

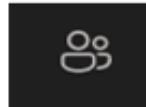
# Introduction & House Keeping



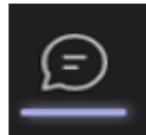
## Ways to Interact in Teams



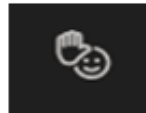
Participants in the Meeting:-



Chat Box Function:-



Raised Hand Function:-



NHS England and NHS Improvement





**Greener  
Practice**

# Better and Greener Asthma Care: Improving patient care and increasing patient choice

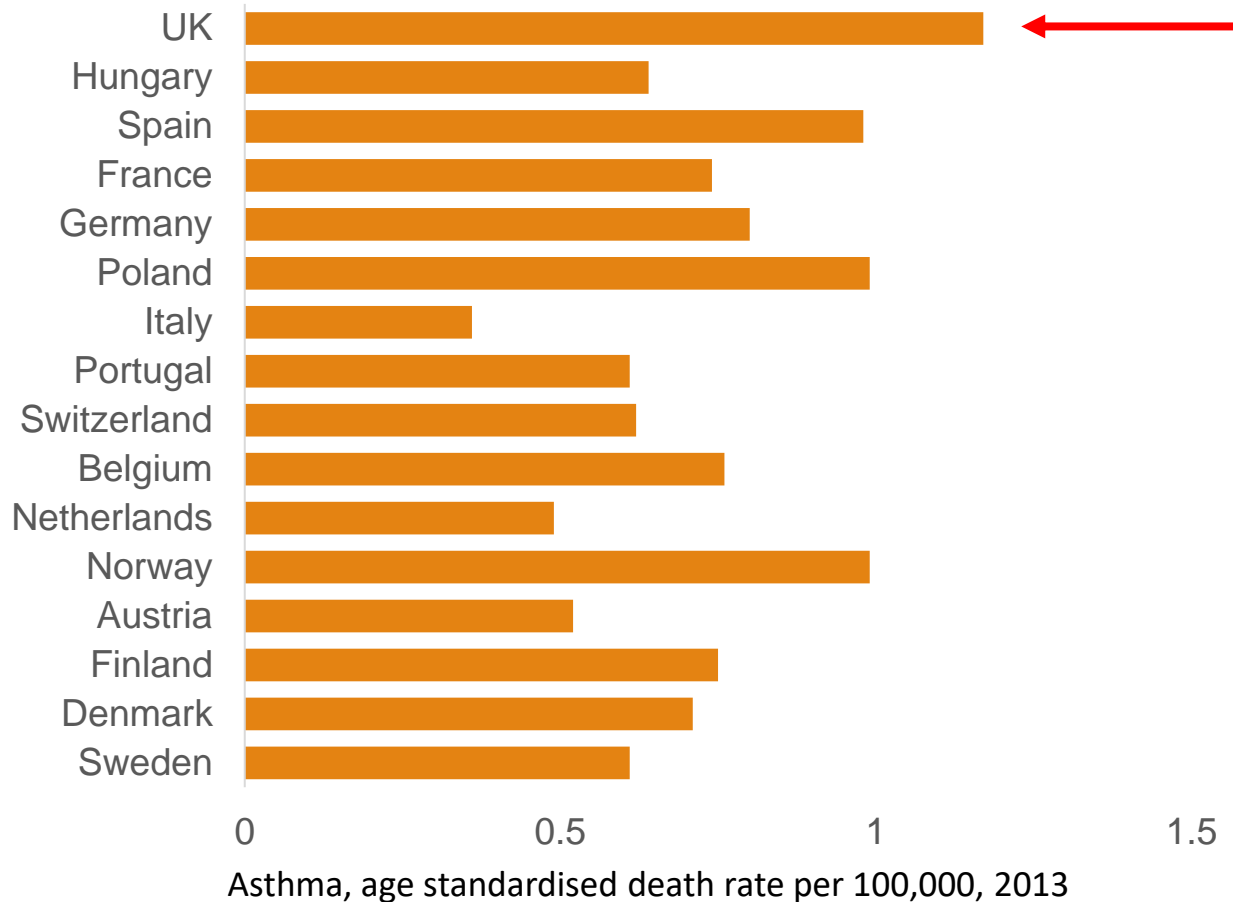
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**Dr Aarti Bansal** MBChB, FRCGP, M.Ed, SFHEA

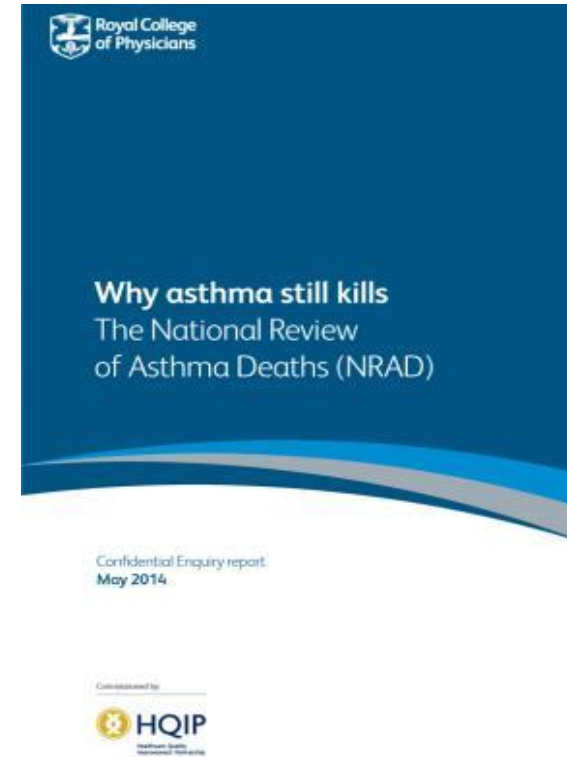
GP & Net Zero Clinical Lead for HNY ICS  
Founder of Greener Practice

Member of NHSE&I Inhaler Working Group  
Honorary Senior Lecturer, Hull York Medical School

# State of asthma care in UK



It is estimated that 2/3 of the UK's asthma deaths are preventable



# Impact of Climate Change on Human Health

Injuries, fatalities,

Asthma,

Heat-related illness  
and death  
cardiovascular

rus,

Forced migration  
civil conflict  
mental health



Ella was the first person in the UK to have air pollution listed as the cause of death

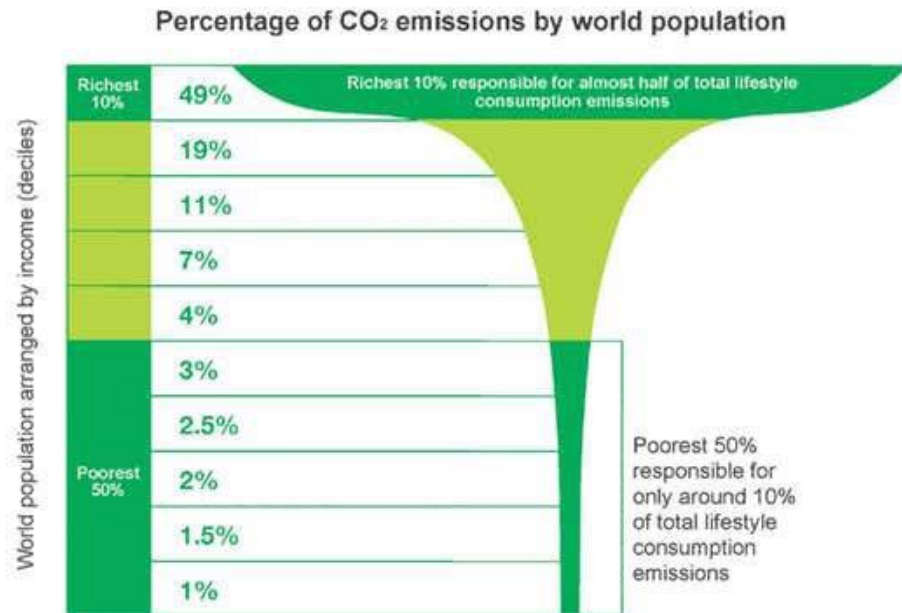
A coroner has called for a change in the law after air pollution led to the death of a nine-year-old girl.

Malnutrition,  
diarrheal disease

Cholera,  
cryptosporidiosis,  
campylobacter, leptospirosis,  
harmful algal blooms

# Inverse Climate Law

**Figure 1: Global income deciles and associated lifestyle consumption emissions**

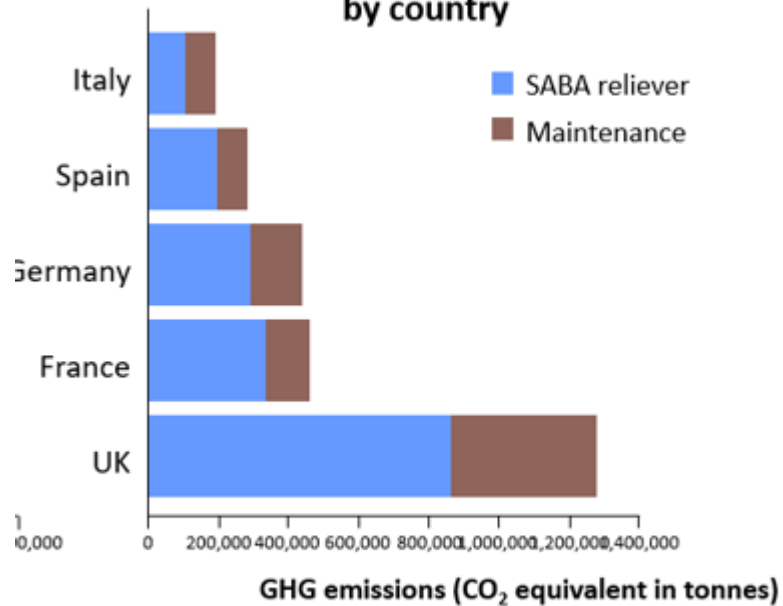


Source: Oxfam

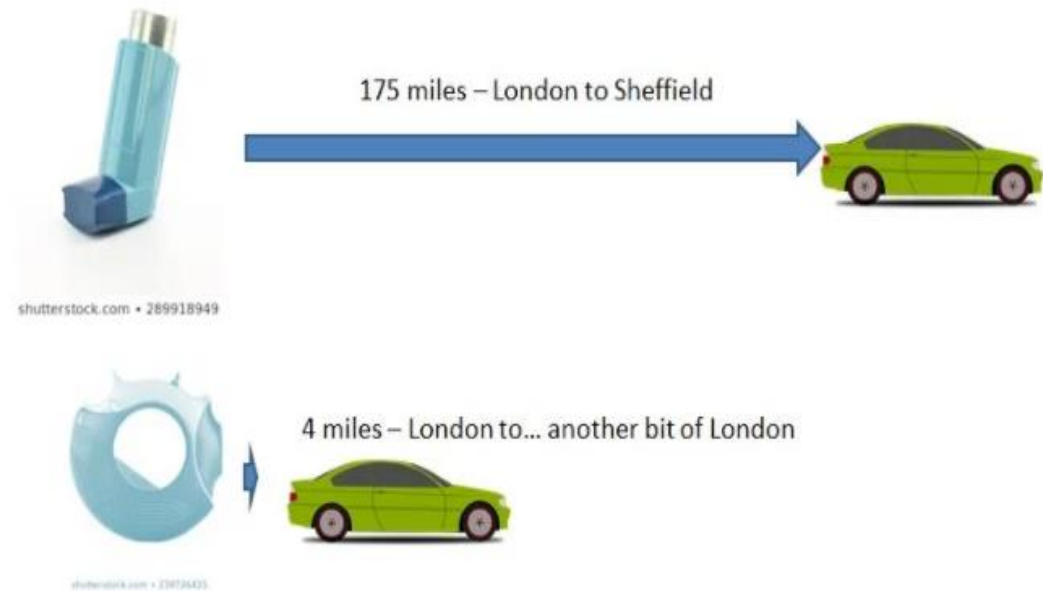


# Carbon footprint of inhaler prescribing

**GHG emissions associated with inhaler sales by country**



**SABA relievers drive the majority of GHG emissions from inhaler devices in the UK and other European countries**





# NHSE PCN DES IIF indicators

## High quality – Improving asthma care

<b>Objective 4: Deliver better outcomes for patients on medication</b>			
Indicator	Thresholds	Value	Source
<p>RESP-01: Percentage of patients on the QOF Asthma Register who were regularly prescribed* an inhaled corticosteroid over the previous 12 months</p> <p>* 22/23: 3 or more ICS prescriptions; 23/24 onwards: 5 or more ICS inhalers.</p>	71% (LT), 90% (UT)	£7.0m/ 31 pts	GPES
<p>RESP-02: Percentage of patients on the QOF Asthma Register who received six or more SABA inhaler prescriptions* over the previous 12 months</p> <p>* From 23/24: who were prescribed 6 or more SABA inhalers</p>	25% (LT), 15% (UT)	£5.0m/ 22 pts	GPES

## Low carbon - carbon footprint of inhalers.

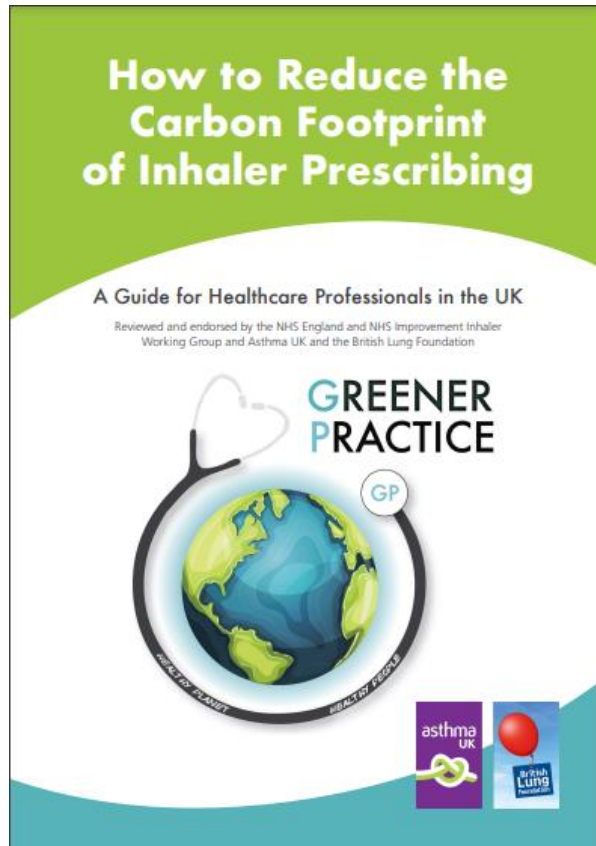
<b>Objective 5: Help create a more sustainable NHS;</b>			
Indicator	Thresholds	Value	Source
<p>ES-01: Metered Dose Inhaler (MDI) prescriptions as a percentage of all non-salbutamol inhaler prescriptions issued to patients aged 12 or over</p>	44% (LT), 35% (UT)	£6.1m / 27 pts	GPES
<p>ES-02: Mean carbon emissions per salbutamol inhaler prescribed (kg CO<sub>2</sub>e)</p>	22.1kg (LT), 18.0kg (UT)	£9.9m / 44 pts	BSA prescribing data

# How can we safely and effectively implement high quality and low carbon asthma care?

We have won a highly competitive bid to support this work in North East Lincs.....



# Guide to reducing the inhaler carbon footprint



## To reduce the carbon footprint of inhaler prescribing:

- 1 Optimise asthma and COPD care following national guidelines.
- 2 Offer dry powder inhalers or soft mist inhalers as first choice when clinically appropriate.
- 3 If pMDIs are needed for an individual then chose brand and regime with care to minimise carbon footprint.
- 4 Ask patients to return all used or unwanted inhalers to community pharmacies or dispensaries for disposal by incineration or re-cycling.

## To safely and effectively change inhalers:

- 1 Focus on finding the right medication and device for each individual in consultation with them and their carers, through shared decision making.
- 2 Assess and optimise inhaler technique at every opportunity.
- 3 Follow patients up to ensure suitability of device and disease control.
- 4 Do not undertake blanket switching if changing the device type or medication.

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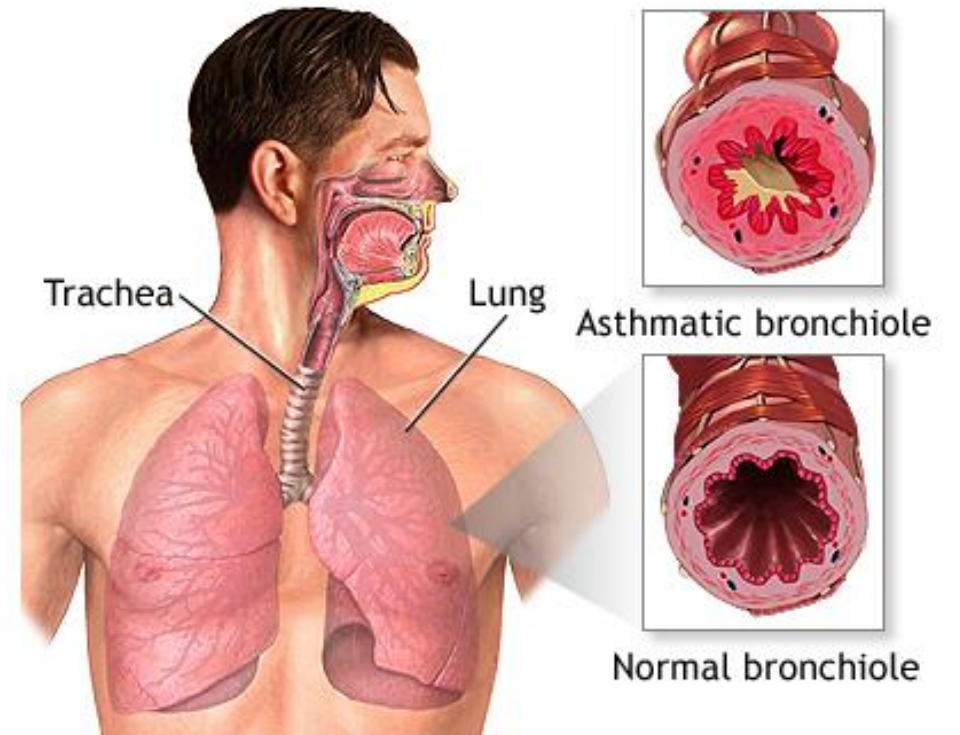
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# Optimise asthma control

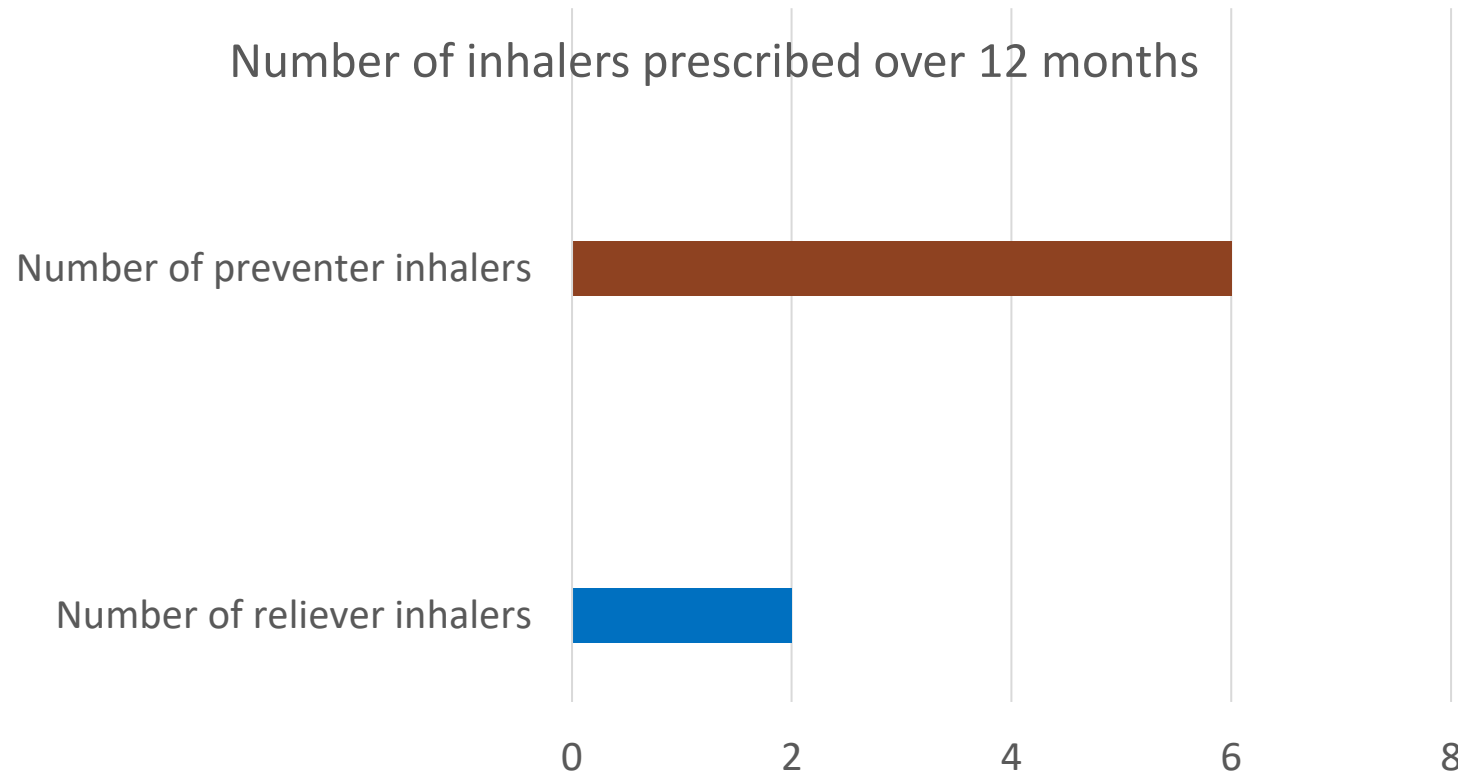
# What is asthma?

Underlying inflammation of airway lining,  
Increased mucus production and  
Contraction of muscles around the airways (bronchospasm)



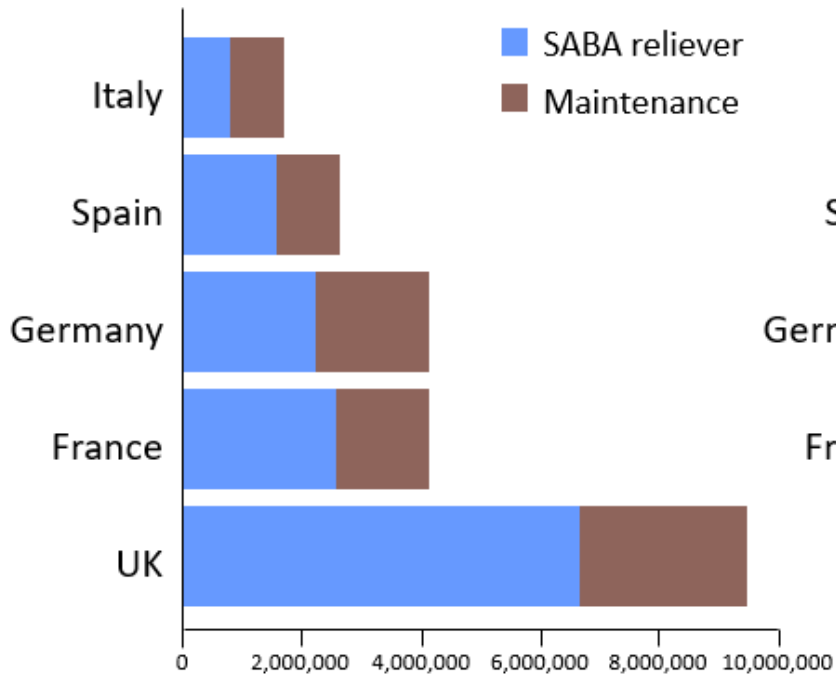
*Medline Plus: Medical Encyclopaedia*

# What would good asthma control look like in terms of inhalers?



# What we have in the UK in terms of inhaler use

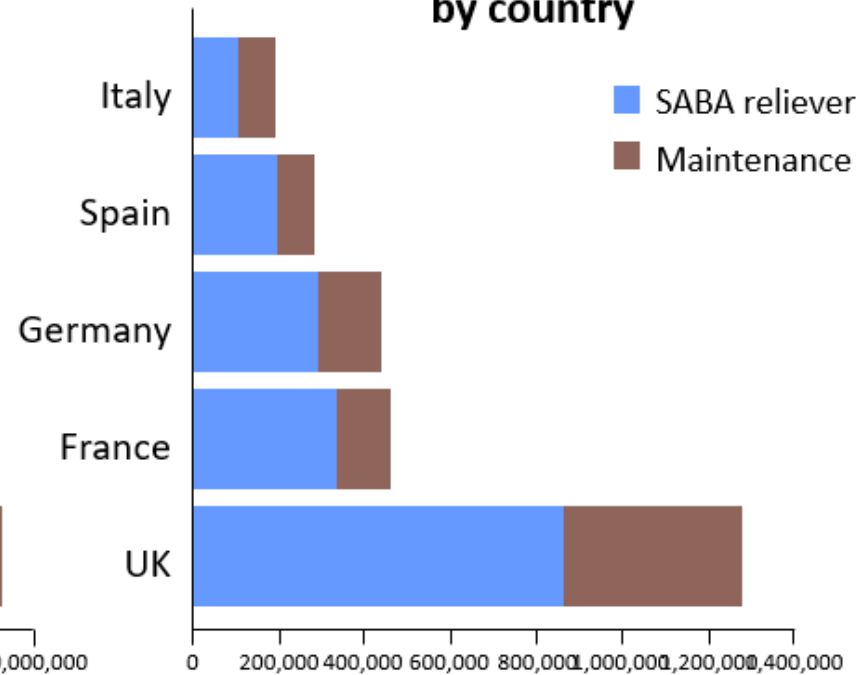
**Inhaler sales by country**



**Inhaler sales\* (doses x 1,000)**

SABA relievers represent the majority of inhaler use in the UK and other European countries

**GHG emissions associated with inhaler sales by country**



**GHG emissions (CO<sub>2</sub> equivalent in tonnes)**

SABA relievers drive the majority of GHG emissions from inhaler devices in the UK and other European countries

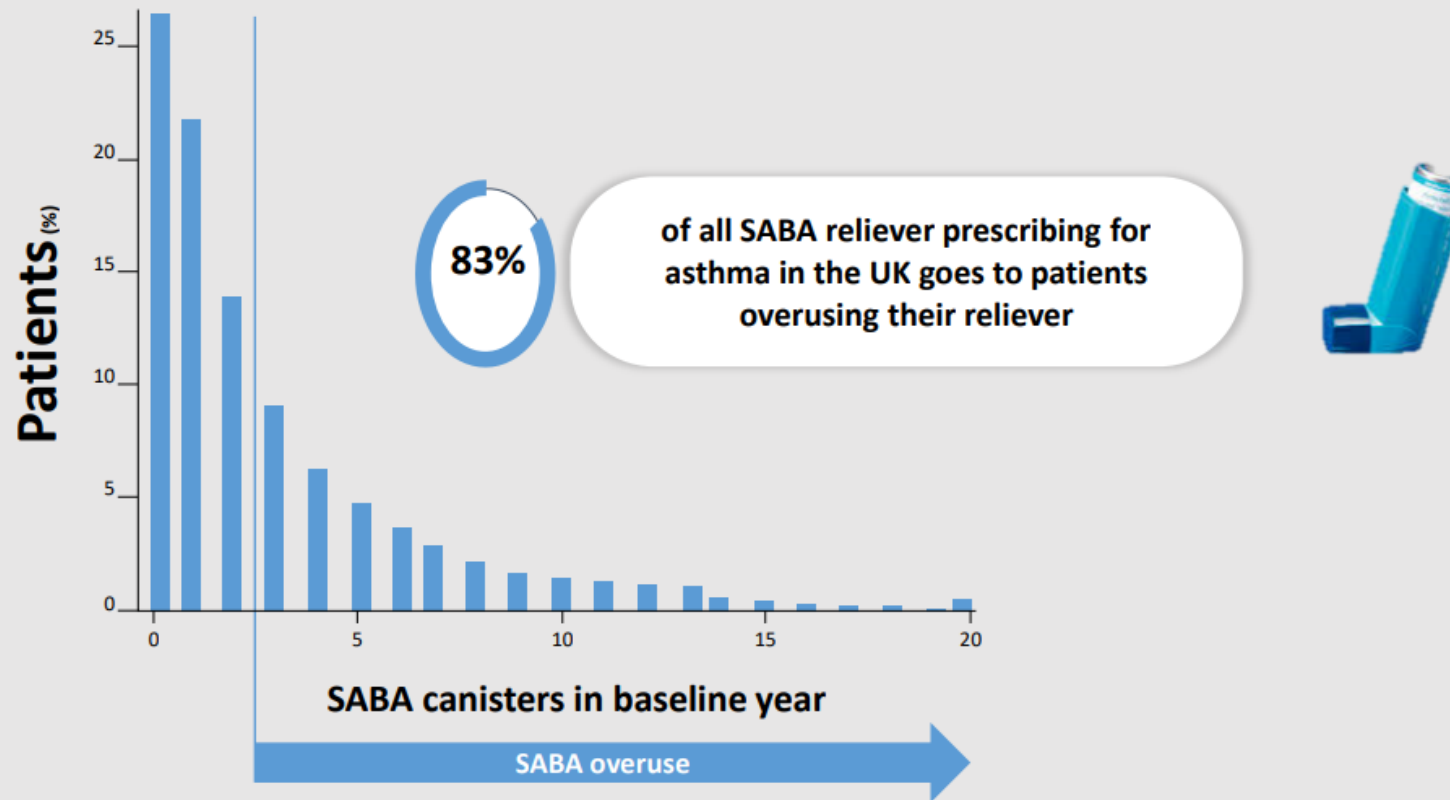
In UK, 70% of all inhalers prescribed are SABA

Average of 6.51 prescriptions of SABA in population of patients with **over-reliance**

UK SABA use GHG emissions **treble** most European countries



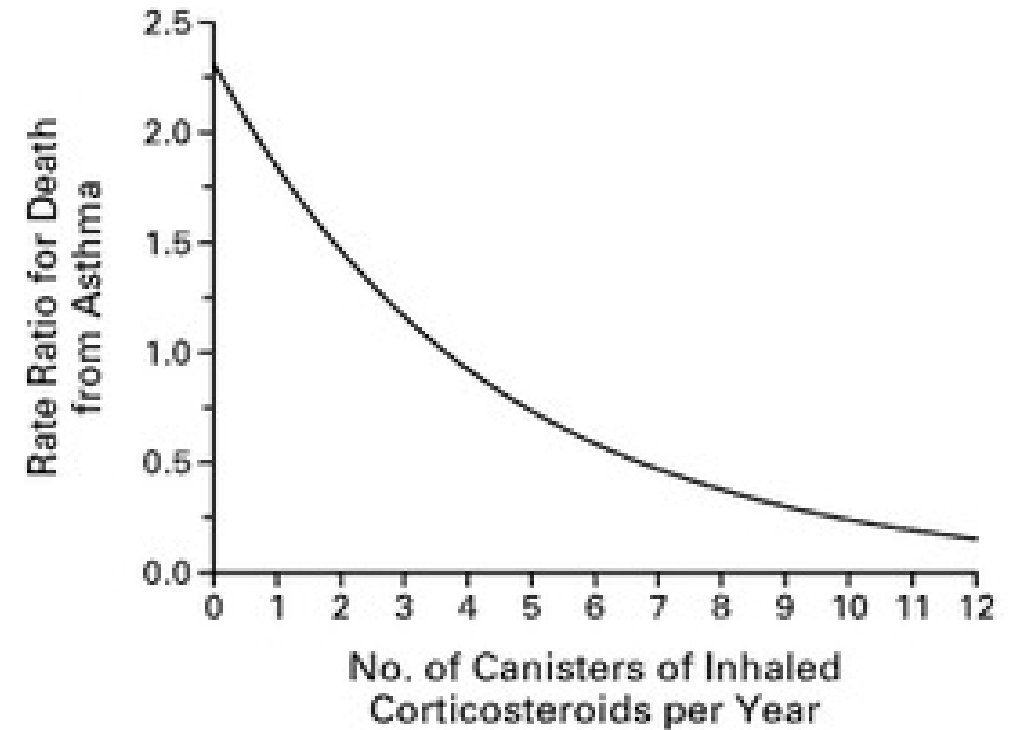
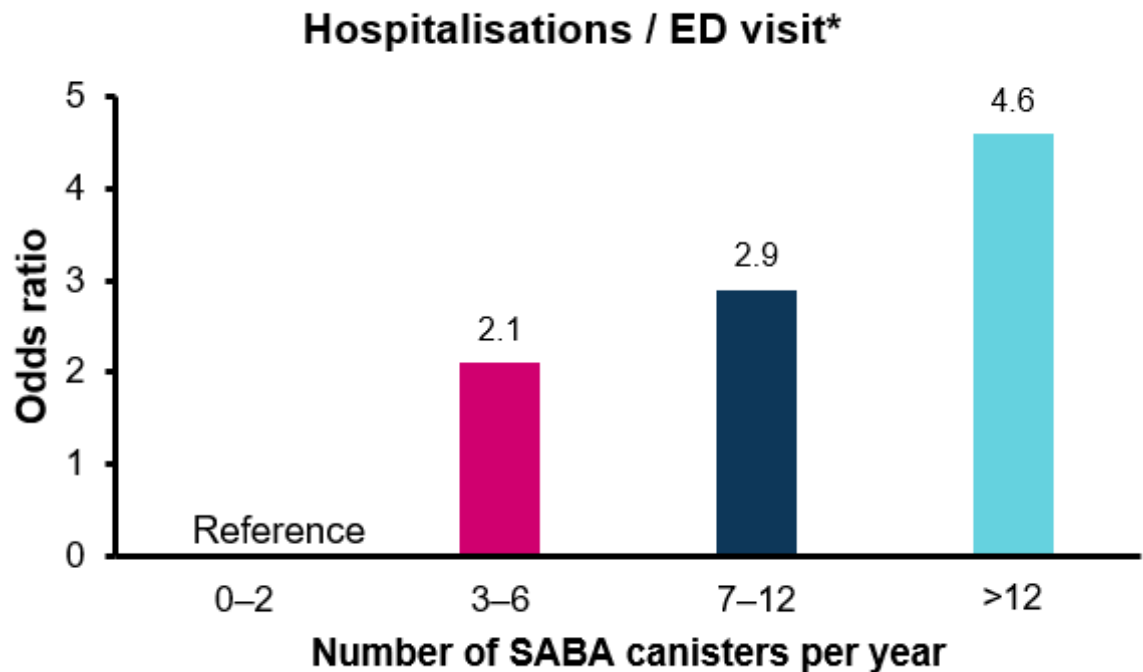
The majority of SABA prescribing for asthma in the UK is linked to over-reliance on reliever inhalers



Graph courtesy of Alex Wilkinson

# Why we need to reduce SABA over-reliance & increase regular preventer inhaler use

>2-fold risk hospitalisation/ED visit 3+ SABAs vs 0-2 per year<sup>1†</sup>



1. Schatz M, et al. *J Allergy Clin Immunol.* 2006;117:995-1000;
2. Low-Dose Inhaled Corticosteroids and the Prevention of Death from Asthma Samy Suissa, *N Engl J Med* 20

# Causes of poor control

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Low adherence to preventer inhalers  
and over-reliance on reliever inhalers

Poor inhaler technique

# MART – one solution to optimise control

Combination ICS + Formoterol

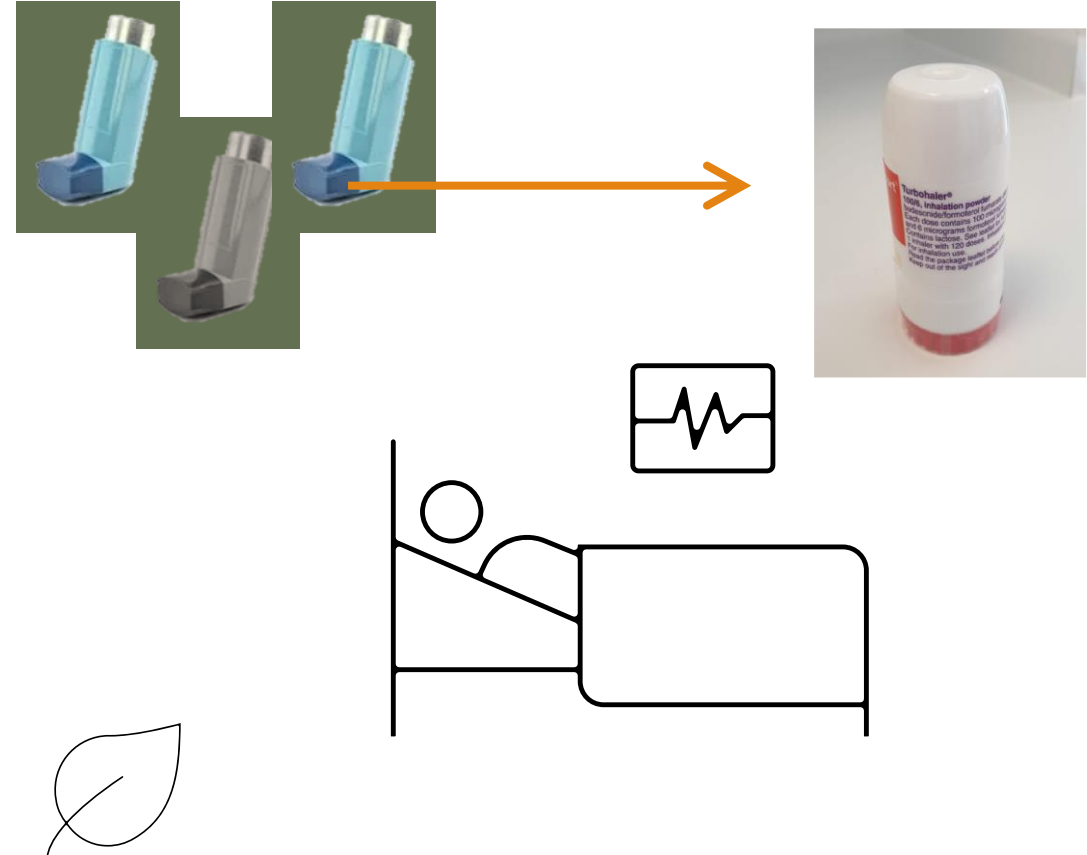
Reduces over-reliance on SABAs

Simplifies therapy

reduces the risk of severe exacerbations

lower total dose of steroid therapy

Most inhalers licensed for MART are DPIs,



R. P. Cusack, I. Satia, and P. M. O'Byrne, "Asthma maintenance and reliever therapy: Should this be the standard of care?," *Ann. Allergy, Asthma Immunol.*, vol. 125, no. 2, pp. 150–155, Aug. 2020,

# Causes of poor control

---



Low adherence to preventer inhalers  
and over-reliance on reliever inhalers

Poor inhaler technique

Offer low carbon inhaler as first choice where clinical appropriate



# Device choice

Can it be used?

## Aerosol (pMDI)



- Requires SLOW and STEADY inhalation (over 3-5 secs)
- Requires breath/actuation coordination OR spacer OR breath actuated device
- Good for poor inspiratory flow (very young, very old, severe disease)
- May not have dose counter

## Dry powder (DPI)

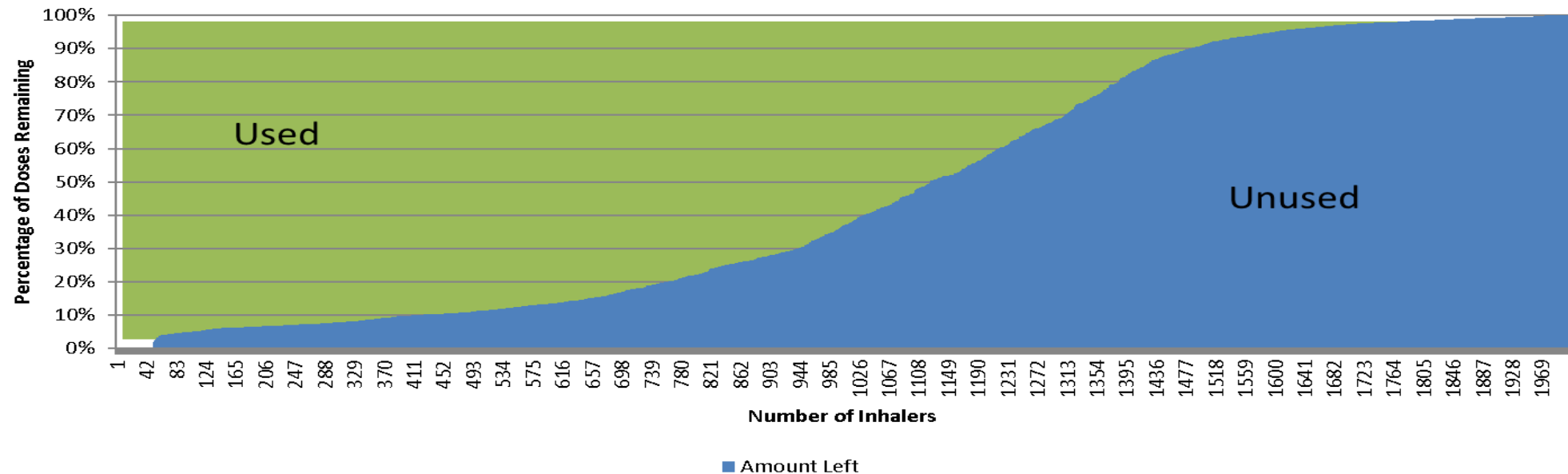


- Requires QUICK and DEEP inhalation (within 2-3 secs)
- Good for people with normal inspiratory flow
- No need to shake
- Does not require spacer
- Breath actuated
- Usually has dose counter

# Why dose counters?

## Recycled Metered Dose inhalers

### MDIs Grampian Region



On average 48% of medicine remains in the returned inhalers

# Train and then Check Technique



## In-Check™ Inspiratory Flow Measurement Device

The In-Check is a portable inspiratory flow meter that monitors both the disease and the response to treatment. It is designed for clinical and in-home use by both children and adults.



## How to use an Accuhaler inhaler



Sit or stand up straight and slightly tilt your chin up as this helps the medicine reach your lungs.

## How to use your inhaler

Improve your inhaler technique in three minutes! Watch these short videos to learn how to use your inhaler properly and better manage your respiratory symptoms.

Search for your inhaler



pMDI



Accuhaler



Spiromex



NEXThaler



Elipta



Tidal breathing



# Troubleshooting common patient concerns

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“I can’t taste it anymore” ...or... “I can’t feel it in my throat.”

This is a good thing – more medication is getting into their airways.

“The canister is smaller.” “It tastes different.”

Same medication, different amount of propellant.

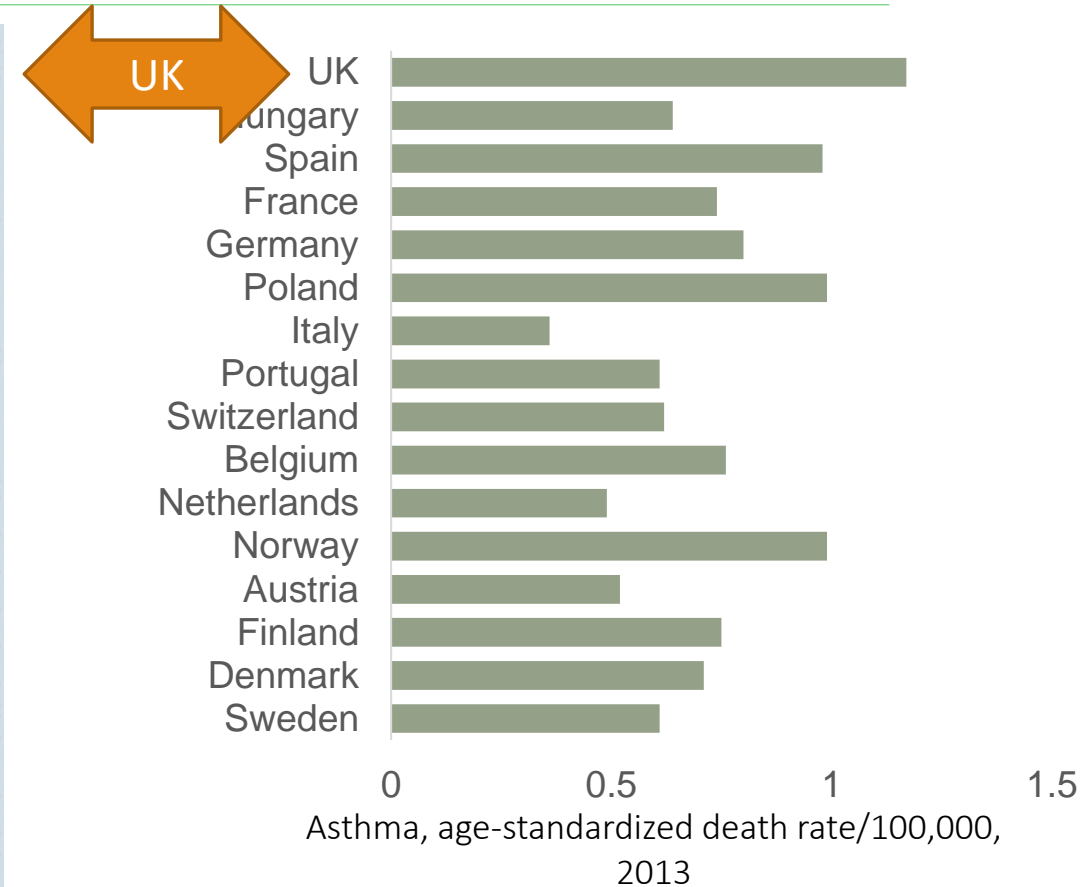
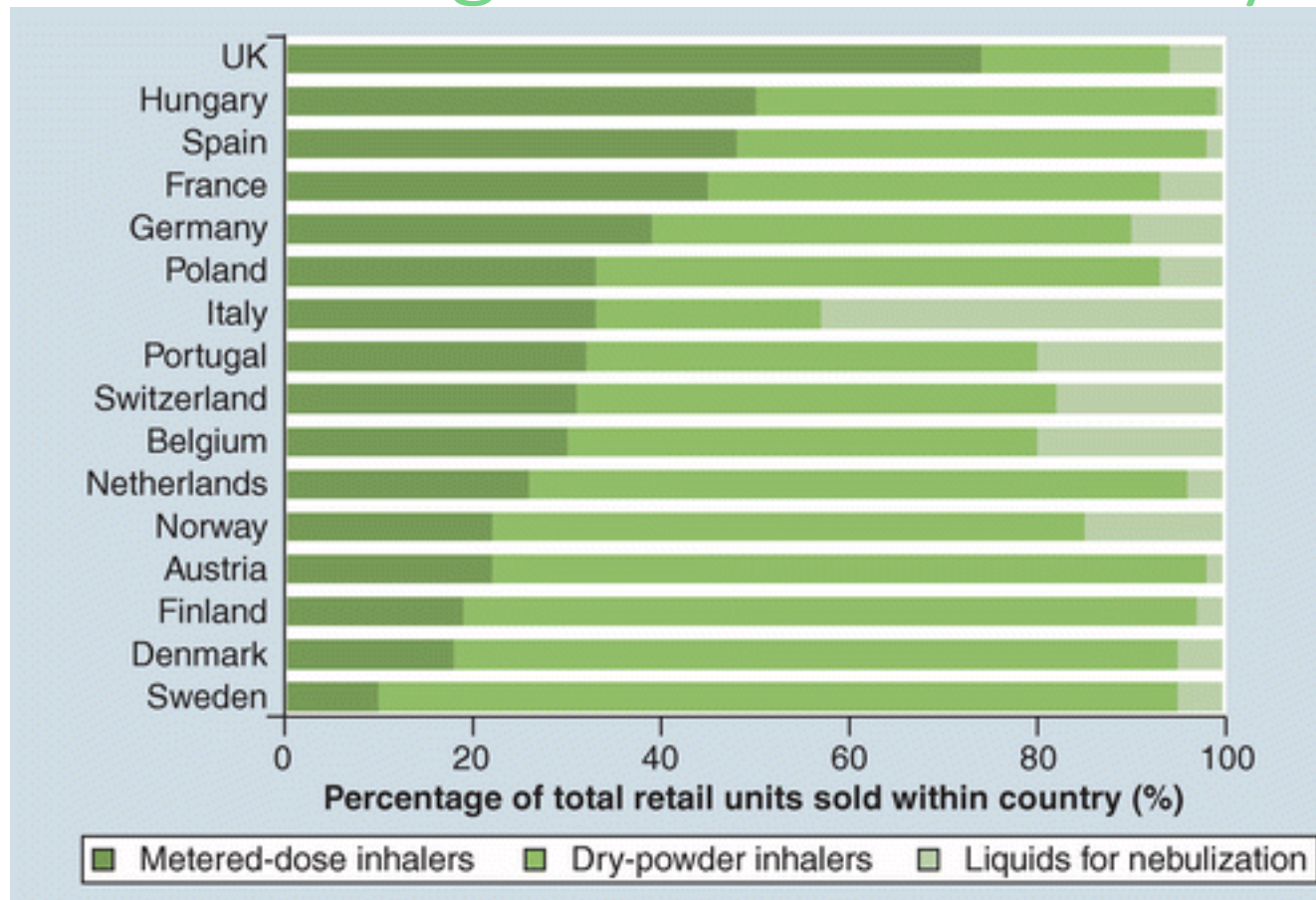
<https://www.youtube.com/watch?v=hRvpvWryXYI>

# Carbon footprint of different inhalers



[www.greeninhaler.org](http://www.greeninhaler.org)

# Device: UK is out of step with Europe in device choice and has high asthma mortality

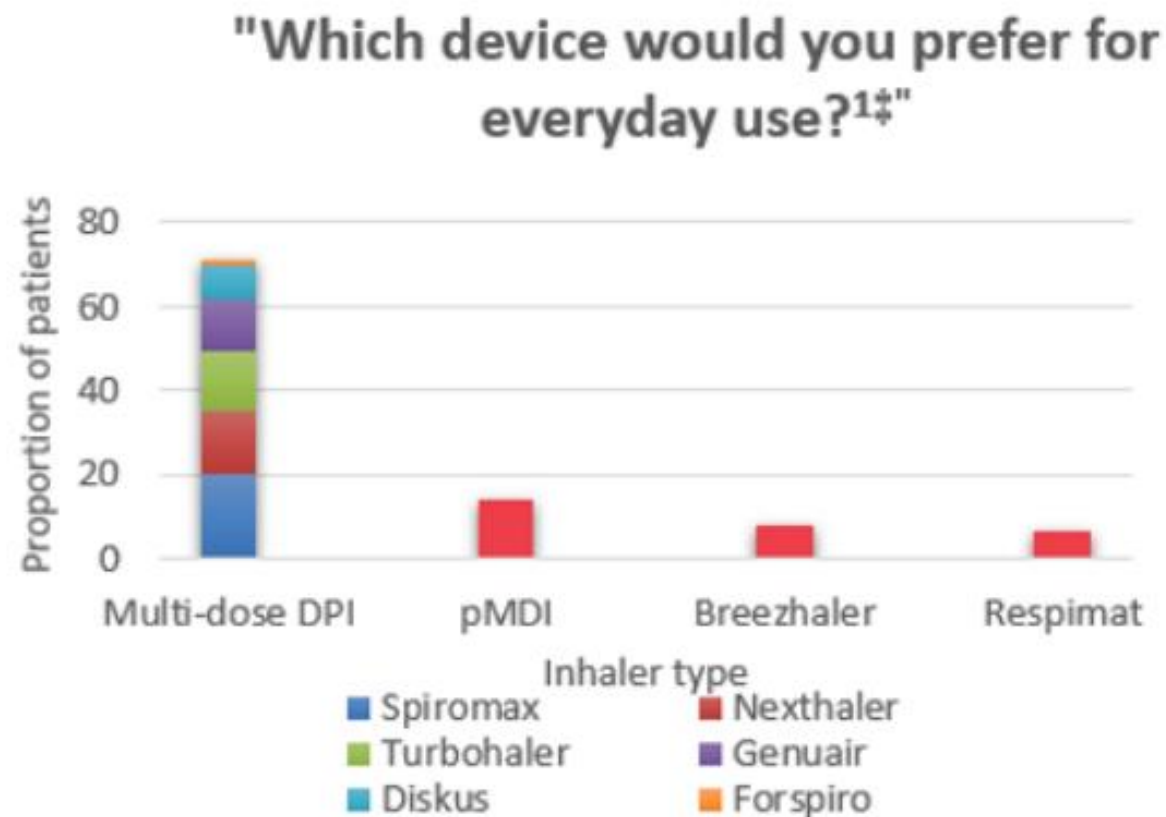


[Lavorini 2011 Resp Medicine](#)

[WHO European Health Information Gateway](#)



# Patients' preferences



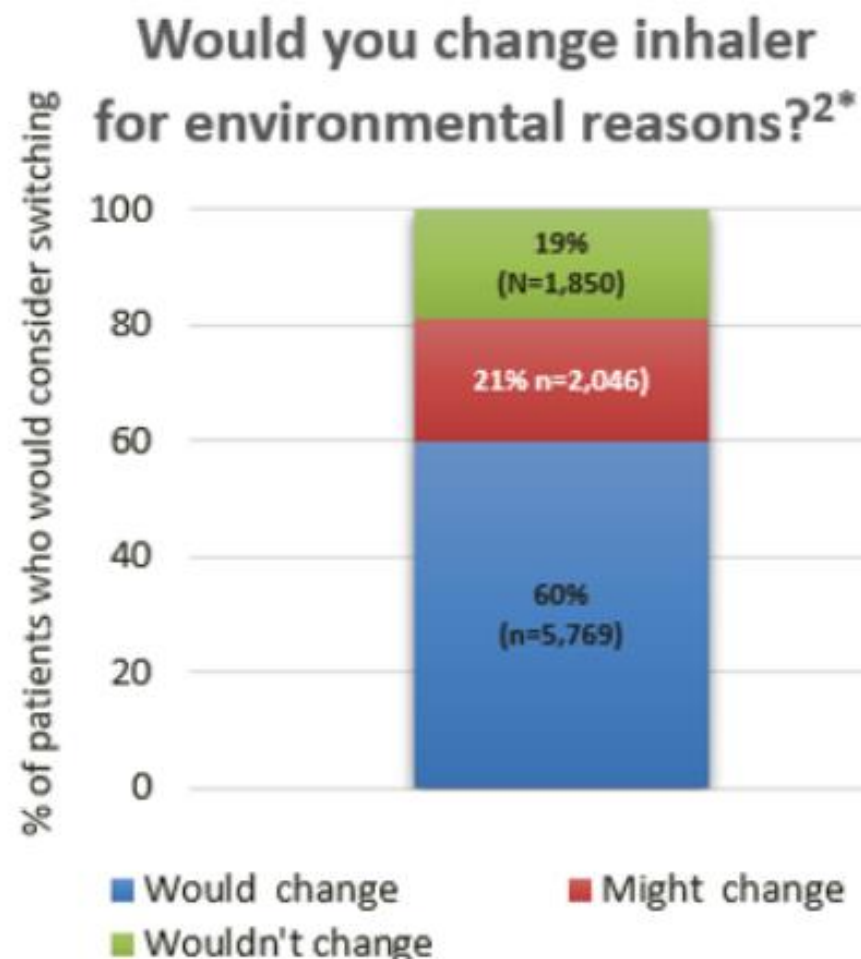
Adapted from Schreiber J et al 2020

<sup>‡</sup> Prospective, open-label cross-sectional study (n=105); 58% asthma 42% COPD. The study examined validated checklists to assess patient inhaler technique and errors for 10 placebo devices. Patients were also assessed on device name, properties and preference.

\*12,145 patients/carers asked as part of an Annual Asthma Survey

1. Schreiber, J et al. *BMC Pulm Med* 2020 20, 22; 2. D'Ancona G et al (2021). The sustainability agenda and inhaled therapy: what do patients want?

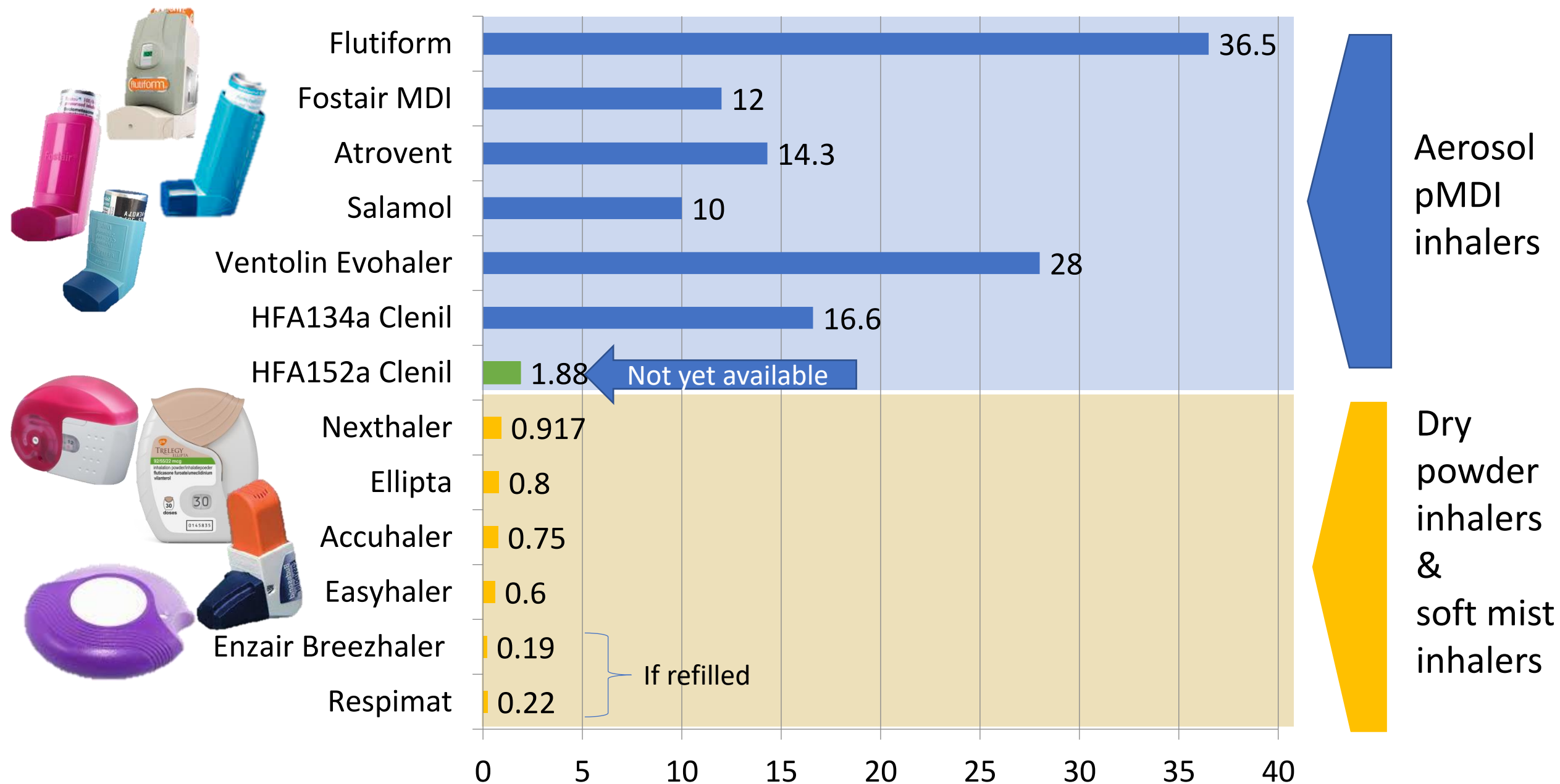
ERS 2020. virtual conference 8: PA3399; DOI: 10.1183/13993003.congress-2021.PA3399



Adapted from D'Ancona G et al 2021

Where MDIs needed, choose  
brand and regime with care

# Carbon footprint of various inhalers in kg CO<sub>2</sub>e per device or per month



# One puff instead of two!

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Would you like your inhaler to last twice as long, to **pay half as many prescription charges**, to reduce the number of doses of medicine you need to take, and halve the carbon footprint of your treatment?

One puff of a 200mcg beclomethasone inhaler, instead of 2 puffs of a 100mcg inhaler could reduce misunderstandings



Ask patients  
to return  
inhalers to  
pharmacies

**RETURN YOUR USED INHALERS TO A  
PHARMACY TO HELP REDUCE YOUR  
CARBON FOOTPRINT**



The propellants used in **some inhalers** are powerful greenhouse gases that contribute to **climate change**. Even after an inhaler is finished it still contains these environmentally damaging gases.

**(Please be assured these gases are not harmful to you when you use your inhaler)**

Return **all** used inhalers to your local pharmacy for **safe disposal** – Returned inhalers will be incinerated which will destroy the greenhouse gases and prevent inhaler plastics going to landfill



**Don't throw used inhalers into your household waste or recycling bins!** Landfill disposal of inhalers is harmful to the environment due to left over gases being released into the atmosphere. Plastics from inhalers cannot be recycled using domestic recycling schemes

**Make each puff count! – Only order your inhaler when required to reduce waste**

**If you have concerns about the environmental impact of your inhaler, make an appointment with your GP practice - don't stop using your inhaler!**

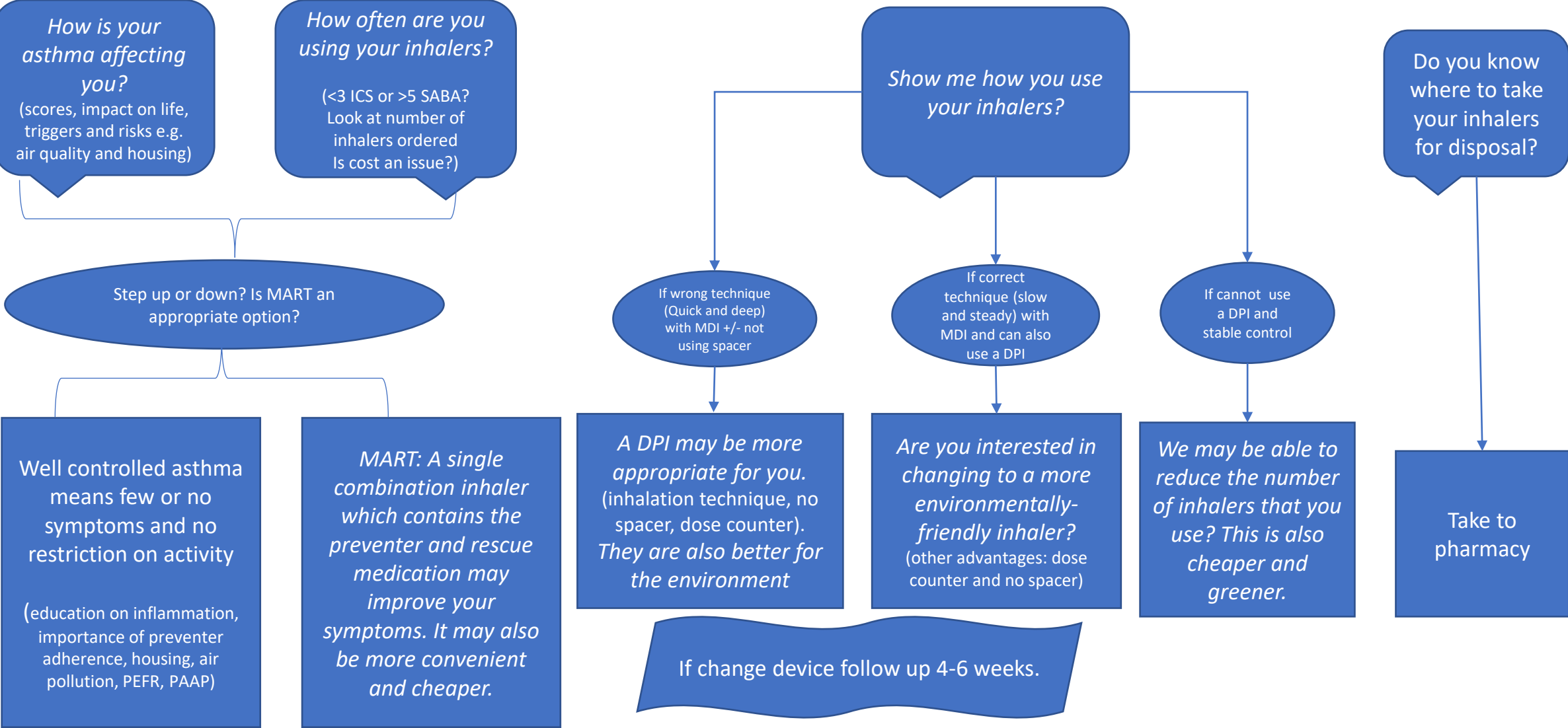
## 6. Approach to consultations

This 9-min video by Carol Stonham, Respiratory nurse practitioner and Executive Chair of the [Primary Care Respiratory Society](#), is an excellent demonstration of how to integrate high quality and low carbon asthma care during an asthma review.





# Asthma Review conversation



# Clinical vignette

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Female patient in 30s with a diagnosis of asthma since childhood.

Attended for skin complaint. Mentioned coughing through night for 2 months - is keeping her and husband awake.

Cough somewhat relieved by using blue reliever inhaler (needing most days)

Symptoms recur in winter. Usually symptom free in summer.

Sometimes forgets to uses preventer – usually once a day. Doesn't use a spacer device.

Looked through notes :

On a very low dose of ICS inhaler

Asthma reviews in summer – excellent control (asked about previous 4 weeks)

Objective data shows: Reliever overuse, Preventer underuse

## Case example continued

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Asked to show me her inhaler technique – using quick and fast breath

Discussion with patient :

Talked about how asthma is inflammatory and what good control should look like

Discussed increasing ICS dose or move to MART regime for simplicity.

Offered DPI as suitable for her technique, has dose counter and doesn't require a spacer.

Follow up (6 weeks)

Transformation. No coughing at night. Started going to the gym.

PEFR improved by 20%. Not needed reliever (Salamol) inhaler at all!

**All IIF indicators achieved**

# NHSE PCN DES IIF indicators

## High quality – Improving asthma care

Objective 4: Deliver better outcomes for patients on medication			
Indicator	Thresholds	Value	Source
RESP-01: Percentage of patients on the QOF Asthma Register who were regularly prescribed* an inhaled corticosteroid over the previous 12 months * 22/23: 3 or more ICS prescriptions; 23/24 onwards: 5 or more ICS inhalers.	71% (LT), 90% (UT)	£7.0m/ 31 pts	GPES
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## Low carbon - carbon footprint of inhalers.

Objective 5: Help create a more sustainable NHS;			
Indicator	Thresholds	Value	Source
ES-01: Metered Dose Inhaler (MDI) prescriptions as a percentage of all non-salbutamol inhaler prescriptions issued to patients aged 12 or over	44% (LT), 35% (UT)  intended 23/24 trajectory: 35%/25%	£6.1m / 27 pts	GPES
ES-02: Mean carbon emissions per salbutamol inhaler prescribed (kg CO <sub>2</sub> e)	22.1kg (LT), 18.0kg (UT)  intended 23/24 trajectory: 18.0kg/13.4kg	£9.9m / 44 pts	BSA prescribing data

Where do I start?  
Is there a step by step guide?  
Are there any resources I can use?

# Why we need a whole-team approach to QI

← Opportunity to consider diagnosis, disease control, appropriate device and disposal →

Patient with symptoms

Patient needs repeat medication

Medication review

Patient annual review

Patient attends hospital

Doctor/  
first  
contact  
clinician

Pharmacy,  
reception,  
practice  
pharmacist

Doctor,  
practice  
pharmacist

Nurse,  
Practice  
pharmacist  
Admin  
team

Review by  
doctor/nurse  
/pharmacist  
Coding team

coding

coding



**Greener  
Practice**

# Let's have a look

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[www.greenerpractice.co.uk/asthma-toolkit](http://www.greenerpractice.co.uk/asthma-toolkit)



## Bespoke QI

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Upskilling respiratory nurses on asthma review conversations, inhaler technique checks

Support PCN or practice-based respiratory champions to do QI

- Regular lunchtime meetings to plan QI work
- Funding to support time for QI work
- Support from MO teams to run searches

Thoughts and questions?