DERBYSHIRE JOINT AREA PRESCRIBING COMMITTEE (JAPC)

NHS Derby and Derbyshire ICB & System Partners: Greener Inhaler Prescribing Guidance

Taking **personalised approaches** is a key approach to provide best care.

- Enabling **choice**, ensures that patients are aware of their options.
- **Shared decision making** helps patients to make decisions that are right for them.
- Supporting **self-management** increases people's knowledge, skills and confidence to manage their own health and care.
- Giving information in a **health literate** way means that people will understand how to manage their health.

Further information about offering choice, shared decision making and supporting self-care can be found here.

NHS Derby and Derbyshire ICB/System partners support the prescribing of inhalers with a reduced carbon footprint such as dry powder inhalers (DPIs) and Soft Mist inhalers (SMIs), wherever clinically appropriate and acceptable to the patient.

The metered dose inhaler (MDI) is usually the most cost-effective delivery device for salbutamol and should be considered for those patients requiring a SABA and as a matter of routine for appropriate paediatric patients. Salamol MDI is the preferred choice salbutamol inhaler due to lower carbon footprint compared to other salbutamol MDIs.

Abbreviations

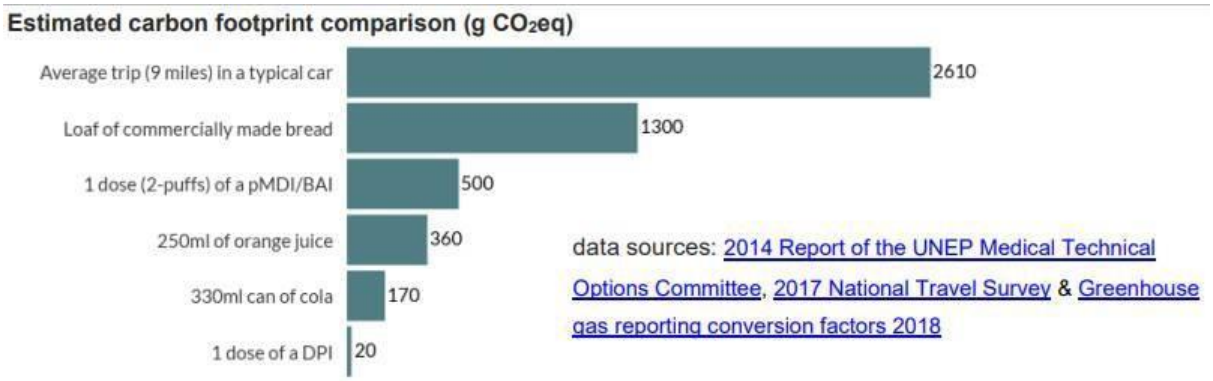
AIR therapy	Anti-inflammatory reliever therapy
BA-MDI	Breath-actuated metered dose inhaler
DPI	Dry powder inhaler
GWP	Global warming potential
ICS	Inhaled corticosteroid
LABA	Long-acting beta-agonist
LAMA	Long-acting muscarinic antagonist
MART	Maintenance and reliever therapy
SMI	Soft mist inhaler

Background

In 2019, the NHS Long-Term Plan committed the NHS to reducing its carbon footprint. “Delivering a 'Net Zero' National Health Service”, published in October 2020, built on this by committing the NHS to reaching net zero carbon (and equivalent emissions) by 2040 for those emissions under the direct control of the NHS (the ‘NHS Carbon Footprint’).

Inhalers alone are responsible for 3% of the NHS carbon footprint. Most of these emissions come from the propellants used in metered dose inhalers (MDIs) to deliver the medicine, rather than the medicine itself. Optimising the choice of inhaler, as part of a shared decision-making conversation between the patient and the clinician, can play a significant role in achieving the NHS net zero target.

It is important to be aware that just one dose of an average MDI has a carbon footprint (CF) 25 times greater than that of an equivalent dose given via an average DPI.



GP Quality Schedule 2025/26

The current schedule requires practices to support the NHS commitment to reduce its carbon footprint, including a shift to lower carbon inhalers. The required prescribing standard is either below 54% for MDIs prescribed as a proportion of all inhalers in BNF Chapter 3, excluding salbutamol or moves down by at least 10% from their baseline data

Greener Inhaler Use

There are many ways to reduce inhaler carbon footprint, including:

1. **Ensure control of asthma and COPD is optimised and clinicians are adhering to NICE asthma and COPD treatment pathways – this will benefit patients and reduce use of short-acting bronchodilators. Currently, salbutamol MDIs account for almost 38% of inhaler items in Derbyshire, and in the latest 3 months (December 2024 to February 2025) over 100,000 salbutamol MDIs were prescribed. See MHRA Apr 2025, SABA risks from overuse in asthma and changes to SABA prescribing guidelines.**
2. For newly diagnosed asthma patients or those with poor symptom control, consider anti-inflammatory reliever (AIR) therapy or maintenance and reliever therapy (MART). See local Asthma adult treatment algorithm (NICE 2024 update) for information on inhaler licensing in AIR and MART and local formulary options.
3. Ensure all inhalers are used with the correct technique for greater effectiveness and reduced wastage
4. **Initiate new patients on lower Global Warming Potential (GWP) impact devices such as DPIs, SMIs (e.g. Respimat) and low carbon MDIs where clinically appropriate. Lower GWP propellants are actively being developed by manufacturers to replace the high GWP propellants in current MDIs.**
5. Discuss a potential switch with existing patients (where it is clinically appropriate to do so) to a device with a lower GWP, e.g. during annual reviews.
6. Switch patients using more than one single component MDI to a combination inhaler where one is available and is suitable for the individual. This will reduce the overall number of inhaler items used and be more convenient for patients.
7. Patient education – including sign posting to resources such as RightBreathe and NICE Patient Decision Aids and promoting the Greener NHS via GP Practices and social media.
8. Inhaler disposal schemes – current advice is to return used or unneeded inhalers to a pharmacy for disposal. Inhalers should never be discarded in household refuse.
9. Ensure inhalers are not discarded unnecessarily before they are empty.
10. Reduce over-prescribing of inhalers by reviewing ordering patterns.

Switching Patients to inhalers with a lower carbon footprint

To reach the targets in the NHSE plan it is clear that patients who are currently taking MDIs will need to be considered for switch to DPIs or SMIs. Certain patients may be more suitable for switch than others. This may include those:

- with poor inhaler technique with current device
- with poor control of COPD/asthma
- with poor adherence/excessive use
- prescribed mixed devices (already using a DPI and an MDI)
- prescribed separate inhalers where combination inhalers are available (e.g. LAMA and LABA)

Please be aware that all dry powder inhalers contain lactose and are contraindicated in patients with hypersensitivity (anaphylaxis) to lactose or milk proteins. Refer to the SPC for full prescribing information.

Undertaking a switch

- 'Blanket switching' of patients from one type of inhaler to another (e.g. MDI to DPI) is **NOT** recommended. This is not patient-centred and there is evidence that switching without consent can lead to poorer asthma control.
- Most older children and adults will be able to use a DPI. However, an MDI with spacer or breath actuated inhaler (BAI) should ~~be used~~ considered
  - where a patient is unlikely to have sufficient inspiratory flow, for example in younger children or the very frail if, following a personalised review of inhaler options, a patient cannot or does not want to use a DPI or SMI.
  - where a patient is already using an MDI/BAI with effective technique, has good disease control, and the risks of changing inhalers are thought to outweigh the benefits.
- An InCheck device can be used to confirm appropriateness of a DPI if there is any uncertainty about inspiratory flow.
- Good inhaler technique is essential. If a face-to-face appointment is not possible every effort should be made to ensure good technique. This may involve a variety of measures such as video consultation, on-line training videos (available via RightBreathe – see useful resources), new medicine service (NMS) from community pharmacist.
- The patient should receive safety-netting advice and appropriate follow up. For example, what symptoms may indicate deteriorating control and who to contact for advice.
- Feedback suggests that most asthma patients using MDIs would change device for environmental reasons so long as the new inhaler was efficacious, easy to use and fitted their current routine, and that they could change back if needed.

Switches

The table below shows the carbon footprint rating of inhalers in the Derbyshire formulary. This is based on the PrescQIPP Inhaler Carbon Footprint Comparison Tool.

 Low  Medium  High

Active Ingredient	Brand/Device	Type	Carbon Footprint
ICS + LABA			
Budesonide + Formoterol	WockAIR	DPI	
	Fobumix Easyhaler	DPI	
	Duoresp Spiromax	DPI	
	Symbicort Turbohaler	DPI	
	Symbicort	MDI	
Beclometasone (extra fine) + Formoterol	Fostair Nexthaler	DPI	

	Proxor, Bibecfo, Luforbec	MDI	
Fluticasone Proprionate + Salmeterol	Fixkoh Airmaster	DPI	
	Seretide Accuhaler	DPI	
	Fusacomb Easyhaler	DPI	
	Combisal	MDI	
	Seretide	MDI	
SABA			
Salbutamol	Salamol CFC free	MDI	
	Ventolin Accuhaler	DPI	
	Easyhaler	DPI	
	Salamol breath-actuated CFC free	BA-MDI	
Triple Therapy (ICS + LABA +LAMA)			
Beclometasone + Formoterol + Glycopyrronium	Trimbow NEXThaler	DPI	
Fluticasone + Vilanterol + Umeclidinium	Trelegy Ellipta	DPI	
Mometasone + Indacaterol + Glycopyrronium	Enerzair Breezhaler (asthma only)	DPI	
Budesonide + Formoterol + Glycopyrronium	Trixeo Aerosphere	MDI	
Beclometasone + Formoterol + Glycopyrronium	Trimbow	MDI	
LABA			
Formoterol	Easyhaler	DPI	
	Atimos Modulite CFC free	MDI	

Salmeterol	Soltel CFC free	MDI	
SAMA			
Ipratropium	CFC free	MDI	
LAMA			
Tiotropium	Trokide (capsules + device)	DPI	
	Tiogiva (capsules + device)	DPI	
	Spiriva Respimat	SMI	
Glycopyrronium Bromide	Seebri Breezhaler	DPI	
Umeclidinium	Incruse Ellipta	DPI	
Aclidinium Bromide	Eklira Genuair	DPI	
LAMA + LABA			
Tiotropium + Oladaterol	Spiolto Respimat	SMI	
Aclidinium + Formoterol	Duaklir Genuair	DPI	
Glycopyrronium + Indacaterol	Ultibro Breezhaler	DPI	
Umeclidinium + Vilanterol	Anoro Ellipta	DPI	
Glycopyrronium + Formoterol	Bevespi Aerosphere	MDI	
ICS			
Beclometasone	Soprobec	MDI	
	Kelhale (extra fine particles)	MDI	
	QVAR (extra fine particles)	MDI	

Budesonide	Easyhaler	DPI	
Fluticasone Proprionate	Flixotide Accuhaler	DPI	
	Flixotide Evohaler	MDI	

References:

NHS England. Greener NHS (accessed via Greener NHS » Delivering a net zero NHS (england.nhs.uk) on 21/10/2021)

PrescQIPP Carbon Footprint Data 2023 (accessed via Bulletin 295: Inhaler carbon footprint | PrescQIPP C.I.C on 21/05/2024)

RightBreathe (accessed via https://www.rightbreathe.com/ on October 27th 2021)

Chiesi Medical Information Response (Ref CHIESI-GB-21102021-4967) Received 27/10/2021

Network Contract Directed Enhanced Service Contract specification 2022/23 – PCN Requirements and Entitlements (accessed via NHS England Report Template 7 on May 31st 2022)

PrescQIPP Inhaler Carbon Footprint Comparison Tool – on 29/05/25

GP Quality Schedule 2025/26 – on 29/05/25

Useful Resources:

- NICE Patient Decision Aid Asthma Inhalers and Climate Change
- RightBreathe website
- Greener Practice website

Document Control	Date
V2: Lactose hypersensitivity warning added	May 2022
V3: MDI SABA use clarified, formulary update, PCN DES information/references updated for 22/23	May 2022
V4: CCG replaced with ICB	July 2022
V5: Bibecfo 100/6 MDI added to ICS/LABA combinations table and price update of Luforbec 100/6 MDI. Updated carbon footprint data for Spiriva and Spiolto Respimat with device.	May 2024
Full review and update	June 2025

Appendix 1

High Quality & Low Carbon Asthma Care – A quality improvement toolkit for primary care

The toolkit is designed to help UK general practices improve asthma outcomes whilst also reducing carbon emissions. It contains step-by-step quality improvement activities. Resources include downloadable searches, educational videos, templates and patient information.

The toolkit contents include:

- **Introduction –** Principles, tips for success and an approach to consultations
- **Education –** Clinical knowledge for high quality and low carbon asthma care
- **Projects –** Step-by-step QI projects on asthma diagnosis, disease control, devices and their disposal
- **Resources**

Greener Practice Events & Webinars

Upcoming events and past webinars can be accessed via the Events & Webinars page