

# Respiratory Inhalers

## How to get the best outcomes for your patients and the planet

The hydrofluorocarbons used as the propellants in metered-dose inhalers (MDIs) are potent greenhouse gases, with global warming impacts thousands of times that of CO<sub>2</sub>. MDIs alone constitute 4% of the entire NHS in England's carbon footprint<sup>1</sup> and 25% of the general practice carbon footprint<sup>2</sup>.

Dry powder inhalers (DPIs) and soft mist inhalers (SMIs) are much less environmentally damaging and are equally efficacious in managing asthma and COPD symptoms in most patients (people over 6 years of age with reasonable inspiratory capacity).

In Sweden, 90% of all inhalers prescribed are DPIs. 2.7 million Australians have asthma, and so optimising their respiratory care is not only good practice, but also one of the most impactful environmental actions you can take.

### So, what can you do?

Watch this 15 minute video  
by Perth GP Dr Brett Montgomery

[Respiratory inhalers, climate change and the environment. - YouTube](#)

#### The important principles about inhaler sustainability are:

1. Care optimization.
2. Inhaler efficiency.
3. Inhaler switching.
4. Inhaler disposal.



#### The priority actions are:

1. Educate and support patients to improve their respiratory health through smoking cessation, regular physical activity, a nutritious diet and maintaining a healthy weight.
2. Aim for good control, including regular reviews and personalized asthma action plans.
3. High salbutamol inhaler use (e.g. more than 2 inhalers per year) signals that there is an opportunity to improve asthma control and reduce greenhouse gas emissions.
4. Prescribe the right inhaler dosage to deliver the dose in as few puffs as possible e.g. 1 puff of x BD rather than 2 puffs of y BD.
5. Prescribe inhalers with dose counters (patients often use empty inhalers or dispose of full ones).
6. Prescribe dry powder inhalers whenever appropriate. Research has found that most patients are happy to switch, as long as DPIs are equally efficacious for them.
7. Consider the modern formoterol/budesonide
8. Work in partnership with pharmacists and pharmacies.
9. Respiratory nurse practitioners could introduce DPIs at asthma/COPD review.
10. Consider a poster in your waiting room, and raise the topic in consultations if/as appropriate. In some UK practices, all patients who use inhalers have been sent a letter/email/SMS asking them to book an appointment if they're interested in discussing options.
11. Recycling: Inhalers should NOT go to household waste or landfill, as the gas leaks and plastic leaches. Surveys have found that most patients are happy to bring their inhalers back to pharmacy for appropriate disposal.

#### References and further reading:

1. <https://www.bmj.com/content/346/bmj.f3359>

2. <https://www.greenerpractice.co.uk/inhaler-switch>

[www.greeninhaler.org](http://www.greeninhaler.org) Website written/ developed by Dr Alex Wilkinson, NHS respiratory consultant and an Associate at the Centre for Sustainable Healthcare

**Patient decision aid:** Inhalers for asthma (nice.org.uk) - The UK's NICE (National Institute for Health and Care Excellence) Patient Decision Aid includes information about the carbon footprint of inhalers

**KISS: Green Inhaler Prescribing | NB Medical** Green Inhaler Prescribing - NB Medical education