

Newborn pulse oximetry screening in the UK

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The Lancet

Newborn pulse oximetry screening in the UK: a survey of practice in 2020

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Author Comments:	Dear Editor Pulse oximetry screening (POS) has attracted considerable international attention over the past 10 years and the Lancet has been at the forefront, publishing data and opinion which has influenced POS practice worldwide. POS has been recommended by many countries. Recent USA data show that POS reduces death from critical congenital heart defects (CCHD) by over one third. The UK National Screening Committee (NSC) has been considering routine POS since 2013. However, despite overwhelming supporting evidence and two national public consultations, the NSC has yet to recommend this life saving test. As a result newborn babies in the UK are subject to an inequality of service with many denied the opportunity and as a consequence some serious conditions are missed. This survey from all UK neonatal units reflects the further change in practice which has occurred, not least because of the Lancet's support for this important intervention. We hope this will give a vital impetus to the goal of achieving universal POS in the UK and beyond. Many UK units are still waiting for national guidance on this issue.

More babies will have died from undiagnosed CCHD in the last months than from Covid 19.

Prof Andrew Ewer

Dear Editor

Newborn pulse oximetry screening in the UK: a survey of practice in 2020

Routine newborn pulse oximetry screening (POS) identifies babies with critical congenital heart defects (CCHD) that would otherwise have been missed by antenatal ultrasound and postnatal examination.¹ POS reduces mortality from CCHD², and identifies babies with other important conditions such as respiratory disorders and sepsis.

Many countries now recommend POS, but the UK National Screening Committee (NSC) is still undecided.³ Despite the absence of a national recommendation, many UK neonatal units have introduced POS. In 2017 uptake of POS was 40% (an increase from 7% in 2010).⁴

Following a second public consultation by the NSC in 2019, we surveyed all UK neonatal units to see if practice had changed.

Between January and May 2020, lead clinicians from all 189 UK Neonatal Units were invited to complete an online questionnaire with telephone follow-up for non-responders.

189 units responded (100%). Ninety-six units (51%) are currently using routine POS, including the majority of Neonatal Intensive Care Units (55%) and Special Care Units (60%). POS was used in 43% of Local Neonatal Units. Uptake across the UK varied from 100% in Wales and 51% in England, to 29% in Scotland and Northern Ireland. Although there are screening units in all regions of England, uptake in the North is greater than in the South (Figure 1).

Most units screen within 24 hours (57%) or before discharge (29%) and the PulseOx study⁵ algorithm (pre and post ductal saturations less than 95% or > 2% difference being abnormal).

Of the 93 non-screening units, 28% were considering introduction in the near future, but 66% were waiting for a recommendation by the NSC. Perceived barriers to introduction included resources and staffing (47%), lack of local echocardiography (25%), training (21%) and concerns about false positives (9%). Additional perceived barriers were the lack of national screening guidelines (18%), and 'change' itself (12%). Only 6 units (6%) were not considering POS. All six cited concerns over false positives, three were unconvinced by the data, two had insufficient staff and one felt that POS was an unnecessary test.

We asked screening units if they felt that POS had led to an increase in unnecessary investigations. 78% felt that screening did not increase these investigations, and 10% felt that any small increase was justified and offset by the benefits of identifying significant cardiac and non-cardiac pathology.

The majority of UK Neonatal units now use routine POS, although there are still regional differences in uptake and variation in implementation. The need for a national recommendation is more compelling than ever.

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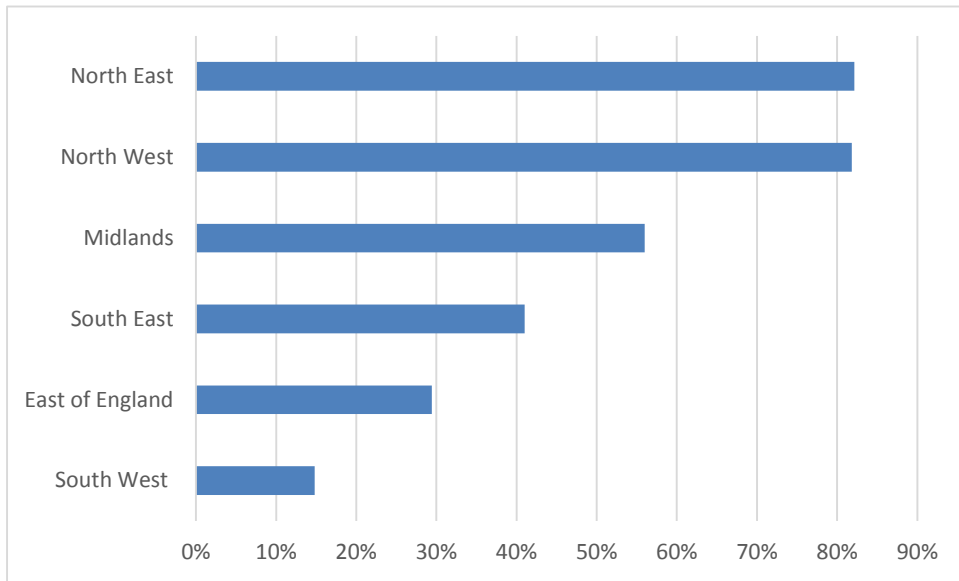


Figure 1 - Percentage of units performing POS in different regions of England