

LETTER

Pulse oximetry screening for critical congenital heart defects: a repeat UK national survey

There is increasing evidence that newborn pulse oximetry screening (POS) improves the identification of those critical congenital heart defects undetected by existing screening methods.¹⁻⁴ POS is routine in some countries including the USA, Norway and Poland and more are considering its introduction. In 2013, the UK National Screening Committee (NSC) undertook a public consultation and a pilot study in 15 maternity units in England in 2015. The NSC is still considering the evidence.

In 2012, we published a national survey of all UK neonatal units and reported that 18% were performing routine POS (up from 7% in 2010).⁵ Of the non-screening units, 71% were considering its introduction.

Four years later, we repeated the survey in order to assess changes in practice following the publication of further evidence⁴ and the NSC engagement. Between September 2016 and February 2017, lead Consultants from all 193 UK neonatal units were contacted via email and asked to complete a short online survey (telephone follow-up for non-responders).

We received responses from all 193 units. POS was routinely performed in 78 (40%; more than double the number since 2012). POS was more likely in Neonatal Intensive Care Units (50%) compared with Local Neonatal and Special Care units (38% and 34%, respectively). Uptake in Wales was 75%, England 41%, Scotland and Northern Ireland 25% and 14%, respectively. There was regional variation in England: POS was adopted in 73% of units in the North West while in the South East uptake was only 11% (figure 1).

POS practice was also variable. Preductal and postductal saturations were checked in 72% with the rest using only postductal. A third of units used the 'PulseOx' algorithm limits¹ (oxygen saturations <95% and saturation difference 3% or more) and 63% of units performed POS within 24 hours of birth.

Of the 115 neonatal units that did not perform POS, 12 were about to start and 75 (73%) were considering adopting the practice. Commonly perceived obstacles

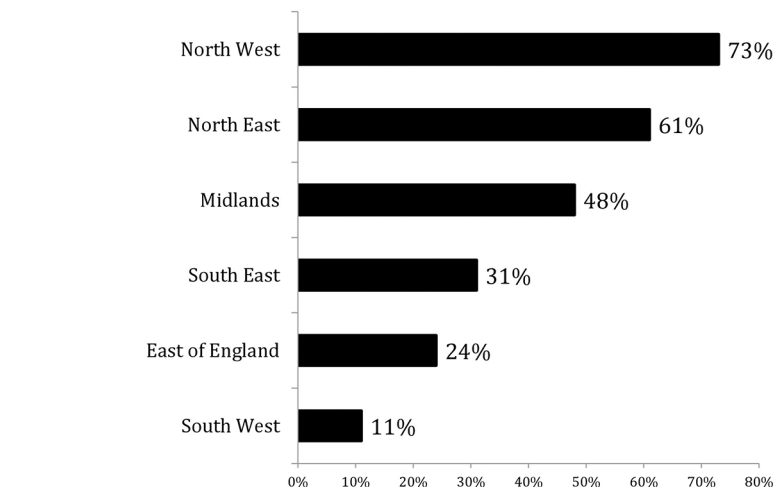


Figure 1 Pulse oximetry screening in different regions of England.

were similar to the previous survey⁵ that is, resource concerns (51%), cost (28%), availability of echocardiography (23%) and concerns regarding false positives (12%). Nineteen per cent are awaiting a national recommendation, but 6% of units felt that PO screening was unnecessary due to the quality of antenatal detection of congenital heart defects.

It is evident that practice is changing with increasing number of neonatal units adopting or willing to adopt PO as a routine screening tool although some concerns remain and there is still considerable variability of practice. A national recommendation may reduce concerns and align screening practices.

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Contributors PM developed the questionnaire and the online form and made initial contact with the clinicians. She collated and analysed the data and wrote the first draft of the paper and subsequent edits. AS supported the development of the questionnaire, contacted the non-responders and provided input to the subsequent edits of the manuscript and all other aspects of the work. AKE conceptualised and initiated the study, contacted non-responders, supervised the data analysis and contributed to subsequent versions of the manuscript with overall responsibility for the final version.

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