



# Paediatric asthma and smoking – initiative to identify and treat

Case studies

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# Overview

**Organisation:** Health Innovation Manchester

**Organisation type:** Health Innovation Network (HIN)

Health Innovation Manchester, alongside expertise from secondary care partners and other community organisations in Greater Manchester, worked with local communities to identify, address and minimise healthcare inequalities. Our efforts were focussed on improving access to the latest health technologies, educational materials and medicines. We developed this project as part of the NHS England Innovation for Healthcare Inequalities Programme (InHIP), which aimed to improve access to NICE-approved technologies to address local healthcare needs using the Core20Plus5 approach.

We aimed to address local healthcare inequalities experienced by deprived and other under-served populations. Key stakeholders across [NHS Greater Manchester \(NHS GM\)](#), including Health Innovation Manchester, [The Royal Oldham Hospital](#) and the Treating Tobacco Dependency team identified that one of the greatest healthcare inequality challenges in Greater Manchester is paediatric asthma and the effects of second-hand smoke on asthma.

# Implementation

We used NICE guidance to identify useful tools and medications which would allow us to achieve our objective of improving asthma management.

Linking together paediatric asthma and a household approach to smoking cessation allowed us to work with many partners, including the NHS GM Treating Tobacco Dependency Team, the Strategic Clinical Network children and young people team, The Royal Oldham Hospital (ROH), the local stop-smoking service Your Health Oldham, and the Smoke Free app. Harnessing expertise from all these partners was invaluable in developing a joined-up pathway for paediatric asthma management.

The work took place at ROH, offering patients fractional exhaled nitric oxide (FeNO) testing (see the [NHS webpage on FeNO](#)) on the ward to monitor inflammation of the lungs, and offer advice and nicotine replacement therapy with support to be smoke-free and ultimately become healthier as a result.

Continued support has also been provided for patients, with a repeat test offered in a community-based setting as part of a follow-up asthma consultation. If the child or young person's asthma is determined to be uncontrolled despite optimising treatment and addressing triggers, they will be referred onto the asthma biologics pathway to assess whether they are eligible for biologic therapy medication – these are specialist treatments using antibodies produced from cells in a laboratory, which can target specific cells in the body.

This 6-month pilot launched in February 2023. This took a whole-household approach to asthma intervention, working with ROH Children's and Paediatric Observation and Assessment Unit to help identify children and young people admitted to hospital with asthma or respiratory illnesses, who smoke or live in a household that smokes. Young people identified as smokers would be referred to the local stop-smoking service, while adult household members identified as smokers were offered the Smoke Free app, which entitled them to 6 months' free access to all premium features as well as up to 12 weeks' free nicotine replacement therapy and/or refillable vaping kit. Those that were unable to use an app were referred to the local stop-smoking service, Your Health Oldham.

In addition, we identified the need for educational resources to aid asthma management. This stemmed from anecdotal evidence that highlighted a lack of understanding about the

impact of parental smoking on their child's asthma. After a workshop with key project partners, we also identified a gap in educational resources that provided guidance to help young people self-manage their asthma.

We then engaged with the community to gain insights into their understanding of asthma triggers and management for children and young people, and confirm their want and need for education outside of the healthcare setting. We held 8 focus groups in Oldham, engaging with 90 adults and young people within the target demographic to understand:

- current knowledge and behaviours around asthma management, triggers and the impact of smoking on asthma
- need for education materials
- appetite for education and behavioural change.

We also took onboard their suggestions for what messages and resources would influence them to manage their asthma or their child's asthma better. This led to the co-production and co-design of a suite of resources, including leaflets, animations and social media posts.

The national programme funded procurement of FeNO devices and consumables, Smoke Free app licences, training and the community engagement and development of educational resources.

# Outcomes and learning

## Outcomes

- Increased FeNO testing on the ward and in community. All those attending a community appointment received a FeNO test.
- 2 children assessed for eligibility for asthma biologics, leading to 1 referral and uptake of mepolizumab.
- Around 95% of adults identified as smokers accepted referral to the Smoke Free app or local stop-smoking service provider.
- Anecdotal reduction in re-admissions and reduced length of stay.
- Creation of smoke-free homes.
- Educational resources co-produced and co-designed with the community that resonated more with the target audiences.
- Increased interest and focus from other localities in taking a household approach to asthma management in children and young people.

## Learning

- Identified that healthcare settings outside of the ward are more suitable for FeNO testing as it is difficult to gain a reading on the ward due to the recent asthma exacerbation of the individual.
- FeNO testing should take place at the earliest opportunity whether that be with the GP or other community follow ups.
- All nursing and medical ward staff should be able to identify asthmatics and smokers and provide management support and smoking cessation advice.
- Uptake of and continued engagement with stop-smoking services may be improved with the use of incentives.

- To ensure care is given in the most appropriate setting, the lessons learned have now been implemented in the second iteration of the project taking place in Tameside. While stop-smoking support will continue at all care settings, the Tameside project focuses on shifting FeNO testing in the community, better equipping GPs with the tools and education to diagnose and manage asthma in children and young people.

## Supporting information

The [Health Innovation Manchester innovation for healthcare inequalities programme webpage](#) contains:

- our pilot launch news story
- our insights report
- a blog analysing inequalities for children and young people with asthma in Greater Manchester
- our patient case study
- educational resources.

## Quotes

"Due to the effort professionals have made with raising concerns regarding the quality of the property, the family are due to change address within the next month. This will hopefully continue to have a positive impact on Kai's asthma. His school attendance has also improved since starting this treatment.

The objectives for this treatment have been met and hopefully will continue to improve over the coming months. These objectives were measured by the frequency, severity and duration of Kai's asthma exacerbations and the quantity of the oral steroids that were required. Since starting this treatment, the courses of oral steroids have reduced significantly. This subsequently, reduces the risk of systemic side effects such as adrenal suppression, weight gain, faltering growth, and immunosuppression, along with the psychosocial benefits of improved mood, improved sleep which results in improved concentration, therefore achieving improved outcomes at school.

Taking all these benefits into consideration, Kai has a better quality of life and can enjoy normal childhood activities which is essential for children to grow and develop physically, mentally and emotionally with their peers."

Victoria Abbott, Paediatric Asthma Nurse Specialist at The Royal Oldham Hospital, part of



the Northern Care Alliance NHS Foundation Trust (NCA).

"I feel like it has improved Kai's asthma, he is staying out of hospital for longer periods of time and attending school more."

Kai's mother.

"Kai is one of the few patients who can be described as a severe asthmatic. We have an established pathway with colleagues at Royal Manchester Children's Hospital (RMCH) led by Professor Clare Murray who is an expert in this area.

Prior to biologics, he has been on the top of asthma treatment ladder and all aspects of care were addressed including compliance, technique, home environment and smoking along with education to both him and his parents.

His quality of life has improved hugely with this new treatment, and we have rarely seen him since then. Biologics have been a game changer for children in the severe asthma spectrum allowing them to enjoy what a child of their age should be able to do so."

Dr Prakash Kamath, Divisional Clinical Director at Bury Care Organisation, NCA.

## Contact details

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