hospitals. Alternative methods of identification such as Day 0 samples were also found to be unreliable.

Analysing laboratory data for over 12,000 first samples received found an overall avoidable repeat rate of 2.1% (acceptable threshold $\leq 2.0\%$, achievable threshold $\leq 1\%$). An avoidable repeat rate of 5.2% was found for inpatient babies compared to 1.7% for community babies.

Badgernet is a neonatal IT system that issues screening reminder prompts in neonatal units to trigger completion of screening in neonatal units, these can be dismissed when screening is not complete. This system is not used in stand-alone children's hospitals.

Conclusions Laboratory data can provide maternity units with information to be able to identify differential avoidable repeat rates for babies in hospital settings. This allows the targeting of quality improvement work to reduce avoidable repeats.

NBSFS is currently not able to provide differential information about inpatient babies. This would be improved by renaming the 'NICU' field as 'inpatient' and mandating completion.

Access to NBSFS for neonatal units and other inpatient children's settings would support completion of timely screening. In the interim, local feedback mechanisms to update maternity units on screening status are needed.

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NEURALLY ADJUSTED VENTILATORY ASSIST (NAVA) IN VERY PREMATURELY BORN INFANTS WITH EVOLVING/ESTABLISHED BPD

¹Sandeep Shetty, ¹Katie Evans, ¹Anay Kulkarni, ¹Donovan Duffy, ²Anne Greenough. ¹St George's Hospital NHS Foundation Trust; ²Asthma UK Centre for Allergic Mechanisms in Asthma, King's College London

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Background NAVA/NIV-NAVA (Neurally adjusted ventilatory assist/non-invasive NAVA) utilises the electrical activity of the diaphragm to trigger the ventilator. A modified nasogastric feeding tube with a series of electrodes allows monitoring of the diaphragmatic electromyogram (Edi).¹ The waveform of the Edi is used to trigger and control ventilator support. NAVA/NIV-NAVA allows the infant to initiate support of inspiration and termination of inspiration, potentially allowing efficient ventilation at lower pressures. Furthermore, using the respiratory drive of the infant to control ventilation may help avoid hypocarbia and hypercarbia.² Use of NAVA for infants requiring mechanical ventilation is in its infancy.³

Objectives Our aim was to determine whether NAVA/NIV-NAVA has advantages over conventional modes of invasive and non-invasive ventilation in evolving/established (Bronchopulmonary dysplasia) BPD.

Methods A retrospective study was undertaken. Each infant on NAVA/NIV-NAVA was matched with two other infants (controls) supported by conventional invasive and NIV. Matching was by gestational age, birth weight, sex, antenatal steroid exposure and if inborn/or transferred ex utero. Infants were identified from a standardised electronic neonatal database (Badgernet). Data were obtained from the electronic documentation recording system. NAVA/NIV-

NAVA was delivered by the SERVO-n[®] Maquet Getinge ventilator and conventional ventilation (predominantly flow sensor triggered) by the Stephanie STEPHAN ventilator and non-triggered non-invasive modes were BiPAP, CPAP (flow driver) and HHFNC. Outcomes were extubation failure, duration of invasive and non-invasive ventilation, total length of hospital stay (LOS), BPD (oxygen requirement at 36 weeks corrected age) and home oxygen rates. Outcome included data from the local hospital after discharge from St George's Hospital (SGH). The study period was between June 2019 and November 2020. The infants were compared to the historical cohort born between June 2016 and January 2019. This project was registered with SGH Audit department.

Results Eighteen 'NAVA' infants were compared with 36 controls. Infants on NAVA/NIV-NAVA had lower extubation failure rates (median 0 (0–2) versus 1 (0–6) $p=0.002$), shorter durations of invasive ventilation (median 30.5 (1–90) days versus 40.5 (11–199) days $p=0.046$) and total duration of invasive and non-invasive ventilation up to the point of discharge from the local hospital (median 80 (57–140) days versus 103.5 (60–246) days $p=0.026$). In addition, the total length of stay in hospital was lower in the NAVA/NIV-NAVA group (111.5 (78–183) days versus 140 days (82–266) days $p=0.019$). There were no differences in the BPD (17/18 (94%) versus 32/36 (89%) $p=0.511$) or home oxygen rates 14/18 (78%) versus 23/36 (64%) $p=0.305$) between infants on NAVA/NIV-NAVA group and infants in the control group.

Conclusions These results suggest that a combination of NAVA/NIV-NAVA compared to conventional invasive and non-invasive modes may be advantageous for preterm infants with evolving/established BPD.

REFERENCES

- Stein H, Firestone K. Application of neurally adjusted ventilatory assist in neonates. *Semin Fetal Neonatal Med* 2014;19(1):60–9.
- Beck J. Patient-ventilator interaction during neurally adjusted ventilatory assist in low birth weight infants. *Pediatr Res* 2009;65(6):663–8.
- Rossor TE, Hunt KA, Shetty S, Greenough A. Neurally adjusted ventilatory assist compared to other forms of triggered ventilation for neonatal respiratory support. *Cochrane Database Syst Rev* 2017;CD012251.

International Child Health Group

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ADDRESSING BARRIERS TO EARLY INTERVENTION IN CHILDREN WITH DEVELOPMENTAL IMPAIRMENT IN LUCKNOW, INDIA

¹Rahul Bharat, ²Uzaina Qazi, ³Sanjay Niranjana, ³TR Yadav. ¹Association of Child Brain Research/Royal Cornwall Hospital NHS Trust; ²Association of Child Brain Research; ³Geniuslane Child development centre

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Background Child developmental impairment problems offer a challenge and a valuable opportunity. Unlike any other medical problem, the human brain continues to develop for the first six-year and respond to its environment. The parents are the main stakeholders for children and training parents could provide a valuable low-cost early intervention. The parents are often in denial about a developmental impairment. Some parents panic or feel anxious, angry, and hopeless. There seems to a lack of guidance on the best practice to address parental feelings.