

# NENC Regional 'At A Glance Carbon Footprint Guidance'

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This is not a clinical guideline but a consensus document collated by the Respiratory Network Medicines Optimisation Group

## 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, in a sense producing zero emissions (1). Currently, the NHS contributes to 4-7% of the UK's emissions; the ambition is 80% reduction by 2028-2032, achieving NetZero by 2040. The propellant found 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 dry powder inhalers (DPIs) **where clinically appropriate** (1,2).

## The Challenge

In line with national averages, North East & North Cumbria (NENC) prescribes a higher proportion of MDIs compared to DPIs (3) therefore contributing to the high carbon footprint (CF). With the national aspiration to reduce overall CF, Primary Care Network (PCN) contracts now include sustainability targets within respiratory inhalers (4). Reduction of CF is only one aspect of clinical care and good patient outcomes. **There should be no blanket switching. Any device changes should be part of a clinical review with shared decision-making** (4, 5).

## 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 (6, 7). 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 (8, 9, 10). Multiple toolkits and resources have been developed to aid health professionals to lower CF, understanding it is one part of achieving the overall ambition (11, 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, 11, 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 canisters (14, 15). All used/unwanted inhalers must be returned to local pharmacy to be disposed of safely (usually by incineration)(16, 17).

## 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 (8, 18).

### 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. [2022 OpenPrescribing: Environmental Impact of Inhalers North East & Yorkshire](#)
4. [2022 Impact & Investment funding](#)
5. [2020 NICE Asthma Patient Decision Aid & Shared Decision Making](#)
6. [2014 HOIP National Review of Asthma Deaths](#)
7. [2020 Overuse of short-acting  \$\beta\_2\$ -agonists in asthma is associated with increased risk of exacerbation and mortality: a nationwide cohort study of the global SABINA programme](#)
8. [2018 Asthma UK How Inequality Affects People with Asthma](#)
9. [2019 PHE 2<sup>nd</sup> Atlas of Variation in risk factors and healthcare for respiratory disease in England](#)
10. [2022 OpenPrescribing Short Acting Beta Agonist Inhalers by CCG North East & Yorkshire](#)
11. [2022 PCRS Greener Healthcare Quality Improvement Toolkit](#)
12. [2022 Prescripp Webkits Respiratory Care](#)
13. [2018 PCRS Asthma Slide Rule for Over SABA Use](#)
14. [2020 Environmental Impacts of healthcare and pharmaceutical products](#)
15. [2022 Recycle Now](#)
16. [2021 PSNC Briefing Reducing the climate change impact of inhalers](#)
17. [2022 Greener Practice Toolkit: Inhaler Recycling & return](#)
18. [2020 Advisory Group Report for UK Committee On Climate Change: Sustainable Health Equity Report](#)

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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 Cortico-Steroids (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 (5).

## 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 (5).

## 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 (greener 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**).

## IIF Guidance Notes

There are 2 respiratory indicators:  
**RESP-01** – asthma only, all ages  
**RESP-02** – asthma only, all ages

There are 2 sustainable indicators:  
**ES-01** only over >12 years old, all respiratory  
**ES-02** all age, all respiratory

Please note there are extra personalised care adjustments to consider for each indicator (4).

## 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 of inhalers to their full capacity of doses
3. Consider if patients still needs high-dose ICS
4. Can the inhaler dose be optimised? E.g. Clenil 100 1 puff BD rather than Clenil 50 2 puffs BD