

Digital Peak Flow Meter Assisted Asthma Care Clinic (DAACC): Collaborative Working Output Summary

This high-level overview provides findings from a collaborative working project between Bloomfield Medical Centre and Chiesi Limited. The project report highlights the findings of an asthma care clinic investigating the integration of digital technology into primary care.

The executive summary for this project can be found at <https://www.chiesi.uk.com/collaboration/our-projects>

Background

Asthma remains a significant public health challenge in the UK, with mortality rates rising despite decades of clinical advances. National data shows that annual asthma deaths have increased from 1,200 in 2012–13 to nearly 1,500 today¹. Many of these deaths are preventable², with avoidable factors identified in two-thirds of cases reviewed by the National Review of Asthma Deaths (NRAD).

Despite the introduction of structured chronic disease care, personalised asthma action plans (PAAPs), and evolving clinical guidelines, asthma deaths continue to rise. NRAD revealed that many of these deaths involve preventable factors, including poor symptom recognition and over-reliance on short-acting beta-agonists (SABA).

Guidelines from British Thoracic Society (BTS)/Scottish International Guidelines Network (SIGN), National Institute for Health and Care Excellence (NICE), and Global Initiative for Asthma (GINA) now discourage SABA-only treatment, advocating for inhaled corticosteroids (ICS) or anti-inflammatory relievers³. Yet, behavioral insight work by Asthma and Lung UK shows that nearly a third of patients remain disengaged from care, and many rely solely on SABAs¹.

Bloomfield Medical Centre in Blackpool supports a population of 17,000 patients in one of the UK's most deprived areas, with asthma prevalence at 7.6%—25% above the national average. This population faces compounding risk factors such as obesity, smoking, mental health challenges, and social isolation, all of which contribute to poor asthma outcomes⁴.

"Analogue to digital" is one of the three big strategic shifts announced in the 10-year NHS plan⁵. In asthma, digital peak flow meters (DPFM) may support objective symptom tracking and early intervention, particularly for patients who find subjective symptom scoring difficult.

Project Description

The DAACC project was launched as part of a collaborative working initiative with Chiesi UK to explore the role of DPFM in improving asthma self-management. The intervention targeted digitally enabled patients with high reliance on SABAs, aiming to enhance symptom tracking, support timely treatment changes, and identify barriers to wider adoption.

Project Objectives

- To enable improved self-management and timely initiation of evidence-based pharmacological and non-pharmacological interventions to improve outcomes for asthma patients registered with the practice.
- Identify patients with indications of poor asthma control based on prescription utilisation data, such as overuse of SABA or insufficient use of preventative treatments, or symptom scores.
- Identify, within this cohort, those patients that are sufficiently digitally enabled to utilise a digital peak flow meter.

- Invite identified patients to attend a review appointment with a suitably trained clinician to conduct an asthma review, optimise treatment and provide a PAAP alongside an offer of a DPFM.
- Provide training support to patients accepting the offer of a DPFM to ensure the device is set up, linked to a suitable app/platform where possible, and that the patient is able to use it correctly.

Project Outcomes

Of the 225 patients identified and invited to the clinic, 57 attended their appointment. Some patients were deemed unsuitable for a DPFM during their asthma review and others declined the offer, so ultimately 28 patients were suitable and accepted the offer of a DPFM. 17 of these patients completed their DPFM training and 15 attended their follow up appointment after 4-6 weeks.

Key findings

Patient Feedback:

- The patients who used the DPFM reported:
 - better understanding of their condition and its triggers
 - better understanding of when to use their inhalers
 - increased involvement in the shared decision making process
 - potential improvement in their asthma symptoms

DPFM Feasibility:

- The project showed that DPFMs can support asthma care in digitally enabled patients with poor control.
- Only 14% of attendees were unsuitable for the device, even in a deprived area. This confirms that digital health tools can be viable across diverse populations.

Challenges Identified:

- Engagement: Low response to review invitations, especially among those most in need, reflects a persistent issue in asthma care.
- Small sample limits: The project's small size means findings may not hold in larger cohorts. Without a control group, outcomes can't be definitively attributed to the intervention, though consistent feedback on shared decision-making suggests real impact.
- Cost: The current retail price (£49.99 + VAT) and lack of NHS prescribing options could limit patient access, especially in deprived areas. Affordability remains a key barrier to adoption.
- Digital transition is complex: The project highlights how difficult it is to shift from analogue to digital in NHS care. Barriers like cost, digital scepticism, and low engagement show that success requires more than technology - it demands trust, tailored communication, and patient support.

Opportunities for digital technology in healthcare:

- NHS integration: Ensuring integration of digital tools into NHS infrastructure will enhance clinical utility and support wider adoption.
- Make technology routine: Integrating digital technology into standard care pathways can streamline delivery and reduce drop-out, making digital tools feel less like add-ons and more like core components of healthcare.
- Address digital exclusion: Ongoing tracking of who is left out of digital initiatives is essential to prevent widening health inequalities and ensure equitable access.

References:

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- 3) GINA. Global Strategy for Asthma Management and Prevention [Internet]. 2022 May. Available from: https://ginasthma.org/wp-content/uploads/2025/05/GINA-2024-strategy-report_24_05_22-WMSA.pdf
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- 5) NHS England. NHS Long Term Plan [Internet]. NHS. 2019. Available from: <https://www.england.nhs.uk/long-term-plan/>