

A service improvement project to harness the benefits of ICS/Formoterol reliever therapy for patients attending the Emergency Department for acute exacerbations of asthma

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Background

- Acute asthma exacerbations place a significant burden upon our patients, their families, and our healthcare services. ED attendances for asthma remain high and a significant proportion of these are re-attendances.
- Despite evidence that optimising asthma treatments following an exacerbation reduces the risk of future attacks, the majority of patients are discharged from ED with prescriptions for OCS/SABA; treatment changes are frequently deferred to primary care or specialist follow-up, representing a missed opportunity to improve outcomes.

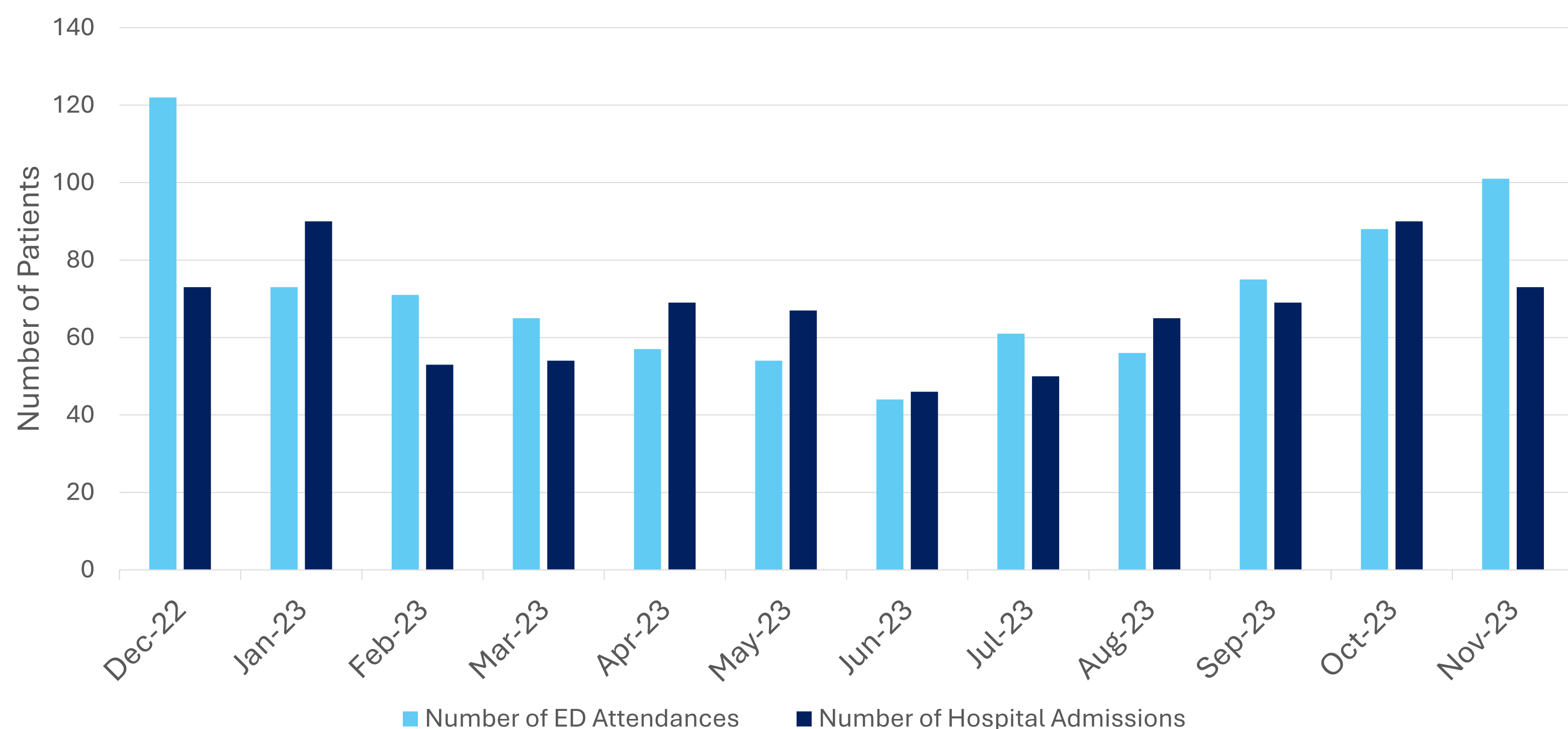
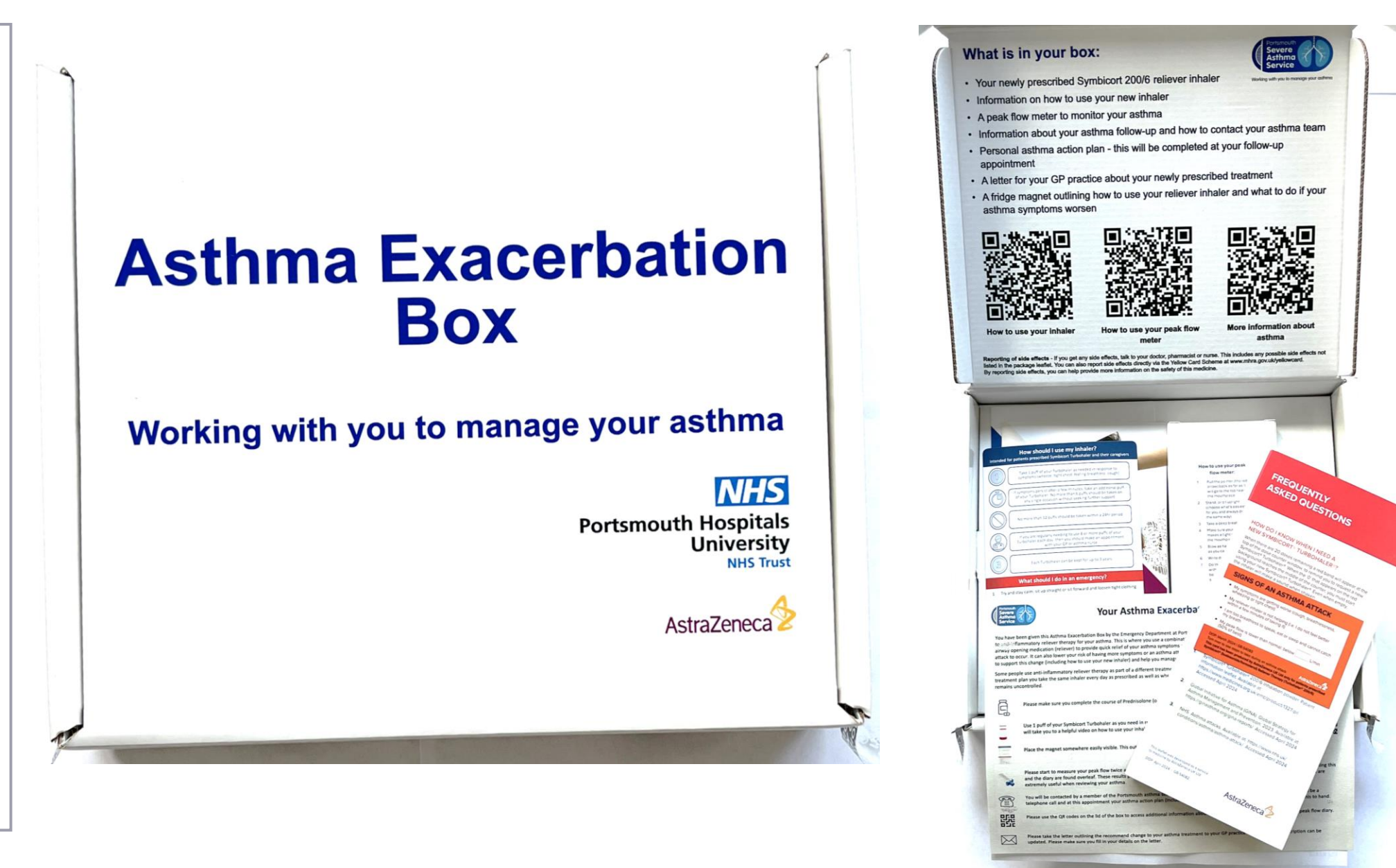


Figure 1: ED Attendances and Hospital Admissions for Asthma at PHUT last year (Dec-22 – Nov-23)

We evaluated the implementation of an asthma exacerbation discharge box designed to facilitate immediate initiation of ICS/formoterol reliever therapy within our ED.

Methods

- Patients attending the ED, with an asthma exacerbation were eligible if they were receiving short-acting β_2 -agonist (SABA)-only therapy, ICS $\pm$ SABA therapy, or were prescribed ICS/long-acting β_2 -agonist (LABA) therapy but demonstrated poor adherence.
- Only patients with a physician-confirmed diagnosis of asthma could be included.
- Eligible patients were provided with an asthma exacerbation box containing an ICS/formoterol inhaler, education resources, and supporting materials to enable immediate treatment optimisation without requiring specialist review.
- Patients were contacted within five days by the asthma team to review their symptoms, assess treatment response, and to complete a personalised asthma self-management plan.

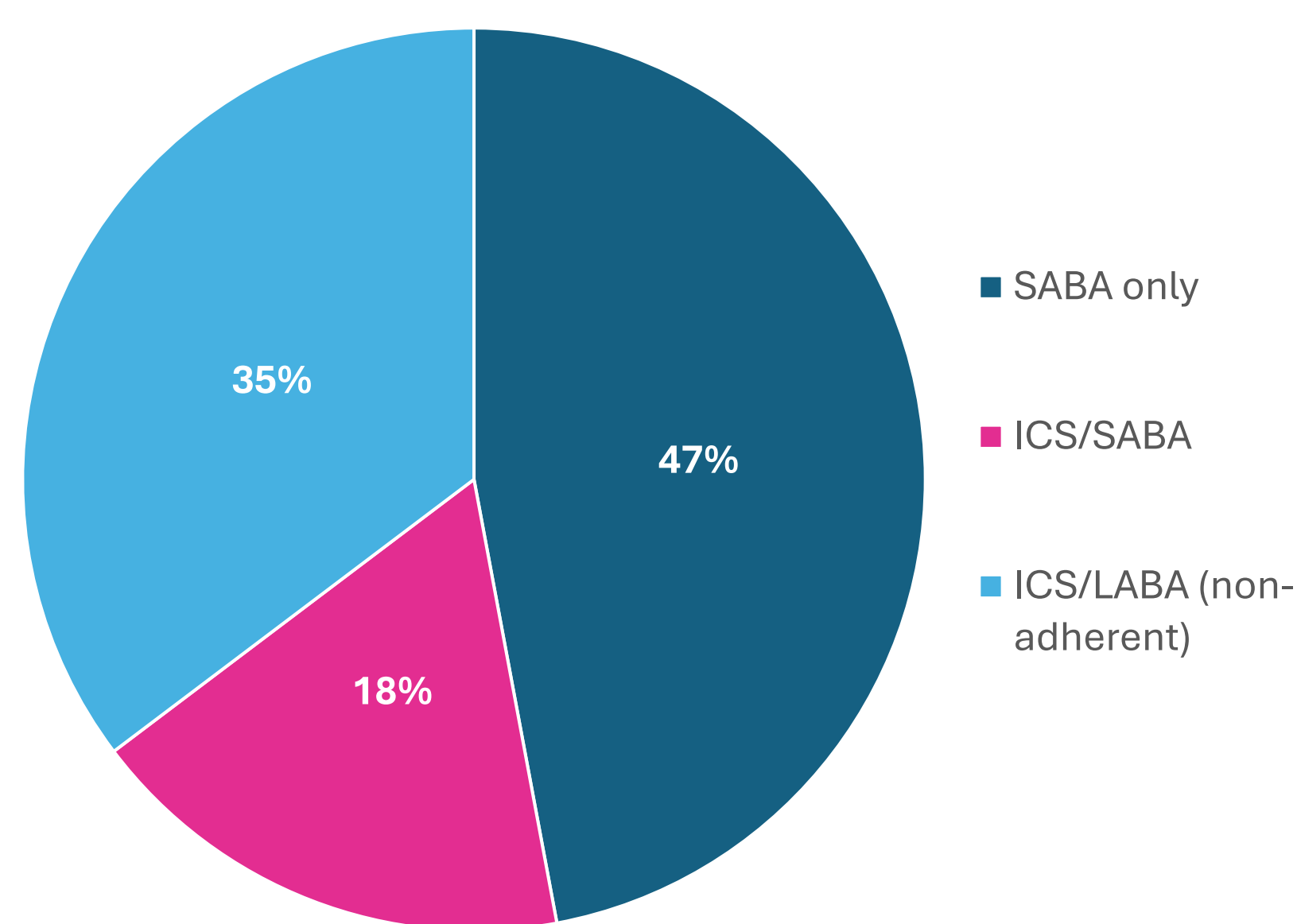


Results

Between November 2025 and August 2026, 51 boxes were issued, representing 49% of eligible patients identified from ED records.

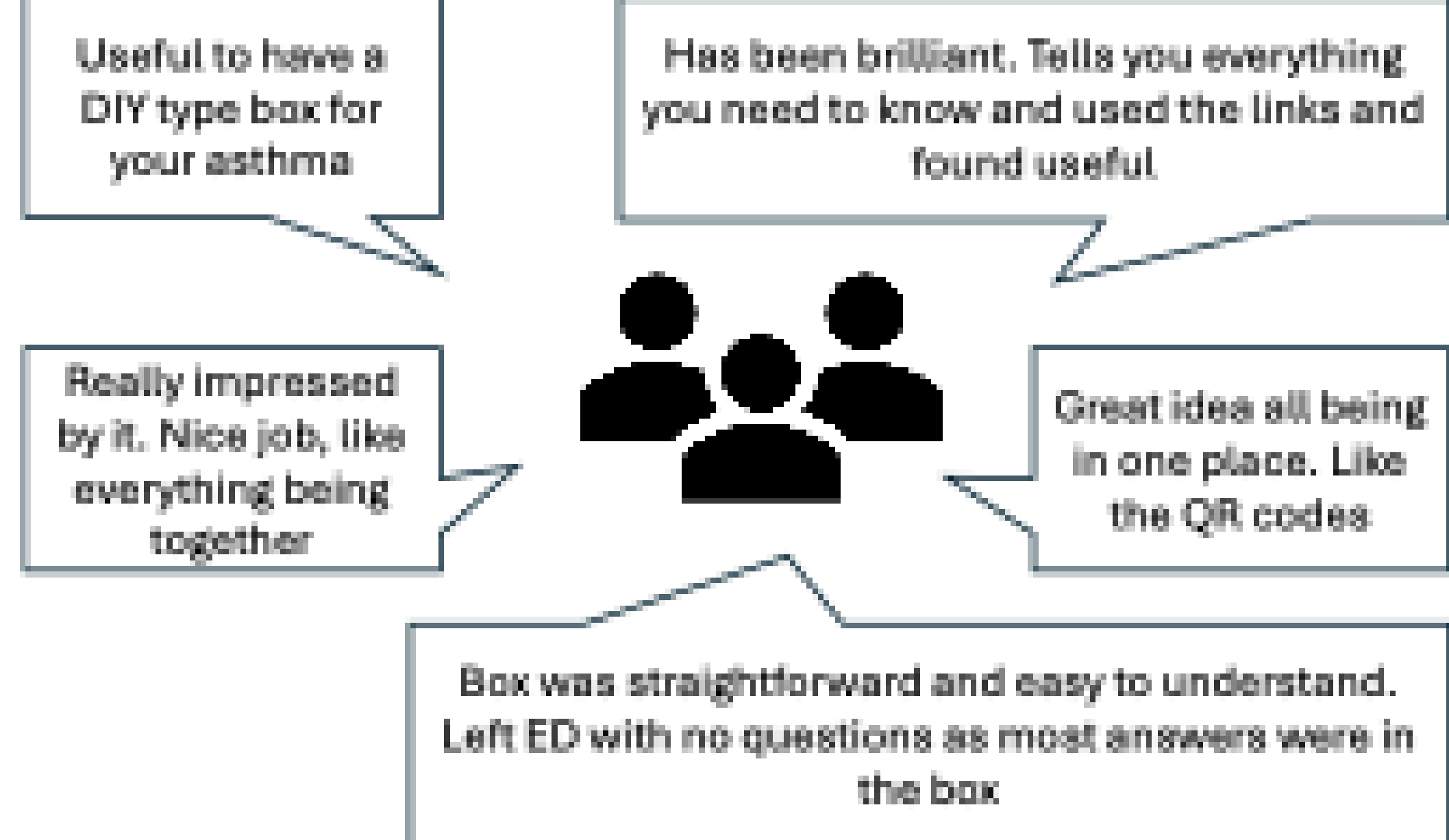
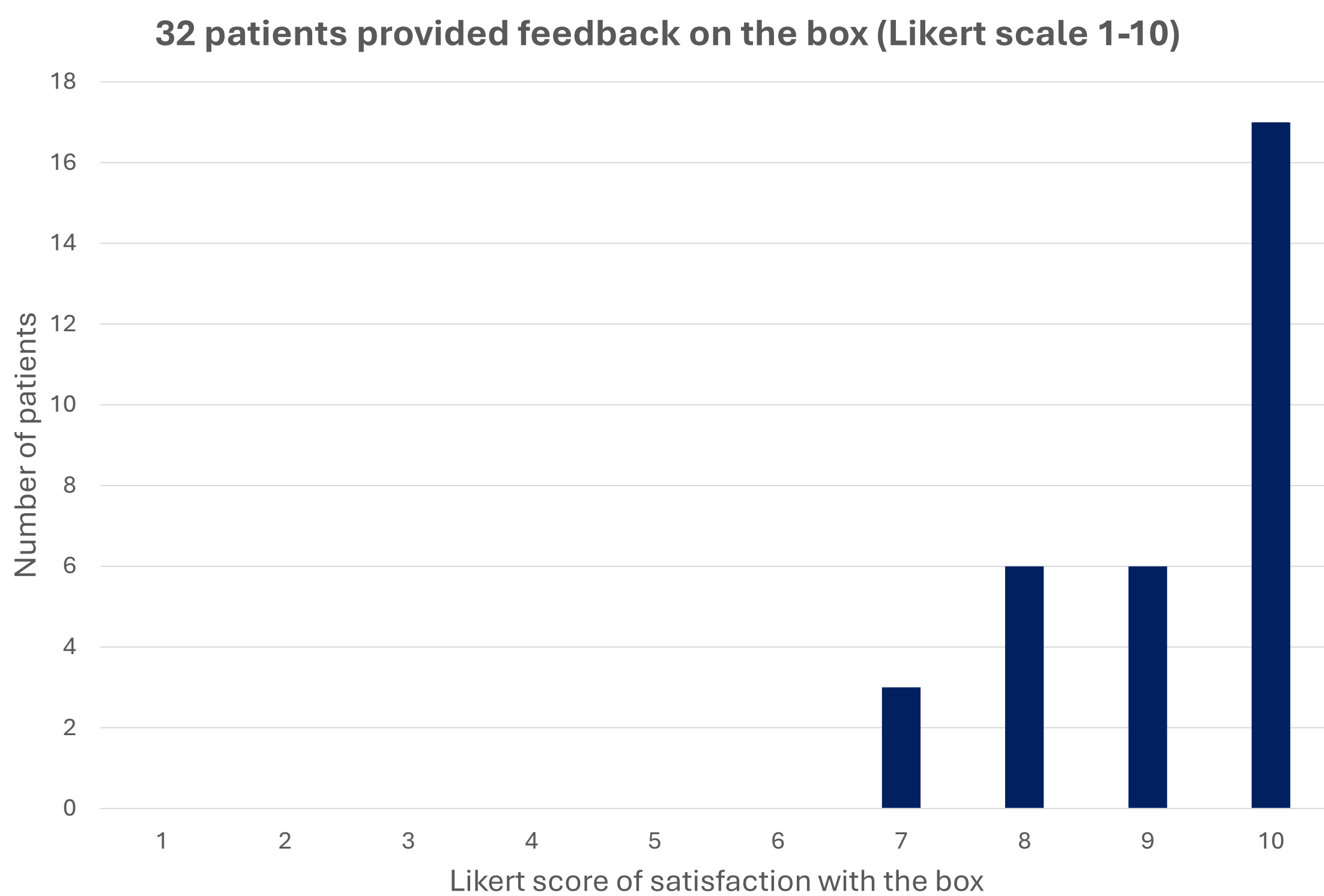
Seven patients (14%) had attended the ED with asthma in the preceding year, while 12 (24%) had required at least one course of systemic corticosteroids.

Asthma treatment prior to ED attendance



Before presentation, 47% (24/51) were using SABA-only therapy and 35% (18/51) were prescribed ICS/LABA but were non-adherent.

Thirty-nine patients completed the five-day follow-up - 92% reported using the ICS/formoterol therapy provided, and high satisfaction with the exacerbation box has been expressed.



Repeat prescriptions were updated in primary care for 78% (40/51) of patients.

Three patients re-attended within 30 days; one represented within 24 hours of discharge and one had not used the prescribed ICS/formoterol treatment.

Conclusions

- The asthma exacerbation box enables rapid optimisation of asthma therapy within the ED without requiring specialist input.
- High patient uptake, excellent acceptability, and sustained prescribing changes in primary care suggest this pragmatic intervention may improve implementation of guideline-directed care following acute asthma exacerbations.
- Further evaluation is warranted to determine its impact on longer-term exacerbation rates and healthcare utilisation.

Acknowledgements

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