



## Factsheet 17

Updated on 14 August 2020

## Inhalers – The Greener Choice

*The following information has been designed for healthcare professionals.*

The NHS Long Term Plan stated a target to reduce the carbon impacts of inhalers by 50% by 2030, and a drive to reduce Pressured Metered Dose Inhalers (pMDI)s prescribing which in 2018 were estimated to be responsible for 4% of the NHS's entire carbon footprint. pMDI's make up around 70% of UK prescribing in comparison to Scandinavian countries which have rates between 10% - 30% whilst other European countries are 50%.

To support the reduction in the carbon footprint the updated GP contract states that:

“All inhaler prescriptions, Structured Medication Reviews or planned Asthma Reviews taking place in primary care should consider moving or facilitating patients to lower carbon options where it is clinically appropriate to do so with a particular focus on combination therapy.

The latest BTS position statement on Environment and Lung Health (BTS, 2020) recommends:

- Where a new class of inhaler is commenced, this is a Dry Powder Inhaler (DPI).
- Where patients are using several classes of inhalers and poor inhaler technique is identified with one device, a DPI class is prioritised if the patient is able to use these safely. Similarly, future and additional inhalers would ideally also be DPIs.
- During all respiratory reviews, prescribers recommend low carbon alternatives to patients currently using pMDIs where patients are able to use these safely.
- Taking all opportunities, including respiratory reviews, to optimise inhaler technique which may improve drug delivery / lung deposition.
- Supporting patients to reduce hoarding and use up existing medication in the first instance.

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- The dissemination of information that some devices can be reused, and the canister changed, and that prescribers encourage patients to ask their pharmacists about safe inhaler disposal.

The Green choice lies in the whole process; identifying and discussing health beliefs, risk: benefit of treatment, expectation of treatment to device assessment to prescribing and to disposal. What is the impact of over-use of Short Acting Beta Agonist (SABA), poor symptom or disease control? What is the impact of unused medicines being thrown in the bin?

The Greenest Inhaler is the device the person CAN USE, DOES USE and WILL USE (Macdonald G, 2020) and this is further supported by opinion that environmental impact is considered secondary to making sure that patients are able to use their inhalers correctly (Usmani, Capstick, Saleem et al, 2020) and understand why they are taking it

Not all pMDI's are equal in their carbon impact and there is little published evidence on the impact of plastic from DPI's including fossil fuel depletion, human and animal toxicity in DPI's. The focus of the published evidence is on hydrofluorocarbons (HFCs) which are powerful greenhouse gas emitters with Global Warming Potential (GWP). They are not ozone depleters. In terms of carbon footprint HFA227 (Symbicort, Flutiform and Ventolin) containing pMDI's have approximately double the GWP to HFA134 containing inhalers (Salamol, Fostair, Clenil, Trimbaw) (Janson, 2020) (Wilkinson, 2020). The soft mist device such as Respimat does not contain a propellant as the mist is generated by Kinetic/mechanical energy.

Landfill disposal of inhalers is harmful to the environment both in material waste and in greenhouse gas emissions as the residual gas from canisters is released to the atmosphere.



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A green approach should always include:

- Discussing and promoting the return of inhalers to the pharmacy for recycling or disposal (by incineration).
- Prescribing the appropriate numbers of inhalers, aiming for optimal symptom control in order to reduce requests for short acting bronchodilators.

### Summary

The Right Device for the Right person (with the lowest carbon footprint where possible that is prescribed appropriately and disposed of by return to the pharmacy).

### References

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