



Fractional exhaled Nitric Oxide (FeNO) – spreading innovation in the diagnosis and management of asthma

Overview:

A test to help with the diagnosis of asthma

Fractional exhaled Nitric Oxide (FeNO) tests measure the amount of nitric oxide in an exhaled breath. This test can help with the diagnosis of asthma by showing the level of inflammation in the lungs, is recommended as part of the NICE asthma diagnosis guideline and is supported by the Rapid Uptake Products programme 2020/21 (delivered by the AHSN Network). FeNO is also an option for asthma diagnosis in Quality and Outcomes Framework (QOF).

Wessex AHSN is the national AHSN lead for the FeNO programme. During 2021/22, we directed the national programme in partnership with the AAC team and all other AHSNs.

The issue:

Over 5.4 million people in the UK live with asthma, with the NHS spending £1.1 billion on asthma treatment and management annually. 90% of this cost goes directly on asthma medication, including the high prescription of steroid inhalers. Although approximately one in 12 adults in the UK and one in 11 children are receiving treatment for asthma, 30% of patients are suspected to have been misdiagnosed; yet there is no single test that can definitively diagnose asthma.

The FeNO test works by measuring and scoring fractional exhaled nitric oxide ('FeNO') levels in patients' breath. Nitric oxide is a biomarker for asthma, indicating the level of inflammation in the lungs. This can improve patient care and outcomes by:

- more accurate and effective diagnosis of patients suspected of having asthma
- improving understanding of an individual patient's condition in relation to their FeNO score
- adjusting doses of steroids or guiding treatment with biological agents.





What we did:

We built a deployment toolkit and learning network to support FeNO use within frontline clinical teams and supported the award of £961,000 of AAC Pathway Transformation Funding across 33 projects throughout England. We continue to focus on embedding FeNO testing into localised clinical pathways, while looking to build a lasting programme legacy.

Education toolkit - resources address three implementation needs:

- Specific FeNO products
- Care pathway transformation
- Wider change management.

FeNO Learning Collaborative - a series of events delivered to share learning and create professional connections amongst those already using or planning to use FeNO, to encourage successful innovation adoption.

What impact did it have?

National



- **An estimated additional 102,704 patients benefited from FeNO testing across England**
- **Toolkit launched across England; over 1500 hours of training completed**
- **£220,910 in grants approved up to Q3 2021/22, supporting adoption of 99 FeNO devices**
- **National Rapid Update Products (RUP) team are using the FeNO toolkit as a template for future activity**
- **Learning Collaborative - two national webinars delivered to over 400 attendees, third event planned for June 2022**

Local



- **New respiratory (pharmacist) network has been created across Hampshire & Isle of Wight ICS to achieve sustainability and wider FeNO implementation**
- **Plans underway in Dorset to support system-wide implementation through workshops and resources for clinical champions.**



“I was in and out of hospital all the time, every couple of weeks and it was very frustrating because I know I’ve been told I have asthma, so to present at A&E and be told that it might not be asthma, that it might be something else; well, what else could it be?”

“It was only after a visit to the severe asthma centre, the first thing they did was a FeNO test. I’m not a typical asthmatic so sometimes I’ll wheeze and sometimes I won’t. I don’t present as a typical asthmatic but after blowing into the FeNO machine I was diagnosed immediately with severe asthma and my path changed.”

Louise Reece Jones
Patient Participant Volunteer

▶ See the full interview at vimeo.com/637526463 (19:21 mins)

Strategic alignment



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