Asthma management optimisation in adult patients in GP practice as a way of reducing inhaler carbon footprint and high dose inhaled corticosteroid prescribing

Gabzdyl E[1]
Maynard V[2]

1. Senior Clinical Pharmacist at Tramways & Middlewood Medical Centres, Hillsborough PCN, Sheffield, UK and Locality Lead Pharmacist (respiratory) at NHS South Yorkshire ICB Medicines Optimisation Team (Doncaster Place), UK.
2. GP Registrar at Sheffield Teaching Hospitals, Sheffield, UK.

1 INTRODUCTION

The Global Initiative for Asthma (GINA) strategy [1] recommends a new approach to asthma management, where inhaled corticosteroid (ICS)/formoterol combination inhalers can be used as both maintenance and reliever therapy (MART). The MART strategy offers significant advantages: better asthma control, reduced risk of asthma exacerbations as demonstrated by SENTINEL Plus [2] and a simpler regimen. It also supports the NHS obligations for decarbonisation by swapping to low carbon inhalers as outlined in its long-term plan [3].

2 AIM

The aim was to implement the new Doncaster and Bassetlaw Asthma Guideline [4], which closely follows the GINA strategy at Tramways and Middlewood Medical Centre in order to:

- improve asthma care for patients by making sure their treatment is in line with the most current guidance, and
- improve inhaler prescribing both in terms of the environmental impact of inhalers and reducing high dose ICS prescribing.

3 METHOD

Patient selection: This ongoing project started at a GP practice (circa 11,000 patients) in October 2022, with two arms:

- Cohort 1 included a proactive search of SystmOne for patients between the ages of 18-45 with well-controlled asthma who collected regular ICS inhalers and had less than six short acting beta-2 agonist (SABA) inhalers in 12 months. The first cohort included 107 patients (Figure A).
- Cohort 2 included patients with more than six SABA inhalers over 12 months who had been referred by a practice nurse for a review.

Implementing change: Patients were asked whether they wished to try MART and were provided with information on the MART regimen [5] and a NICE patient decision aid to 'greener' inhalers [6]. PrescQIPP [7] and SENTINEL Plus resources for patients and clinicians (videos, leaflets) were also used [8]. Interested patients were offered an asthma management review, a full inhaler review, including an Asthma Control Test (ACT) score, inhaler technique, discussion around 'greener' dry powder inhalers and the MART regimen. Patients' inhalers were changed based on the Doncaster and Bassetlaw guidelines [4]. Patients who chose to change to MART had a follow-up review four weeks later with subsequent reviews provided by the practice nurse.

References

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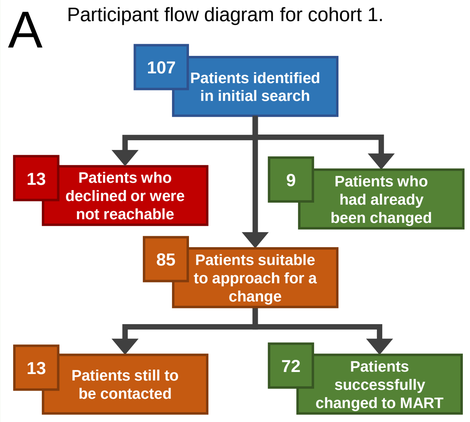
4 RESULTS

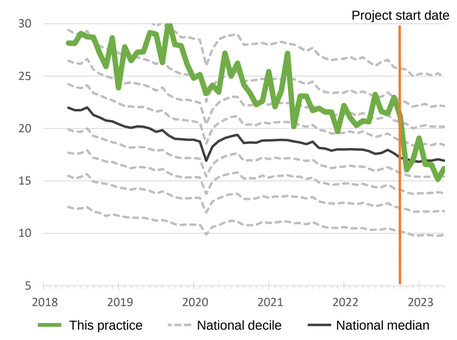
The ePACT data shows:

- a reduction in high dose ICS prescribing (Figure B),
- a reduction in pMDI prescribing (Figure C),
- a reduction in salbutamol pMDI prescribing (Figure D),
- a reduction in prescribing multiple inhalers (Figure E),
- a lower carbon footprint (Figure F), and
- a sustained impact on the prescribing.

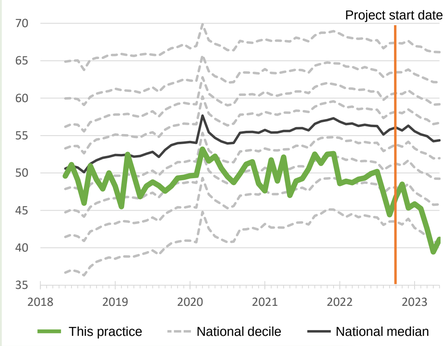
A Participant flow diagram for cohort 1.



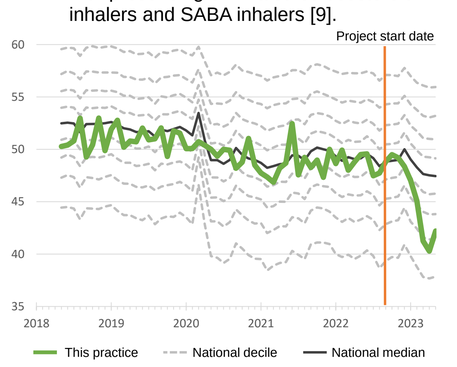
B Prescribing of high dose inhaled cortico-steroids (ICS) compared with prescribing of all inhaled corticosteroids [9].



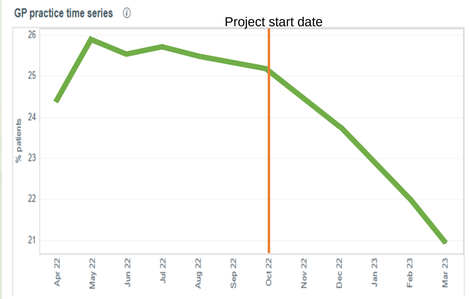
C Pressurised metered dose inhaler (pMDI) prescribed as a proportion of all inhalers in BNF chapter 3, excluding salbutamol [9].



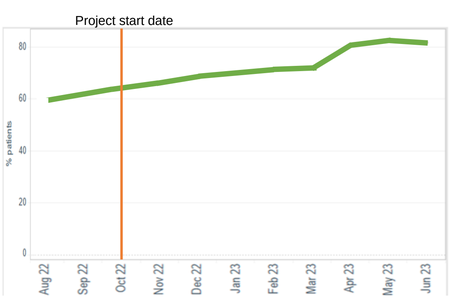
D Prescribing of Short Acting Beta-2 Agonists (SABA) (salbutamol and terbutaline) compared with prescribing of inhaled corticosteroid inhalers and SABA inhalers [9].



E Percentage of patients on the QOF Asthma Register who received six or more SABA inhaler prescriptions over the previous 12 months [10].



F Percentage of salbutamol inhaler prescriptions that are lower carbon [10].



5 CONCLUSIONS

Implementation of the Doncaster and Bassetlaw asthma guideline in adult patients (GINA strategy) in a primary care setting resulted in:

- **a reduction in salbutamol over-reliance,**
- **a reduction in high dose ICS vs all ICS prescribing,**
- **a reduction in the environmental impact of inhalers prescribed, and**
- **a high success rate for people agreeing to try and remain on a MART regimen, with the majority tolerating lower carbon inhalers.**

Increasing knowledge amongst healthcare professionals and empowering patients are important strategies to consider for supporting implementation. There is a need for further trials to build the evidence base to verify the anecdotical outcome that suggested improved asthma symptom control.

What is SENTINEL Plus?
SENTINEL Plus is a quality improvement package that aims to improve outcomes for asthma patients and reduce the environmental impact of asthma treatment by identifying and addressing SABA over-use. SENTINEL Plus utilises a co-designed intervention, developed during the SENTINEL Project [11].

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