Pharmacist-led initiatives in respiratory medicine

Associate Professor Amy Chan
Head of School of Pharmacy (incoming)
The University of Auckland

Roles and Declarations

- Clinical Director – Asthma NZ
- Head of School of Pharmacy
- Co-chair European Respiratory Society (ERS) CONNECT clinical research collaboration
- Senior Researcher – Commonwealth Pharmacists' Association
- Global lead for FIP hub – International Pharmaceutical Federation
- Behavioural science consultant – UCL-Business spin-out Spoonful of Sugar
- Funding: WHO, Health Research Council, Auckland Medical Research Foundation, CMDT MedTech, CSL, GSK, AstraZeneca, Trudell Medical International

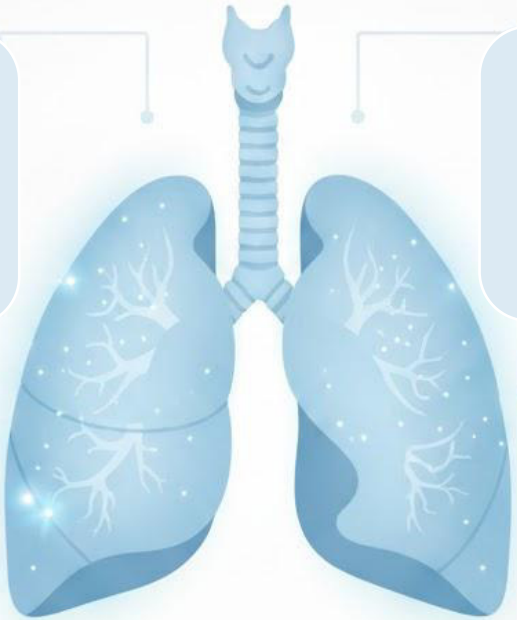
Session overview

- An overview of respiratory medicine
- Key roles for pharmacists
  - Diagnosis
  - Treatment
  - Prevention
- Future pathway

RESPIRATORY HEALTH MATTERS: VITAL & VULNERABLE

3rd leading cause of death, responsible for 4 million deaths and 454.6 million cases globally

We take breathing for granted, but our lungs enable us to live, laugh and enjoy activities. They are vital organs vulnerable to airborne infection and injury



Total Deaths **+28.5%**

Prevelence **+39.8%**

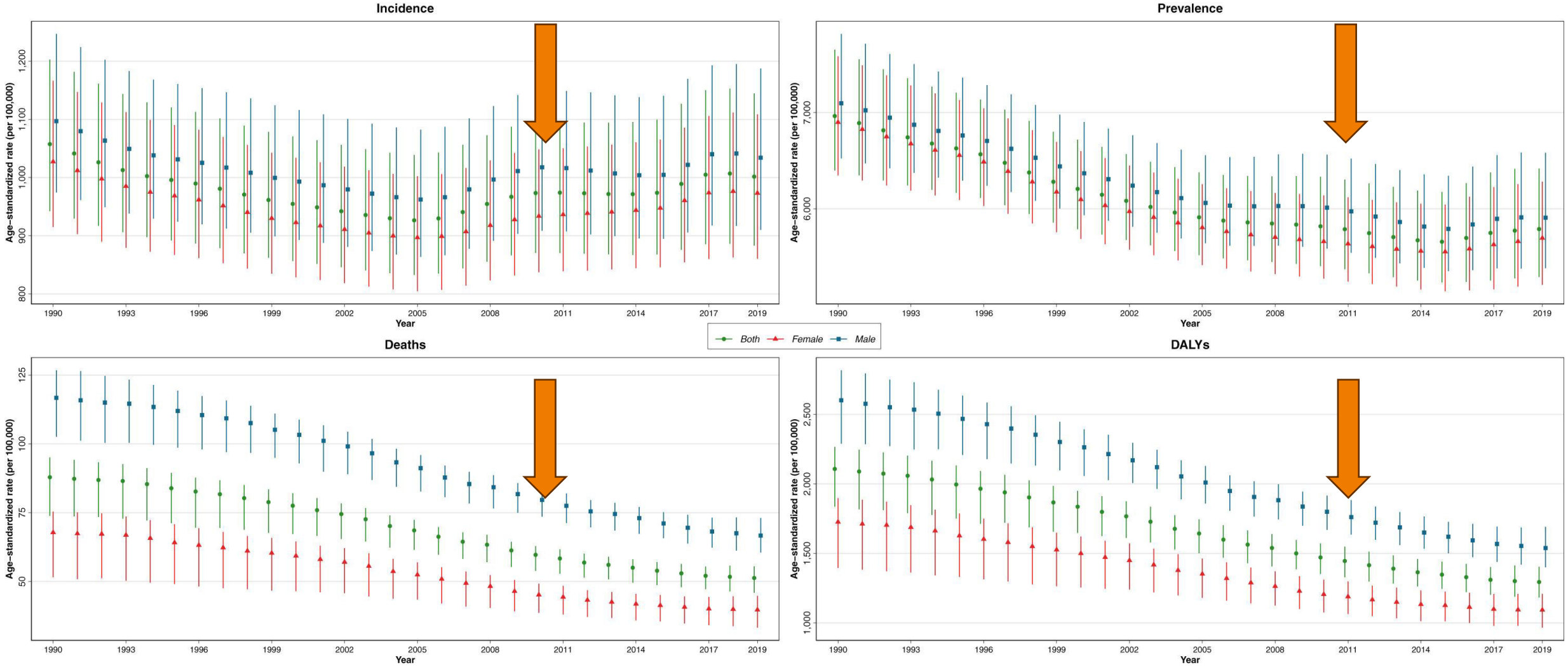
COPD
Affects 200M (4%) globally.
3.2M deaths/year
3rd leading cause of death worldwide

ASTHMA
Affects >300M.
Most common chronic disease of childhood

PNEUMONIA
Kills >2.4M annually.
Leading cause of death for children<5 and adults >65

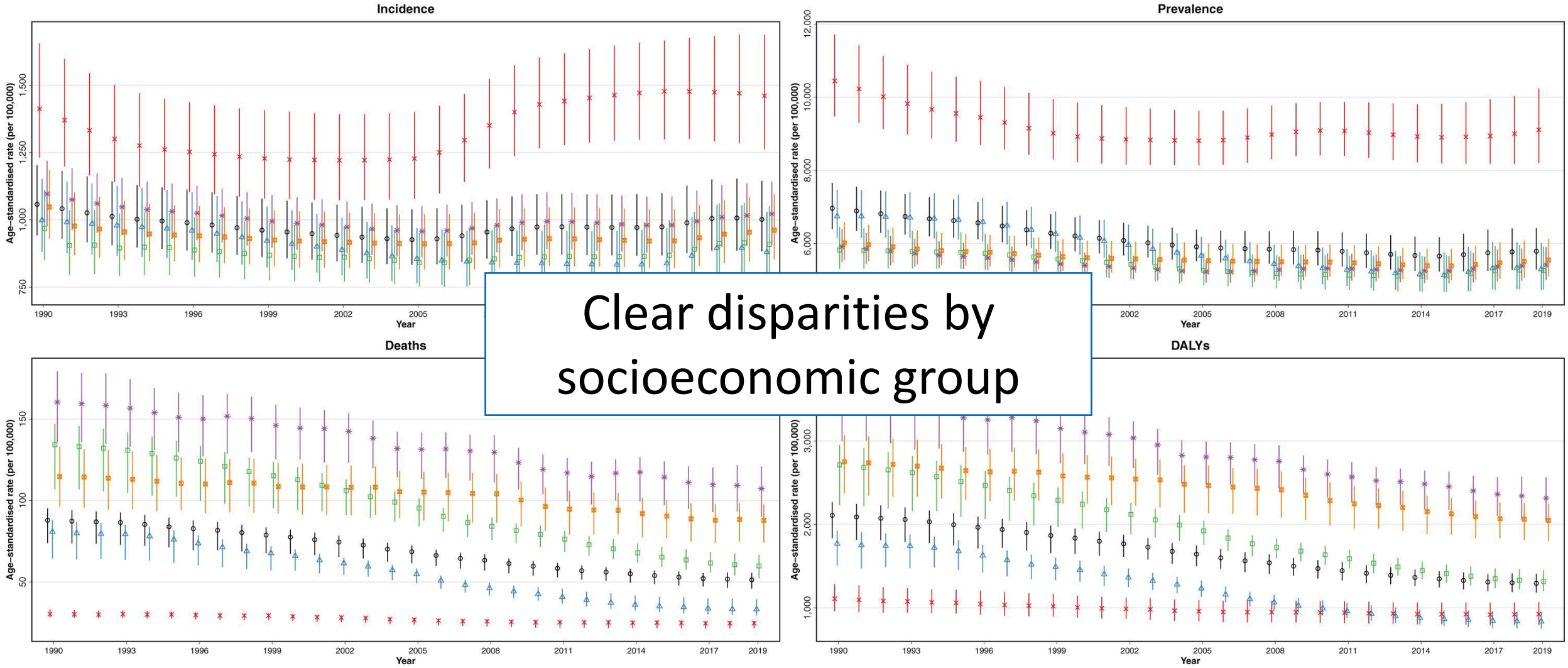
Figure generation assisted by Google Gemini

Why respiratory health matters – especially for us



Momtazmanesh S, Moghaddam SS, Ghamari S-H, Rad EM, Rezaei N, Shobeiri P, et al. Global burden of chronic respiratory diseases and risk factors, 1990-2019: an update from the Global Burden of Disease Study 2019. eClinicalMedicine. 2023;59.

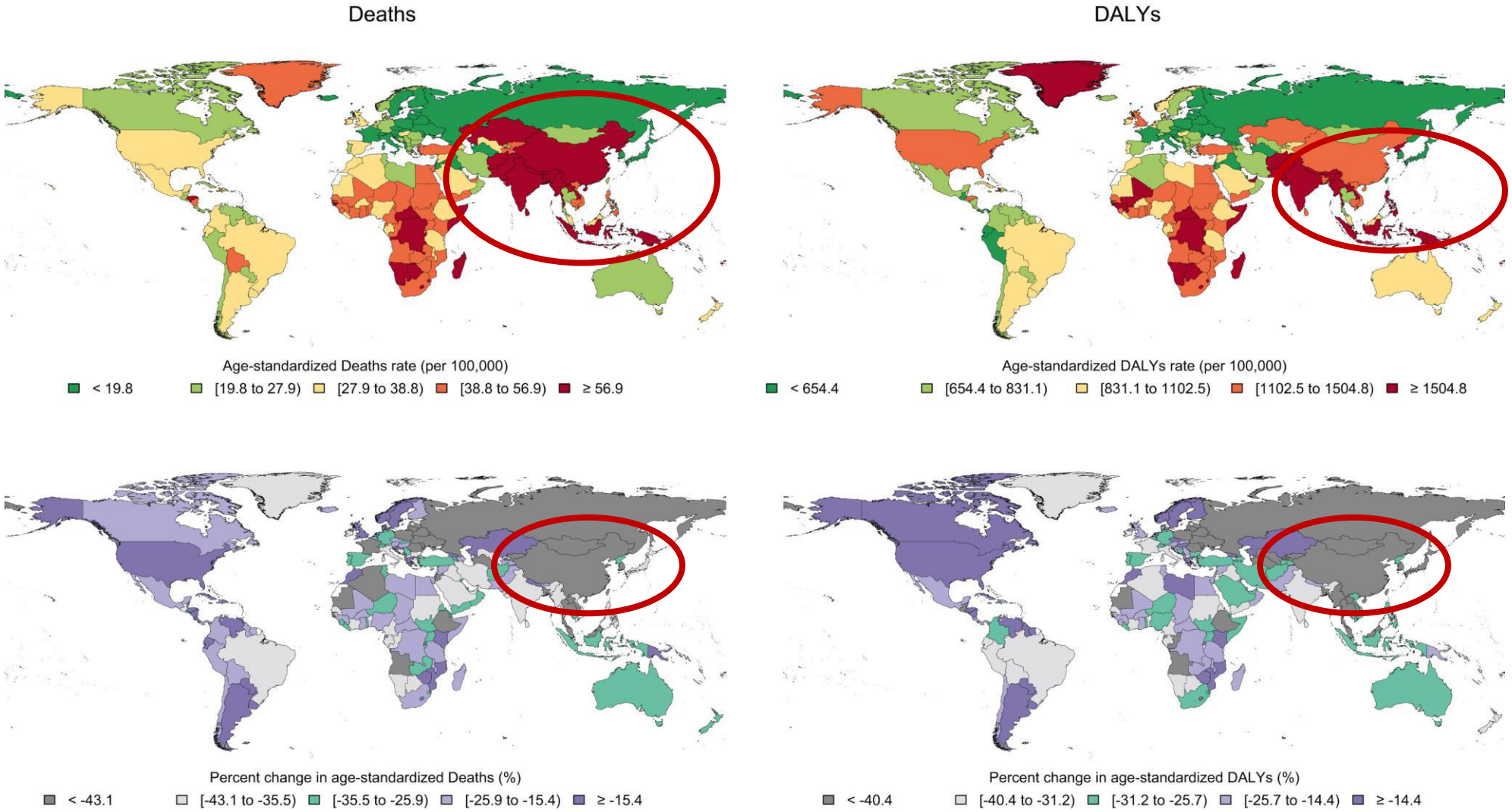
A closer look shows the numbers are not all rosy



Clear disparities by socioeconomic group

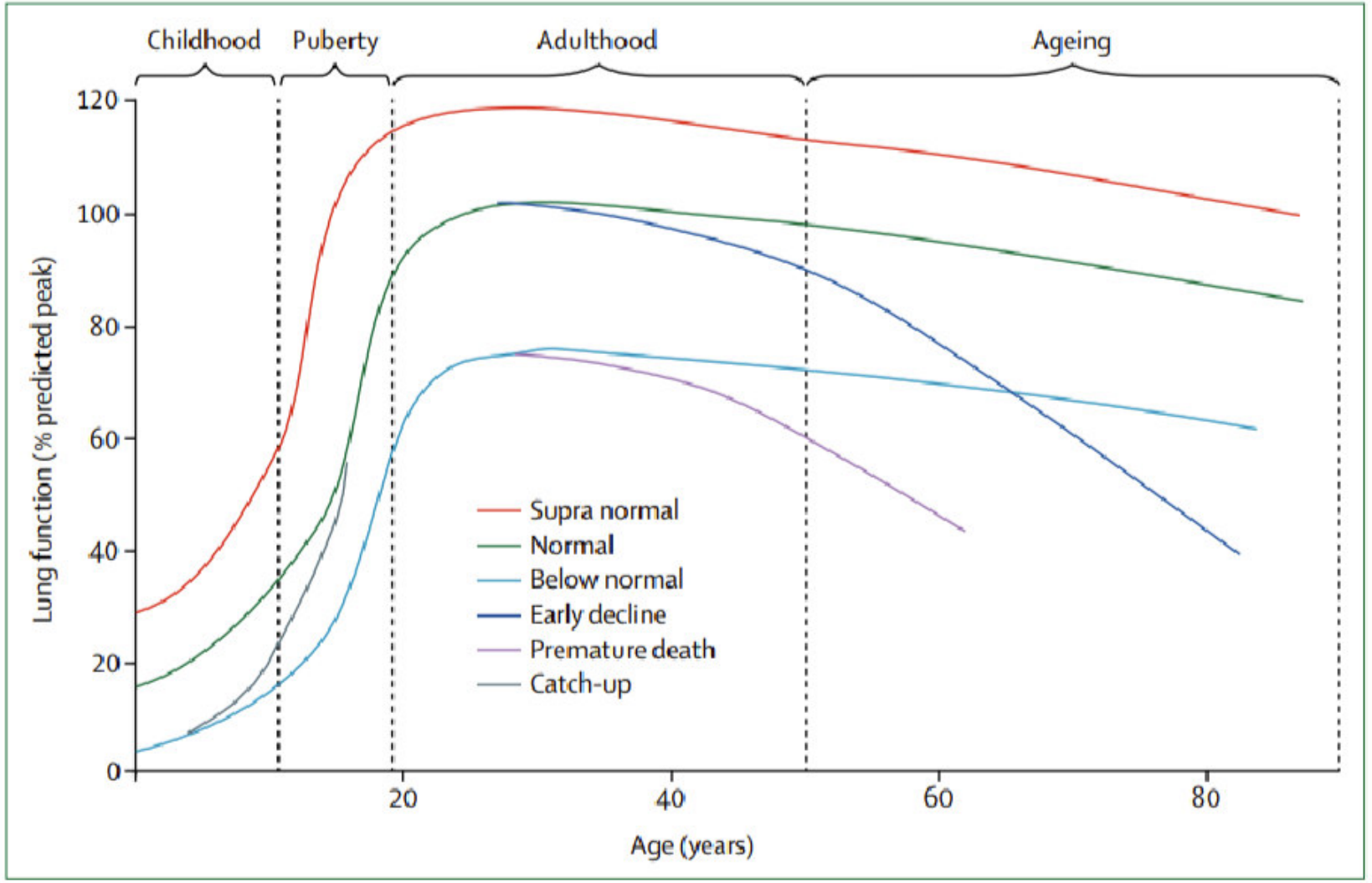
Momtazmanesh S, Moghaddam SS, Ghamari S-H, Rad EM, Rezaei N, Shobeiri P, et al. Global burden of chronic respiratory diseases and risk factors, 1990-2019: an update from the Global Burden of Disease Study 2019. eClinicalMedicine. 2023;59.

Inequities are high – particularly in Asia



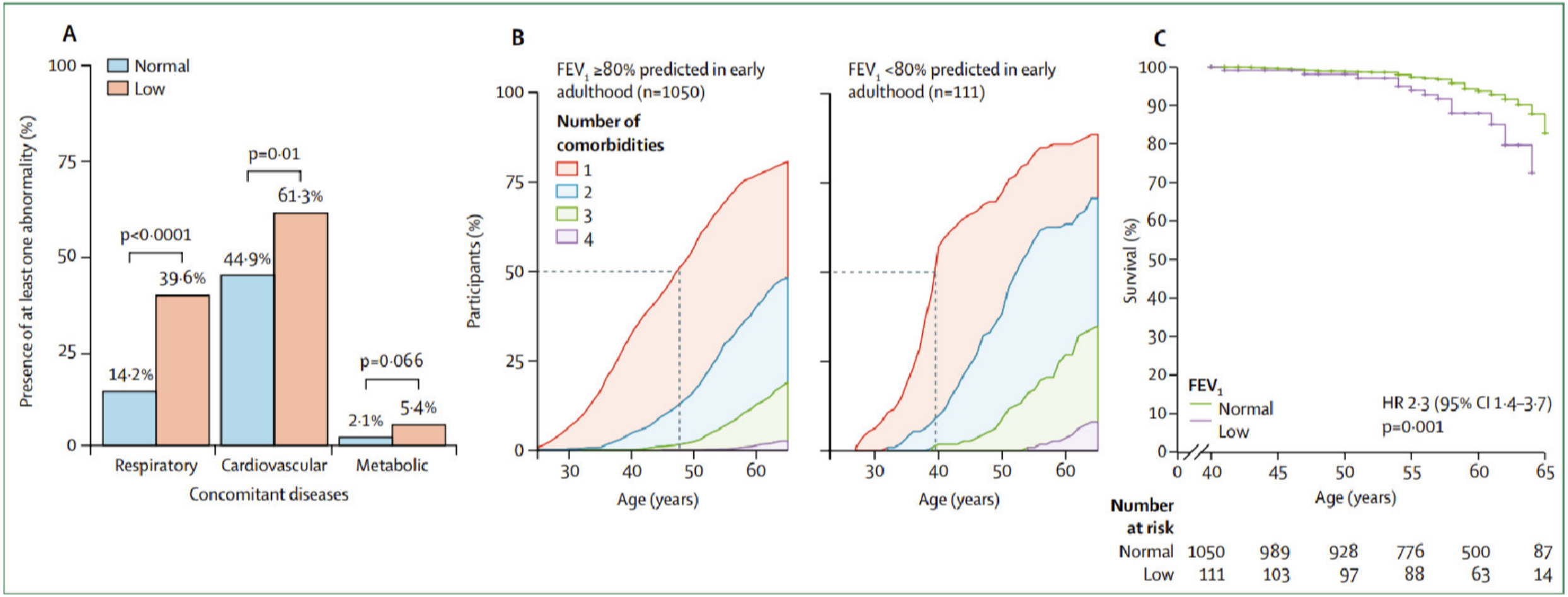
Momtazmanesh S, Moghaddam SS, Ghamari S-H, Rad EM, Rezaei N, Shobeiri P, et al. Global burden of chronic respiratory diseases and risk factors, 1990-2019: an update from the Global Burden of Disease Study 2019. eClinicalMedicine. 2023;59.

Looking after your lungs is important



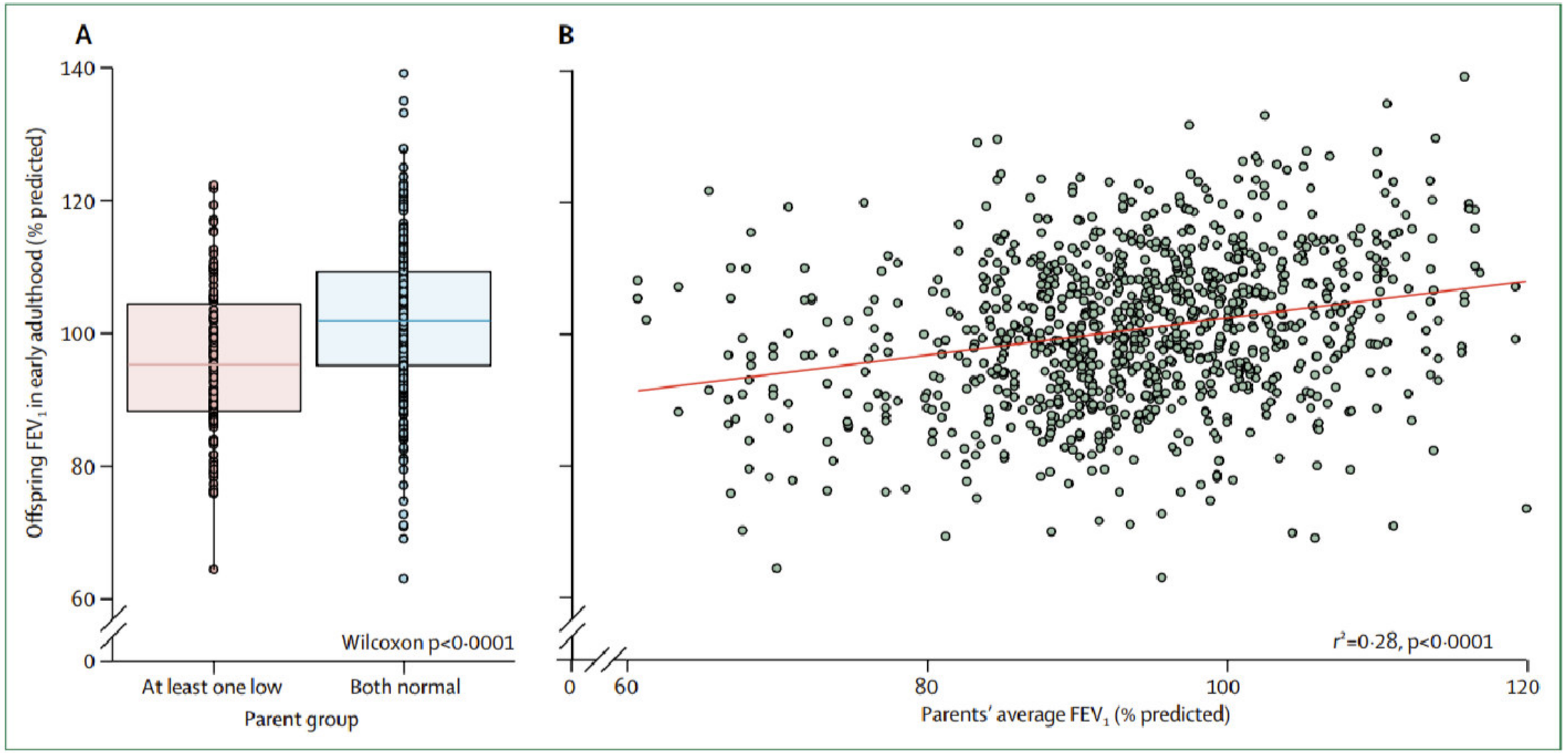
Agusti A, Faner R. Lung function trajectories in health and disease. Lancet Respir Med. 2019;7(4):358-64.

Loss of lung function is associated with worse outcomes



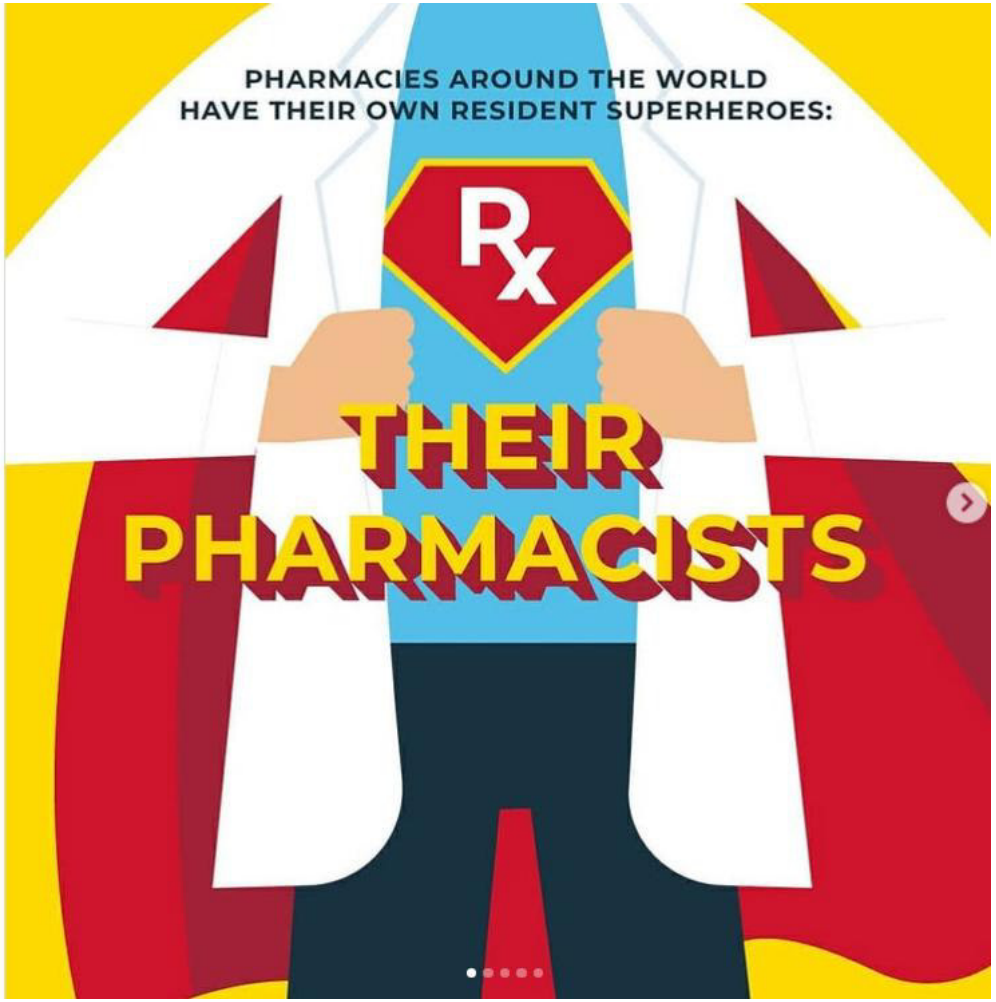
Agusti A, Faner R. Lung function trajectories in health and disease. Lancet Respir Med. 2019;7(4):358-64.

There could be generational effects

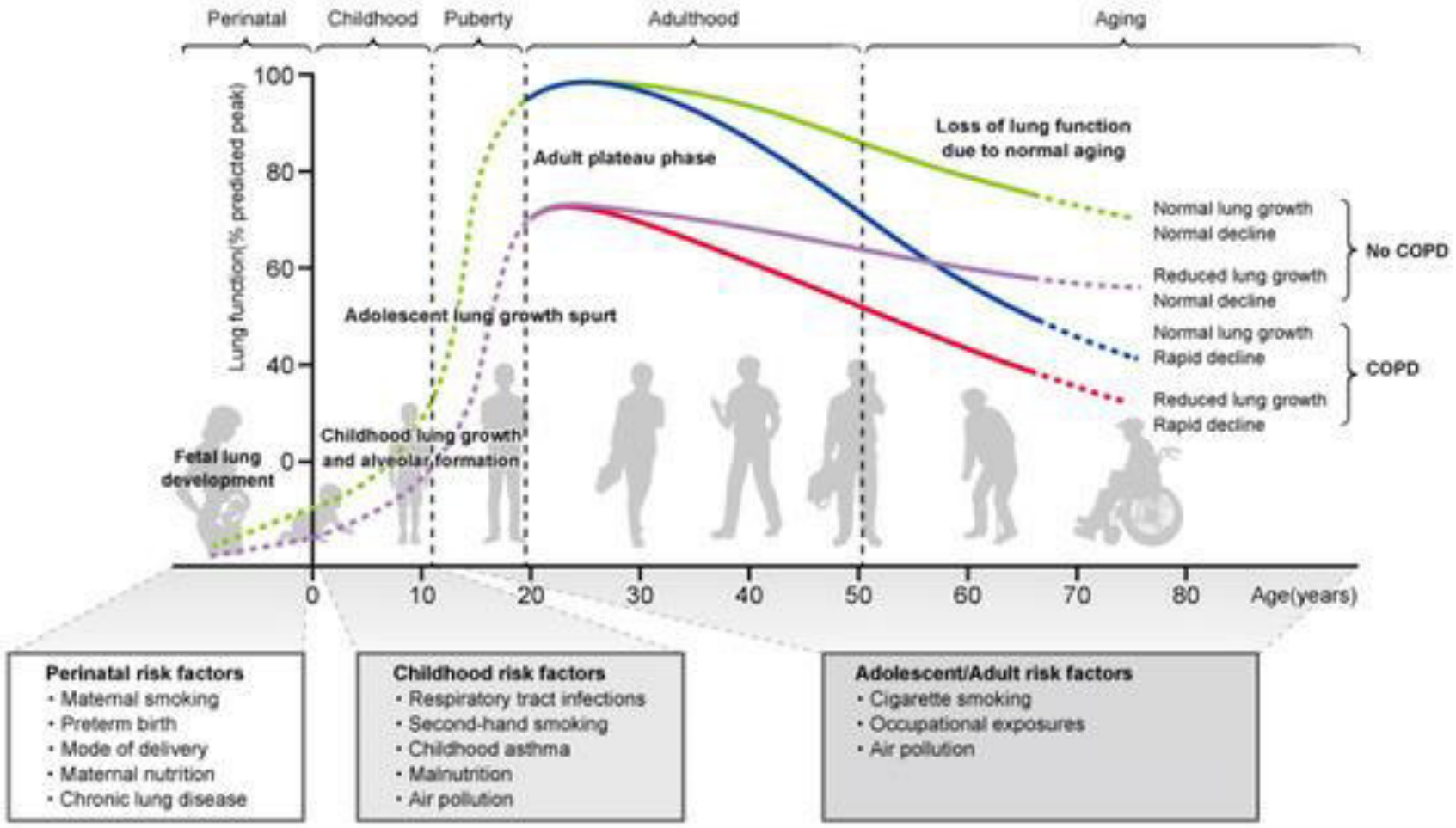


Agusti A, Faner R. Lung function trajectories in health and disease. Lancet Respir Med. 2019;7(4):358-64.

Good news – you could be the difference!



Early and correct management of respiratory disease is important

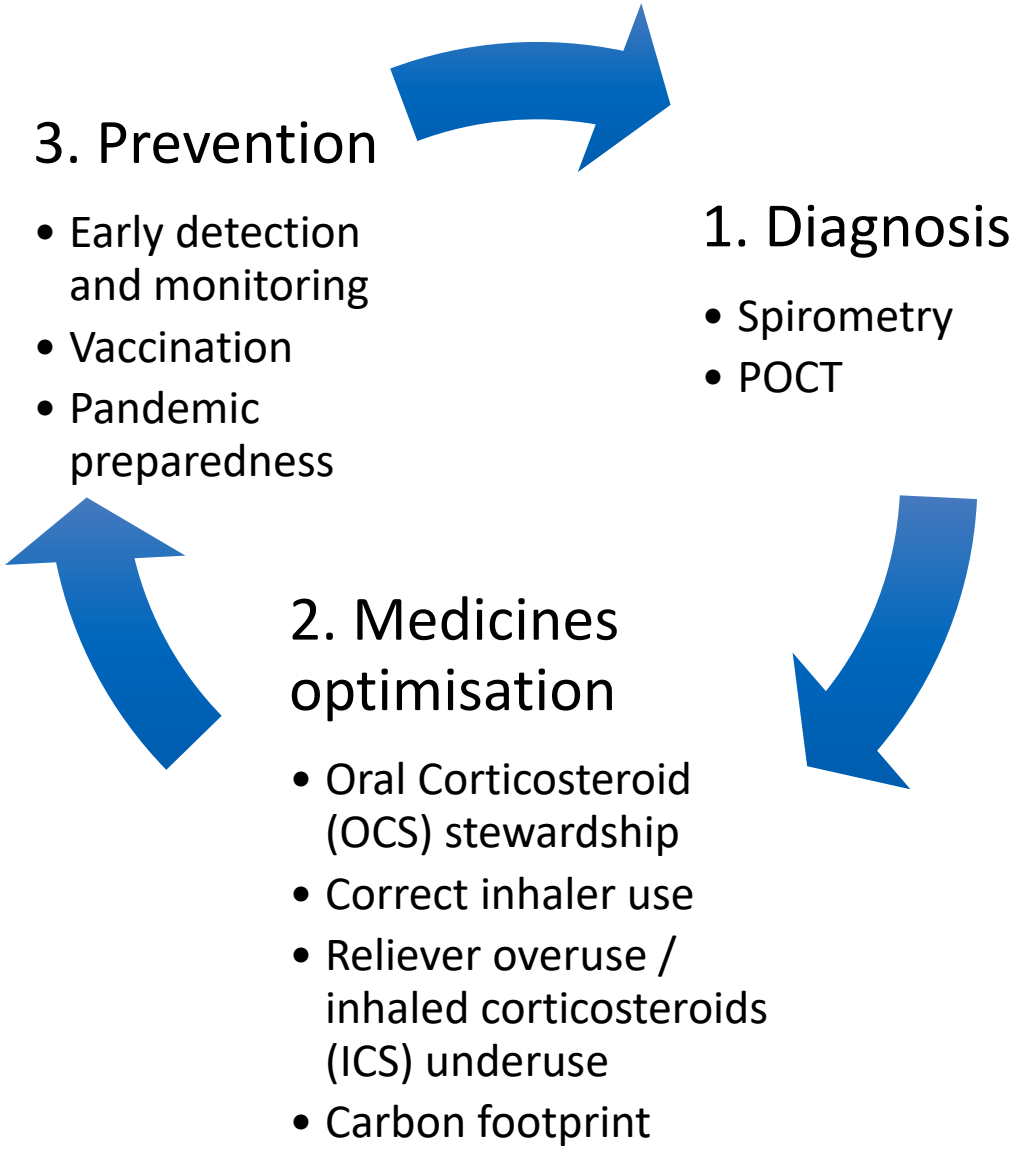


Childhood asthma is a risk factor for COPD:

- Risk associated with childhood asthma equivalent to **smoking 62 packs year**
- Adults aged 50y with a hx of severe asthma between ages 6-7 have a **32-fold** higher risk of COPD

Tsuge, M.; Ikeda, M.; Tsukahara, H. Novel Lung Growth Strategy with Biological Therapy Targeting Airway Remodeling in Childhood Bronchial Asthma. Children 2022, 9, 1253. https://doi.org/10.3390/children9081253

Pharmacist roles



Pharmacist roles

Diagnosis

1. Diagnosis

- Spirometry
- POCT

Pharmacist-led spirometry clinics

Diagnosis

Contents lists available at ScienceDirect

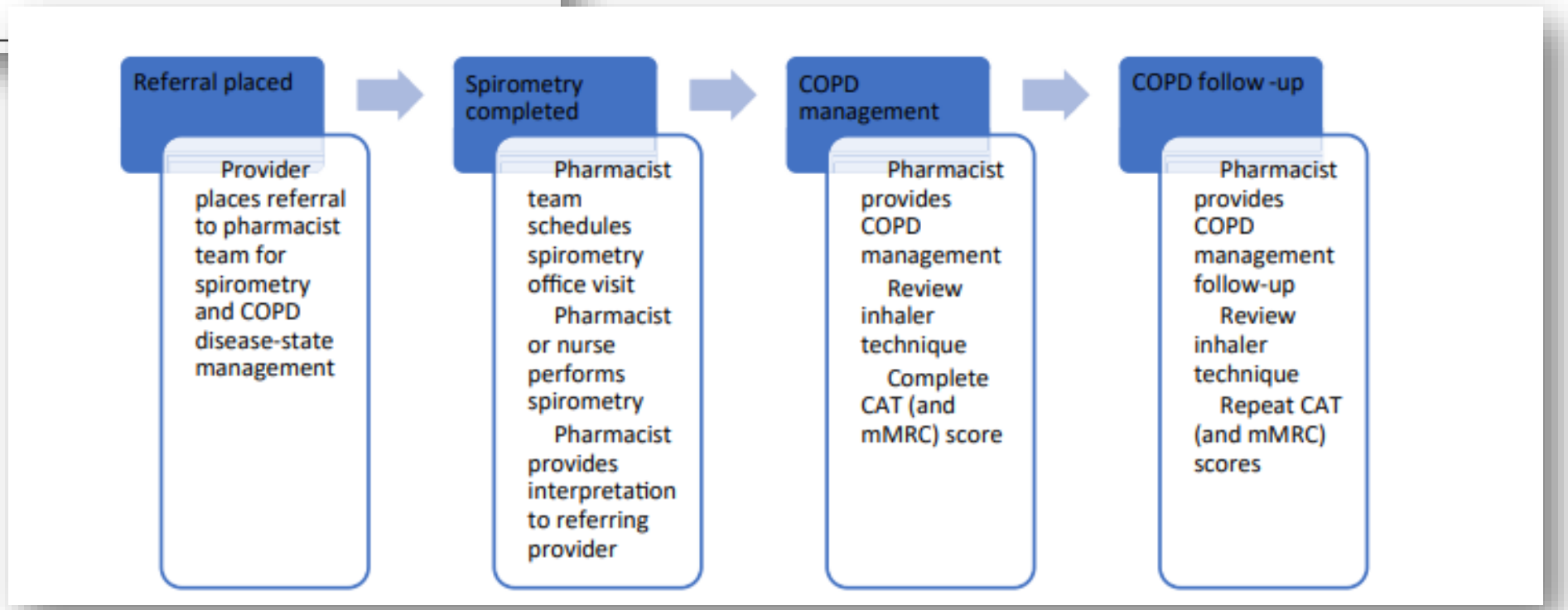
Journal of the American Pharmacists Association

journal homepage: www.japha.org

ADVANCES IN PHARMACY PRACTICE

Implementation of a pharmacist-led spirometry clinic

Regann Rutschilling*, Jessica Schrader, Juanita A. Draime, Andrew Straw, Rachel Barhorst



Rutschilling R, Schrader J, Draime JA, Straw A, Barhorst R. Implementation of a pharmacist-led spirometry clinic. Journal of the American Pharmacists Association. 2023 Jul 1;63(4):S101-5.

Point of care testing

Diagnosis

Conference Abstract Free

Methods: Multi-center pre-post intervention study in 2 Dutch community pharmacies, led by respiratory pharmacists, in collaboration with primary care colleagues. Asthma patients aged 18-40 years and SABA overuse were invited for FeNO measurement, and Asthma Control Questionnaire (ACQ) and Test of Adherence to Inhalers (TAI) were administered. This prompted tailormade interventions (inhaler technique/adherence feedback, (re)start/increase ICS dose, asthma self-management plan, stop smoking advice and/or referral to GP). Follow-up was at 3 and 6 months. FeNO and ACQ differences between baseline and 6 months were compared using 2-sided paired samples T-tests.

Results: In total, 34 patients (mean age: 28.5 years; 52.9% male; 14.7% smoker) were included and completed follow-up. At baseline, 20.6% used no ICS, 14.7% used ICS on-demand and up to 16 SABA devices per patient were dispensed. Mean baseline FeNO was 39.9 (SD: 34.7) ppb, mean ACQ 1.23 (SD: 1.05) and mean TAI-10: 45.0 (SD: 5.7). At 6-months follow-up, mean FeNO and ACQ decreased significantly (both $p<0.05$) to 26.5 ppb and 0.74, respectively.

Conclusion: By providing high SABA users with FeNO guided interventions, both inflammation and asthma control could be reduced

(FeNO) indicates airway inflammation. Both are easy to measure in primary care. As such, using FeNO, high SABA users with clinical need for initiating inhaled corticosteroids (ICS), increasing ICS dose or enhancing ICS adherence can be proactively identified.

Ooms P, Compagne G, van Boven JFM. FeNO guided primary care interventions in patients with high SABA use. Eur Respir J.64(suppl 68):PA736.

Pharmacist roles

Medicines optimisation

2. Medicines optimisation

- Oral Corticosteroid (OCS) stewardship
- Correct inhaler use
- Reliever overuse / inhaled corticosteroids (ICS) underuse
- Carbon footprint

Oral steroid stewardship

OCS stewardship

Medicines optimisation

Received: 3 April 2021 | Accepted: 31 August 2021

DOI: 10.1111/resp.14147

POSITION STATEMENT

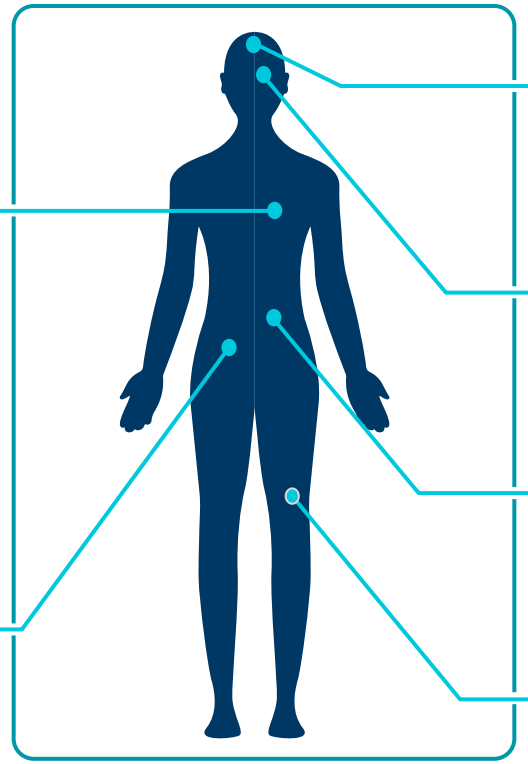
Respirology | WILEY

Oral corticosteroids stewardship for asthma in adults and adolescents: A position paper from the Thoracic Society of Australia and New Zealand

John Blakey[1,2] | Li Ping Chung[3] | Vanessa M. McDonald[4] | Laurence Ruane[5] | John Gornall[6] | Chris Barton[7] | Sinthia Bosnic-Anticevich[8] | John Harrington[9] | Mark Hew[10] | Anne E. Holland[11,12] | Trudy Hopkins[13] | Lata Jayaram[14] | Helen Reddel[15] | John W. Upham[16] | Peter G. Gibson[4,9] | Philip Bardin[17]

OCS Use Is Associated With Systemic Adverse Effects

Odds ratios of OCS-related morbidity (severe vs mild/moderate asthma; N=4783)
Real-world evidence from OPCRD



Hypertension
OR: 1.35; p=0.001 (34% vs 29%)

Cardiovascular disease
OR: 1.36; p=0.035 (10% vs 7%)

Type II diabetes
OR: 1.46; p=0.006 (10% vs. 7%)

BMI >30 kg/m²
OR: 1.36; p<0.001 (42% vs. 35%)

Psychiatric disorders
OR: 1.43; p<0.001 (38% vs 31%)

Cataracts
OR: 1.89; p<0.001 (9% vs 5%)

Dyspeptic disorders
OR: 3.99; p<0.001 (65% vs 34%)

Osteoporosis
OR: 5.23; p<0.001 (16% vs 4%)

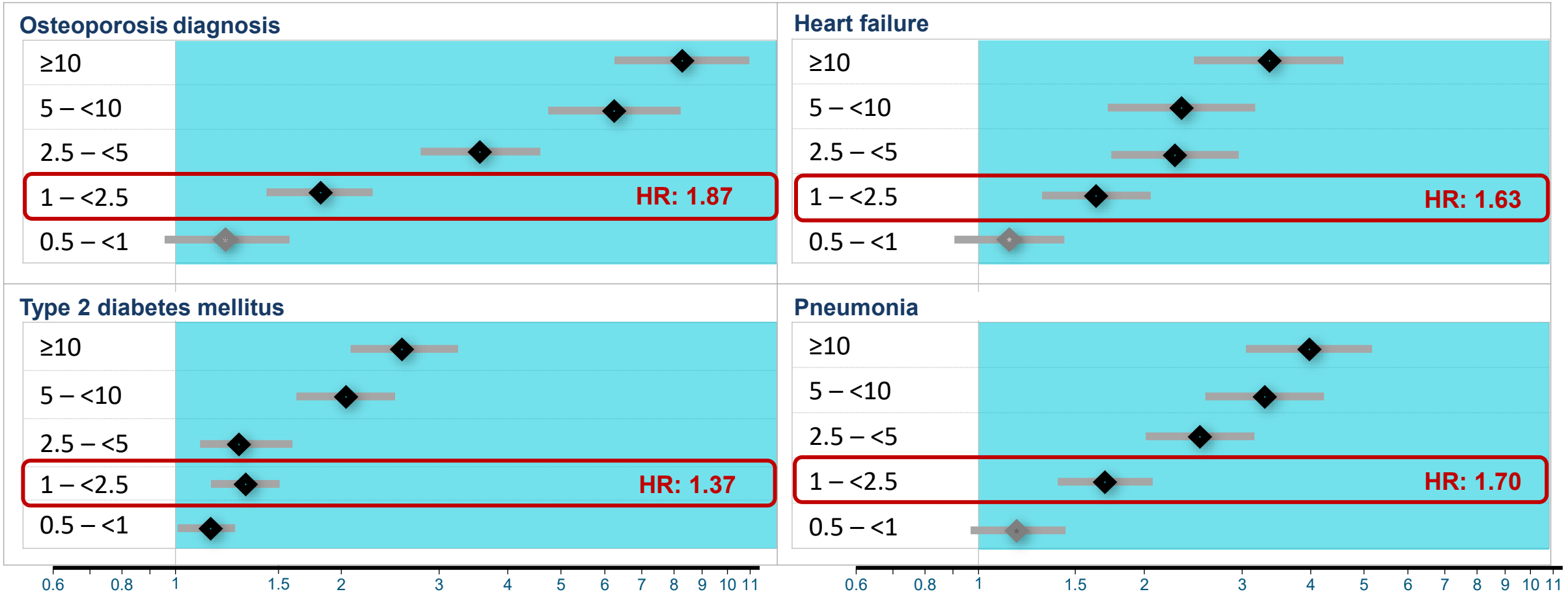
Cross-sectional observational study of patients with severe (required GINA Step 5 treatment and ≥4 OCS prescriptions/year in 2 consecutive study years) and mild or moderate (GINA Step 2-3) asthma. Results are based on data from the OPCRD, a UK respiratory database

AEs = adverse effects; BMI = body mass index; OCS = oral corticosteroid; OPCRD = Optimum Patient Care Research Database; OR = odds ratio.

Sweeney J et al. Thorax. 2016;71:339-346.

As Little as 0.5-1 g of SCS Can Cause Serious Adverse Outcomes, and the Risk Increases With Higher cumulative SCS Exposure

HR (95% CI) for adverse outcomes in the SCS[a] arms for cumulative SCS exposures (vs. reference >0 g to <0.5 g[a])[b]



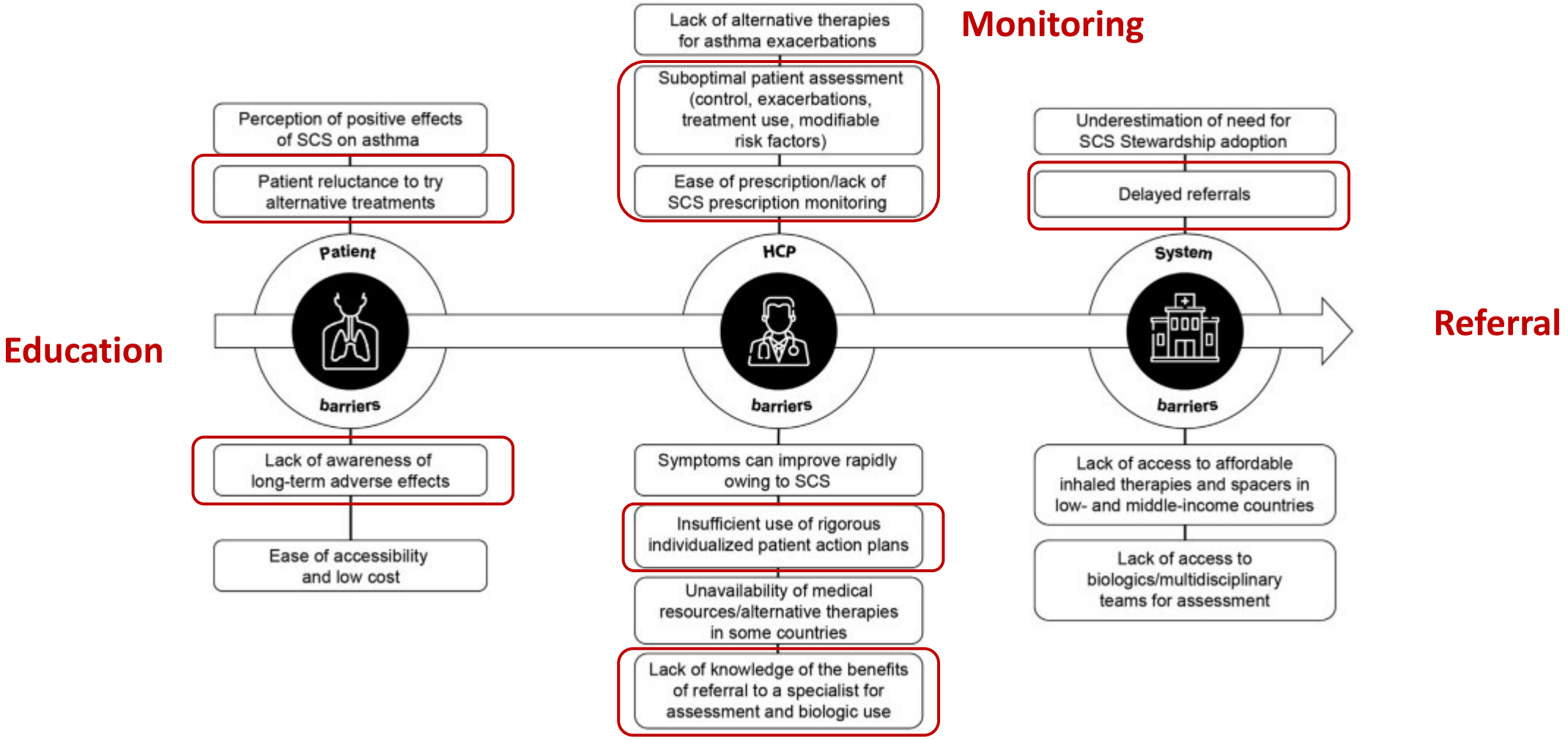
[a]Not statistically different from the arm for cumulative SCS exposure <0.5 g. HR = hazard ratio; [b]Median record availability before SCS initiation of 9.9 and 8.7 years and median follow-up 7.4 and 6.4 years in the SCS and non-SCS arms.

SCS = systemic corticosteroids (parenteral or oral). NOTE: x-axis shows Hazard Ratio and y-axis shows Cumulative Dose (g).

Price DB et al. *J Asthma Allergy*. 2018;11:193-204.

OCS stewardship considerations

Medicines optimisation



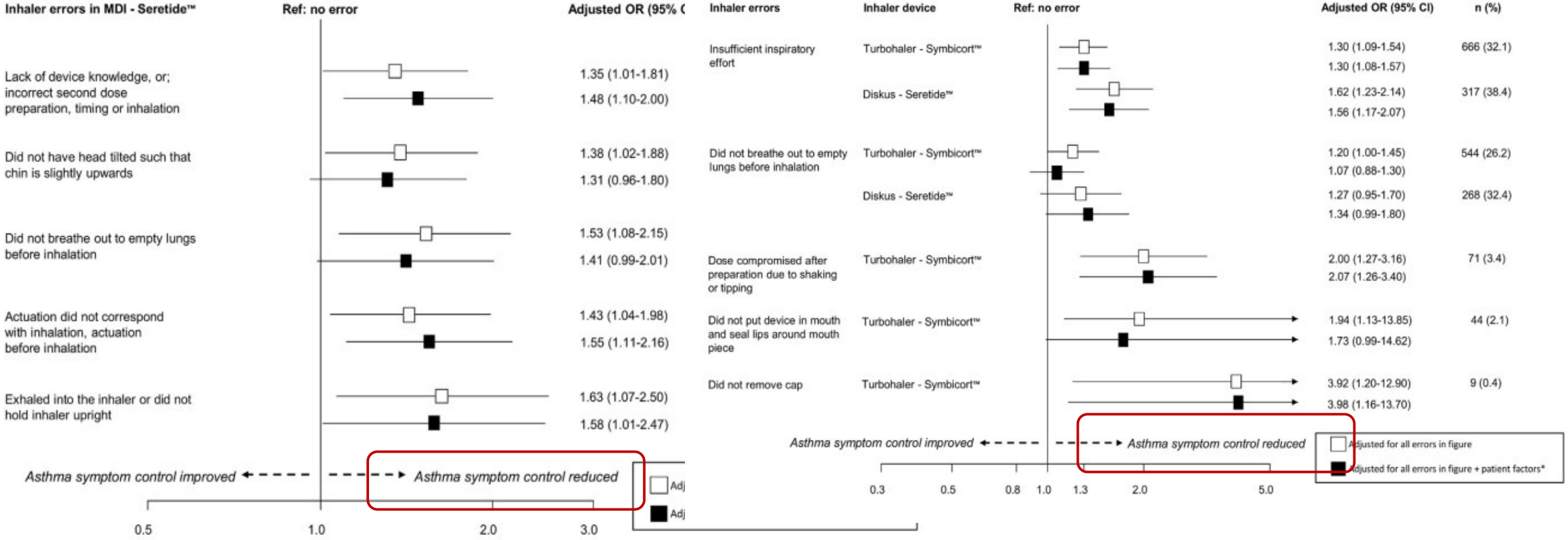
OCS = oral corticosteroid(s).

Bleecker ER, Al-Ahmad M, Bjermer L, Caminati M, Canonica GW, Kaplan A, Papadopoulos NG, Roche N, Ryan D, Tohda Y, Yáñez A. Systemic corticosteroids in asthma: a call to action from World Allergy Organization and Respiratory Effectiveness Group. World Allergy Organization Journal. 2022 Dec 1;15(12):100726.

Correct inhaler use

Poor technique related to poor outcomes

Medicines optimisation



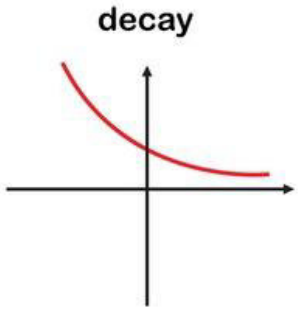
Price DB, et al. J Allergy Clin Immunol Pract. 2017;5(4):1071–1081.

Inhaler technique decays over time

Medicines optimisation

Time from training

Training Indicator of technique decay	24 hours after training	1 month after training	2 months after training	3–4 months after training	6 months after training
Incorrect technique from mastery	Mean 3.1/10 reduction in steps correctly completed (n=30) [Dhadge 2020]	50% decrease in proportion of patients displaying correct technique (n=238) [Azzi 2017] 39% decrease in proportion of patients displaying correct technique (n=127) [Ovchinikova 2011]	90% decrease in proportion of patients displaying correct technique following provision of written and verbal instruction (n=25). 20% decrease following education with physical demonstration (n=27) [Bosnic-Anticevich 2010]†	~2/9 point decrease in mean checklist score among patients not receiving active intervention (n=44) [Basheti 2017] 13–38% displaying correct-technique at 4-month follow-up (n=40) [Harnett 2014]	
Inhaler misuse following education		Rates of misuse* of 54–70% (n=120) [Press 2016]		Up to 83% decrease in 'correct essential' technique (4 steps, Turbuhaler) (n=18) [Basheti 2017]	Decrease from 62–49% in patients correctly using Turbuhaler (n=39) Decrease from 59–33% in patients correctly using MDI (n=102) [Nguyen 2018] Error rate response to intervention no longer observed after 3 months (n=32) [Dabrowska 2019]
Decrease in correct steps performed following education		0.25/8 reduction in MDI technique steps performed correctly (n=46) [Carpenter 2015]†	Median decrease of 1/8 in steps completed correctly (n=117) [Jolly 2015]	Loss of significant benefit of one-to-one and video instruction vs no instruction (n=30) [Dominelli 2012]	



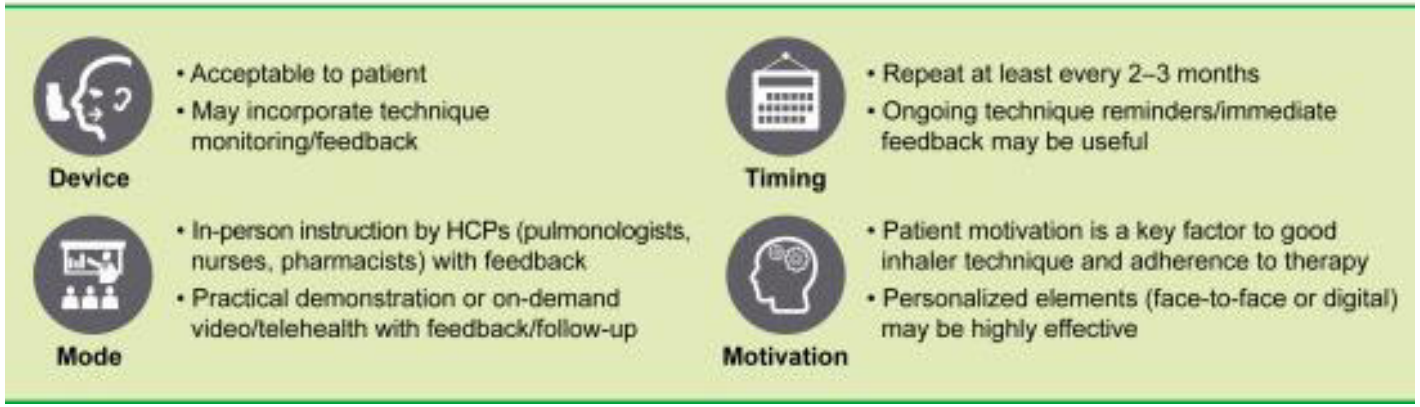
- Technique decays as soon as 24 hours after training
- Up to 83% decrease in technique within 3-4 months
- Interventions to improve technique lose effect after 3-4 months

- Pharmacist reinforcement is critical

Bosnic-Anticevich S, et al. The Journal of Allergy and Clinical Immunology: In Practice. 2023;11(8):2355-64.e5.

Key learnings to improve inhaler technique

Medicines optimisation



- Regular, active and repeated intervention
- Monitoring and feedback is important
- On-demand / real-time demonstration
- Personalisation is key

Bosnic-Anticevich S, et al. The Journal of Allergy and Clinical Immunology: In Practice. 2023;11(8):2355-64.e5.

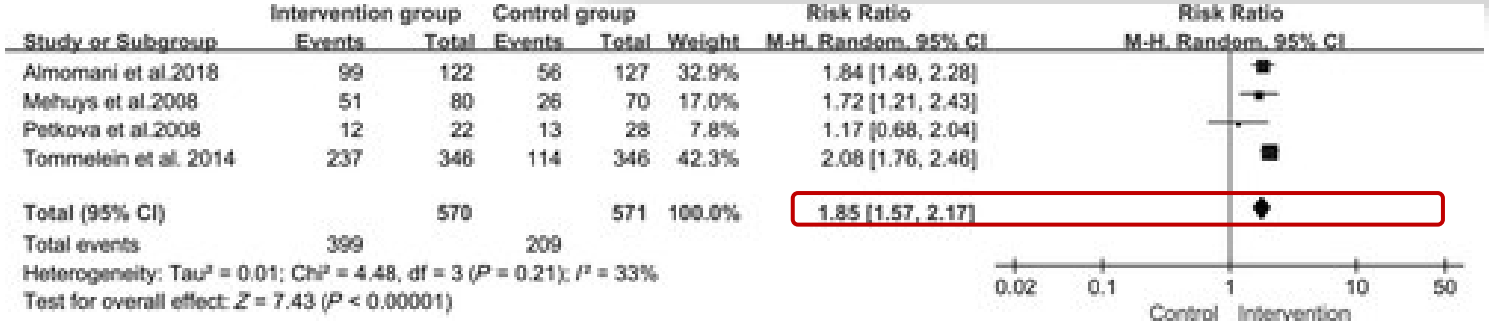
Journal of
Clinical Pharmacy and Therapeutics

REVIEW ARTICLE | Free Access

Effect of pharmacist-led interventions on medication adherence and inhalation technique in adult patients with asthma or COPD: A systematic review and meta-analysis

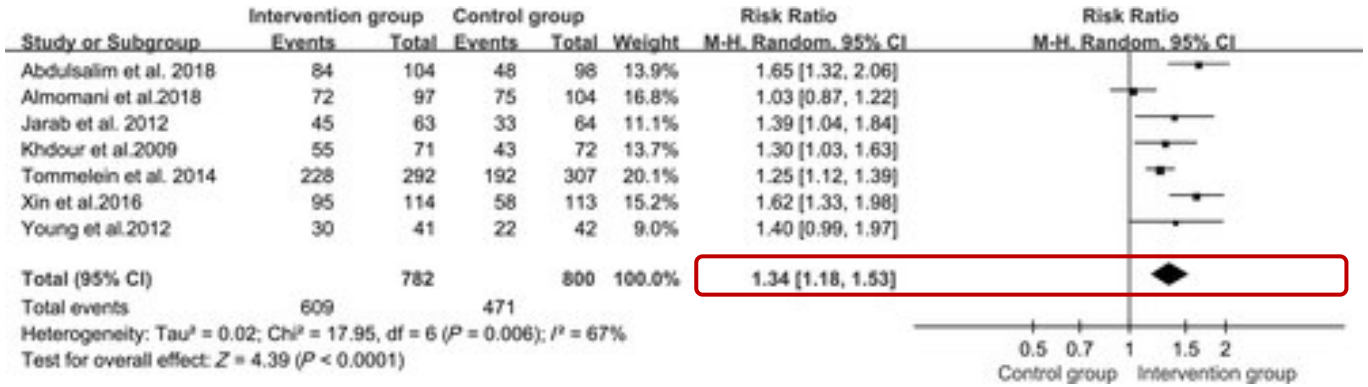
Xiaona Jia MS, Shuang Zhou MS, Daohuang Luo MS, Xia Zhao MS, Ying Zhou MS, Yi-min Cui PhD

First published: 27 February 2020 | https://doi.org/10.1111/jcpt.13126 | Citations: 69



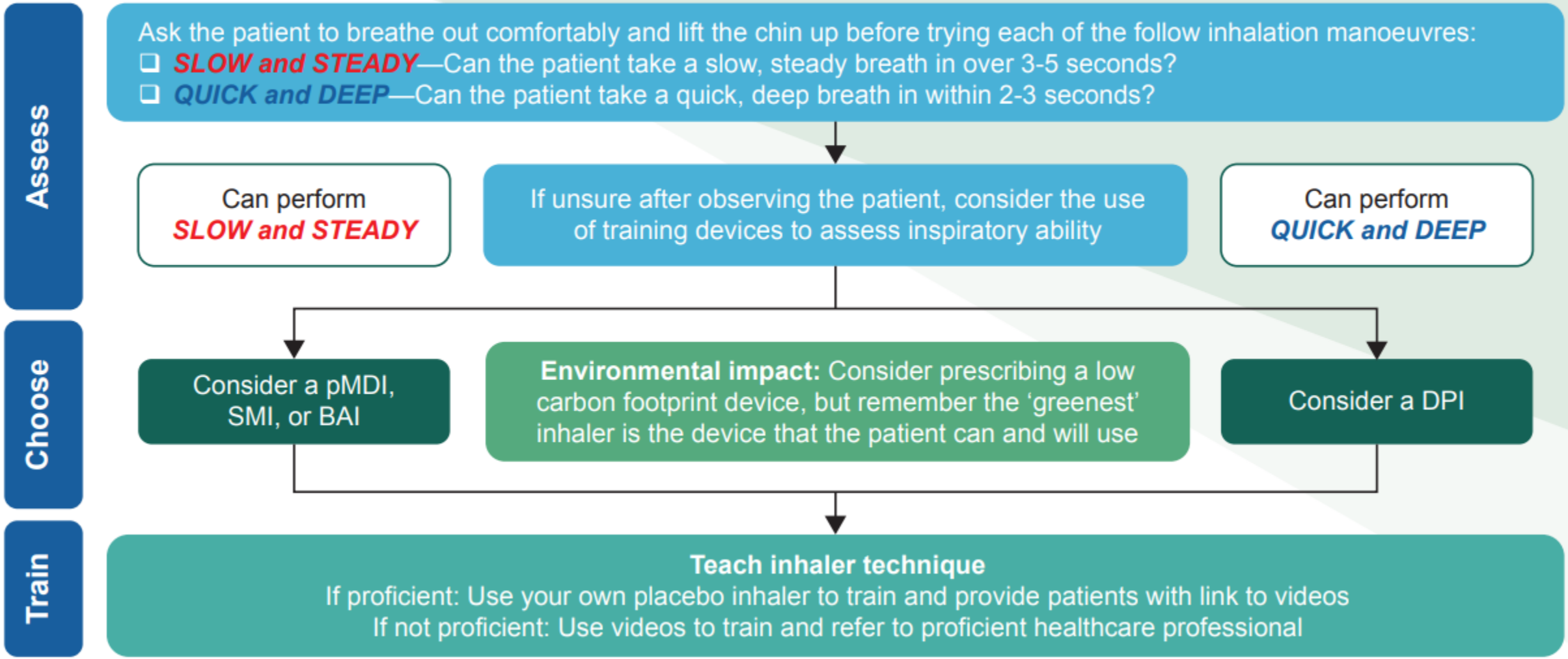
"significant improvement in …correct inhalation technique in the pharmacist-led intervention group (vs.) control … (Risk Ratio 1.85 [95% CI 1.57-2.17])"

"significant improvement in medication adherence …in the pharmacist-led intervention group as compared with the control group (Risk Ratio 1.34 [95% CI 1.18-1.53])"



Jia X, Zhou S, Luo D, Zhao X, Zhou Y, Cui Y-m. Effect of pharmacist-led interventions on medication adherence and inhalation technique in adult patients with asthma or COPD: A systematic review and meta-analysis. J Clin Pharm Ther. 2020;45(5):904-17.

Respiratory Inhaler Choice Guidelines: Assess, Choose, Train (ACT)



BAI: breath-actuated inhaler; DPI: dry powder inhaler; pMDI: pressurised metred dose inhaler; SMI: soft mist inhaler.

Usmani OS et al. Inhaler choice guideline. https://www.guidelines.co.uk/respiratory/inhaler-choice-guideline/455503.article. Accessed 25 October 2021

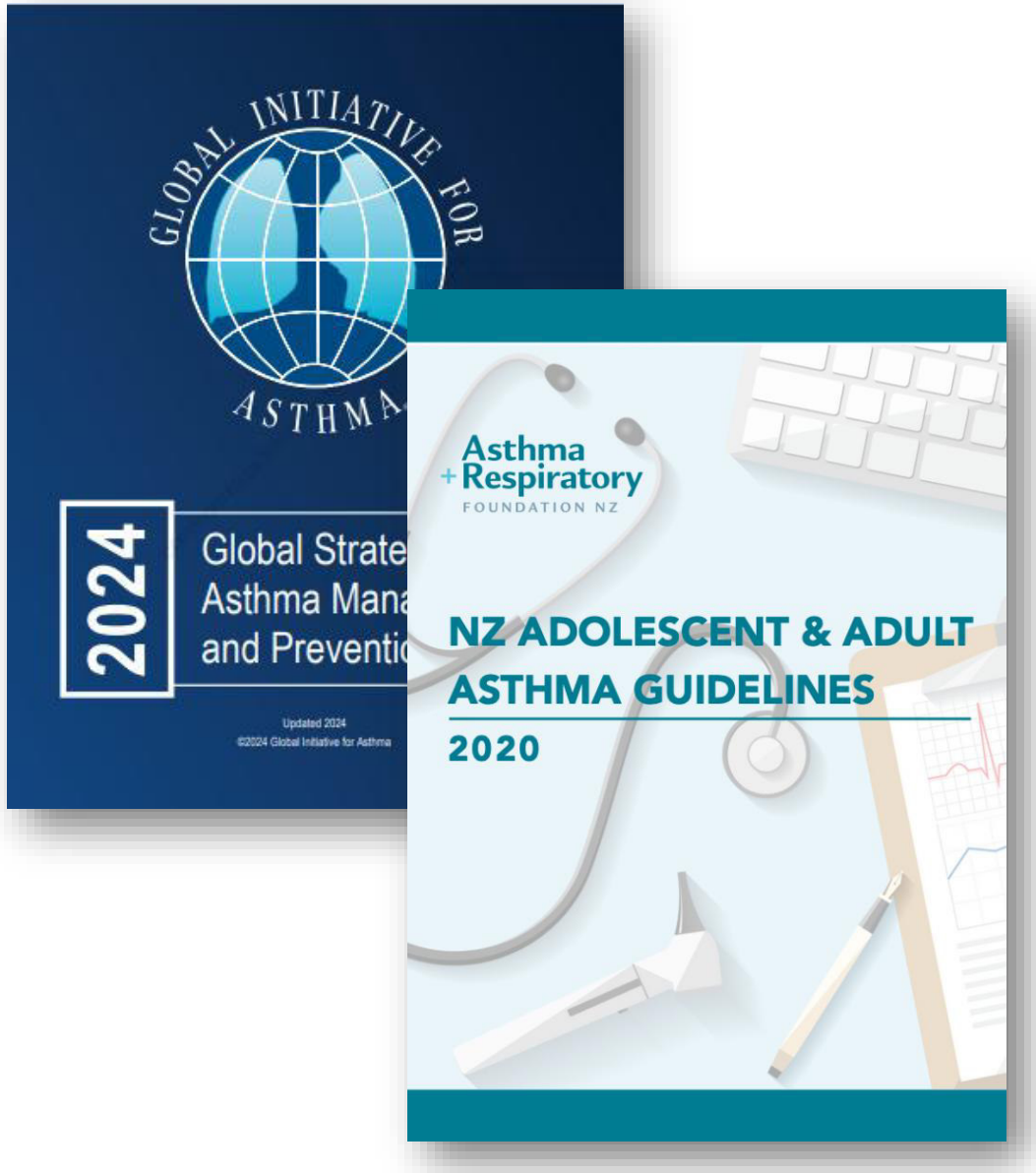
Usmani O et al. MGP Guidelines

Reliever reliance and ICS underuse

Optimisation of SABA/ICS treatment

Medicines optimisation

- Last 50 years – SABA used for relief as monotherapy
- **BUT major change** in treatment in 2019
  - SABA-only no longer recommended across all severities or as monotherapy
- **PRN SABA only** provides rapid relief **BUT**
  - **Saba increases risk** of severe attacks
- **Recommend symptom-driven or daily low dose ICS**



To evaluate prescriptions, exacerbations and healthcare resource utilisation related to short-acting β_2-agonist use in asthma

SABINA I

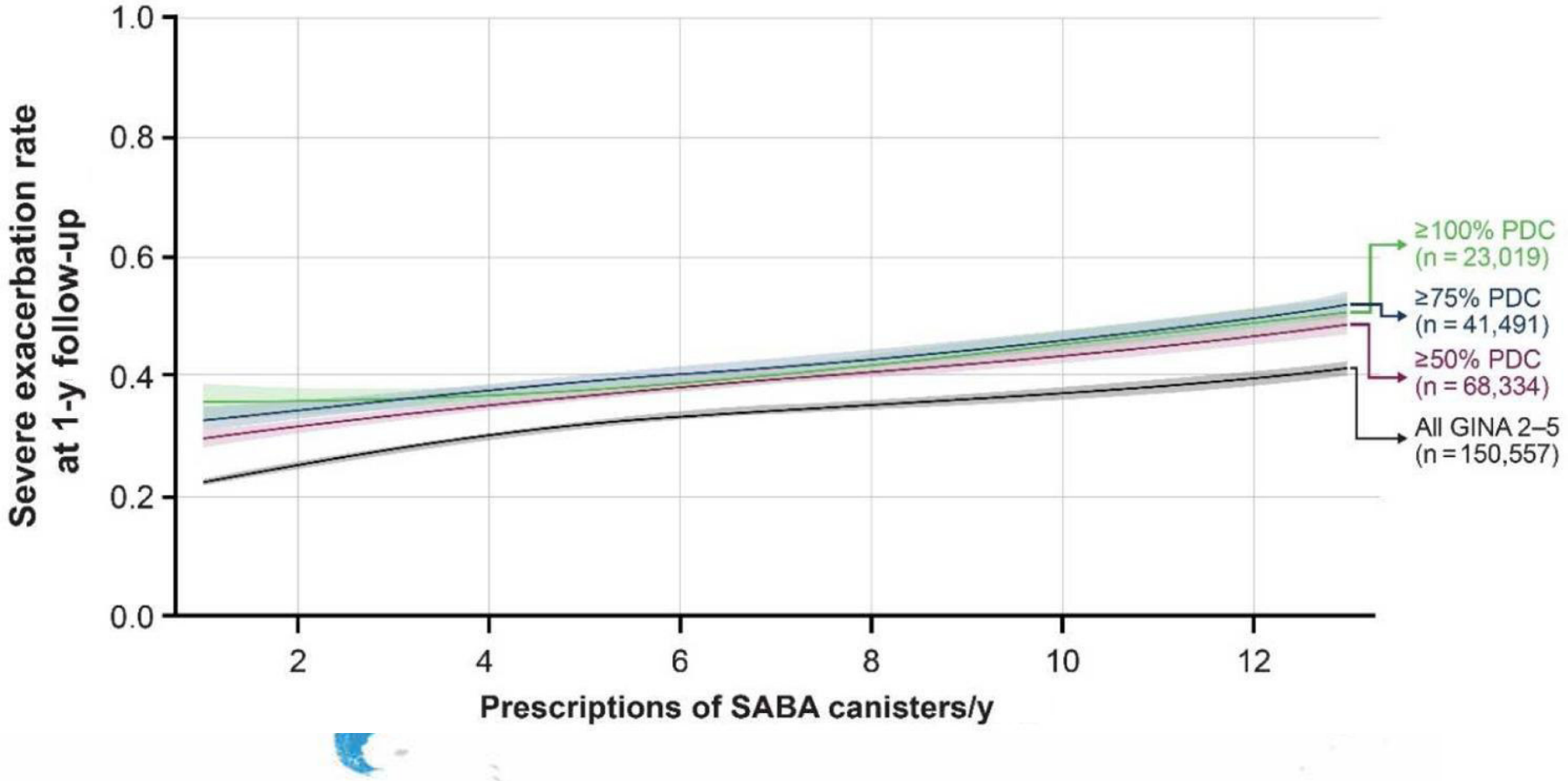
Retrospective observational research database study in the UK

SABINA II

Retrospective observational database studies in Europe, Canada and Israel

SABINA III

Cross-sectional study in 25 countries#



Quint JK, Arnetorp S, Kocks JWH, Kupczyk M, Nuevo J, Plaza V, et al. Short-Acting Beta-2-Agonist Exposure and Severe Asthma Exacerbations: SABINA Findings From Europe and North America. The Journal of Allergy and Clinical Immunology: In Practice. 2022;10(9):2297-309.e10.
Michaud A, Hernandez P, Penz ED, Walker BL. Beware SABA overuse: a message from the global SABINA program. Current Treatment Options in Allergy. 2023;10(1):15-27.

Challenges with reducing SABA

- Getting patients to come off their SABA and use AIR is **challenging**
- Many patients unaware current SABA usage is considered ‘overuse’
    - Look at **dispensing records (>**2-3 SABA dispensings a year)
- Many patients ‘attached’ to SABA
    - Need to be convinced of their personal need to change

SABA over-reliance is one of four signs of uncontrolled asthma:

- daytime symptoms ≥ 3 x week
- woken by asthma at night
- needed reliever ≥ 3 x week
- activity limited by asthma

Medicines optimisation

Patient Preference and Adherence

Dovepress

open access to scientific and medical research

Open Access Full Text Article

ORIGINAL RESEARCH

Evaluating the Feasibility of a Community Pharmacy-Delivered Behaviour Change Intervention to Reduce Reliever Reliance in Asthma

Holly Foot[1,2], Kebede Beyene[3], Rob Horne[4], James Fingleton[5,6], Jeff Harrison[1], Amy Hai Yan Chan[1,4]

[1]School of Pharmacy, The University of Auckland, Auckland, New Zealand; [2]School of Pharmacy, The University of Queensland, Woolloongabba, QLD, Australia; [3]Department of Pharmaceutical and Administrative Sciences, University of Health Sciences and Pharmacy, St Louis, MO, Unites States; [4]Centre of Behavioural Medicine, School of Pharmacy, University College London, London, UK; [5]Capital and Coast District Health Board, Wellington, New Zealand; [6]Medical Research Institute of New Zealand, Wellington, New Zealand

Foot H, Beyene K, Horne R, Fingleton J, Harrison J, Chan AHY. Evaluating the Feasibility of a Community Pharmacy-Delivered Behaviour Change Intervention to Reduce Reliever Reliance in Asthma. Patient Prefer Adherence. 2024;18:361-71.

Toolkit to reduce SABA use: Brief pharmacist-delivered intervention

1. **Patient**

Presents with prescription to pharmacy for inhalers.

2. **Screening questionnaire**

Completes questionnaire to assess beliefs an attitudes about inhalers and asthma

3. **Pharmacist**

Assesses questionnaire results

Interprets and uses it to guide counselling

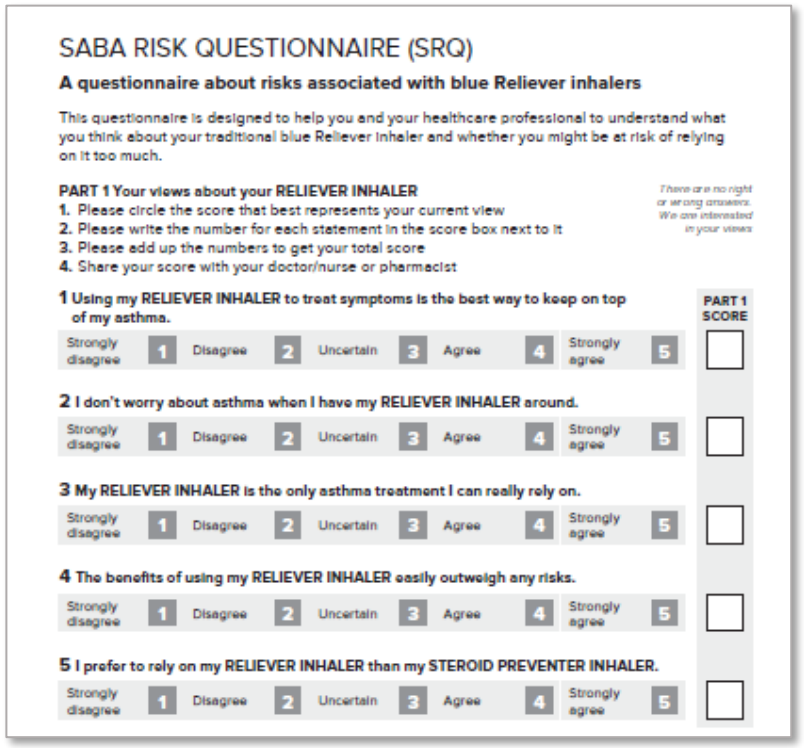
4. **Patient outcomes**

Assess changes in beliefs and obtain patient feedback

SABA Reliance Questionnaire (SRQ)

Medicines optimisation

1. Using my reliever to treat symptoms is the best way to keep on top of my asthma
2. I don't worry about asthma when I have my reliever around
3. My reliever is the only asthma treatment I can really rely on
4. The benefits of using my reliever inhaler massively outweigh any risks
5. I prefer to rely on my blue reliever inhaler than my preventer



SABA RISK QUESTIONNAIRE (SRQ)

A questionnaire about risks associated with blue Reliever inhalers

This questionnaire is designed to help you and your healthcare professional to understand what you think about your traditional blue Reliever inhaler and whether you might be at risk of relying on it too much.

PART 1 Your views about your RELIEVER INHALER

There are no right or wrong answers. We are interested in your views

1. Please circle the score that best represents your current view
2. Please write the number for each statement in the score box next to it
3. Please add up the numbers to get your total score
4. Share your score with your doctor/nurse or pharmacist

	PART 1 SCORE
1 Using my RELIEVER INHALER to treat symptoms is the best way to keep on top of my asthma.	
Strongly disagree 1 Disagree 2 Uncertain 3 Agree 4 Strongly agree 5	
2 I don't worry about asthma when I have my RELIEVER INHALER around.	
Strongly disagree 1 Disagree 2 Uncertain 3 Agree 4 Strongly agree 5	
3 My RELIEVER INHALER is the only asthma treatment I can really rely on.	
Strongly disagree 1 Disagree 2 Uncertain 3 Agree 4 Strongly agree 5	
4 The benefits of using my RELIEVER INHALER easily outweigh any risks.	
Strongly disagree 1 Disagree 2 Uncertain 3 Agree 4 Strongly agree 5	
5 I prefer to rely on my RELIEVER INHALER than my STEROID PREVENTER INHALER.	
Strongly disagree 1 Disagree 2 Uncertain 3 Agree 4 Strongly agree 5	

Each statement scored 1 to 5
The more you agree with the statements – the stronger your SABA reliance

High score = More reliance on SABA

Your Reliever Reliance score

LOW RISK

10 or less

Low risk of over-reliance on your Blue Reliever Inhaler.

You do not appear to be over-relying on your Blue Reliever Inhaler. This is good news. Please keep reading to check that you don't have any of the other possible signs of poor asthma control.

MEDIUM RISK

11 – 17

Medium risk of over-reliance on your Blue Reliever Inhaler.

Like many people, your Blue Reliever Inhaler is important to you, but you might be relying on it a bit too much. If you are using it 3 or more times a week, this could be a sign that your asthma is not as well controlled as it could be. It's worth discussing your results with your doctor, nurse or pharmacist.

HIGH RISK

18 – 25

High risk of over-reliance on your Blue Reliever Inhaler.

Like many people, you seem to be relying on your Blue Reliever Inhaler a lot. If you are using it 3 or more times a week, this could be a sign that your asthma is not as well controlled as it could be. It's worth discussing your results with your doctor, nurse or pharmacist.

Tailoring to beliefs

Medicines optimisation

SABA RISK QUESTIONNAIRE (SRQ)

A questionnaire about risks associated with blue Reliever inhalers

This questionnaire is designed to help you and your healthcare professional to understand what you think about your traditional blue Reliever inhaler and whether you might be at risk of relying on it too much.

PART 1 Your views about your RELIEVER INHALER

There are no right or wrong answers. We are interested in your views

1. Please circle the score that best represents your current view
2. Please write the number for each statement in the score box next to it
3. Please add up the numbers to get your total score
4. Share your score with your doctor/nurse or pharmacist

									PART 1 SCORE
1 Using my RELIEVER INHALER to treat symptoms is the best way to keep on top of my asthma.	Strongly disagree	1	Disagree	2	Uncertain	3	Agree	4	Strongly agree	5	
2 I don't worry about asthma when I have my RELIEVER INHALER around.	Strongly disagree	1	Disagree	2	Uncertain	3	Agree	4	Strongly agree	5	
3 My RELIEVER INHALER is the only asthma treatment I can really rely on.	Strongly disagree	1	Disagree	2	Uncertain	3	Agree	4	Strongly agree	5	
4 The benefits of using my RELIEVER INHALER easily outweigh any risks.	Strongly disagree	1	Disagree	2	Uncertain	3	Agree	4	Strongly agree	5	
5 I prefer to rely on my RELIEVER INHALER than my STEROID PREVENTER INHALER.	Strongly disagree	1	Disagree	2	Uncertain	3	Agree	4	Strongly agree	5	

PART 1: See reverse to interpret your scores

PART 2 Using your RELIEVER INHALER

1. Know your score
2. Share your score with your doctor/nurse or pharmacist

									PART 2 SCORE
6 During the past 4 weeks how often have you used your RELIEVER INHALER.	Not at all	1	Once a week or less	2	2-3 times a week	3	1-2 times a week	4	3 or more times a day	5	

PART 2: If you score 3 or more you may be using too much of your RELIEVER INHALER.[1,2] The higher the score the greater the risk of experiencing preventable asthma symptoms and attacks. Talk to your doctor as there may be better ways of managing your asthma.

Is my reliever the best treatment for my asthma?

Asthma is caused by **inflammation**, like when you get an insect bite and there is redness and swelling, except in your airways.

Your reliever (blue inhaler) can make you feel better for only a **short while.** The bad news is your reliever does not treat the **cause** of your symptoms.

Your reliever **does not** reduce the inflammation that is causing your asthma symptoms. This may mean your asthma is getting worse **without you noticing it.**

The good news is that there are **better ways** to manage your asthma where you can make your symptoms go away when they happen, but also **treat the cause** so you reduce the chances of getting symptoms in the future.

Is it true I don't need to worry if I have my reliever with me?

It's easy to think you don't need to worry as long as you have your reliever (blue inhaler) with you.

Many people reach for their reliever when they think their asthma is a problem.

Unfortunately, asthma experts have found that using your reliever too often (i.e. more than a few times a week) is **harmful.**

This is because your reliever only treats the symptoms and **not the cause.**

The **good news** is that there are medicines that are tried and tested that can treat the cause and the symptoms.

These can be taken daily to prevent asthma or when you get symptoms. They can relieve your symptoms and treat the cause so your symptoms **don't come back,** by reducing the inflammation there and then.

Is my reliever the only asthma treatment I can rely on?

Many people with asthma tend to rely on their reliever (blue inhaler), seeing it as the most important treatment. It's easy to see why. It makes you feel better, often as soon as you take it. But **there is a problem.**

The reliever inhaler can have good and bad effects. The good effects are that asthma symptoms improve quickly. This means you are reducing the symptoms but **not treating the root cause** of your symptoms.

The bad effects are that often people rely on the reliever too much (a few times a week). Your reliever only works for a **short while** to make you feel better when you get symptoms or an attack, but **does not stop** your asthma coming back.

The good news is there are inhalers that can treat both the symptoms and the cause that you can use when you need or every day to keep your asthma at bay. This will make you feel better both in the **short and long term.**

Is my reliever more important than my preventer?

You may feel that you only need your (blue inhaler) inhaler and that is more important than your preventer inhaler.

Many people think this. It's understandable to see why. Your reliever may make you feel better and using it has become a bit of a habit.

The problem is that your reliever treats the symptoms and **not the inflammation** in your airways that causes the symptoms.

The good news is your preventer does treat the inflammation that causes your asthma. Asthma specialists agree that it is the **preventer** that is **most important** for your asthma.

Do the benefits of my reliever outweigh any risks?

For people who use their reliever (blue inhaler) regularly, the bad news is there can be **harm from using your reliever too often,** for example more than 3 times a week.

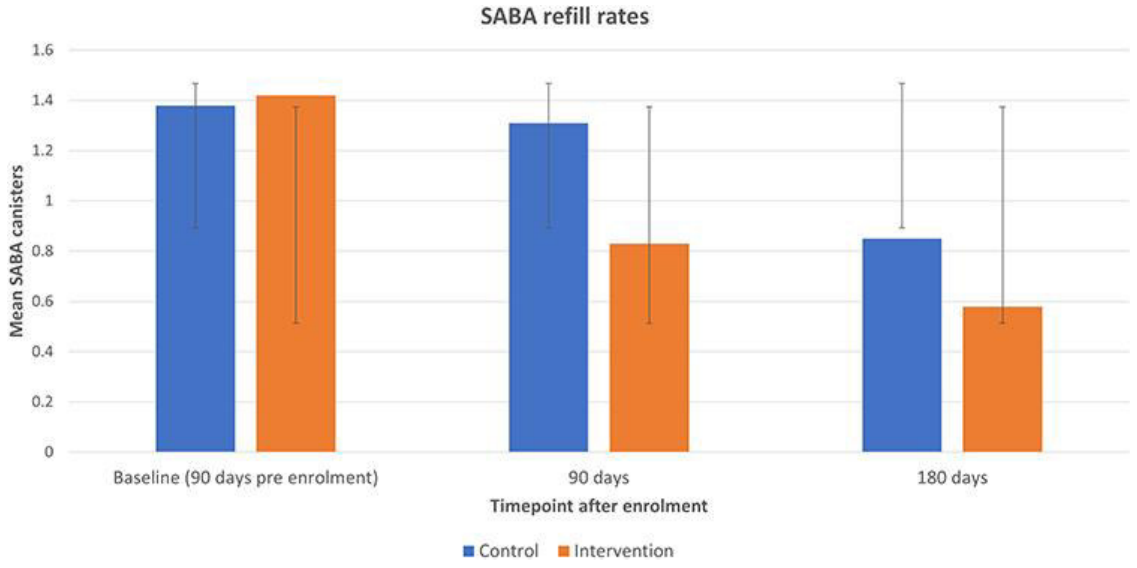
The good news is that there are **other treatments** that you can safely use to keep on top of your asthma such as a preventer inhaler, which has less risks and more benefits than your reliever.

The benefits from your reliever can be easy to see; you may feel a bit less breathless after you've taken it. The problem is that the **risks of taking your reliever inhaler are often invisible.**

Asthma experts now know that using too much reliever can be a sign that your asthma needs **better treatment.** Continuing to rely on your reliever alone may be harmful, making your asthma worse.

Impact of a pharmacist-led intervention to reduce reliever reliance

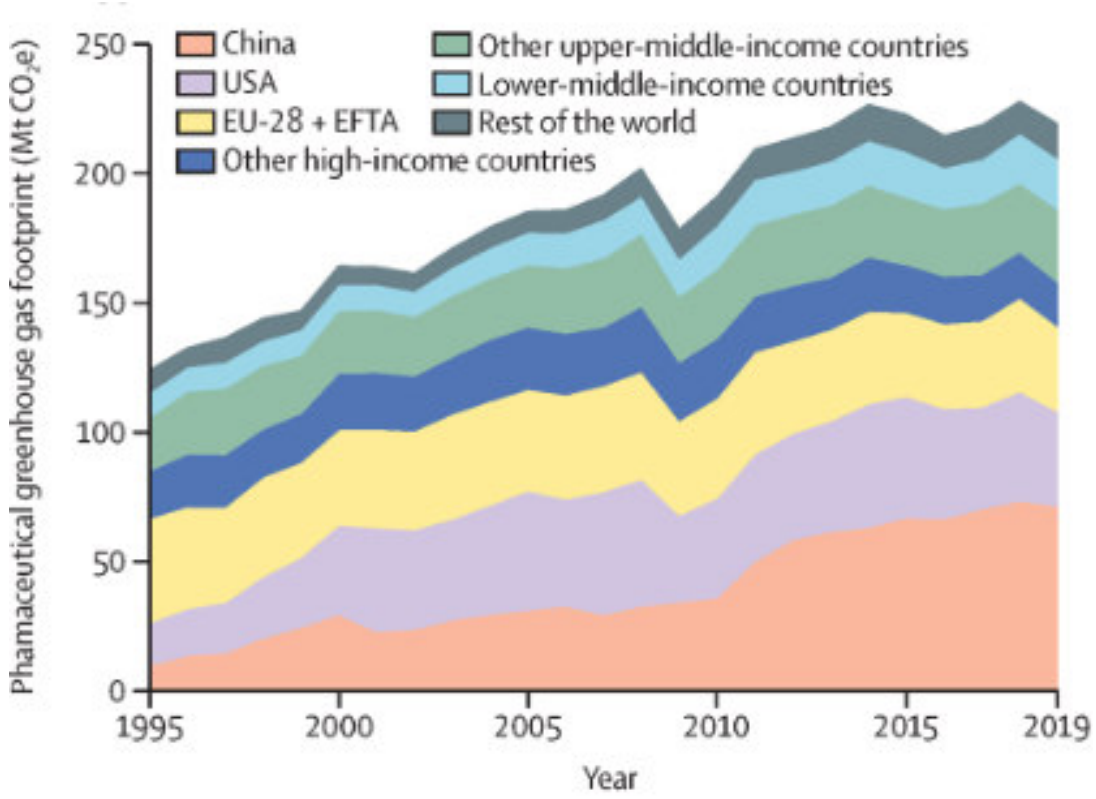
- Decrease in reliever reliance (SRQ) at 90 days (17.1±5.0 to 12.6 ±3.9, p=0.09)
- Increase in Asthma control at 90 days (18.6 ±6.0 to 22.8 ±2.9, p=0.060
- Increase in adherence (MARS-5) (17.1 ±3.1 to 19.8 ±2.5, p=0.09)
- Non-significant reduction in SABA use in the intervention group (F(1, 23)=0.278, p = 0.603)



Reducing carbon footprint

Healthcare has a large carbon footprint

- 3-8% of total carbon emissions of OECD countries
- Medicines estimated to account for approximately 25% of the carbon footprint of healthcare
  - manufacture
  - packaging
  - supply and distribution
  - normal use
  - wastage and disposal



Hagenaars *et al.* 2025 , The Lancet Planetary Health.

Switching to DPIs comparable to adopting a plant based diet

Medicines optimisation

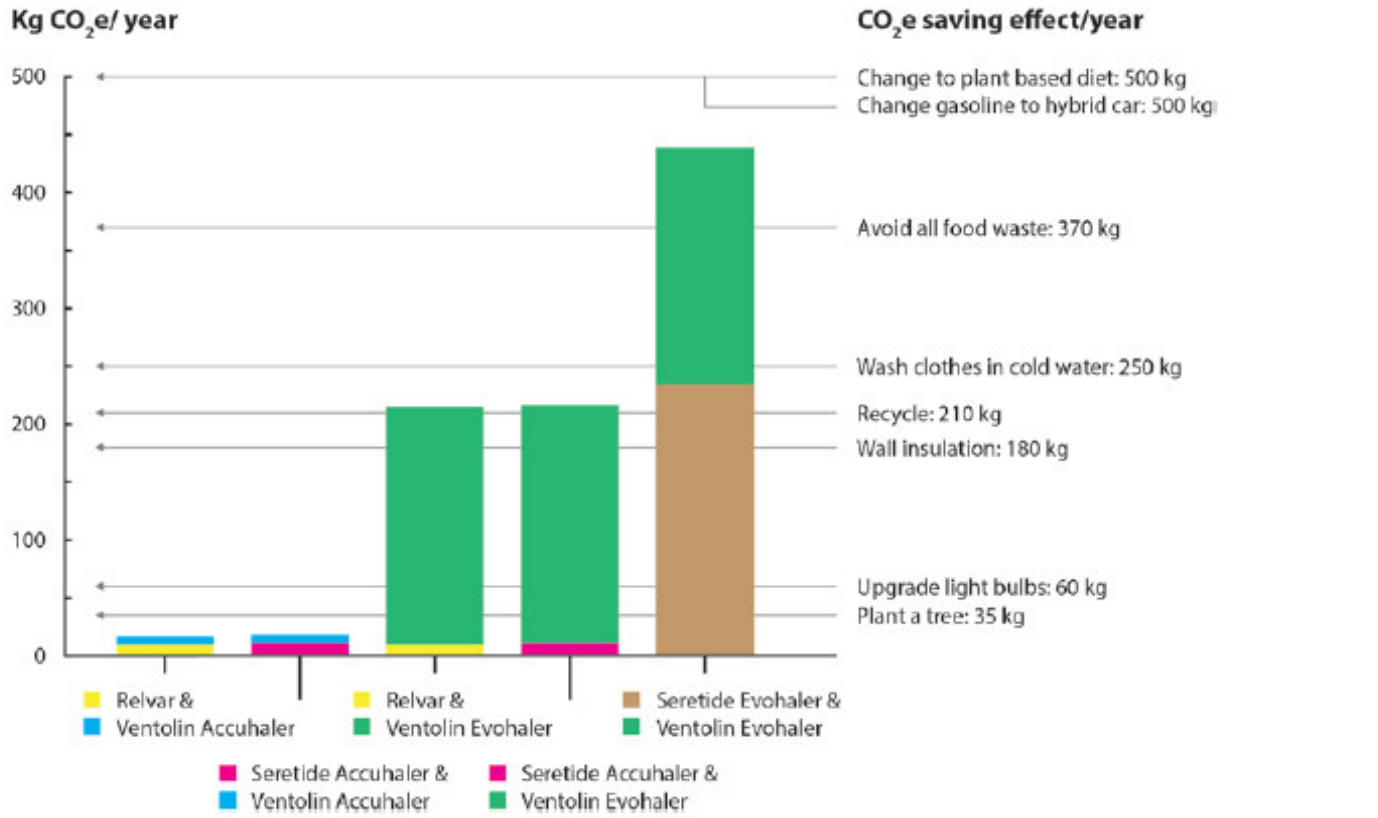


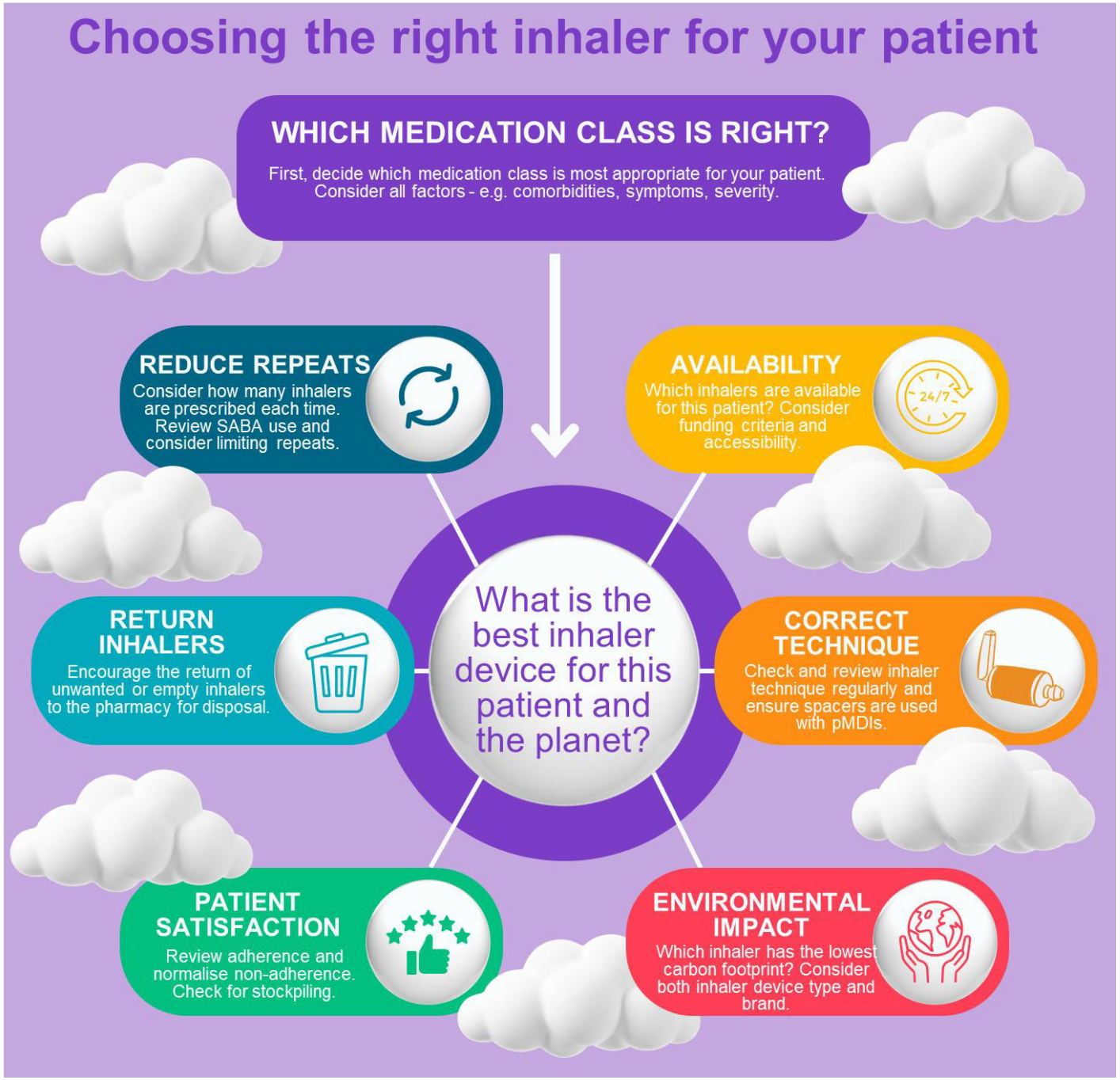
Figure 1 Annual carbon footprints (kg CO_2e) for different combinations of Relvar, Seretide and Ventolin and annual footprint reduction of different actions*. *Wynes and Nicholas.[7]

Janson C, *et al*. *Thorax* 2020;**75**:82–84. doi:10.1136/thoraxjnl-2019-213744

Janson, C., et al. (2020). "Carbon footprint impact of the choice of inhalers for asthma and COPD." Thorax 75(1): 82-84.

Medicines optimisation

Choosing the right inhaler for your patient



Inhaler recycling at pharmacies

Inhaler-recycling trial seeks to prevent waste gases from leaking into atmosphere

Jody Hopkinson
jhopkinson@pharmacytoday.co.nz
Wednesday 11 June 2025, 02:04 PM

SHARE

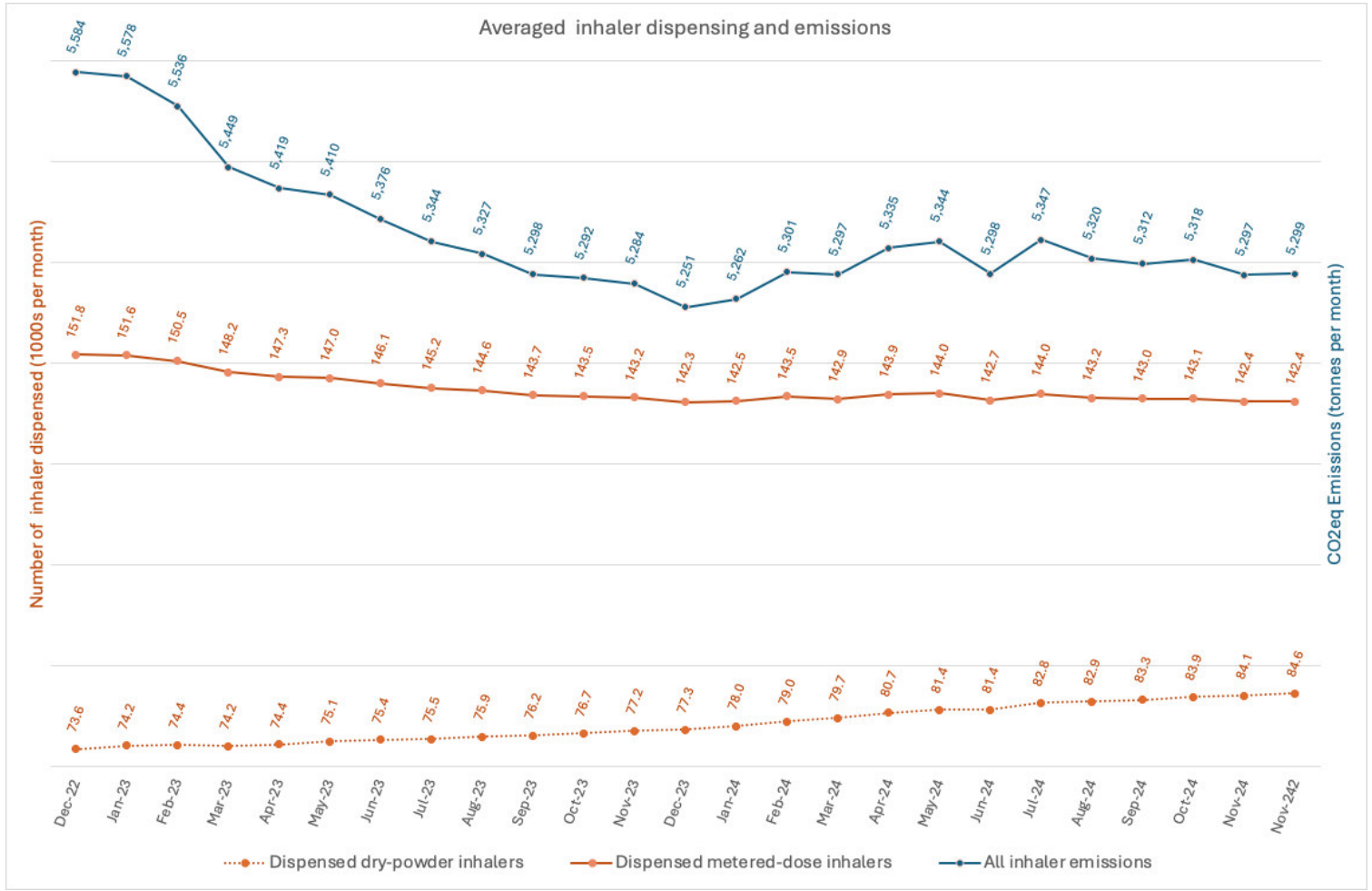
Daphne Earles of Your Pharmacy Mount Maunganui is part of a Bay of Plenty trial to recycle metered-dose inhalers [Image: PT]

Inhaler recycling trial a first for the Bay

HNZ sustainability advisor Hannah Sherratt, left, with Unichem Cherrywood Pharmacy owner and pharmacist Rachelle Smith. Photo / Supplied

Metered-dose inhalers can now be recycled at some pharmacies in Tauranga, Kawerau and Whakatāne as part of a new trial in the Bay of Plenty and New Zealand

Trends in inhaler dispensings and carbon emissions



Provided by RNZCGP

Proposal to support access to budesonide with eformoterol inhalers

17 April 2025

What we're proposing

We're seeking feedback on a proposal to support better access to budesonide with eformoterol inhalers.

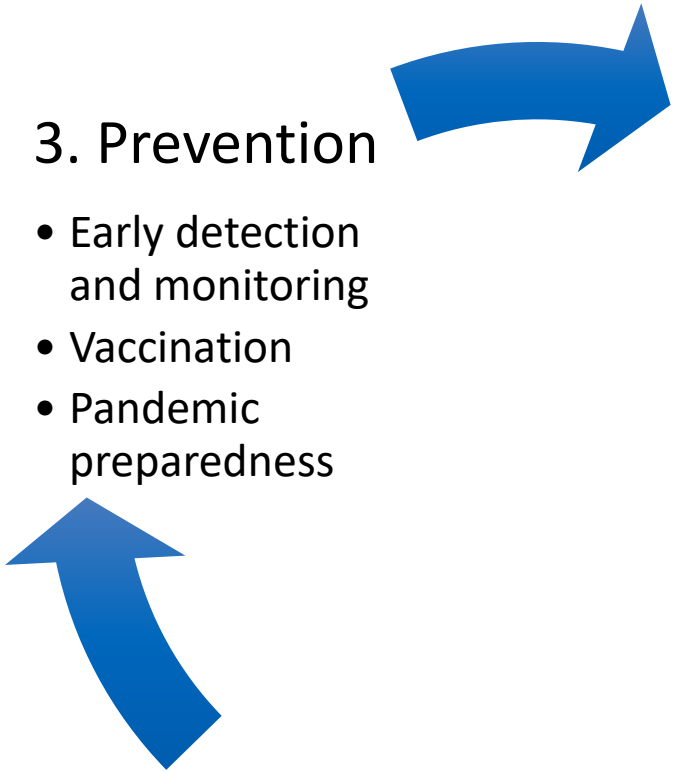
From 1 August we are proposing to:

- enable three months' supply of some budesonide with eformoterol inhalers to be collected at the same time instead of people having to collect them monthly.
- increase the way some budesonide with eformoterol inhalers can be accessed, by making them available in clinics through a Practitioners Supply Order (PSO). This is so people initiating AIR therapy or requiring emergency treatment and needing to learn how to use budesonide with eformoterol inhalers, can do so during their health care appointments.

We estimate that this proposal would improve access to some budesonide with eformoterol inhalers for 120,000 people in the first year.

Pharmacist roles

Prevention

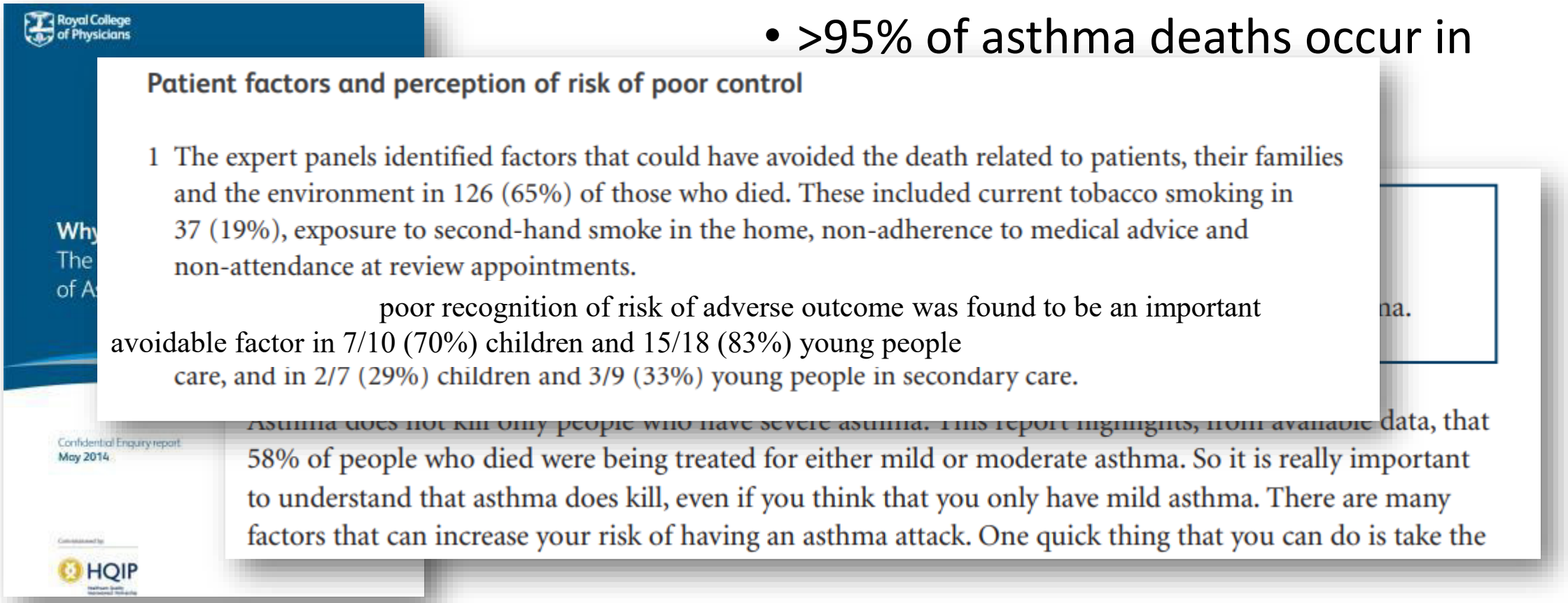


Early detection and monitoring

UK National Review of Asthma Deaths

Prevention

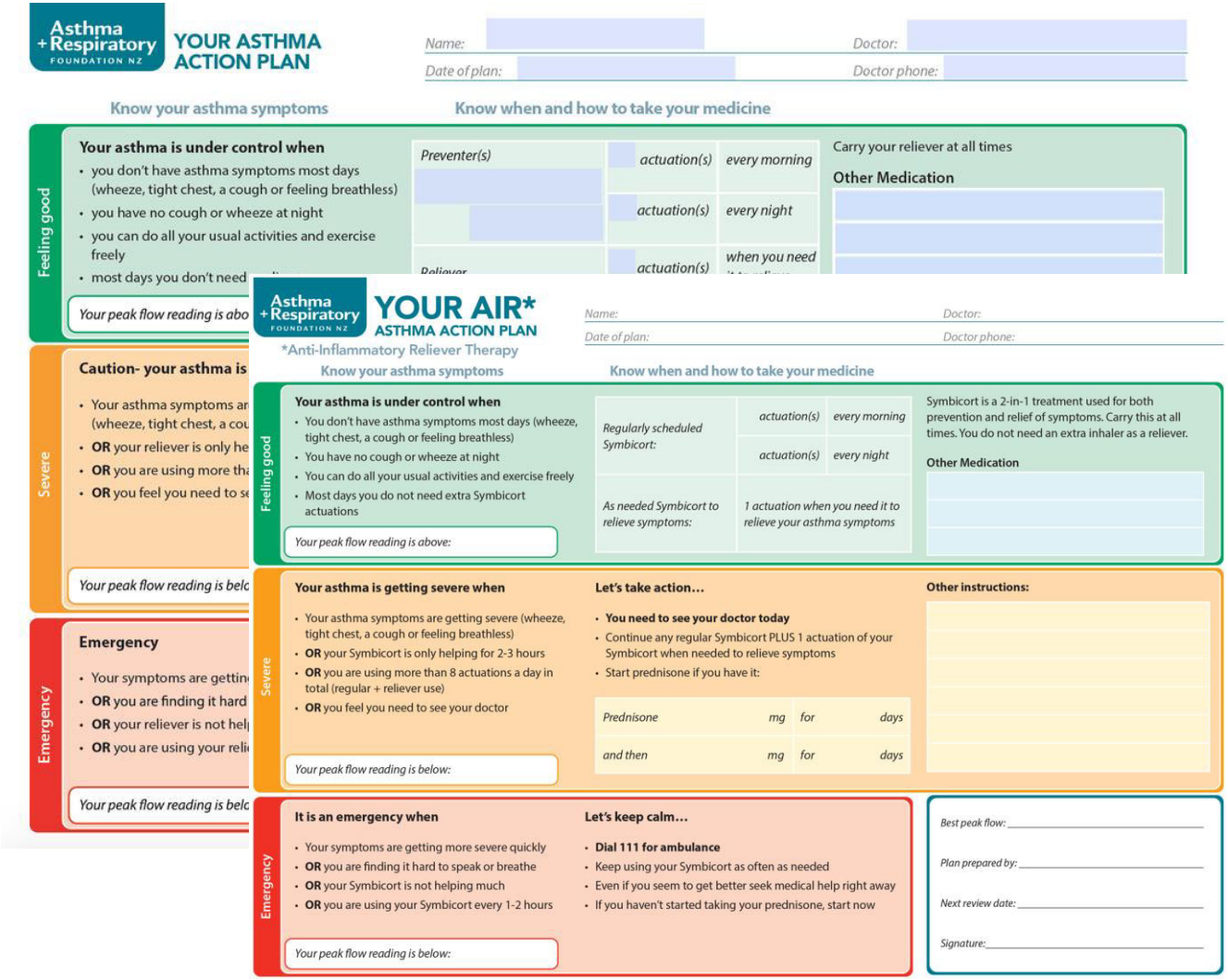
- >95% of asthma deaths occur in



Royal College of Physicians *Why Asthma Still Kills: The National Review of Asthma Deaths*. London, RCP, 2014.

Asthma action plans – saves lives

Prevention



- Asthma self-management key to good outcomes to support monitoring
  - Written action plans
  - Peak flow monitoring
  - Adherence support
- Provision of a written asthma action plan – 70% reduction in the risk of death
- Use of a peak flow meter reduces mortality

Beasley R, Crane J. Reducing Asthma Mortality with the Asthma Self-Management Plan System of Care. American Journal of Respiratory and Critical Care Medicine. 2001;163(1):3-4.

Vaccination

Vaccination is the most important thing we can do to protect ourselves and our children against ill health. Vaccines prevent up to 3 million deaths worldwide every year.

Vaccine hesitancy – top 10 public health threat

Prevention

Prevention

JOURNAL OF PHARMACEUTICAL POLICY AND PRACTICE
2024, VOL. 17, NO. 1, 2285955
https://doi.org/10.1080/20523211.2023.2285955

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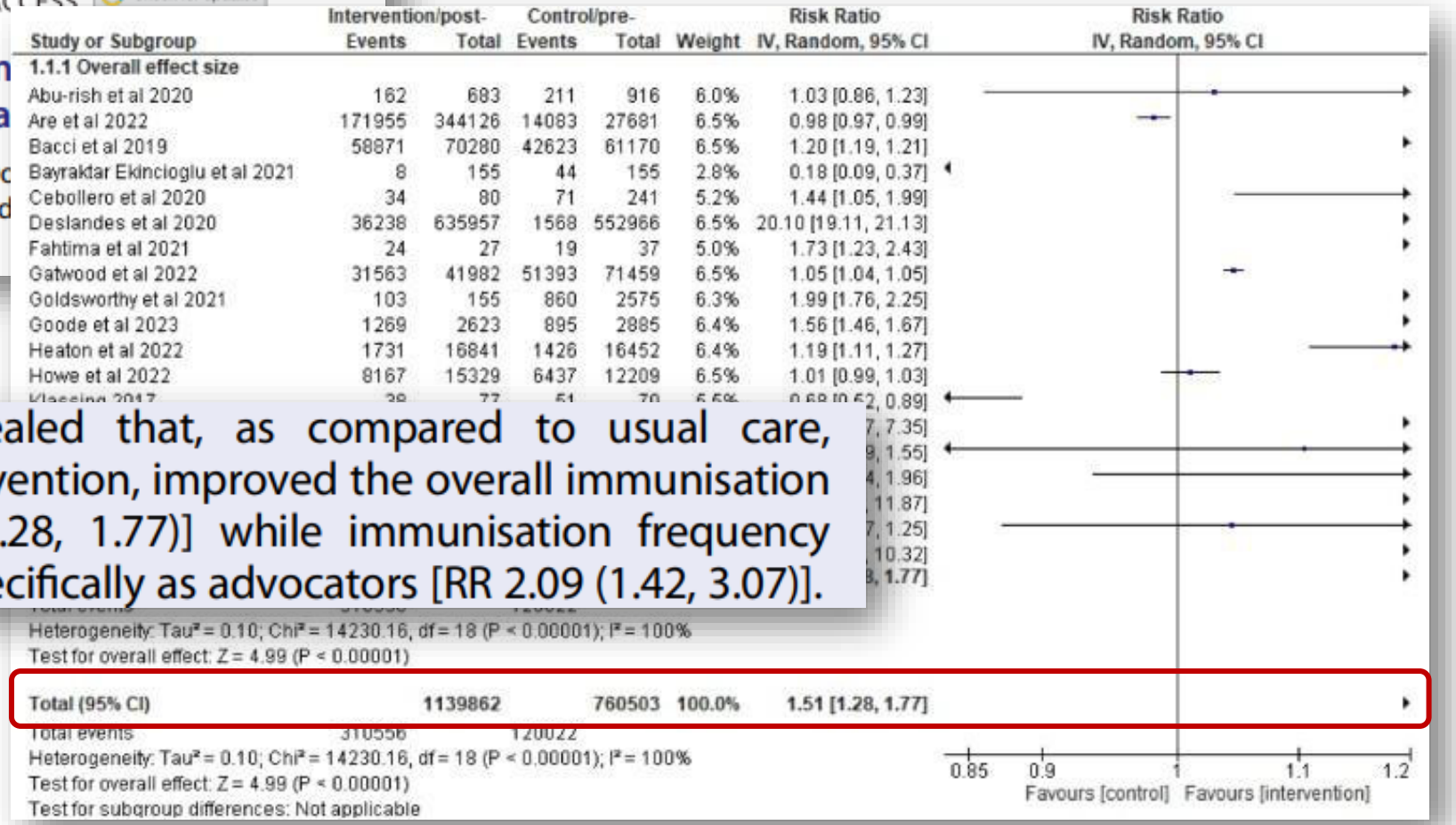
OPEN ACCESS Check for updates

Impact of pharmacist interventions on uptake: a systematic review and meta

Mohamad Hafiz Abd Rahim[a], Siti Hajar Mahamad Do
Rezan Hamzah[a], Siti Hawa Azman[a], Zahirah Zaharudd
Loganathan Fahrni [a,b]



included. Pooled effect sizes revealed that, as compared to usual care, pharmacists, regardless of their intervention, improved the overall immunisation uptake by up to 51% [RR 1.51 (1.28, 1.77)] while immunisation frequency doubled when pharmacists acted specifically as advocators [RR 2.09 (1.42, 3.07)].

Rahim MHA, Dom SHM, Hamzah MSR, Azman SH, Zaharuddin Z, Fahrni ML. Impact of pharmacist interventions on immunisation uptake: a systematic review and meta-analysis. J Pharm Policy Pract. 2023 Dec 7;17(1):2285955. doi: 10.1080/20523211.2023.2285955. PMID: 38205195; PMCID: PMC10775721.

Engaging communities to promote vaccine uptake

Prevention

Understand the community's needs

Deliver vaccines and information in community settings

Seize every opportunity to vaccinate

Local collaboration with communities

Prevention

Opportunities for pharmacies

- *"Patients access community pharmacies 12 times more frequently than their GP"*
- *"...community pharmacies administer more vaccines in deprived communities than they do in affluent ones."*

Maidment, Ian, et al. Rapid realist review of the role of community pharmacy in the public health response to COVID-19. BMJ Open. 11, 2021, Vol. 050043.

Pharmacy initiatives to decrease vaccine hesitancy

Prevention

+NEWS |

Marae visit a high point of reaching 30,000 vaccination milestone

Anna Lee
alee@pharmacytoday.co.nz

Friday 1 October 2021, 04:58 PM

SHARE

All aboard! A collaborative effort saw
Marae, which co-owner Vicky Chan d

PHARMACISTS GIVEN GREEN LIGHT TO GIVE CHILDHOOD VACCINATIONS

New Zealand pharmacists will be able to provide childhood vaccinations from April 1, 2024, following an announcement made today by Pharmac and Health New Zealand | Te Whatu Ora.

The announcement follows a decision being made on Pharmac's joint proposal with Health NZ to remove the Xpharm restriction of certain childhood vaccines.

PSNZ Practice and Policy Manager Chris Jay says that PSNZ will look closely at today's announcement and work alongside Pharmac, Health NZ and IMAC, who will provide the training, to ensure that pharmacists and practices who are considering providing this service have the information they need to make the best service decisions on childhood

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Extending vaccinator skills (whole-of-life)

Courses & Events › Extending vaccinator skills (whole-of-life)

Please r

Pharmacist vaccinators

Some pharmacists can provide vaccines to adults in their community.

Find the guidelines for pharmacist vaccinators and the background to the decision to allow pharmacists to vaccinate here.

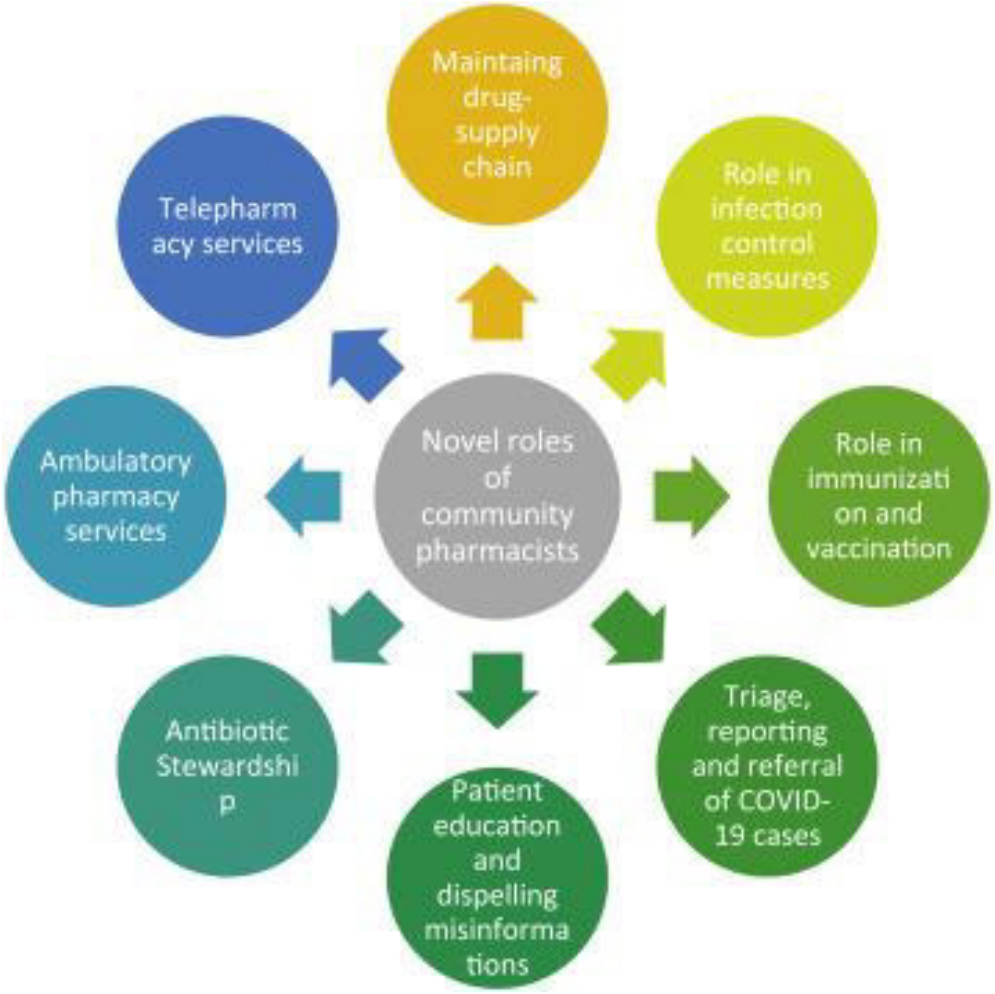
Pharmacies delivering 'off-site' vaccinations

Some pharmacies may offer an off-site immunisation service e.g., vaccinating staff in a workplace or patients in a rest home. The requirements for off-site programmes are outlined in Appendix 4 in the current **Immunisation Handbook**. Pharmacist vaccinators and intern pharmacist vaccinators must also meet the cold chain requirements for offsite vaccination described in the **National Standards for Vaccine Storage and Transportation for Immunisation Providers 2017 (2nd Edition)**. Community pharmacies are not required to apply to the Medical Officer of Health for programme approval.

Pandemic preparedness

Pharmacist roles in pandemics

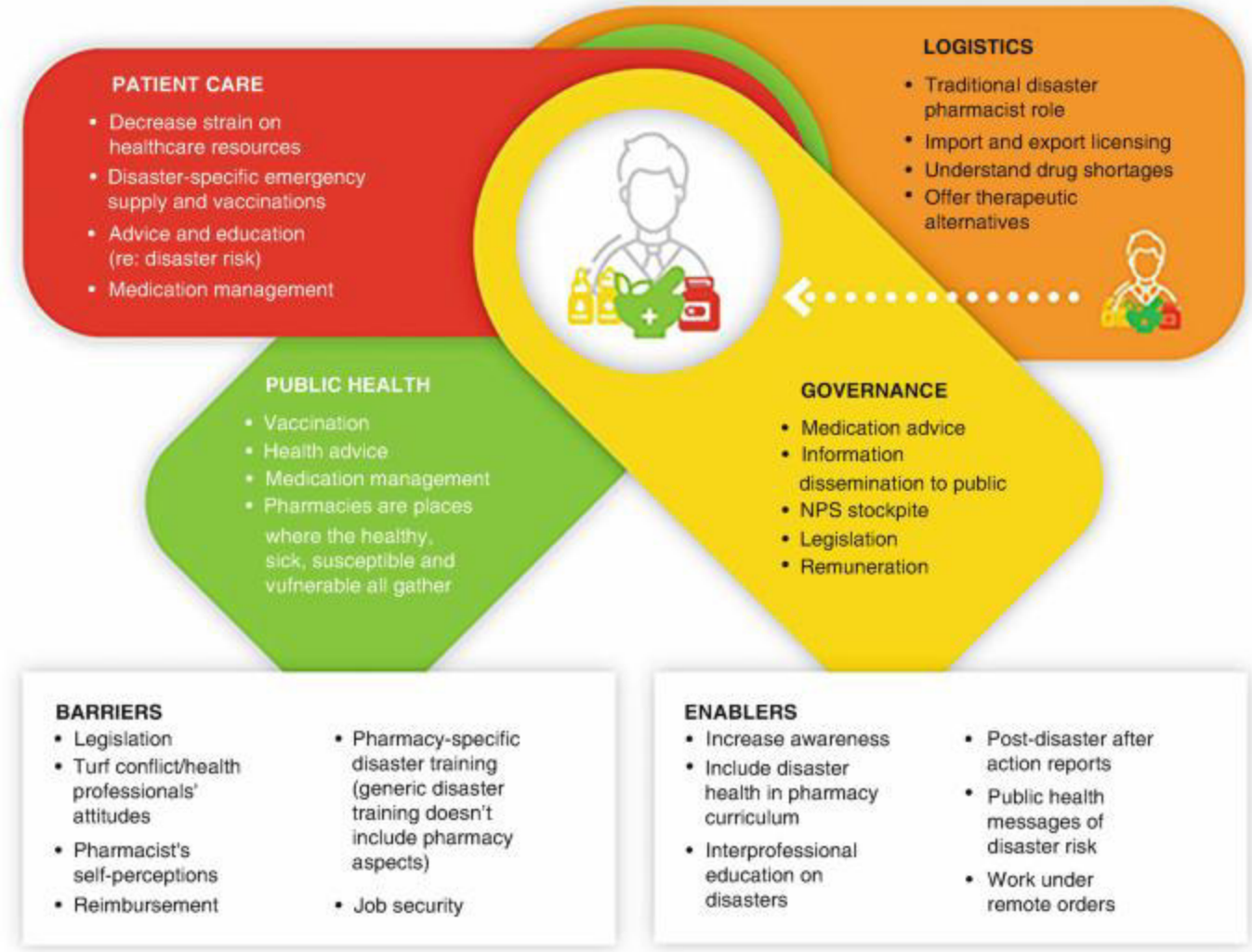
Prevention



Pantasri T. Expanded roles of community pharmacists in COVID-19: A scoping literature review. J Am Pharm Assoc (2003). 2022;62(3):649-57.

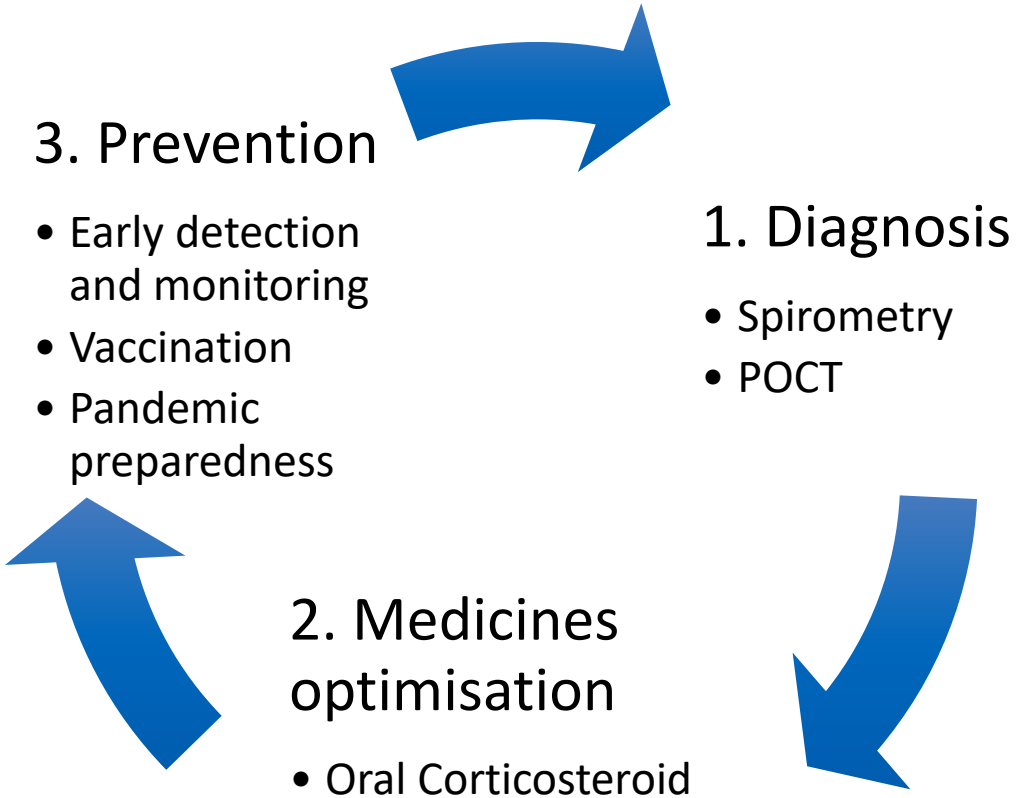
Preparing for the future

Prevention



Watson, K.E., McCourt, E.M., Babigumira, P.A., Ashiru-Oredope, D. (2023). Pharmacy Practice and Emergency Preparedness, Resilience, and Response. In: Encyclopedia of Evidence in Pharmaceutical Public Health and Health Services Research in Pharmacy. Springer, Cham.

Pharmacist roles



PHARMACISTS

MAKE A DIFFERENCE EVERY DAY

Stay motivated to keep delivering care with this quote

"The best way to predict the future is to create it."

Dobravo.com

Bravo

Contact

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