PCRS Position Statement

Inhaler Switching:
Making safe and clinically appropriate changes for patients with respiratory disease

September 2023

Concerns about the environmental impact of the propellant gases used in pressurised metered dose inhalers (pMDIs) and the plastics used in all single-use inhaler devices have made them an important focus for efforts to reduce the environmental impact of the NHS. Patients themselves may also be concerned about the environmental impact of their inhalers and express a preference for alternatives. PCRS do not support 'blanket switching' of patients from one inhaler type to another. Decisions about changing a patient from one inhaler device to another type of inhaler device should be made with the patient after careful review of the patient's current condition and within the context of delivering optimal care for the individual patient.

PCRS continues to encourage manufacturers of inhaler devices to seek materials and manufacturing processes that minimise the environmental impact, and to enable appropriate recycling of the devices they produce. PCRS encourages the development of reusable devices and low global warming potential (GWP) propellants for pMDIs. Of particular benefit is the inclusion of dose counters to ensure all available doses are used prior to disposal. In the absence of access to recycling schemes safe disposal via pharmacy return is much better than inhalers entering landfill.

Optimising treatment, adherence and inhaler technique to gain the best possible symptom control is key to reducing the environmental impact of treatment and the waste of inhalers. Every review appointment for change in treatment should be used as an opportunity to improve outcomes, including regular observed review of inhaler technique.

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Background

Since their introduction inhaler devices have revolutionised the care of patients with respiratory disease by allowing the delivery of medications directly to the lungs. These devices have undoubtedly saved countless lives. However, we should be concerned about the environmental impact of the propellant gases used in pressurised metered dose inhalers (pMDIs) – current propellants are very potent global warming agents – and the plastics used in all inhaler devices. These factors have made them an important focus for efforts to reduce the environmental impact of the NHS and it is essential we act now to reduce this impact at every opportunity.[1] However, it is important to place these concerns in context. The NHS Sustainability Development Unit (SDU) estimates that about 4% of NHS greenhouse gas emissions are accounted for by inhaler usage and the NHS as a whole accounts for about 3% of the overall greenhouse gas emissions in the UK.

Propellant-free inhalers, such as dry powder inhalers (DPIs) and soft mist inhalers (SMIs) are available for the delivery of respiratory medications and are suitable for routine treatment for most adult patients. Use of a DPI does require patients to be able to breathe in quickly and deeply over 2–3 seconds which not all patients may be able to achieve, especially in emergency situations.[2] These inhalers also incur environmental costs in relation to their production and disposal,[3] and most are designed as single use devices. There is no effective national recycling scheme for inhaler devices. The current low levels of return of inhalers to pharmacies for safe disposal continues to result in the environmentally harmful release of propellant gases and a considerable amount of plastic and metal going into landfill.

Information on the global warming potential (GWP) of inhaler devices currently used in routine clinical practice can be obtained by using the information compiled by Dr Alex Wilkinson (https://greeninhaler.org/inhaler-comparison/) and that provided by RightBreathe (https://www.rightbreathe.com/).

PCRS position

- PCRS welcome initiatives to reduce the environmental impact of respiratory healthcare. It is essential that such strategies do not compromise patient care or create a situation where patients feel conflicted about any potential environmental cost of medications or devices used to manage their respiratory disease.
- PCRS do not support 'blanket switching' of patients from one inhaler type to another and there is clear evidence to show that this approach is neither patient-centred nor good clinical practice.
- Decisions about changing a patient from one inhaler device to another type of inhaler device should be made with the patient after careful review by a health professional of the patient's current condition and within the context of delivering optimal care for the individual patient.
    - Changing from one inhaler device to an alternative with a lower GWP delivering the same or equivalent medication should be considered where the change is clinically appropriate, safe and acceptable to the patient.
    - For adult patients starting treatment for the first time choose a low GWP alternative where possible. Some patients may also need to hold a pMDI and spacer for emergency use.
    - Patients should be supported to make a decision that is appropriate to them. This should include an opportunity to try any alternative device or devices with training on the appropriate use of any new inhaler.
    - Patients should be reviewed by a health professional after any change in treatment of inhaler type.
    - Every opportunity should be taken to optimize inhaler-based therapy, including regular observed review of inhaler technique, with coaching to correct errors, and ensuring patients have access to appropriate videos demonstrate appropriate technique for their inhaler.
- Changing inhalers should not be considered for patients where dexterity, cognitive or other physical issues that may increase the risk for poor adherence or poor inhaler technique with an alternative device. Younger children need to use pMDI with spacer, and spacer use should be strongly encouraged in all patients needing or choosing to use pMDIs so as improve treatment efficacy.

- PCRS continue to encourage manufacturers of inhaler devices to seek materials and manufacturing processes that minimise the environmental impact and enable appropriate recycling of the devices they produce. Of particular benefit is the inclusion of dose counters to ensure all available doses are used prior to disposal. Effective recycling schemes (or failing that routine safe disposal) should be available and accessible to all patients who receive medications via inhaler devices. Reusable inhalers and the development of low GWP propellants for pMDIs should be a focus for future device development.

References

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2. Keeley D, et al. Minimising the environmental impact of inhaler therapies: problems with policy on low carbon inhalers. Eur Respir J 2020 https://doi.org/10.1183/13993003.00048-2020
3. Janson C, et al. Carbon footprint impact of the choice of inhalers for asthma and COPD. Janson C, et al. Thorax 2020;75:82–84. doi:10.1136/thoraxjnl-2019-213744

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