Oxford AHSN case study

Date: Q3 2019/20

Programme/Theme: Strategic and Industry Partnerships

Title: Thousands more pregnant women benefit from test to rule out pre-eclampsia following national rollout led by the Oxford AHSN

Overview summary

Quick, accurate blood tests which can help rule out pre-eclampsia are improving care for pregnant women and their unborn babies, reducing anxiety and saving the NHS money. AHSNs are leading a rapid adoption project for these tests into maternity units across the country. Rapid uptake means these tests are becoming available to thousands more pregnant women – up from 29,000 in March 2019 to a predicted 200,000+ by the end of December 2019. The award-winning NHS/research/industry partnership has been selected for the NHS England Accelerated Access Collaborative, Innovation Technology Payment and Rapid Uptake programmes in 2019/20 which introduce an accelerated pathway to market for highly transformative innovations. Initially led by the Oxford AHSN, the initiative is now backed nationally by all AHSNs. Detailed implementation packs have been developed covering changes required to pathways and practices. These make it relatively straightforward to replicate at any maternity unit which is supported by a laboratory. A collaborative, multi-disciplinary approach is enabling improved decision-making and clinical risk reduction with a clearer focus on women needing closer monitoring. This is leading to improvements to patient safety, experience and satisfaction. Projected annual savings in England are estimated at £4m per year relating to reduced hospital bed occupancy. There is growing international interest in adopting this model. This initiative was a category winner at the HSJ Partnership Awards 2019. The judges said: "This project showed high levels of innovation and sophistication. This evidence-based project delivered demonstrable improvements in patient experience."

Challenge identified and action taken

Pre-eclampsia (PE) is a multi-system hypertensive disorder - a serious disease that occurs in around four per cent of all pregnancies (about 23,000 annual cases in the UK). It causes high blood pressure, protein in the urine and oedema and can result in maternal organ failure, restricted foetal growth and pre-term delivery. In extreme cases it can lead to foetal or maternal death. Clinical teams inevitably have a high degree of suspicion for the disease and a low threshold to admit pregnant women with suspected PE. This places significant economic and capacity burdens on maternity systems. It costs the NHS an estimated £9,000 per pregnancy to treat. Up to now there has been no definitive way to accurately diagnose who is not at

risk of developing pre-eclampsia. Women are routinely admitted for an anxious few days of hospital tests 'just in case' - but most do not actually have the condition.

In 2017, the Oxford AHSN initiated a project to drive the uptake and adoption of placental growth factor-based (PlGF) testing. Working with the Oxford Patient Safety Collaborative and clinical leads, laboratory heads, finance and management functions, the Oxford AHSN was successful in helping the first three hospital trusts in England adopt PlGF-based testing into standard clinical practice. The Oxford AHSN has now developed an implementation pack to support the adoption and spread of PlGF-based testing. Following a rigorous process, the test has been selected for rapid uptake nationally through the NHS England Innovation Technology Payment scheme and Accelerated Access Collaborative, which identify highly transformative innovations and introduce an accelerated pathway to market. All AHSNs are now working together to ensure rapid and widespread adoption of the test into standard clinical practice in maternity units across the country.

Impacts and outcomes

AHSNs are leading a rapid roll out into maternity units across the country enabling faster and more accurate diagnosis. This is making the pre-eclampsia test available to thousands more pregnant women. Maternity services have responded very positively to the adoption of PlGF-based testing. In the first nine months of ITP funding, it anticipated that around 50 additional NHS trusts will have adopted a test into standard clinical practice, meaning over 200,000 additional pregnant women will have a diagnostic test for PE available to them (up from 29,000 across five adopted Trusts prior to April 2019). These numbers mean that just over 40% of all maternity services in England are expected to have adopted a PlGF-based test by year end, covering just over a third of all pregnancies.

Detailed implementation packs have been developed covering changes required to pathways and practices. These make it relatively straightforward to replicate at any maternity unit which is supported by a laboratory. A collaborative, multi-disciplinary approach is enabling improved decision-making, clinical risk reduction and better targeting of resources. This in turn is leading to improvements to patient safety, experience and satisfaction. For each hospital AHSNs are developing insight into their unique pathway and needs and providing project management and business support behind the adoption process.

Positive impacts include:

- Improved patient safety through accurate diagnosis on the suspicion of PE
- Reduction in the number of (unnecessary) admissions for suspected PE
- Improvement in maternity capacity as the result of having fewer women to monitor as inpatients
- Improvement in community midwifery capacity due to a reduction in the number of follow-on appointments required once PE is suspected
- A reduction in the direct costs to the system from the array of inpatient monitoring tests undertaken on the woman and her foetus. Of note is the ability to keep a woman on the most appropriate treatment pathway (i.e. Standard, Intermediate or Intensive) and not to

have to escalate the level of her care to a higher pathway during the pregnancy upon the suspicion of PE, for which no additional funds are made available

- A reduction in the number of pre-term or emergency deliveries (delivery of the baby is the only "cure" for PE)
- Positive impact on workload and costs incurred by both maternity and paediatric services as a result of fewer pre-term births – cost savings based on fewer outpatient visits, admissions, pre-term deliveries and less onward neonatal care - projected savings in England are expected to be in the region of £4m per year, based on an estimated saving of £250-£600 per woman tested projected from health economic models.

There is also growing international interest in adopting this model; clinical and laboratory leaders from the original UK adopting Trust are providing support to adopting hospitals abroad.

This NHS/research/industry partnership has won national and international awards, including from the HSJ and the UNIVANTS of Healthcare Excellence.

Feedback from partners

"The key has been combining industry innovation and research evidence to meet a known NHS need. That is where the AHSNs came in. The Oxford AHSN's expertise and connections opened doors and enabled use of this test to spread from an initial hospital to multiple sites. They developed insight into pathways and needs as well as providing project management and business support for adoption. This approach allows us effectively to segregate patients into those who have virtually no risk of getting the disease and those with an increased risk. This test improves our diagnostic accuracy and is a welcome step forward."

Dr Manu Vatish, Consultant Obstetrician, Oxford University Hospitals, and Senior Clinical Fellow with the University of Oxford's Nuffield Department of Women's and Reproductive Health

"This test has improved our ability to make the right decision on admission. The right patients are being discharged, leaving us to focus on those women who are at greater risk of developing pre-eclampsia."

Dr Sofia Cerdeira, obstetrician and research leader, Oxford University Hospitals

"Working in partnership with the Oxford AHSN meant the right stakeholders were brought together with a clear plan developed to accelerate the adoption of this innovation. The AHSN was committed from day one to lead on this project with a dedicated point of contact managing communication across all stakeholders."

Mr Chris Hudson, Director Healthcare Development and Strategic Services, Roche Diagnostics

"I was so happy not to be admitted to hospital; knowing I could go home and that I was safe was brilliant."

Mother

"Having a test that effectively triages patients into high risk and low risk groups means that we can focus our care."

Midwife

Key learning/tips for adoption

Key to the success of the project is confirmation of local clinical need, drivers and priorities in each hospital, mapping current and future clinical pathways with associated costs and benefits.

To successfully deliver the project, key internal stakeholders (e.g. labs, finance) who are required to approve and then implement the adoption of the new test and pathway have to be identified and engaged early on in the process.

As with most diagnostic tests, simply adopting the test into existing clinical or patient pathways will likely add cost with limited additional benefit for the clinical team or pregnant women under their care. As such, clinical and laboratory teams must adopt new pathways to incorporate PlGF-based testing into standard clinical care. Example pathways are available through the AHSN Network.

Start and end dates

2017-ongoing

Contact

- guy.checketts@oxfordahsn.org