How might choice of Salbutamol Metered Dose Inhaler (MDI) type and use of a Spacer impact drug delivery and emissions – *best for patient and environment*

A. Kaplan[1] J. Suggett[2]

[1] Chair, Family Physician Airways Group of Canada, [2] Trudell Medical International, London, Canada

RATIONALE

As current MDIs contain hydrofluorocarbon propellants, it would be beneficial to find ways to reduce carbon emissions without compromising patient safety.

This lab study investigated a way to optimize the modelled lung dose per actuation while at the same time minimizing the carbon emissions from the MDI.

METHODS

Two different salbutamol 100mcg MDIs were investigated, Ventolin† (GSK) and Teva†-salbutamol (Teva).

Each was tested alone and combined with an ***AeroChamber2go**** Spacer (TMI), designed for on the go use with reliever medications.

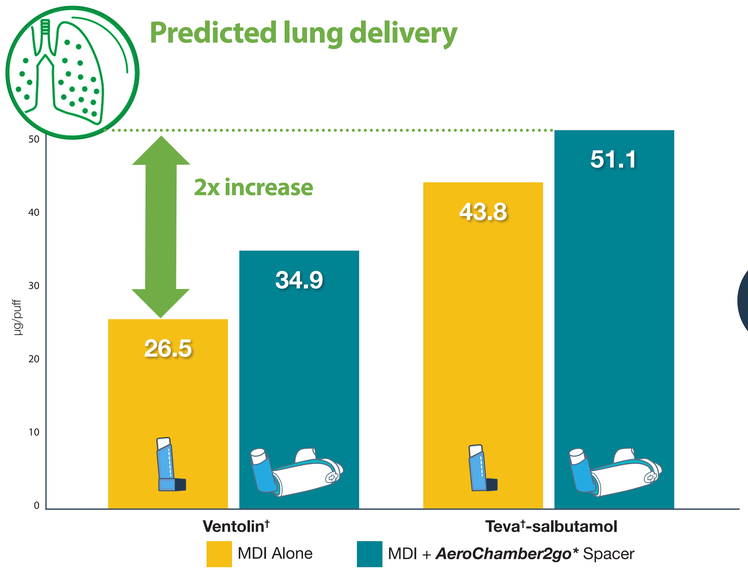
Fine particle mass (< 4.7 microns), therefore the mass of drug in the size range potentially available for lung delivery, was determined using an abbreviated cascade impactor, performed with no delay following actuation, and HPLC assay.

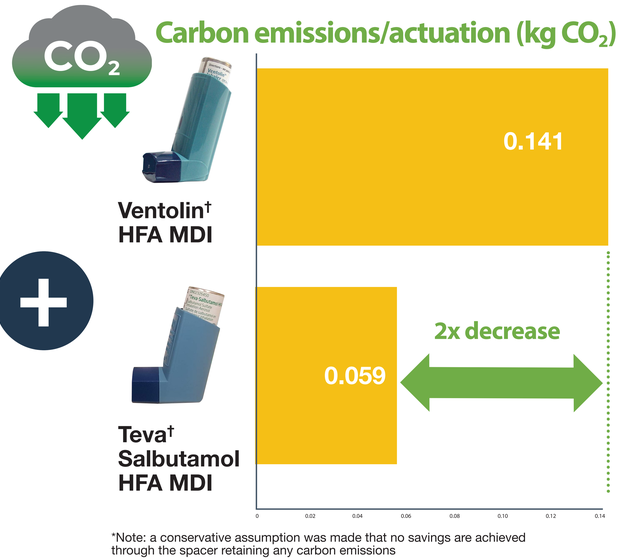
Carbon emissions per actuation were also determined.

[1] https://greeninhaler.org

RESULTS

More efficient delivery of inhaler medication leads to less use of medication and therefore less carbon footprint.





*Note: a conservative assumption was made that no savings are achieved through the spacer retaining any carbon emissions

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Up to 4x reduction in carbon emissions when using an *AeroChamber2go VHC in combination with Teva†-Salbutamol**

Make every puff count

CONCLUSIONS

- The use of the new portable spacer with a lower carbon emitting salbutamol MDI has the potential to improve lung delivery and reduce carbon emissions.
- In combination, the selection of the Teva†-salbutamol MDI delivered using the ***AeroChamber2go**** Spacer could potentially reduce the number of actuations required for patient relief of symptoms, which could help contribute to an **up to 4.6x reduction in the carbon emissions** compared to using a Ventolin† MDI product alone.

Make **every puff** count

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