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## **Partnering to decarbonize healthcare: Climate conscious inhaler prescribing**

To our community pharmacy colleagues:

We invite you to help us reduce our carbon footprint by identifying patients eligible to switch from metered dose inhalers (MDI) to dry powder inhalers (DPI) or soft mist inhalers (SMIs). The health system produces more greenhouse gas emissions than the airline industry; given that approximately 1/4 of health sector emissions are related to medications, pharmacists can play a massive role in combating climate change.<sup>1,2,3</sup> Metered-dose inhalers in particular represent a significant source of emissions.

Many primary care providers are (or “The {your practice name} \_\_\_\_\_ is”) engaging in an effort to reduce MDI prescribing (and unnecessary inhaler prescribing, more generally). Community pharmacy involvement is key to the success of this initiative. Each time a patient refills their MDI prescription, there is an opportunity for you to connect with their prescribers to educate them about the environmental impact of MDIs and to suggest a switch to an appropriate alternate.

See below for quick FAQs regarding the initiative. We have also attached a templated Pharmaceutical Opinion you can send to prescribers and a link to further resources.

We look forward to working collectively to make our health care system more sustainable.

If you have any questions or feedback, feel free to contact us at [cascades@utoronto.ca](mailto:cascades@utoronto.ca) (or “\_\_\_\_\_ {your email address}”)

Regards,

{Your name}

### **FAQs**

**Who are we?**

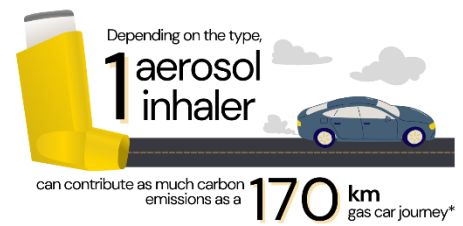
*{Info about your practice – optional}*

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### Why should we deprescribe metered dose inhalers (MDIs)?

- 1) MDIs use a propellant that contains a potent greenhouse gas and contributes to climate change
- 2) There are alternatives to MDI that offer similar, if not more effective, treatment in a medium that has a lower carbon footprint, such as dry powdered inhalers (DPIs) or soft mist inhalers (SMIs)
- 3) Current GINA guidelines recommend combination budesonide-formoterol as both rescue and maintenance in mild-to-moderate asthma. Alternatively, they also recommend a single-agent inhaled corticosteroid and a short acting bronchodilator can be used as maintenance and rescue therapy, respectively.
- 4) Switching one MDI to DPI for one year is equivalent to the carbon reduction found if one person becoming vegetarian



\*Steynova V, Culey C. Detailed Inhaler Carbon Footprint Chart. Available from <https://cascadescanada.ca/resources/inhalers/>

### Who cannot be switched?

- a. Children < 12
- b. Those with possible poor inspiratory effort (neuromuscular disease, and elderly women)
- c. Those without insurance plans as MDIs may be more affordable
- d. Those who may not want to switch

### My patient still needs an MDI, is there anything else we can do to reduce our carbon footprint?

For those who cannot use alternative to MDI – please advise the following:

- 1) Use a spacer to reduce wasted doses
- 2) Review technique with respiratory educator to reduce medication wastage
- 3) Try to maintain dose count so as to be aware when medication is empty to reduce early disposal

### How about disposal?

For all inhalers, please encourage patients to return to pharmacy for disposal and/or recycling. MDIs if not properly disposed of (incinerated) may also emit HFAs that will contribute to global warming.

### What resources are available?

- 1) Template of a Pharmaceutical Opinion to send to prescribers (below)
- 2) Inhaler alternatives and coverage charts plus background information and other resource can be found at: <https://cascadescanada.ca/resources/all-topics/inhalers/>

### References:

1. <https://www.carbonbrief.org/healthcare-in-worlds-largest-economies-accounts-for-4-of-global-emissions/>
2. <https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196%2820%2930271-0/fulltext>
3. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8020277/>

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## Pharmaceutical Opinion Template

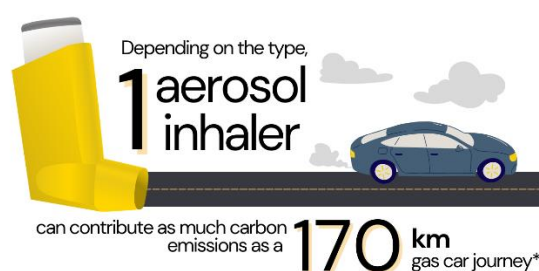
Dear Dr. \_\_\_\_\_ *{prescriber name}*,

RE: \_\_\_\_\_ *{patient name}* DOB: \_\_\_\_\_

This patient requested a refill of their \_\_\_\_\_ *{inhaler name}*. We have filled this prescription for the time being, but would like to suggest a switch to \_\_\_\_\_ *{new inhaler name or "an appropriate dry powder inhaler"}* in advance of future refills.

This switch would be a more environmentally sustainable option, as MDIs use a propellant that contains a potent greenhouse gas, contributing to climate change. For more details, see:

<https://cascadescanada.ca/action-areas/pharmacy-and-prescribing/>



\*Stoyanova V, Culley C. Detailed Inhaler Carbon Footprint Chart. Available from <https://cascadescanada.ca/resources/inhalers/>

*{if suggesting a switch from Ventolin to Symbicort for asthma patient, include the following}*

Please note that current GINA guidelines recommend combination budesonide-formoterol as both rescue and maintenance in mild-to-moderate asthma. Alternatively, they also recommend a single-agent inhaled corticosteroid and a short acting bronchodilator can be used as maintenance and rescue therapy, respectively.

*{choose one of the following}*

Please note, we have discussed this with the patient and they are open to switching inhalers.

**OR**

Please note, we have not yet had a chance to discuss this with the patient. If you have the opportunity, we would encourage you to do so.

Regards,

Pharmacy Team