CO₂ emission was calculated using CO₂ emission factor 13.8 kg/visit for ER/hospital visits² and CO₂ emission factor 140 g/puff for rescue medication use.

Results 1,842 patients were assessed for ER/hospital visits and 1,800 patients for rescue medication use. IND/GLY/MF high- and medium-dose suggested reductions in ER/hospital visits (rate ratio [RR] 0.66, 0.43 to 1.01 and RR, 0.87, 0.57 to 1.33) versus SAL/FLU high-dose, which would corresponds to a change of 9.1 (5.9 to 13.9) and 12.0 (7.9 to 18.4) kg CO₂ emission per visit, respectively. The difference in mean daily puffs of rescue medication with IND/GLY/MF high- and medium-dose versus SAL/FLU high-dose, was -0.12 (-0.27 to 0.03) and -0.06 (-0.20 to 0.09), respectively, which corresponds to a change of 6.1 (-13.8 to 1.5) and 3.1 (-10.2 to 4.6) kg CO₂ emission per year, respectively.

Conclusions All three-treatment arms of the study significantly reduced CO₂ emissions compared with MDIs. However, indacaterol/glycopyrronium/mometasone furoate resulted in numerical reductions of ER/hospital visits, which suggests increased CO₂ savings versus salmeterol/fluticasone. These results should be cautiously interpreted as our calculations are based on a limited number of variables that affect the carbon footprint. Nonetheless, these results might be used as a basis for conducting studies on carbon footprint in patients with asthma.

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Please refer to page A188 for declarations of interest related to this abstract.

S4 ASTHMA IN THE EMERGENCY DEPARTMENT. OUTCOME FROM SPECIALIST NURSE INTERVENTION

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In an attempt to improve asthma care of patients attending the Emergency Department (ED) we offer Specialist Asthma

Nurse intervention post ED attendance. Between October 2018 and March 2019, nurse led appointments were offered to 116 asthmatic who had recently attended ED. Fifty seven attended this appointment, these patients underwent spirometry, FENO, inhaler technique and compliance checks. Treatment was stepped up if asthma control was deemed poor and further nurse led follow up arranged if needed.

We compared ED attendances between these 57 and the 59 who did not attend over the next 18 months. Those that had the intervention had fewer ED visits 8 versus 47, less steroid use 20 versus 28,, better compliance 41/57 versus 25/59, Chi 2 <0.05. They were also more likely to receive a personalised care plan 49/57 v 0/59.

The group who did not attend had 37 attendances in the 18 months before the intervention and 47 in the 18 months post intervention compared to 31 before and 8 after intervention in the group who did attend the nurse led appointment.

Although the 2 groups were not controlled or randomised these results do show improved management and suggest improved outcomes. The decrease in ED attendances was more marked than the decrease in courses of Prednisolone. This may reflect that those following action plans were taking steroids appropriately and so avoiding admission. It also suggests that not all asthmatics attending ED are given Prednisolone. The problem of dealing with the group who failed to attend remains.

S5 MORTALITY ANALYSES ON SYSTEMIC CORTICOSTEROID USE: A LONG-TERM OBSERVATIONAL STUDY

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10.1136/thorax-2021-BTSAbstracts.11

Introduction and Objective Exposure to systemic corticosteroids (SCS) is associated with higher risks of adverse outcomes, higher healthcare resource utilization, and associated costs in patients with asthma. There is limited information about the relationship between SCS exposure and mortality. The objective of this analysis was to evaluate the association between SCS exposure and mortality among patients with asthma in the United Kingdom.

Abstract S5 Figure 1 Association of cumulative SCS dose and average SCS daily exposure with risk of death among patients with asthma (N=9413)