalsis, along with long-term catheterisation caused by bladder myopathy. The R438 whole-genome sequencing panel is the definitive diagnostic test for this disease.

Case Report:

A 28-week preterm baby was transferred to our tertiary neonatal unit for urological assessment, as he had an antenatal alert for a massively dilated bladder with normal amniotic fluid.

During the stay, despite unremarkable MCUG and spinal and renal ultrasound, he needed long-term suprapubic catheterisation as he was unable to pass urine spontaneously.

Additionally, the baby consistently exhibited abdominal distension and needed frequent rectal washouts. The GI contrast studies revealed a massively distended colon, prompting the surgeon to perform an ileostomy. Although histopathological analyses ruled out Hirschsprung's disease, the non-mechanical obstructive signs and TPN dependency persisted after the ileostomy.

A multidisciplinary team of our neonatologists, geneticists, and surgeons discussed the combination of persistent abdominal and urinary non-mechanical obstructive manifestations, leading to the request for whole-genomic sequencing (R438) for paediatric pseudo-obstruction, which confirmed the MMIHS diagnosis in this case.

Conclusion:

Contrary to the classical microcolon and megacystis in the rare MMIHS, the GI contrasts in our baby showed megacolon, which was a breakthrough in the clinical understanding of the disease. The MDT discussion was crucial in suggesting the R438 WGS panel in his case, leading to this unique finding.

Five Lives, One Plan: Multidisciplinary Transition Planning in a Quadruplet Delivery at 25+5

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Background:

High-order multiple births at extreme prematurity pose unique challenges. Managing multiple extremely preterm infants simultaneously during the critical “golden hour” necessitates coordinated multidisciplinary approaches to optimize immediate and long-term neonatal outcomes.

We present a case of quadruplet delivery at 25+5 weeks’ gestation, highlighting the role of detailed planning in achieving safe transition and perinatal optimisation.

Aim:

To evaluate the effectiveness of MDT-led anticipatory planning on perinatal outcomes and transition quality in an extremely preterm quadruplet birth.

Methods:

This case study describes the coordinated management of a quadruplet pregnancy from 24 weeks gestation following referral from an out-of-area hospital. Multidisciplinary approach involved daily team huddles with neonatal, obstetric, midwifery, transport, resuscitation, and clerical teams. Strategic planning included development of a rota spreadsheet for short-notice staff support, space allocation for each neonate, pre-labelling of equipment stations with designated team roles, pre-positioning of additional equipments, emergency medications, surfactant, and incubators. A structured corridor transfer plan to NICU and communication runners facilitating team coordination.

Results:

All babies were successfully delivered within five minutes. Their birth weights ranged from 490 to 710 grams. Optimal cord management was achieved in all babies with durations ranging from 20-90 seconds. Normothermia was maintained throughout for all. Respiratory support was optimized, with 3/4 of babies managed with nasal high-flow therapy and only one requiring immediate intubation. All neonates were transferred to NICU within 30 minutes after birth and received early-rescue surfactant. Intravenous fluids were commenced within one hour for all.

Conclusion:

Clear communication, predefined roles, logistical foresight and perinatal optimization strategies can achieve favourable immediate outcomes in extremely challenging high-order multiple deliveries . This reproducible model aligns with BAPM priorities on transition at birth, collaborative working, and experience-based care improvement.

Image

Baby	Birth Time	Birth Weight (g)	DCC Time (s)	Resus Type	Cuddles	Surfactant Time	NICU Arrival	1st Gas	Temp Drop (°C)	PVC Time	Umbilical Line (Time)
Q1	08:00	690	90	HFT 6L/min	No	3h	08:14	08:25	0.4°C (37→36.6)	08:25	09:43
Q2	08:01	490	60	HFT 7L/min	Yes	2h	08:25	08:43	None (36.9C)	08:43	10:44
Q3	08:03	700	20	Intubated	No	12 min 30s	08:30	09:01	None (37.4°C)	09:01	10:01
Q4	08:05	710	60	HFT 6–8L/min during transfer	Yes	1h 30min	08:35	08:55	0.1°C (36.9→36.8)	08:55	10:32

Sirajudin, Z 58

A

Abdaljawwad, R 240
Abdalla, S 194, 227
Adams, E 137
Ahmed, H 241
Ajweh, Y 240
Aladangady, N 45
Al-Muzaffar, I 43

B

Bandaru, M 251
Barnes, N 125
Batey, N 244
Bevan, V 76
Bhandari, S 134
Bhat, R 194, 227

C

Canale, N 125
Carty, B 8
Casewell, C 241
Cashin, H 125
Cawley, P 180
Church, C 194
Church, C 203
Clements, E 76

D

DaSilva, I 8
Davis, A 100
Deorukhkar, A 138, 191
Dhahir, H 240
Dogra, H 227

E

Eason, J 191, 244
Edwards, L 112
Egan, N 54
Elhussein, A 194

F

Fatima, T 204
Faughan, C 119

G

Gilbert, H 54

H

Hall, L 232
Hamilton, S 24
Hayward, R 203
Heighton, E 134
Henry, C 138, 191

Al-Sersawi, D 240
Al-Soufi, R 240
Amos, N 37
Apostu, I 140
Ashoor, G 194
Atkins, E 8
Atter, C 125

Bobby, J 241
Boldick, E 120
Boothby, E 54
Brown, L 43, 174
Brown, R 162
Budd, C 120

Cockburn, K 34
Congdon, L 24
Cook, B 43
Copeland, M 120
Cornwell, J 242
Cosgrove, E 174
Course, K 203
Cox, W 203

Douthwaite, A 98
Driscoll, K 139
Duffy, D 162
Dunlevy, F 187
Dunne, J 119

Emery, N 214
Evans, K 180
Evans, R 100

Flockton, H 251
Franks, T 100

Gray, S 24

Hobbs, L 58
Hopper, A 241
Hughes, D 119
Hughes, G 119
Husain, Z 138

Hickey, A	119	Hussain, S	100
Higgins, S	241		

I

Ingram, E	139
-----------	-----

J

Jabak, S	194	Jones, C	43
Jacob, B	194	Jones, J	43
Jagodzinski, J	8	Jones, K	241
Jain, P	86	Jones, M	180
Johncock, K	203	Josifova, D	227

K

Kamupira, S	137	Konnuru, S	139
Keen, A	120	Krishnan, M	194, 227
Kelly, L	8	Kronfli, R	227
Kenton, E	134	Kumar, A	45
Kift, S	187	Kumar, D	58, 131
Kollamparambil, T	43	Kumar	43
		Pitchaikani, P	

L

Leach, H	162	Loucaides, E	242
----------	-----	--------------	-----

M

Mahadevan, S	45	Mena, J	242
Manoo, K	45	Michaud	242
		Maturana, M	
Manton, M	125	Mishra, A	54
Mazlan, M	232	Mitra, N	37
McDougall, R	134	Mohammedi, A	241
Mckenzie, A	194	Morar, N	204
McKeown, F	232, 235	Mousa, H	240
McKerracher, L	34, 240	Muir, L	232
McKilligan, K	251	Mustapha, M	8
Meena, V	251	Muzlan, M	235

N

Nanjundappa, M	227	Nezafat	180
		Maldonado, B	
Nelson, M	134	Nicallen-roeder, K	34
Nesbitt, D	203	Nofal, S	240

O

O'Byrne, C	187	Okongwu, I	45
O'Hare, C	134		

P

Page, L	111	Pettinger, K	235
Palanisamy, B	45	Phillips, S	112
Palatino, J	98	Pillay, K	242
Parks, J	180	Pritchard, S	203
Parsons-Jones, T	203	Protheroe Davies, L	203
		Pryce, R	241

Q

Qudieh, A 240

R

Race, L 76

Ratnavel, N 86

Raviendran, N 205, 208

Rea, H 24

Rose, C 120

Roy, A 120

S

Sage, J 116

Said, M 221

Sand, L 98

Scally, N 162

Sen, S 205, 208, 221

Serrano-Llop, A 194

Shore, H 111

Silva, M 241

Simner, A 58

Simpson, S 54

Smith, C 134

Smith, L 232

Spencer, C 180

Spierson, H 58, 131

Sundaram, S 131

T

Tabassum, S 187

Tarakeme, E 162

Tector, G 203

Templeton, J 58

Thakur, D 162

Thakur, S 194

Thomas, R 172

Thomas, V 112

Thorpe, D 37

Toeima, I 244

U

Unluer, U 204

V

Varsami, M 45

W

Wach, R 120

Walsh, A 241

Walsh, C 131

Warmisham, E 125

Watts, T 172

Wells, L 8

Wilkins, E 58

Wilkinson, H 203

Wood, E 180

Wood, F 76

Woolridge, R 37

Worth, A 227

Wyllie, T 116

Y

Yap, J 112

Yissau, A 8

Z

Zorro, C 194