BTS/SIGN/NICE Asthma Guideline – Nov 2024

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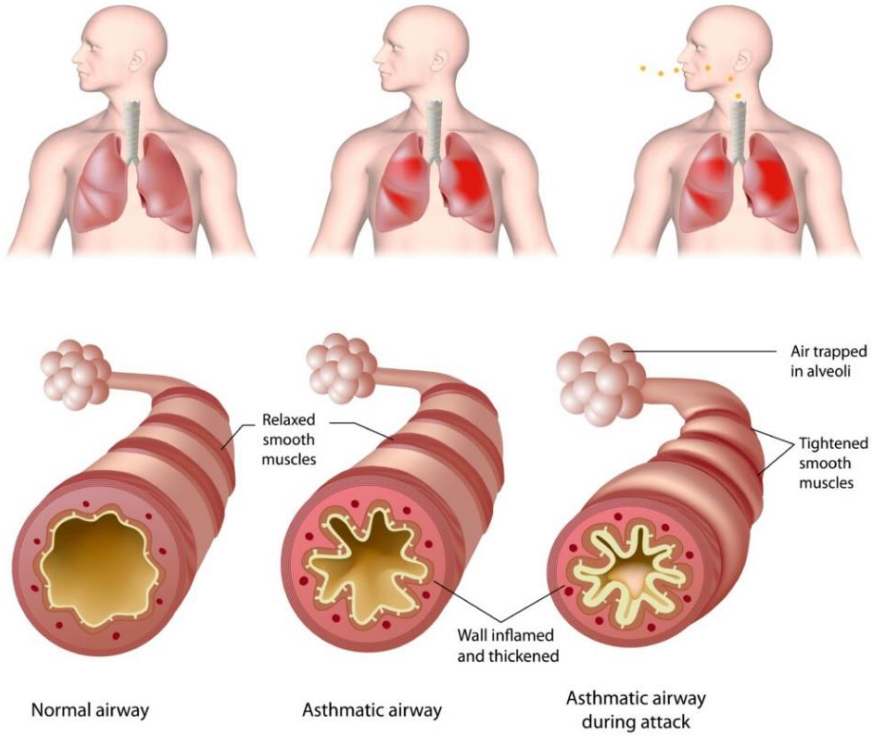
March 2025

Outline

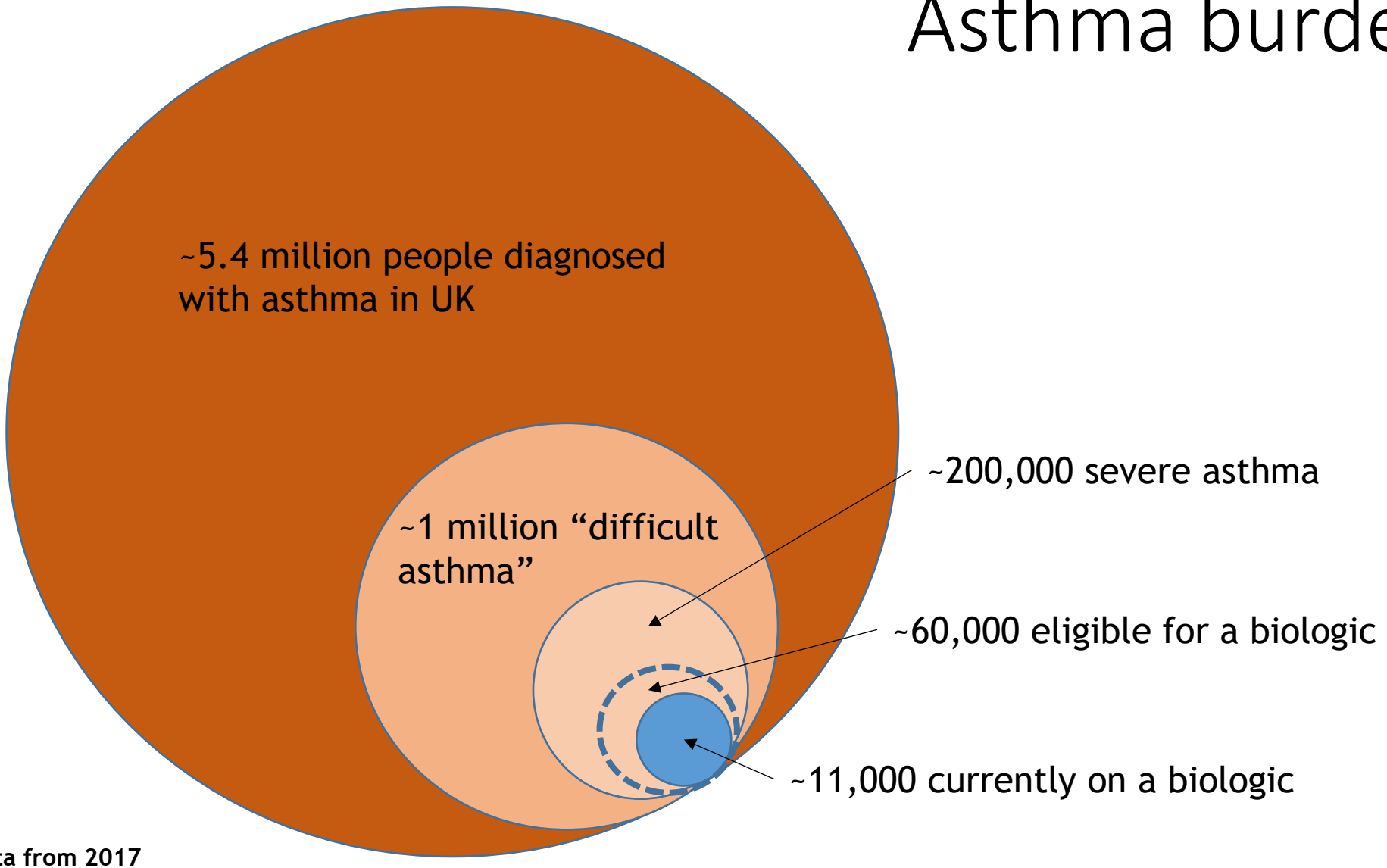
- Asthma overview
- BTS/SIGN/NICE guideline overview
- Asthma diagnosis and chronic management
  - “Mild asthma” and AIR
  - Reduction in SABA prescribing
- Environmental considerations
- Summary

Asthma definition

- A **chronic** inflammatory disease characterised by **reversible** airflow obstruction



Asthma burden*



***Data from 2017**

1. Asthma + Lung UK. Slipping through the net: The reality facing patients with difficult and severe asthma. Available at: https://www.asthma.org.uk/globalassets/get-involved/external-affairs-campaigns/publications/severe-asthma-report/auk-severe-asthma-gh-final.pdf Last accessed November 2022. 2. Oxford Academic Health Science Network. How the pathway was developed. Available at: https://www.oxfordahsn.org/our-work/asthma-biologics-toolkit/aac-consensus-pathway-for-management-of-uncontrolled-asthma-in-adults/how-the-pathway-was-developed/ Last accessed November 2022.

Asthma in the UK

- 54,879 emergency asthma admissions per year across UK (2021-22)
  - Prior to COVID about 75,000/yr
- 1,465 asthma deaths in UK (2022)
  - About 70% in >75 yrs age group
- >£1 billion spend on asthma/yr
  - £700 million/yr in drug costs alone
- Indirect cost to society (time off work and loss of productivity) £6 billion/yr

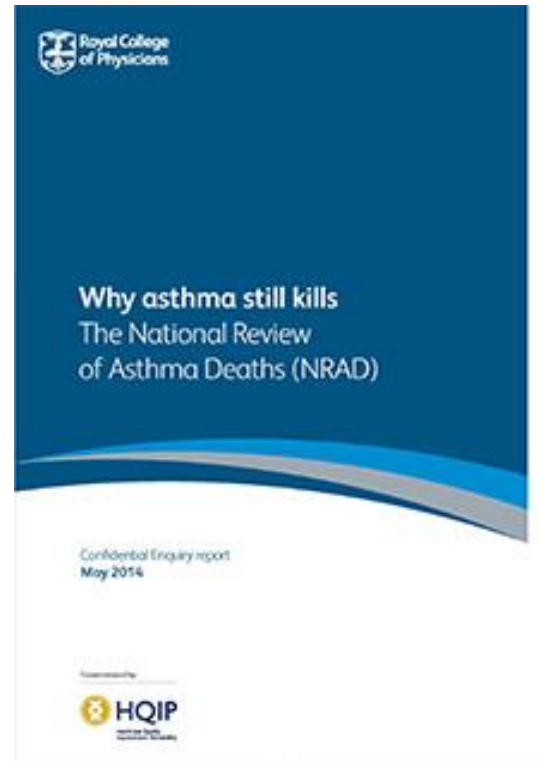
Asthma + Lung UK. Asthma data visualisations. Available at: https://www.asthma.org.uk/support-us/campaigns/data-visualisations/

British Thoracic Society

SIGN

Scottish Intercollegiate Guidelines Network

GLOBAL INITIATIVE FOR ASTHMA®



NICE National Institute for Health and Care Excellence

BTS/SIGN/NICE Joint Guideline for the Diagnosis, Monitoring and Management of Chronic Asthma

- Replaces NICE Guideline 80 (Nov 2017) and parts of BTS/SIGN British Guideline SIGN 158 (July 2019)
- No updates on:
  - Acute asthma management
  - Non-pharmacological management
  - Management of difficult and severe asthma
  - Asthma in pregnancy
  - Occupational asthma
- A “Joint Asthma Pathway”
  - Links to all areas available on the NICE website

British Thoracic Society

NICE

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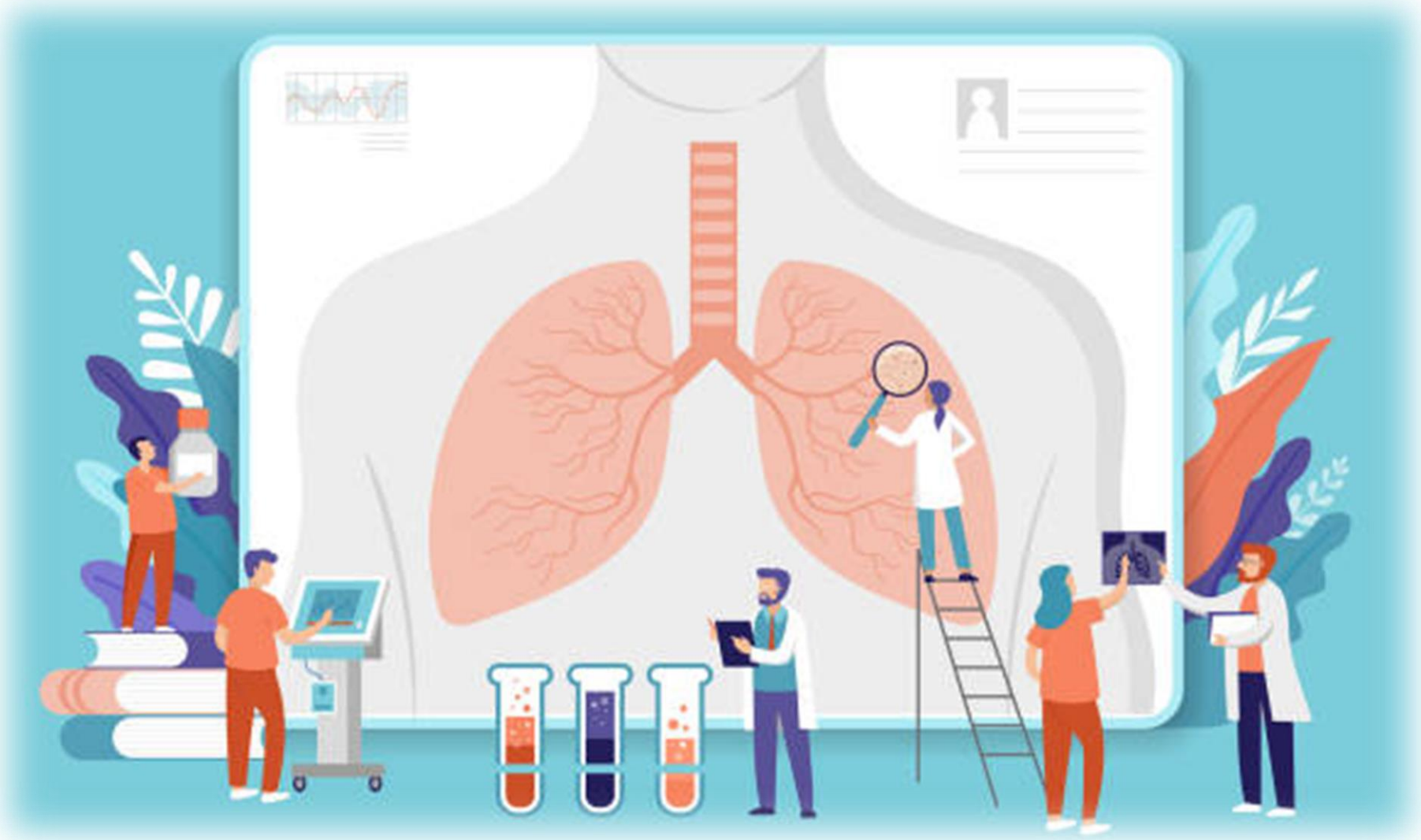
Diagnosis of asthma

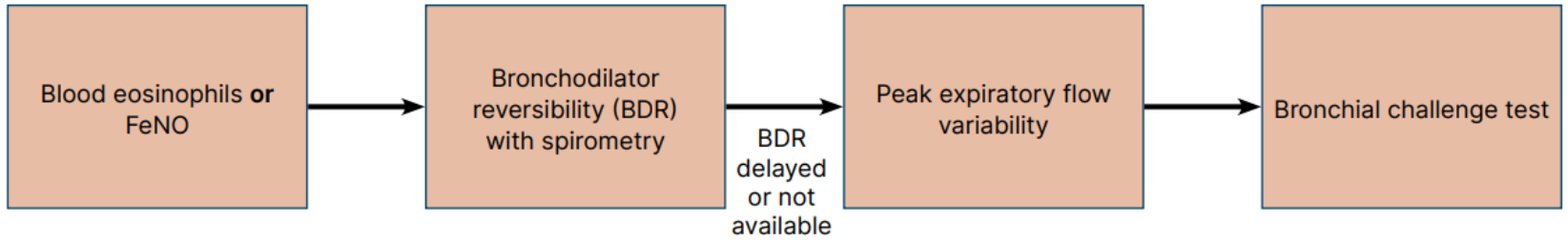


Asthma diagnosis

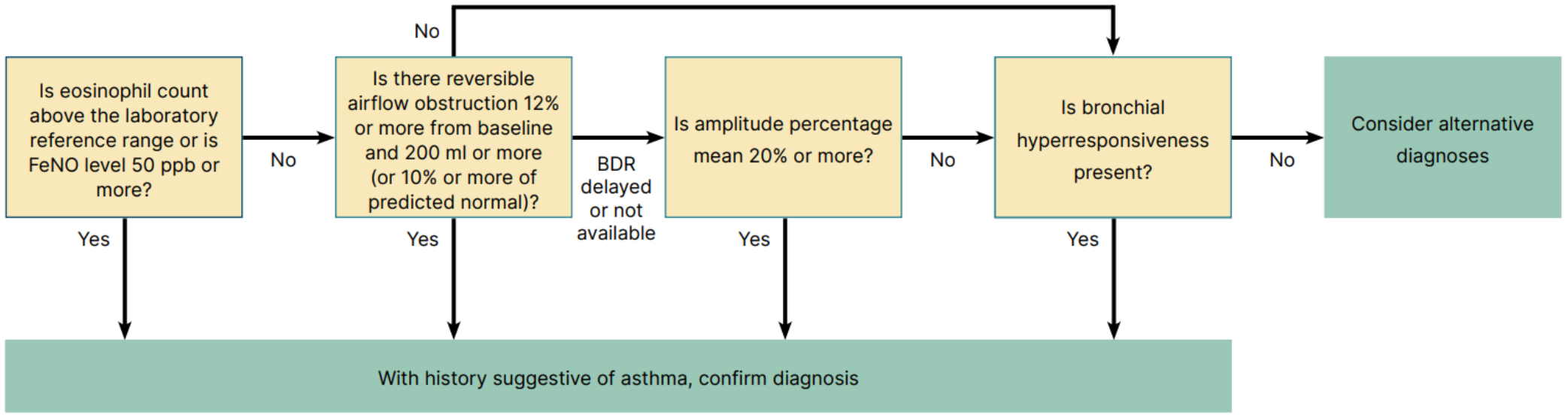
- No single diagnostic test
- Clinical assessment backed up by objective tests

- Episodic symptoms: wheeze, breathlessness, chest tightness, cough
- Audible wheeze
- Diurnal variability
- Atopic history
- Absence of symptoms, signs or clinical history to suggest an alternative diagnosis

Objective tests for diagnosing asthma in adults and young people (over 16 years)



Interpretation of test results



BTS/SIGN/NICE Nov 2024

What is FeNO?

- Fraction of exhaled nitric oxide
- Non-invasive measure of airway inflammation
  - Replaces bronch and wash or induced sputum
  - Complementary to other tests
- NO produced by airway epithelium
  - Alveolar concentrations very low due to uptake by Hb
  - Nasal levels higher than lower airways
- Not correlated with lung function
- Affected by breathing pattern and smoking

Pharmacological management of chronic asthma

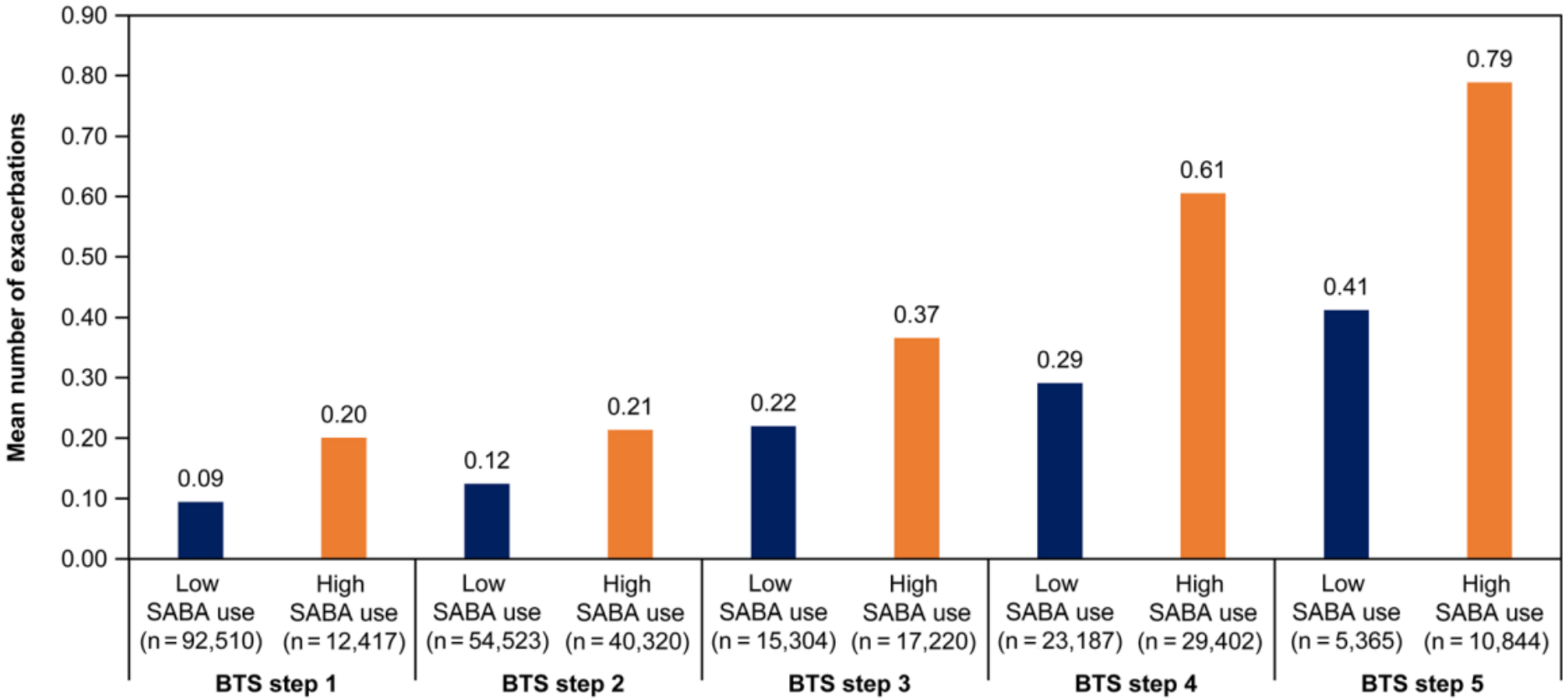
Rationale for guideline change

- Risks of SABA treatment

- Regular use of SABA, even 1-2 weeks, is associated with adverse effects:
  - Beta-receptor downregulation, decreased bronchoprotection, rebound hyperresponsiveness, decreased bronchodilator response
  - Increased allergic response and increased eosinophilic airways inflammation
- Higher use of SABA is associated with adverse clinical outcomes:
  - Dispensing of ≥ 3 canisters/year (i.e. daily use) is associated with higher risk of severe exacerbations
  - Dispensing of ≥12 canisters/year is associated with a higher risk of death

Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2022

About 2x exacerbation rate in patients prescribed ≥3 SABAs/year irrespective of BTS treatment step

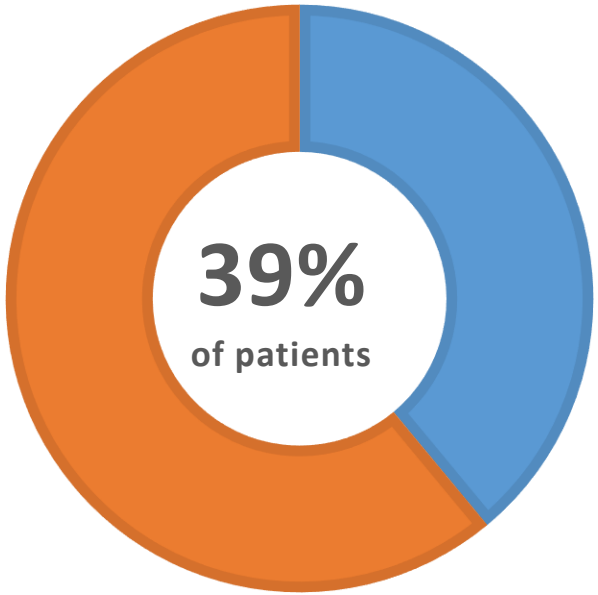


Mean number of exacerbations in the first year of follow-up, by BTS treatment step and SABA inhaler use frequency.

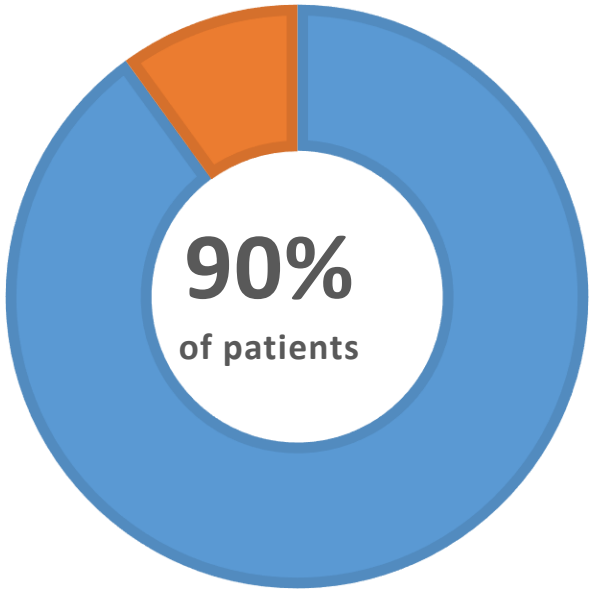
Bloom C et al, Adv Ther (2020) 37:4190–4208.

Adherence to ICS is poor

- Patients focus on symptom relief, using SABA instead of ICS, across all severities of asthma – AIRE study, ERJ 2000
- INSPIRE study – patient attitudes to asthma management

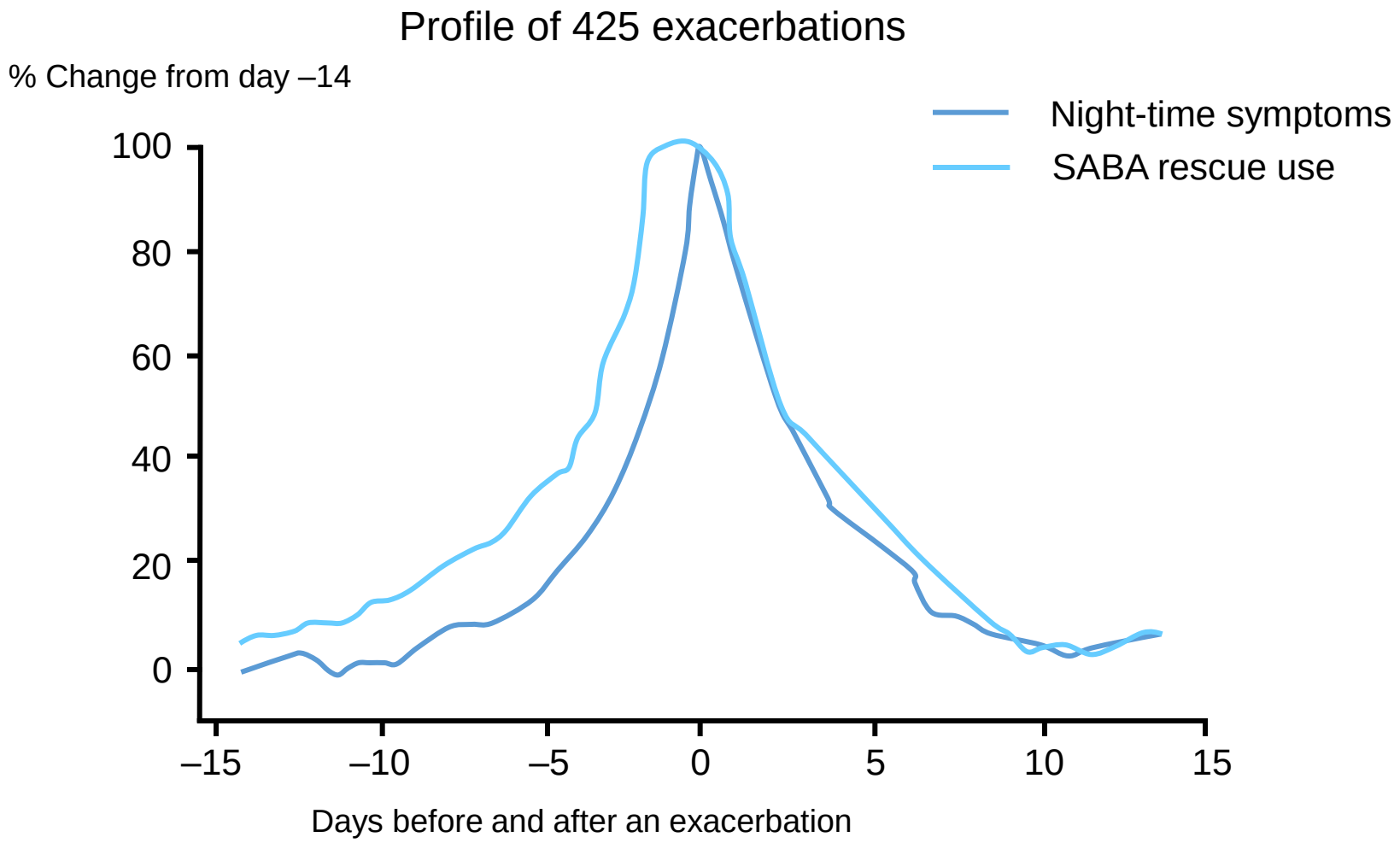


…believe there is **no need to take preventer medication** when well



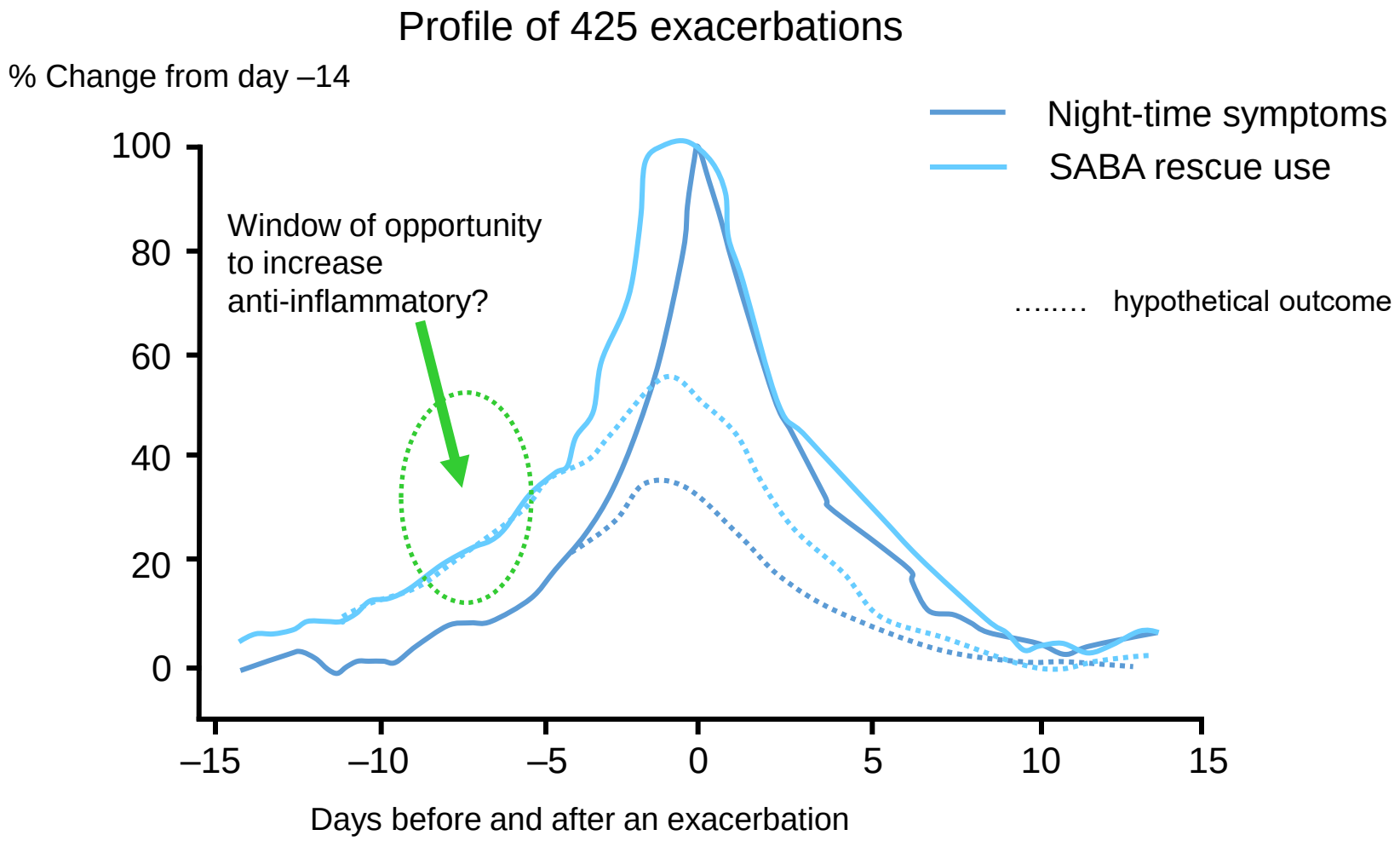
…want treatments that provide **immediate relief**

FACET: Profile of symptoms and reliever use preceeding exacerbations



Tattersfield A *et al*. Am J Respir Crit Care Med 1999; 160:594-599

Window of opportunity to prevent exacerbations?



Adapted from Tattersfield A *et al*. Am J Respir Crit Care Med 1999; 160:594-599

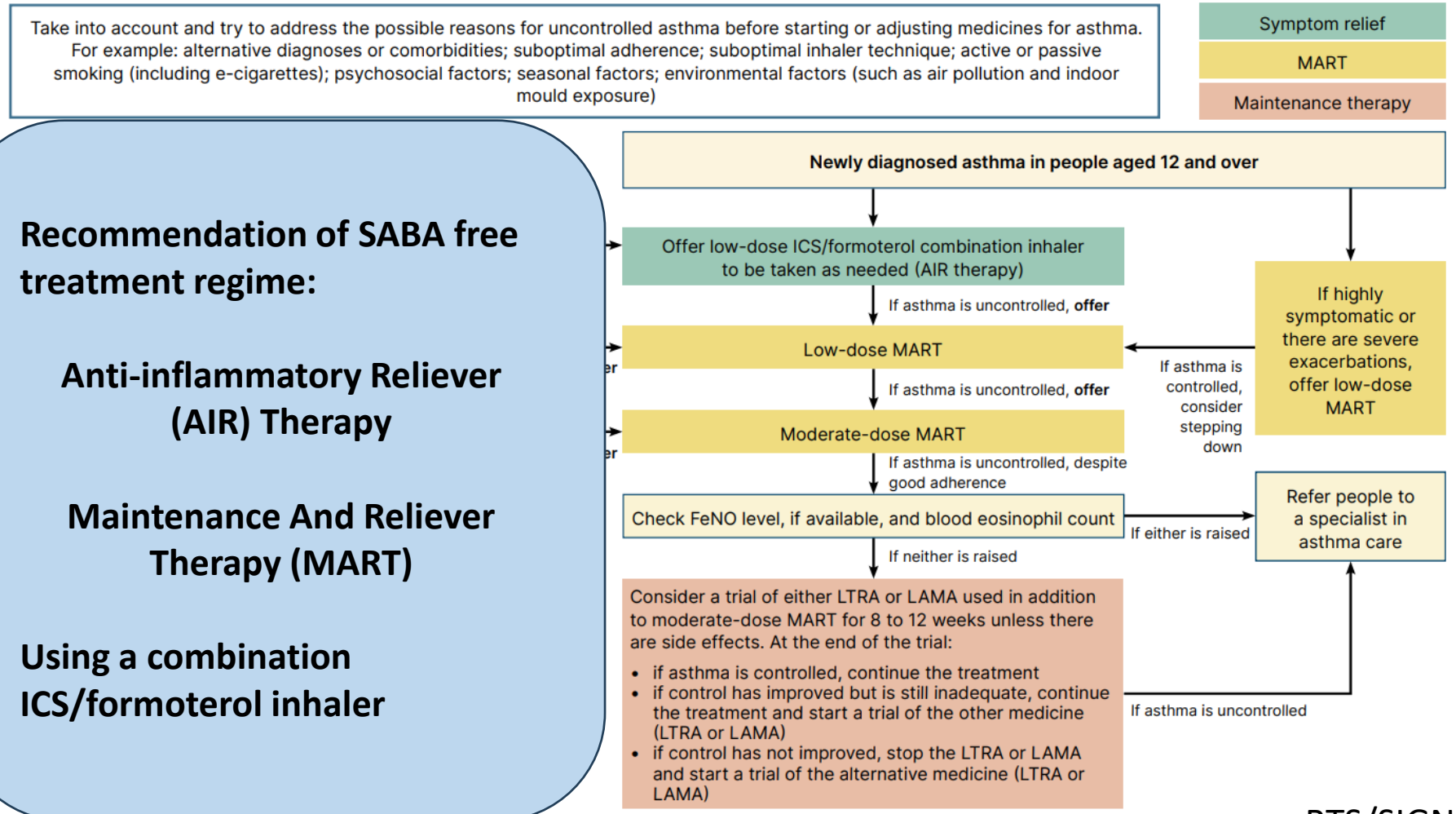
Pharmacological management of asthma in people ≥ 12 years

Recommendation of SABA free treatment regime:

Anti-inflammatory Reliever (AIR) Therapy

Maintenance And Reliever Therapy (MART)

Using a combination ICS/formoterol inhaler



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As-needed low-dose ICS/formoterol in mild asthma – AIR (anti-inflammatory reliever)

- Compared with as-needed SABA
  - Risk of severe exac ↓ 60-64% (SYGMA 1, Novel START)
- Compared with maintenance low dose ICS plus as-needed SABA
  - Risk of sever exac similar (SYGMA 1&2) or lower (Novel START, PRACTICAL)
  - No clin important differences in Sx control or FEV_1 (all 4 studies) or FeNO (Novel START, PRACTICAL) and no worsening of outcomes over 12/12
  - Pts used as-needed inh on ~30% days – v low ICS use
  - Embedded qualitative research demonstrated most pts preferred as-needed treatment over regular daily treatment

Asthma Inhaler Prescribing guideline - AIR

NHS
Bath and North East Somerset, Swindon and Wiltshire
Integrated Care Board

AIR (Anti-Inflammatory Reliever) therapy
Low-dose ICS/formoterol combination inhaler to be taken as needed

- **Fobumix Easyhaler®** 160/4.5 - ONE dose PRN (Budesonide/Formoterol) Off-label use
- **Symbicort Turbohaler®** 200/6 ONE dose PRN (Budesonide/Formoterol) Licensed
- **WockAir®** 160/4.5 – ONE dose PRN (Budesonide/Formoterol) Licensed

- **Luforbec® MDI** 100/6 – ONE dose PRN (Beclometasone dipropionate/formoterol) Extra fine particle Off label use 18y+

Fobumix Easyhaler®	Symbicort Turbohaler®	WockAIR®	Luforbec®
			
DPI	**DPI**	**DPI**	**Fine particle pMDI**
ICS/LABA	ICS/LABA	ICS/LABA	ICS/LABA
Budesonide/Formoterol	Budesonide/Formoterol	Budesonide/Formoterol	Beclometasone/Formoterol
160mcg/4.5mcg delivered dose*	200mcg/6mcg metered dose*	160mcg/4.5mcg delivered dose*	100mcg/6mcg delivered dose*

≥ 16 years age in the prescribing guideline

AIR action plan

1 Every day asthma care:

My AIR (anti-inflammatory reliever) inhaler contains:

- a steroid medicine to treat inflammation in my airways
- a reliever medicine called formoterol to open up my airways.

My AIR inhaler is called (insert name)

I carry my AIR inhaler with me every day so I can use it if I get asthma symptoms.

I take **one puff** of my AIR inhaler if:

- I'm wheezing
- My chest feels tight
- I'm finding it hard to breathe
- I'm coughing.

If my symptoms have not improved after a few minutes, I can take another puff.

I should not take more than ____ puffs at any one time.

I can continue to use my AIR inhaler as needed if:

- I have few or no asthma symptoms during the day, and none at night.
- I can do everything I normally do (e.g. working, being active, socialising).
- My peak flow score stays at or around ____
- I only need to use my AIR inhaler occasionally, as advised by my GP or nurse.

Other advice for managing my asthma every day:

2 When I feel worse:

I need to contact my doctor, nurse or other healthcare professional as soon as possible if I feel worse.

I should contact them if I have any of these signs and symptoms:

- My symptoms are getting worse (wheeze, tight chest, feeling breathless, cough).
- My symptoms are waking me up at night.
- My symptoms are affecting my day-to-day life (working, being active, socialising).
- My peak flow score drops to below: ____

I should also contact my GP, nurse or healthcare professional as soon as possible if:

I regularly need to use ____ puffs or more of my AIR inhaler in a day.

The **maximum daily dose** of my AIR inhaler is ____ **puffs**.

Other advice about what to do if my asthma gets worse:

3 When I have an asthma attack:

I'm having an asthma attack if I'm experiencing any of these:

- My AIR inhaler is not helping.
- I find it difficult to walk or talk.
- I find it difficult to breathe.
- I'm wheezing a lot, or I have a very tight chest, or I'm coughing a lot.
- My peak flow score is below: ____

What to do in an asthma attack

1. Sit up straight – try to keep calm.
2. Take one puff of your AIR inhaler **every 1 to 3 minutes up to six puffs**.
3. If you feel worse at any point **or** you don't feel better after six puffs **call 999 for an ambulance**.
4. If the ambulance has not arrived after 10 minutes and your symptoms are not improving, **repeat step 2**.
5. If your symptoms are no better after repeating step 2, and the ambulance has still not arrived, **contact 999 again immediately**.

If you do not have your AIR inhaler with you, call 999.

After an asthma attack

Follow this advice to make sure you recover well and to prevent further asthma attacks:

- If you dealt with your asthma attack at home, speak to your doctor or nurse today.
- If you were treated in hospital, speak to your doctor or nurse within 48 hours of being discharged.
- Finish any medicines they prescribe you, even if you start to feel better.
- If you don't improve after treatment, speak to your doctor, nurse or other healthcare professional urgently.

Asthma Inhaler Prescribing Guideline - MART

NHS
Bath and North East Somerset, ...n and Wiltshire
...ntegrated Care Board

DO NOT PRESCRIBE SABA INHALERS for PATIENTS on AIR or MART REGIMES

Asthma Inhaler Prescribing Guideline – Add on therapy

Bath and North East Somerset, Swindon and Wiltshire Integrated Care Board

Spiriva Respimat®

SMI
LAMA
Tiotropium
2.5mcg delivered dose*

If asthma is still uncontrolled on moderate dose MART, check FeNO level, if available, and blood eosinophil count. If either is raised (FeNO ≥50ppb, Eosinophil count ≥ 0.5 x 10^9 per litre) refer to a specialist in asthma care.	
If neither is raised, consider add-on therapy as below:	
Either: Add Long-Acting Muscarinic Antagonist (LAMA)	**Or: Add Leukotriene Receptor Antagonist (LTRA)**
Spiriva Respimat® 2.5mcg SMI – TWO doses OD (Tiotropium) Licensed	**Montelukast** 10mg ONCE daily (at night) can be particularly beneficial in patients with allergic asthma, rhinitis or exercise-induced asthma.
If no benefit from LAMA after 8-12 weeks – STOP can trial alternative add-on therapy (LTRA)	**If no benefit from LTRA after 8-12 weeks – STOP** can trial alternative add-on therapy (LAMA)
If some benefit from LAMA but not full control of symptoms, consider adding LTRA	If some benefit from LTRA but not full control of symptoms, consider adding LAMA
Continued poor asthma control despite good compliance and inhaler technique: Refer to Specialist	

Asthma exacerbation: Independent risk factors

- Uncontrolled asthma symptoms
- High SABA use
- Inadequate ICS
  - Not prescribed, poor adherence, poor inh technique
- Low FEV_1
  - Esp <60% predicted
- Major psychological or socioeconomic problems
- GORD
- Exposure to allergens, tobacco smoke/e-cig, pollution
- Co-morbidities
  - Obesity, rhinosinusitis
- High blood eosin
- High FeNO
- Pregnancy
- Exac history

Asthma exacerbation: Independent risk factors

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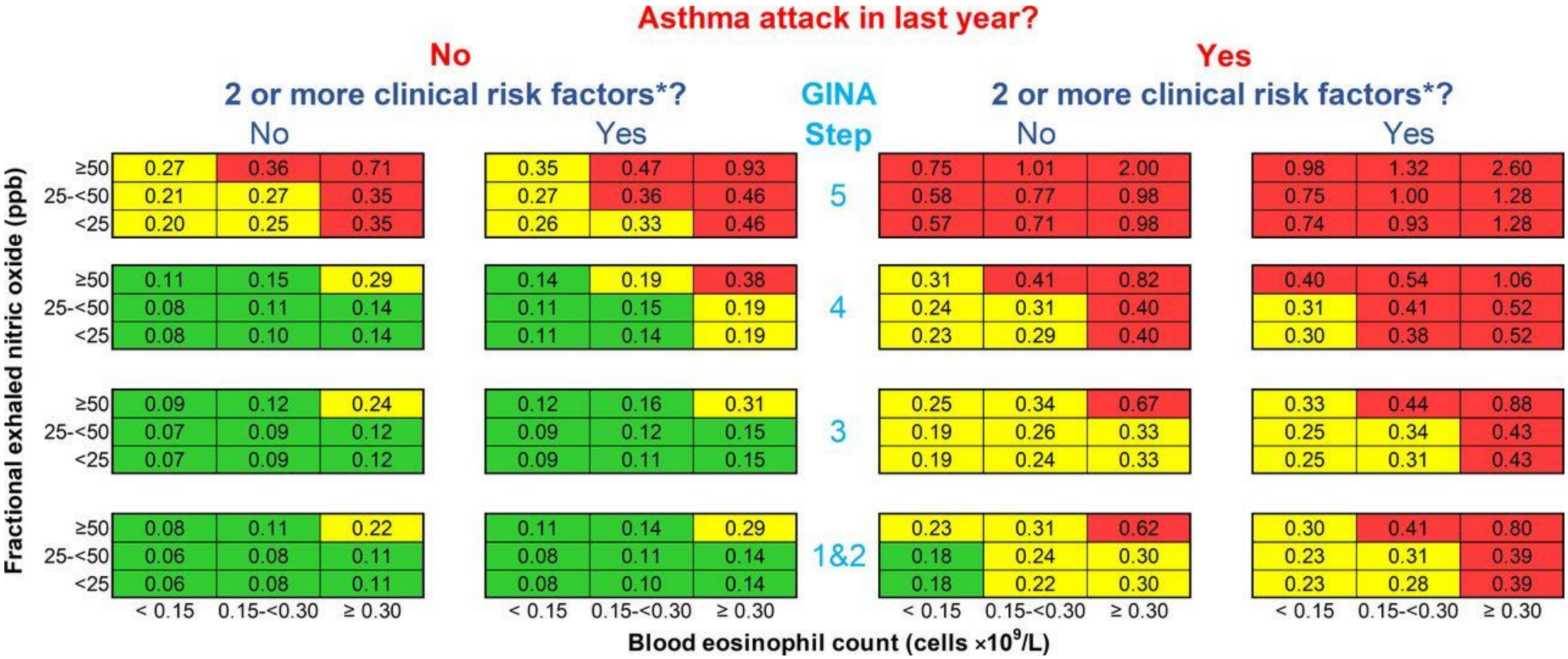
- High FeNO
- Pregnancy
- Exac history

Oxford asthma attack risk score (Oracle Score)



Couillard S, Laugerud A, Jabeen M*, et al.* Derivation of a prototype asthma attack risk scale centred on blood eosinophils and exhaled nitric oxide. *Thorax* 2022;**77:**199-202.

Asthma Inhaler Prescribing Guideline – Switching treatment

Bath and North East Somerset, Swindon and Wiltshire Integrated Care Board

Current treatment	Switch
SABA only	Low-dose ICS/formoterol PRN (AIR) **and STOP SABA!**
Regular low dose ICS +SABA PRN	Low-dose MART **and STOP SABA!** Consider whether to stop or continue the supplementary therapy (LAMA and/or LTRA) based on the degree of benefit achieved when first introduced.
Regular low-dose ICS/LABA + SABA PRN	
Regular low-dose ICS + LTRA and/or LAMA + SABA PRN	
Regular low-dose ICS/LABA + LTRA and/or LAMA + SABA PRN	
Regular moderate-dose ICS +SABA PRN	Moderate-dose MART **and STOP SABA!** Consider whether to stop or continue the supplementary therapy (LAMA and/or LTRA) based on the degree of benefit achieved when first introduced.
Regular moderate-dose ICS/LABA + SABA PRN	
Regular moderate-dose ICS + LTRA and/or LAMA + SABA PRN	
Regular moderate-dose ICS/LABA + LTRA and/or LAMA + SABA PRN	
High dose ICS containing regime	Refer to specialist asthma care

When changing from low- or moderate-dose ICS (or ICS/LABA combination inhaler) plus supplementary therapy to MART, consider whether to stop or continue the supplementary therapy based on the degree of benefit achieved when first introduced

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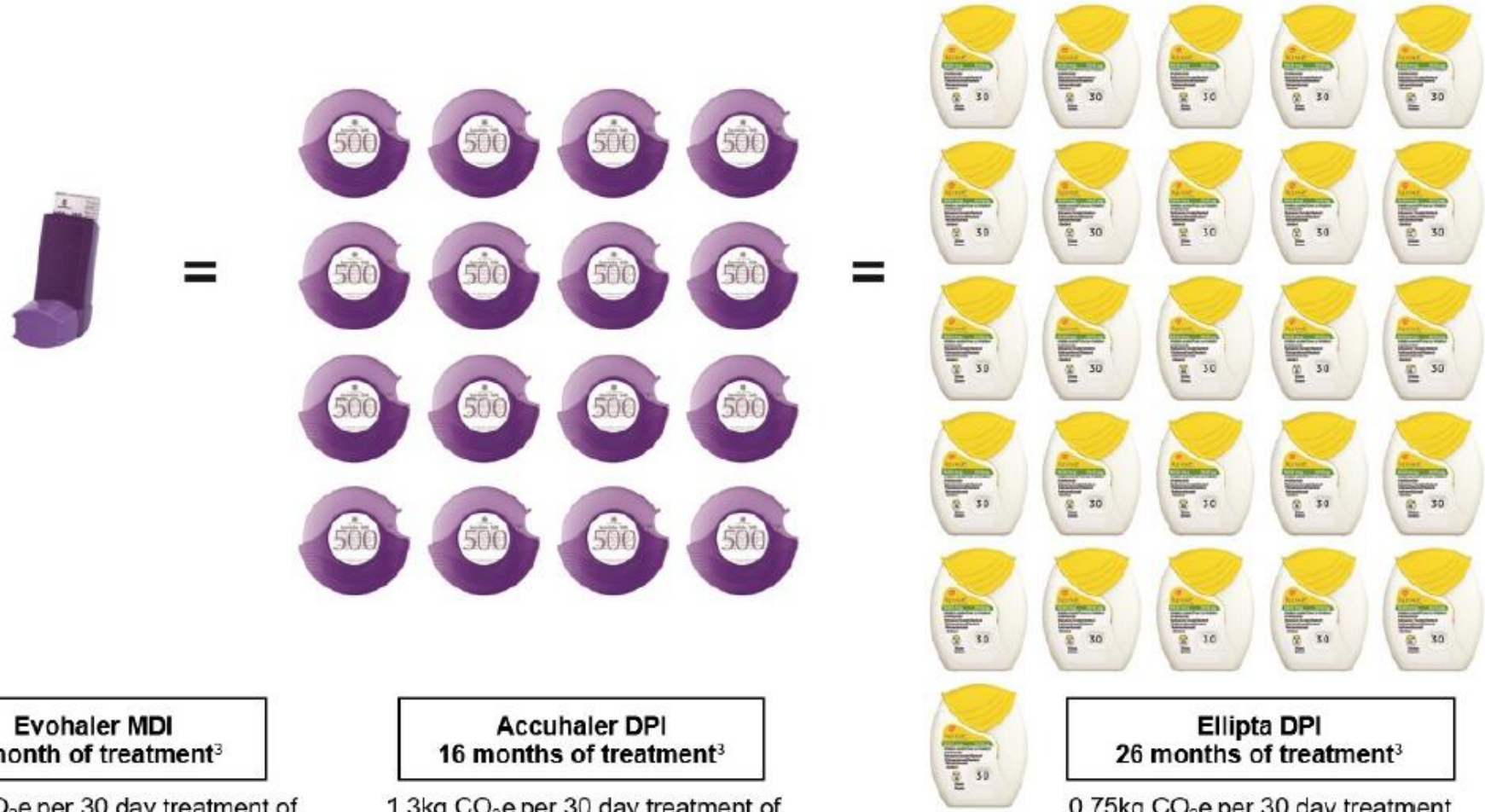
Environmental impact of inhalers

Environmental Impact



Evohaler MDI
1 month of treatment[3]

20kg CO_2e per 30 day treatment of Evohaler MDI (120 doses)[3]

Accuhaler DPI
16 months of treatment[3]

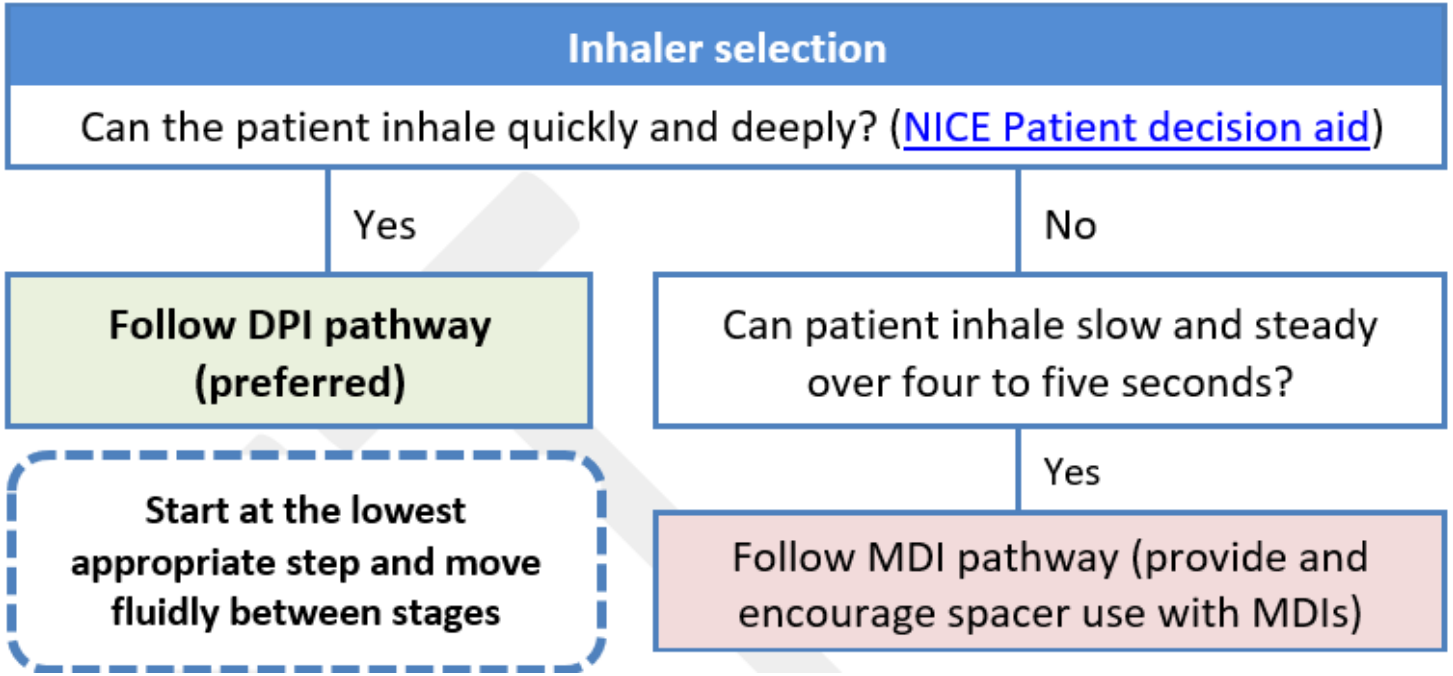
1.3kg CO_2e per 30 day treatment of Accuhaler DPI (60 doses)[3]

Ellipta DPI
26 months of treatment[3]

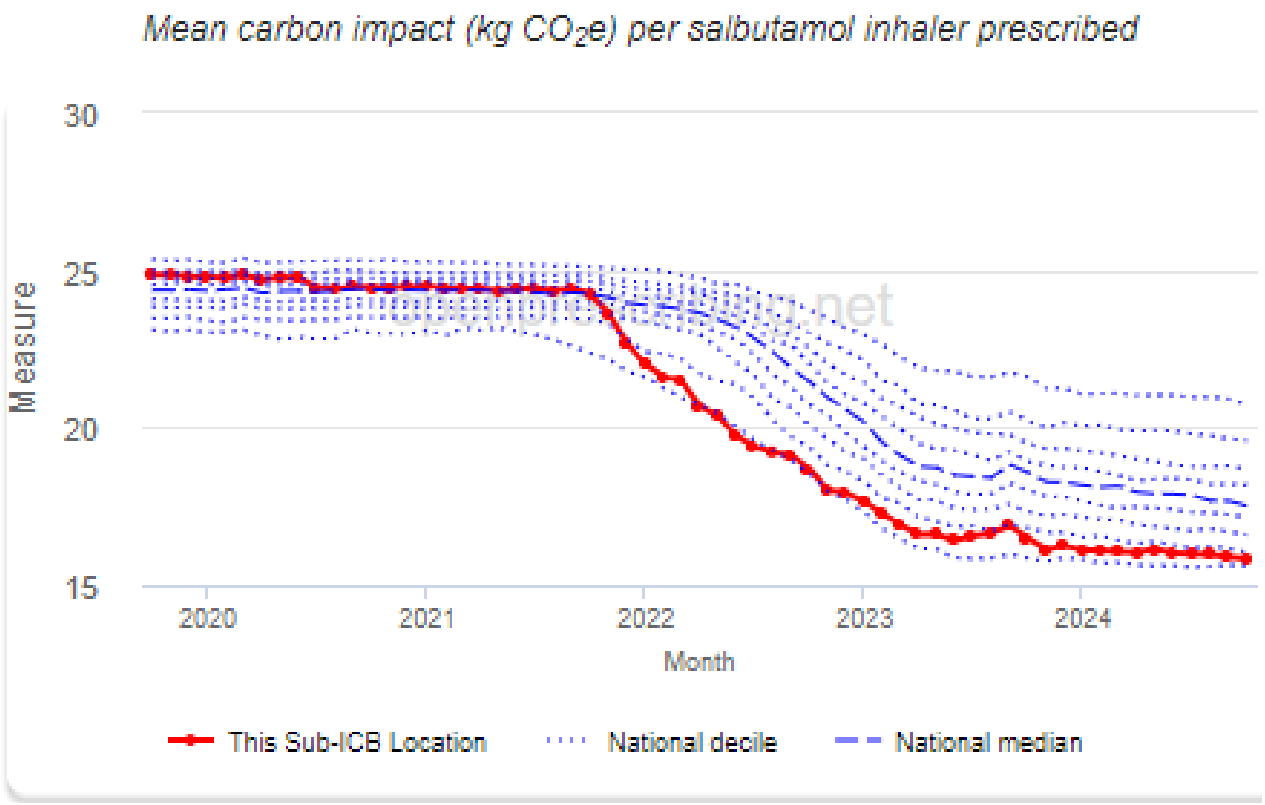
0.75kg CO_2e per 30 day treatment with Ellipta DPI (30 doses)[3]

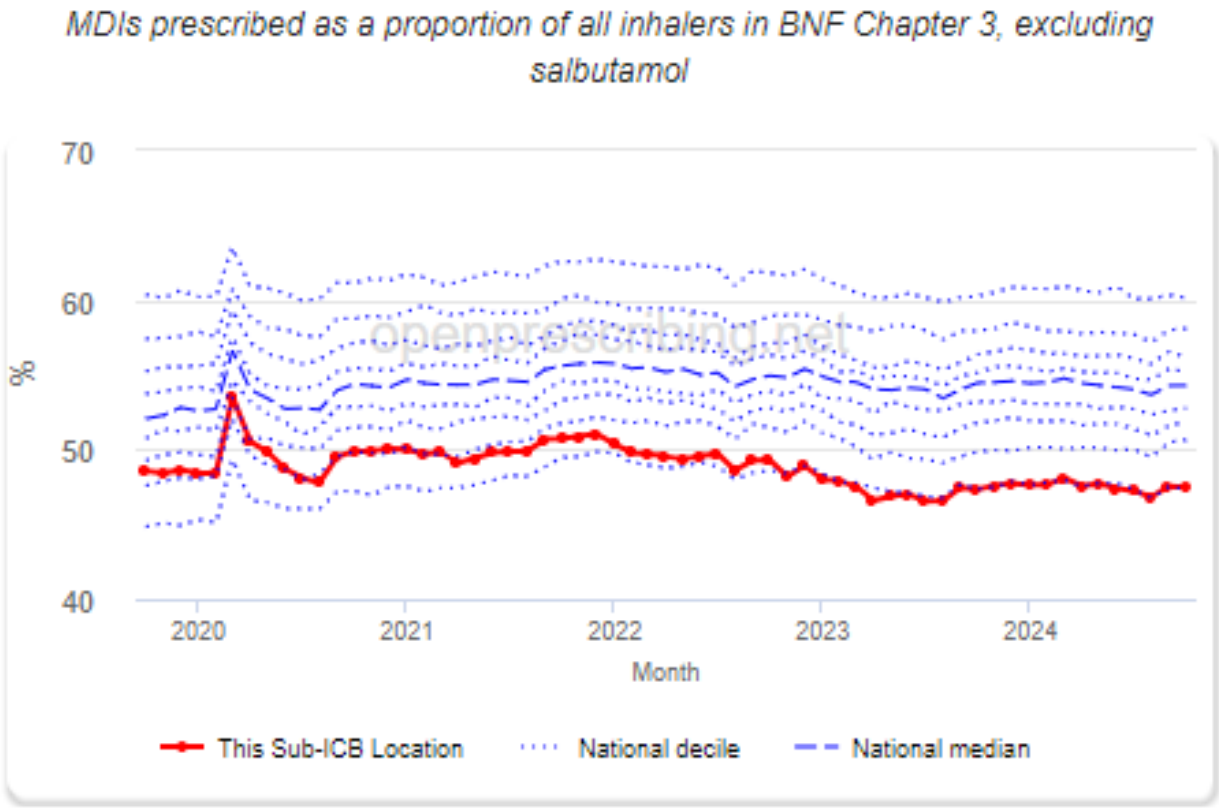
Inhaler Prescribing Principles

- Match the device type to the patient's inspiratory flow rate.
- Use DPIs first-line if suitable.
- Only use MDIs in patients unsuitable for DPI. Please add a spacer!
- Check inhaler technique at every review and before treatment escalation.



Inhaler prescribing data: BSW compared to rest of England





https://openprescribing.net/sicbl/92G/measures/?tags=respiratory

Monitoring and self-management for all patients

- At least annual review of asthma patients
- Review symptoms – Asthma Control Test available in Ardens template
- Confirm adherence
- Check inhaler technique
- Consider switch to SABA-free regime
- Review triggers
- Smoking/vaping cessation
- Review/provide personalised asthma action plan
- Education/sign posting

When to refer to secondary care?

- Once **adherence and inhaler technique have been checked and optimised** and **other conditions causing their symptoms have been treated or excluded**, the following should trigger a referral:
- Over the past 12 months (any of):
  - ≥2 courses OCS for asthma
  - ≥1 hospital admission/ED attendance for asthma
  - High dose ICS containing regimes *(provide steroid card)*
  - Raised FeNO or Eosinophil level despite moderate dose MART
  - Poor symptom control (as assessed by a validated questionnaire)
- On maintenance OCS for asthma *(provide steroid card)*
- Diagnostic uncertainty

Summary

- New BTS/SIGN/NICE joint guideline (Diagnosis, monitoring and management of chronic asthma)
  - Diagnostic algorithm
  - AIR and MART and the rationale
    - Do NOT prescribe inh salbutamol
  - Switching patients from fixed dose regimes
- Environmental impact of inhalers
- Monitoring and self-management
- When to refer to secondary care?

BSW formulary guidance can be found at https://bswtogether.org.uk/medicines/area-prescribing-committee/prescribing-guidance/


QUESTIONS