Patient Label Here

Date: _____

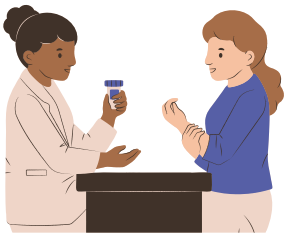
CLIMATE CONSCIOUS INHALER PRACTICES

During their hospital admission, your patient/client's care team reviewed their inhaler therapy to determine if there were opportunities to reduce the climate impact of their care without compromising its efficacy.

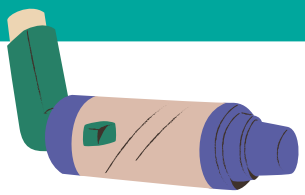
Inhalers on admission	Inhalers on discharge

4.6% of Canada's greenhouse gas (GHG) emissions are related to healthcare and a quarter of these emissions are related directly to medications(1) - **Community pharmacists play a key role in fighting climate change**

WHAT YOU CAN DO TODAY



Continue to regularly review inhaler technique including direct observation of patients with targeted feedback.



If an MDI is necessary, consider dispensing a low HFA volume MDI and encourage spacer use

DIN - Brand Name - KM by car (2)
02232570 - Airomir - 38.8
02245669 - APO-Salbutamol - 112.6
02419858 - SANIS-Salbutamol - 112.6
02326450 - TEVA-Salbutamol - 38.8
02241497 - Ventolin - 112.6

Continue to encourage patients to bring back their inhalers to a pharmacy for safe disposal

KEY FACTS

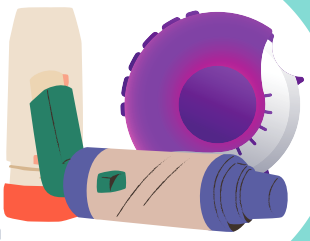
Metered-dose inhalers (MDIs) contain hydrofluoroalkane propellants (HFAs). This potent greenhouse gas expels the medication from the cannister. Each MDI has the carbon footprint equivalent of driving up to 139km by car.(2)

Dry-powdered inhalers (DPIs) and soft mist inhalers (SMI) have a significantly lower carbon footprint, ranging between 2-5km by car.(2) They can still have other environmental impacts.(2)

80% of patients consider the carbon footprint of their inhaler therapy to be an important consideration.(3)

Switching to DPIs in appropriate patients through shared decision making between the patient and prescriber leads to similar or improved health outcomes. (5,6,7)

Certain MDIs use ethanol as an HFA-sparing agent. They have up to a third less HFA than a high volume MDI leading to a lower carbon footprint.(2)



MDIs need to be incinerated to neutralize the remaining HFA for safe disposal

The Health Products Stewardship Association operates free medication takeback programs for the safe disposal of medications including inhalers in BC. Find out if your pharmacy is registered or learn more at **healthsteward.ca**

1. Eckelman MJ, Sherman JD, MacNeill AJ (2018) Life cycle environmental emissions and health damages from the Canadian healthcare system: An economic-environmental- epidemiological analysis. PLoS Med 15(7): e1002623. https://doi.org/10.1371/journal.pmed.1002623
2. Stoynova V, Culley C. 2022. Detailed Inhaler Carbon Footprint Chart. Retrieved from https://cascadescanada.ca/resources/tools-templates/#inhalers
3. Dhand R, Eicher J, Hänsel M, Jost I, Meisenheimer M, Wachtel H. Improving usability and maintaining performance: human-factor and aerosol-performance studies evaluating the new reusable Respimat inhaler. Int J Chron Obstruct Pulmon Dis. 2019 Mar 5;14:509–23.
4. Wilkinson AJK, Braggins R, Steinbach I, Smith J. Costs of switching to low global warming potential inhalers. An economic and carbon footprint analysis of NHS prescription data in England. BMJ Open. 2019 Oct;9(10):e028763.
5. Bloom CI, Douglas I, Olney J, D'Ancona G, Smeeth L, Quint JK. Cost saving of switching to equivalent inhalers and its effect on health outcomes. Thorax. 2019 Nov;74(11):1078–86.
6. Price DB, Román-Rodríguez M, McQueen RB, Bosnic-Anticevich S, Carter V, Gruffydd-Jones K, et al. Inhaler Errors in the CRITIKAL Study: Type, Frequency, and Association with Asthma Outcomes. The Journal of Allergy and Clinical Immunology: In Practice. 2017 Jul 1;5(4):1071-1081.e9.
7. Gálffy G, Szilasi M, Tamási L. P227 Clinical effectiveness, health-related quality of life and patient satisfaction after switch from metered dose inhaler to easyhaler dry powder inhaler in patients with asthma and COPD; a real-life study. Thorax. 2019 Dec 1;74(Suppl 2):A212–3.
8. Yang CL, Hicks EA, Mitchell P, Reisman J, Podgers D, Hayward KM, et al. Canadian Thoracic Society 2021 Guideline update: Diagnosis and management of asthma in preschoolers, children and adults. Canadian Journal of Respiratory, Critical Care, and Sleep Medicine. 2021 Nov 2;5(6):348–61.