

# GGC Toolkit for Greener Respiratory Care



Climate change is the biggest public health threat of the 21<sup>st</sup> century <sup>1</sup>

Metered dose inhaler prescriptions alone account for approximately 13% of the carbon footprint of general practice <sup>2</sup>

NHS Scotland has committed to reaching net zero by 2045 and greener respiratory care is key to achieving this <sup>3</sup>



## What to do?

### OPTIMISE DISEASE CONTROL

Poor disease control increases reliever use, clinical contacts and unplanned admissions  
Salbutamol overuse is associated with increased exacerbations and mortality in asthma  
83% of salbutamol prescriptions are for patients overusing salbutamol <sup>4</sup>

#### Optimisation of patient care is the key to improving clinical outcomes and reducing our carbon footprint

- Check inhaler and spacer technique – the greenest inhaler is the one the patient can use!
  - Inhaler technique patient information leaflets available [here](#)
  - Inhaler technique videos available at [asthma UK](#) and [mylungsmylife](#)
- Check your patient is taking their preventer inhaler as prescribed and ensure they have a self management plan
  - [GGC asthma self management plans](#) and [‘Traffic lights for COPD’](#) templates are available online
- Target asthma patients prescribed >5 reliever inhalers annually for proactive clinical review
  - Speak to your prescribing support team about the prescribing support tool and [STU tool](#) to identify patients who are overordering salbutamol or ordering 2 salbutamol inhalers each time
  - Consider a CMS (serial) prescription to limit the number of salbutamol dispensed in a 24 or 56 week period
- Ensure accurate diagnosis and optimal management by reviewing GGC [COPD](#) and [Asthma](#) guidelines
- Review the updated [GGC inhaler device guides for Asthma and COPD](#)

### USE LOW CARBON INHALERS FIRST LINE WHEN CLINICALLY APPROPRIATE

Metered dose inhalers (MDIs) use hydrofluoroalkanes (HFA) propellants which are potent greenhouse gases, 1000 – 3000 times more potent than carbon dioxide

Dry powder inhalers (DPIs) and soft mist inhalers (SMIs) have a much lower carbon footprint

- Initiate new patients on DPIs or SMIs if clinically appropriate. DPIs may not be appropriate if patient has insufficient inspiratory effort (ie paediatric patients or very frail patients), requires a spacer, or if, after personalised inhaler review, patient prefers using MDI. You may wish to consider an ‘emergency’ salbutamol MDI and spacer for use during an acute attack.
- The respiratory MCN do not advocate mass switching of MDIs to DPIs/SMIs but change of inhalers can be considered after personalised discussion of risks and benefits and clear explanation of inhaler technique. Worsening advice should be given and follow up arranged.
- If MDI inhaler is prescribed then minimise the number of puffs: Fewer puffs => Less propellant => Less climate change
  - [GGC asthma inhaler device guide](#) recommends Clenil 200mg 1 puff BD instead of Clenil 100mg 2 puffs BD
  - [GGC asthma and COPD inhaler device guides](#) recommend the use of combination inhalers where appropriate
- Avoid prescribing Ventolin MDI inhaler which contains a high propellant volume so has a higher carbon footprint than other brands of salbutamol
- Avoid prescribing Flutiform and Symbicort MDIs which contain HFA227ea propellant, a potent greenhouse gas
- Consider the use of a single combination inhaler for maintenance and reliever therapy (MART) as per [SIGN/BTS guidelines section 7.3.5](#) and [GINA 2021 report section 3B](#)

### REMEMBER LOW CARBON INTERVENTIONS

- [Smoking cessation](#), vaccination and [pulmonary rehabilitation](#) are highly beneficial and cost effective interventions
- Lifestyle advice such as exercise, diet, singing and breathing exercises can help with physical and mental health
- Avoidance of triggers and air polluted areas can reduce exacerbations
- Digital support for [COPD](#) and for [asthma](#) is available online

### ENCOURAGE PATIENTS TO RETURN USED INHALERS TO PHARMACIES

#### Pharmacies can dispose of inhalers safely by incineration or recycling

Inhalers should not be put into household waste because remaining HFAs are released into the atmosphere

- Share your knowledge with local pharmacies and ask for their help – written info for pharmacies available [here](#)
- [Inhaler disposal posters](#) are available for your waiting room

#### References

1. The *Lancet* Countdown on health and climate change: <https://www.thelancet.com/countdown-health-climate>

2. Health care's response to climate change: a carbon footprint assessment of the NHS in England; Feb '21; [https://doi.org/10.1016/S2542-5196\(20\)30271-0](https://doi.org/10.1016/S2542-5196(20)30271-0)

3. Chief Medical Officer - annual report: 2020 to 2021; Mar '21; <https://www.gov.scot/publications/cmo-annual-report-2020-21/documents/>

4. Janson, C., Menzies-Gow, A., Nan, C. *et al.* SABINA: An Overview of Short-Acting  $\beta_2$ -Agonist Use in Asthma in European Countries. *Adv Ther* 37, 1124–1135 (2020). <https://doi.org/10.1007/s12325-020-01233-0>

#### Further Resources

1. How to Reduce the Carbon Footprint of Inhaler Prescribing? A Guide for GPs and Practice Nurses in the UK; Dr James Smith, Dr Aarti Bansal, and Dr Joe BarronSnowdon, for Greener Practice

2. <https://greeninhaler.org/>

3. PCRS Greener Respiratory Healthcare That is Kinder to the Environment WHITE PAPER AND CALL TO ACTION 18.11.20