# NENC Regional ‘At A Glance: Supporting Greener Respiratory Care Guide’

*This is not a clinical guideline, but a consensus document collated by the Respiratory Network Medicines Optimisation Group (v2) Document Review Date: Oct 2025*

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## What and Why NetZero?

Direct improvements to public health and health equity can be made by acting on climate change. 'NetZero' describes the process of creating a balance between producing emissions harmful to the environment and removing them, theoretically producing zero emissions (1). Currently, the NHS contributes 4-7% of the UK's emissions; the ambition is 80% reduction by 2028-2032, achieving NetZero by 2040. The propellant in pressurised Metered Dose Inhalers (pMDIs) contains fluorinated gases (specifically HFA227ea) which contribute to 3% of NHS emissions; therefore, recommendations have been made to move to lower carbon options in inhaler prescribing, for example increased use of dry powder inhalers (DPIs) **where clinically appropriate** and correct disposal of used inhalers (1,2,3) .

## The Challenge

In line with national averages, North East & North Cumbria (NENC) prescribes a higher proportion of MDIs compared to DPIs (4) therefore contributing to the high carbon footprint (CF). With the national aspiration to reduce overall CF, it forms part of the Medicines Optimisation opportunities to improve respiratory outcomes (3). Reduction of CF is only one aspect of clinical care and good patient outcomes (3,5). **There should be no blanket switching. Any device changes should be part of a clinical review with shared decision-making** (6). This document is primarily focused on adults as children and young people require different approaches to their asthma care, for example those under 12 are unlikely to be able to use DPIs (7).

## The Evidence

The National Review of Asthma Deaths (2014) and global SABINA trial (2020) evidenced excessive SABA prescribing is linked to increased risk of exacerbation and asthma deaths due to poor disease control (8, 9). The NENC has significantly high rates of asthma diagnoses and respiratory-cause hospital admissions linked to areas of deprivation and air pollution. SABA pMDI (brand dependent) prescribing levels above the national median for most CCGs also causes high regional CF levels (9, 10,11). Multiple toolkits and resources have been developed to aid health professionals to lower CF, understanding it is one part of achieving the overall ambition (3,5,12,13,14).

## The Ambition

To improve patient outcomes through better disease control by prescribing the most appropriate inhaler for each individual patient with consideration for lower carbon options where suitable which will ultimately have an impact on the environment (1,2,5,14).

## What is Greener Disposal?

Landfill disposal of any inhaler (pMDI or DPI) is harmful to the environment, both for material waste and release of residual gas from pMDI cannisters (15). All used/unwanted inhalers must be returned to local pharmacy to be disposed of safely (usually by incineration) (1,14,15,16,17,18).

## What is the Link to Health Inequalities?

Climate change has both direct and indirect impacts on health inequalities and those in the most disadvantaged groups often have more risk of pollutant exposure and a respiratory diagnosis (10, 19).

***1. Understand your local health inequalities***

***2. Start to address them***

**Consider using the NHS Health Inequalities Toolkit**

**Health Inequalities from Greener Practice Toolkit**

## References


1. 2020 Delivering a NetZero NHS
2. 2019 NHS Long Term Plan
3. 2023 National Medicines optimisation opportunities 2023/2024
4. 2023 OpenPrescribing: Environmental Impact of Inhalers North East & Yorkshire
5. 2022 PCRS Greener Healthcare Quality Improvement Toolkit
6. 2020 NICE Asthma Patient Decision Aid & Shared Decision Making
7. 2023 Greener Respiratory Prescribing in Children & Young People
8. 2014 RCP National Review of Asthma Deaths
9. 2020 Overuse of short-acting β2-agonists in asthma is associated with increased risk of exacerbation and mortality: a nationwide cohort study of the global SABINA programme
10. 2018 Asthma UK How Inequality Affects People with Asthma
11. 2022 PHE 2nd Atlas of Variation in risk factors and healthcare for respiratory disease in England
12. 2023 OpenPrescribing Short Acting Beta Agonist Inhalers by CCG North East & Yorkshire
13. 2022 Prescqipp Webkits Respiratory Care
14. 2018 PCRS Asthma Slide Rule for Over SABA Use
15. 2022 Greener Practice Toolkit: Inhaler Recycling & return
16. 2021 PSNC Briefing Reducing the climate change impact of inhalers
17. 2022 Recycle Now
18. 2023 NHSBA Part VIIA – Pharmacy Quality Scheme (England)
19. 2020 Advisory Group Report of the UK Committee on Climate Change
20. 2023 NENC Respiratory Formulary

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## Opportunities for Improving Patient care in line with Green Agenda

**Asthma**

Consider searches on patients who have:

1. 12 or more SABAs plus 2 or more Oral Corticosteroids (OCS) in 12 months
2. 6 or more SABAs plus 2 or more OCS in 12 months
3. 12 or more SABAs plus 3 or less ICS/ ICS-LABA in 12 months

**COPD**

Look for opportunities within any consultation to consider greener prescribing; e.g. moving from multiple inhaler triple therapy to single inhaler triple therapy and dry powder options **where appropriate** in a shared decision-making process (6).

## Case Study: Effectiveness of Using Specific Searches

*Application of suggested search criteria results in an effective way for prioritisation of patients who would benefit most from a clinical review and ensure this is more manageable for practice staff compared to a more basic search on green opportunities:*

*A large PCN initially identified 2,041 patients where opportunity (related to IIF) was observed for greener inhaler review. Application of search criteria <5 ICS + OCS use resulted in 158 patients with evidence of poor control needing prioritisation and clinical review for improved disease control and environmental sustainability.*

**There should be no blanket switching.** Any device changes should be part of a clinical review, ideally face to face with a clinician in practice who has responsibility for managing respiratory patients; ensuring all elements of good respiratory care (smoking cessation, pulmonary rehabilitation, inhaler technique, education etc) are addressed including opportunities for greener prescribing in a shared decision-making process as per your local guidelines (6, 20).

## Opportunities in SABA Prescribing

1. Always prescribe by brand. Consider if DPI SABA is appropriate
   - e.g., Ventolin Accuhaler®, Salbutamol Easyhaler® or Bricanyl Turbohaler®
2. If patient requires pMDI use branded Salamol® pMDI (lower CF than Ventolin Evohaler®)
3. Note in asthma emergencies or exacerbations patients **should usually** have Salamol® MDI **AND** a spacer available (Clinician to assess appropriateness of this and recommend if pMDI SABA provided for emergencies, should be on acute prescription only **and clearly documented on individual asthma action plans).**

## Educate on Disposal

- Most people dispose of their inhaler devices in household waste or kerbside recycling and do not realise inhalers devices should be taken back to the community pharmacy.
- Component parts of all inhalers may be reused or repurposed. Some plastic may be recycled, and other plastic components used in an energy from waste process.
- The propellant gases in pMDI may be recovered and reused in fridges and air conditioning.
- Aluminium canisters may be recycled.
- **All** inhalers should be taken back to community pharmacies for appropriate environmental disposal.

## What Else?

**Remember**:

1. Use of refillable inhalers/refill cartridges appropriately e.g. only ordering refills as appropriate for the lifespan of the device
2. Use inhalers to their full capacity of doses
3. Revise treatment regimes
   I. Are high-dose ICS still required?
   II. Can the inhaler dose be optimised? E.g., Clenil 100 1 puff BD rather than Clenil 50 2 puffs BD