

A more equitable and environmentally sustainable future for Scotland

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Net Zero NHS Scotland 2025

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Leading quality health and care for Scotland

A more equitable and environmentally sustainable future for Scotland

What a title!


- I didn't choose it (*don't remember choosing it*)
- I don't have all the answers
- I fully support the ambition



NHS Scotland ambitions

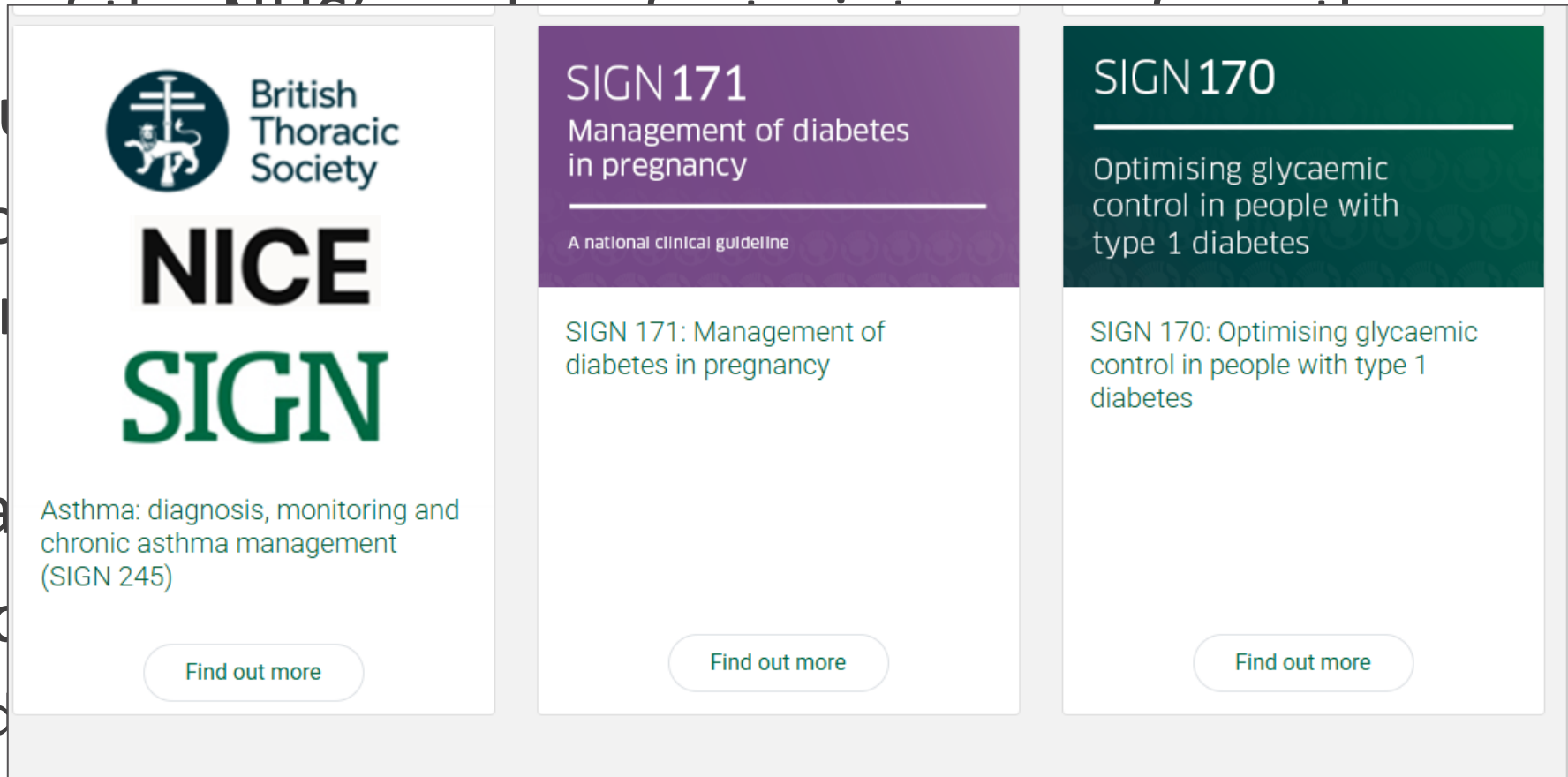
....to maximise our contribution to reducing emissions from the manufacture and supply of **medicines**....the level of those emissions is **determined by clinical decisions** and models of care....the involvement of all health professionals in efforts to improve sustainability is essential....this will require **unprecedented change in how we work**



 <p>British Thoracic Society</p> <p>NICE</p> <p>SIGN</p> <p>Asthma: diagnosis, monitoring and chronic asthma management (SIGN 245)</p> <p>Find out more</p>	<p>SIGN 171</p> <p>Management of diabetes in pregnancy</p> <p>A national clinical guideline</p> <p>SIGN 171: Management of diabetes in pregnancy</p> <p>Find out more</p>	<p>SIGN 170</p> <p>Optimising glycaemic control in people with type 1 diabetes</p> <p>SIGN 170: Optimising glycaemic control in people with type 1 diabetes</p> <p>Find out more</p>
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Medicines waste

- much
- and so
- Appro
- presc
- 30 to
- not ta
- Reduc
 - rec
 - Reduces downstream emissions as fewer medicines need to be disposed of.



Quick Introductions



**Healthcare
Improvement
Scotland**

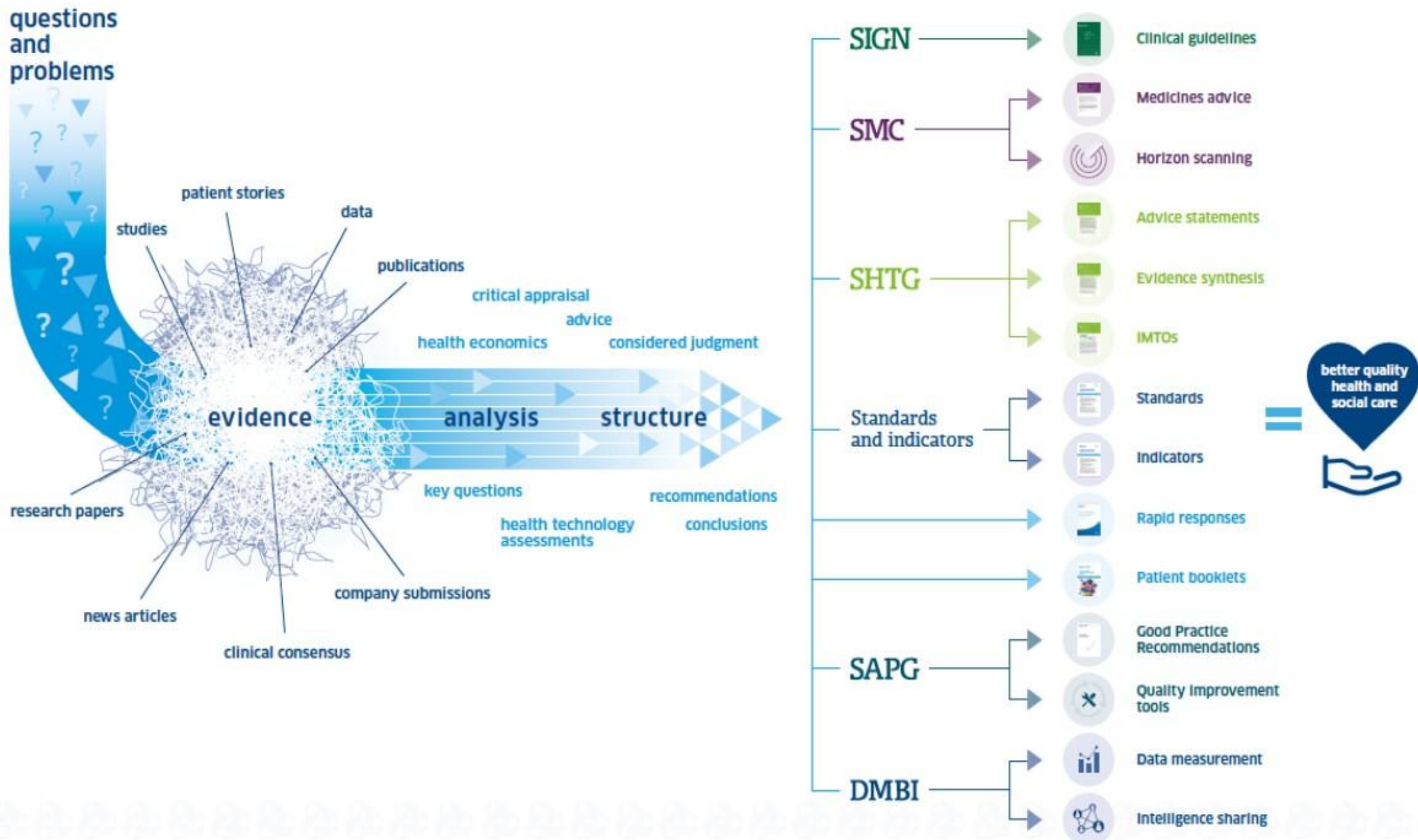


Evidence Directorate - provide evidence to improve health and care services for the people of Scotland

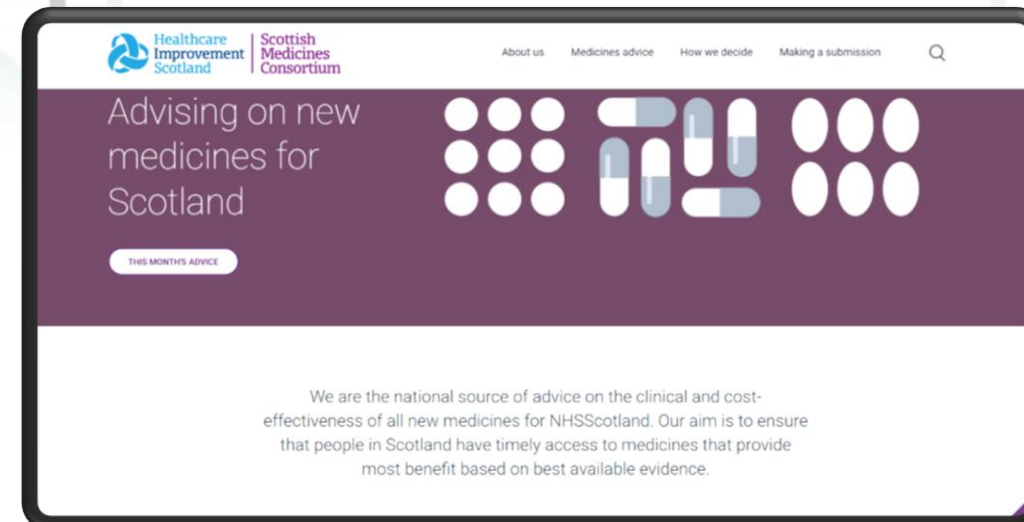
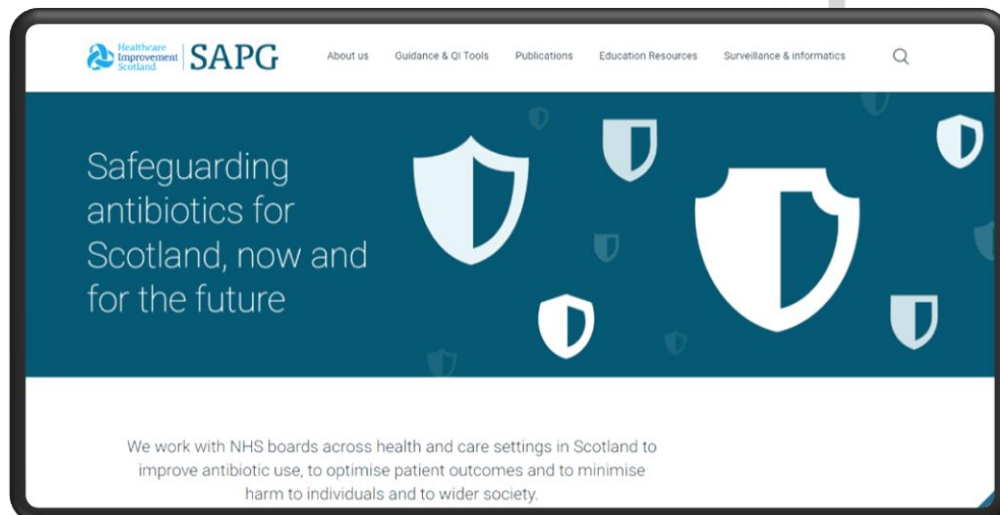
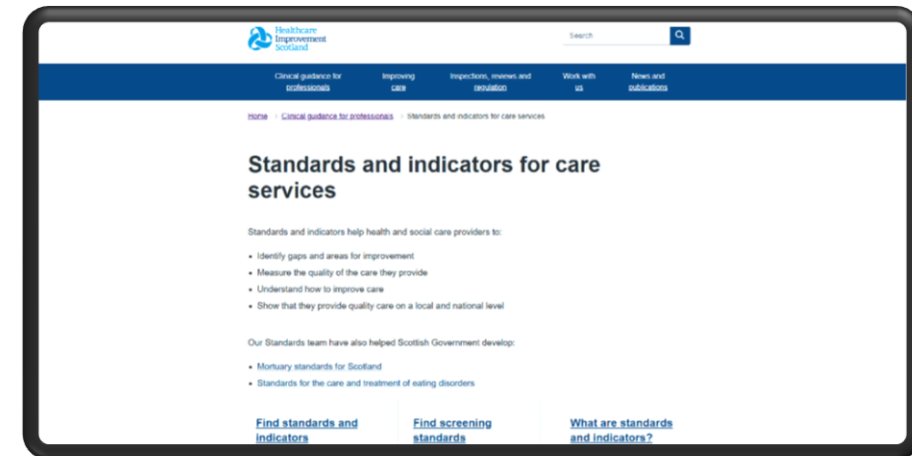
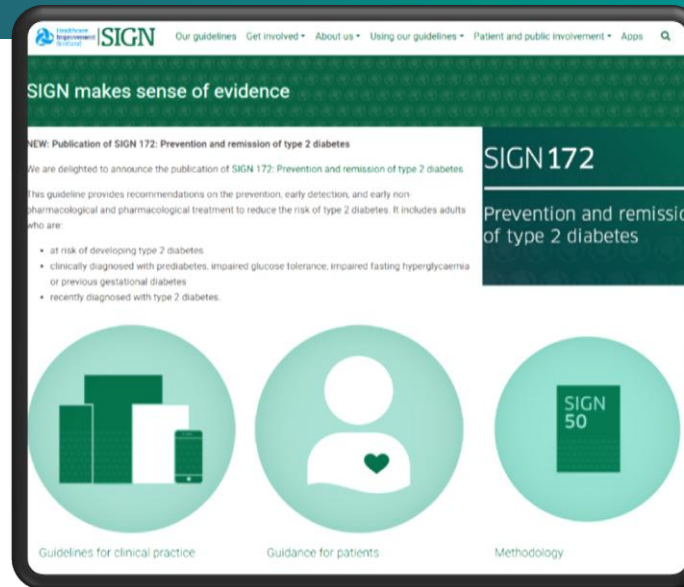
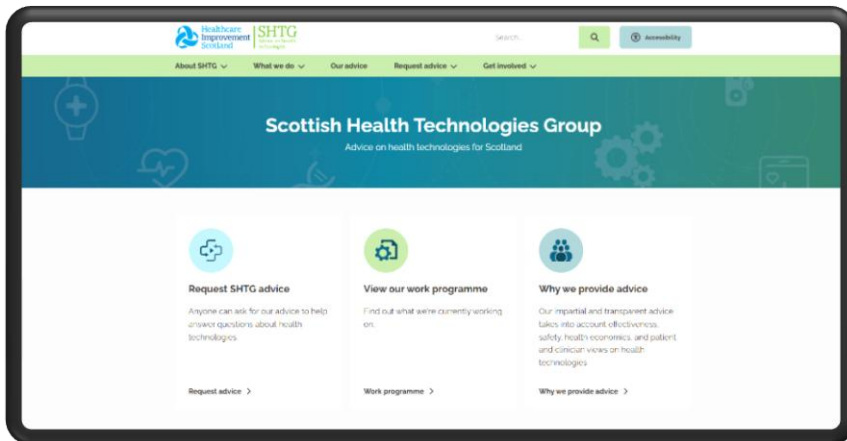




Evidence to improve services



Medicines, Technologies, Service Standards, Antibiotic Use



Today – focusing on SIGN clinical guidelines

Healthcare Improvement Scotland | SIGN Our guidelines Get involved About us Using our guidelines Patient and public involvement Apps

SIGN makes sense of evidence

NEW: Publication of SIGN 172: Prevention and remission of type 2 diabetes

We are delighted to announce the publication of **SIGN 172: Prevention and remission of type 2 diabetes**

This guideline provides recommendations on the prevention, early detection, and early non-pharmacological and pharmacological treatment to reduce the risk of type 2 diabetes. It includes adults who are:

- at risk of developing type 2 diabetes
- clinically diagnosed with prediabetes, impaired glucose tolerance, impaired fasting hyperglycaemia or previous gestational diabetes
- recently diagnosed with type 2 diabetes.

SIGN 172

Prevention and remission of type 2 diabetes

SIGN 50

Guidelines for clinical practice

Guidance for patients

Methodology

Scottish Health Technologies (SHTG)
Advice on health technologies for Scotland

Request SHTG advice
Anyone can ask for our advice to help answer questions about health technologies

View our work programme
Find out what we're currently working on.

SAPG
About us Guidance & QI Tools

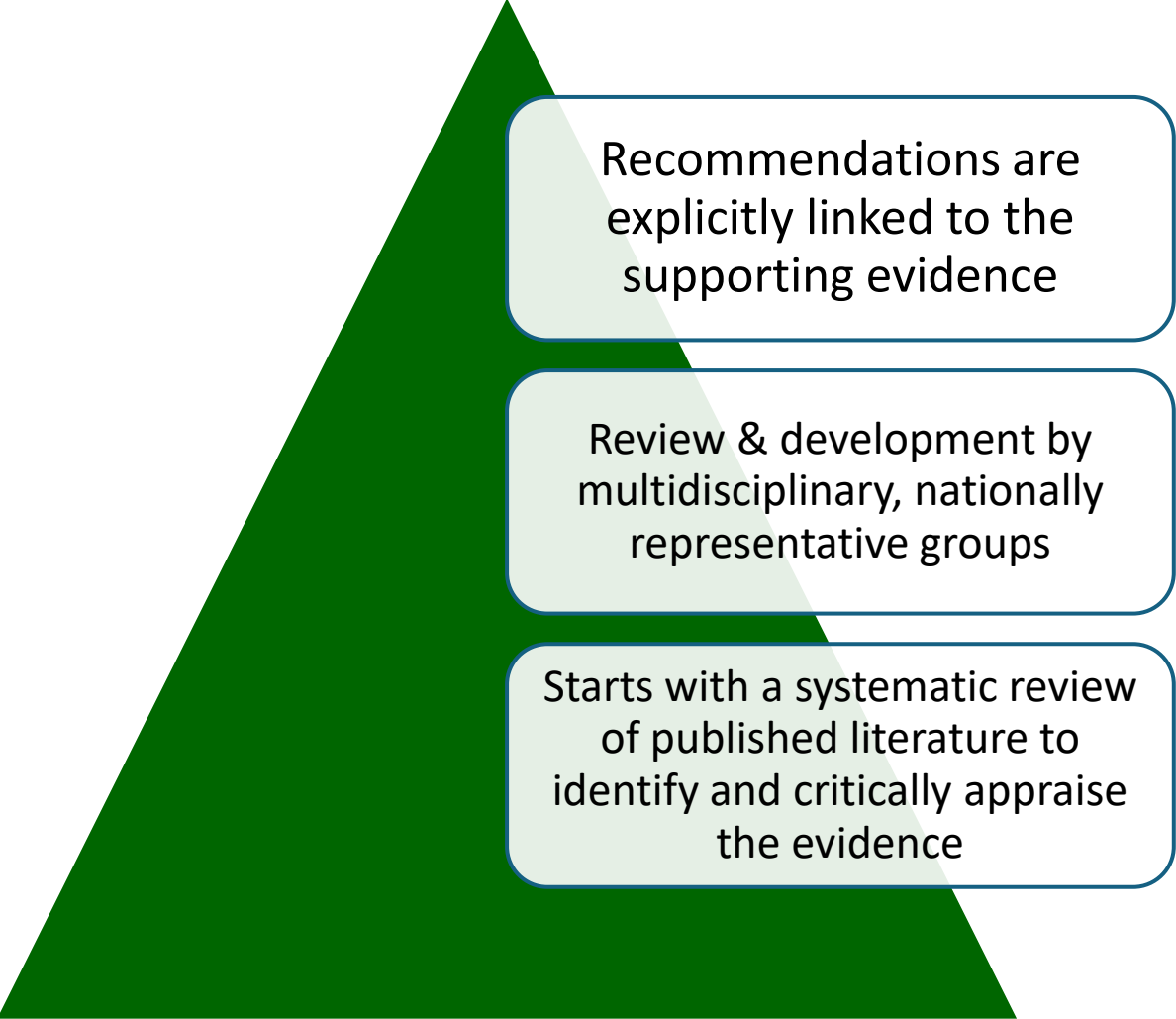
Safeguarding antibiotics for Scotland, now and for the future

We work with NHS boards across health and care to improve antibiotic use, to optimise patient outcomes and to reduce harm to individuals and to wider society.

Medicines advice
How we decide Making a submission

Additional source of advice on the clinical and cost-effectiveness of new medicines for NHSScotland. Our aim is to ensure that we have timely access to medicines that provide the maximum benefit based on best available evidence.

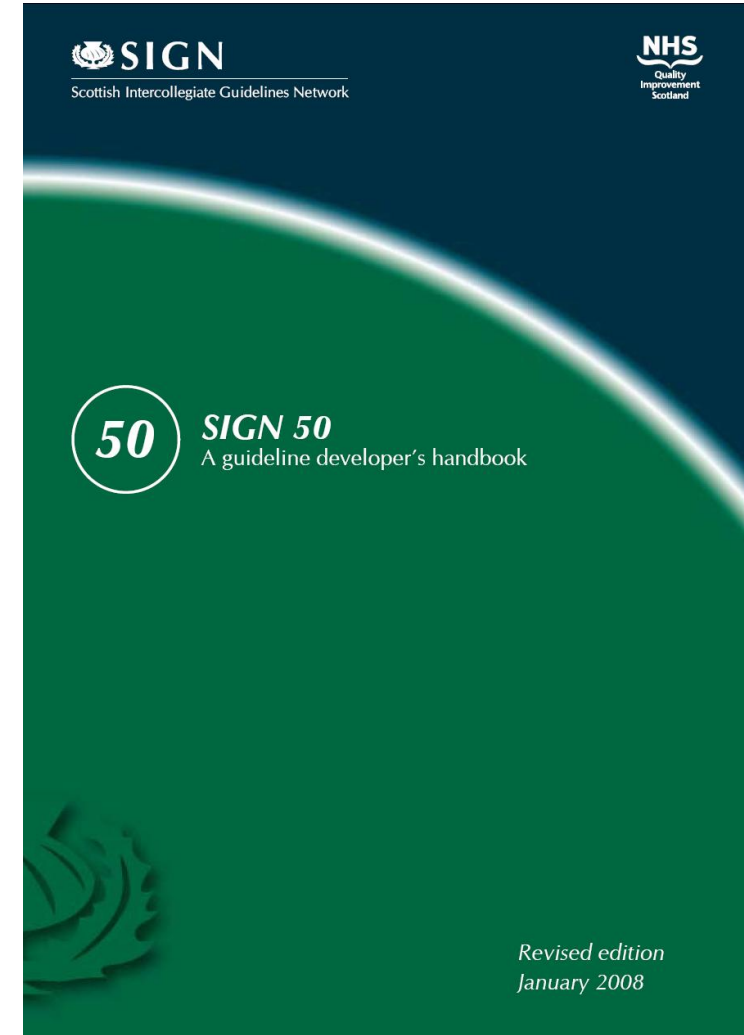
How SIGN develops guidelines



Recommendations are explicitly linked to the supporting evidence

Review & development by multidisciplinary, nationally representative groups

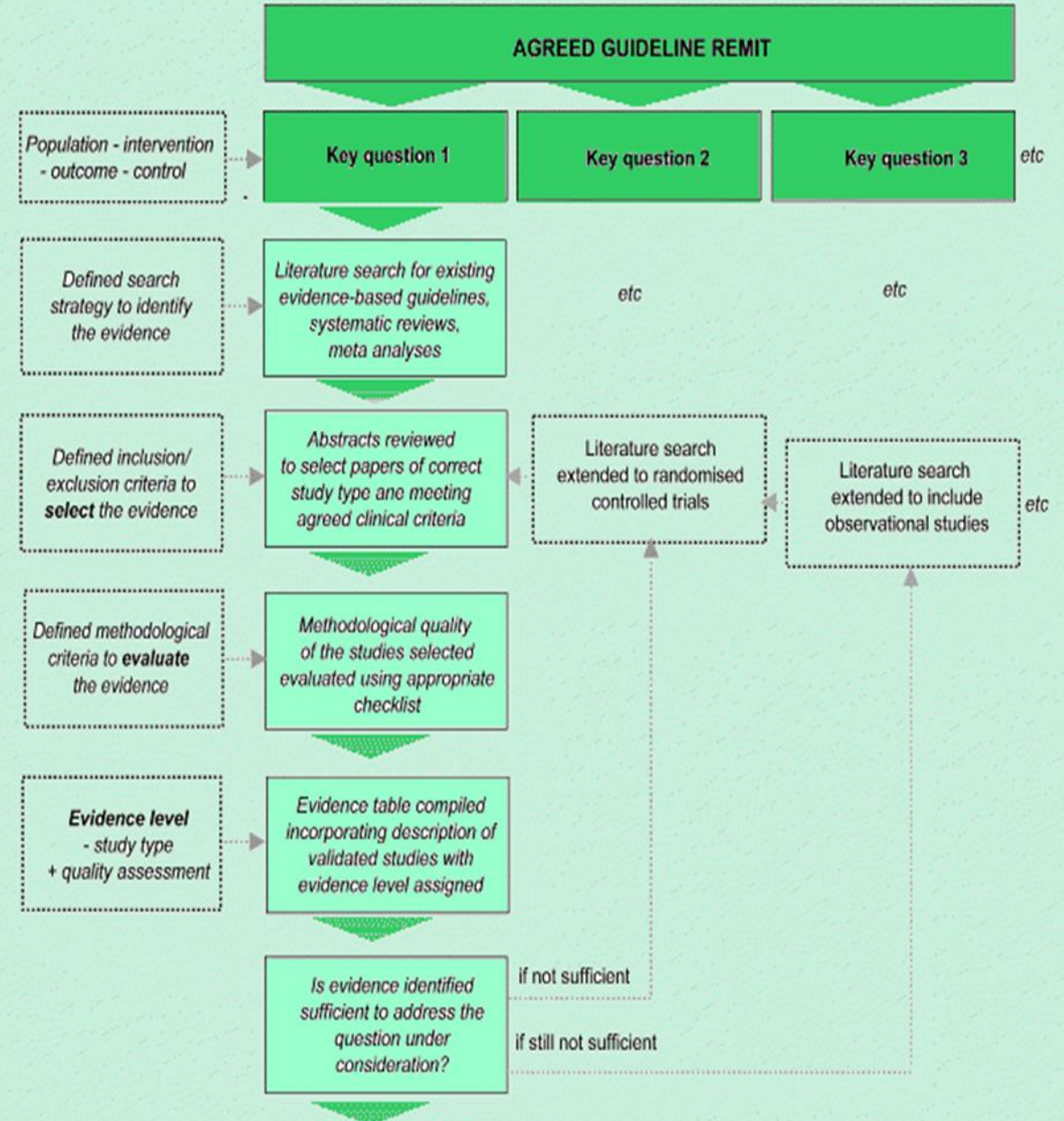
Starts with a systematic review of published literature to identify and critically appraise the evidence



A systematic approach to questions & judgements

Patients
Intervention
Comparison
Outcome

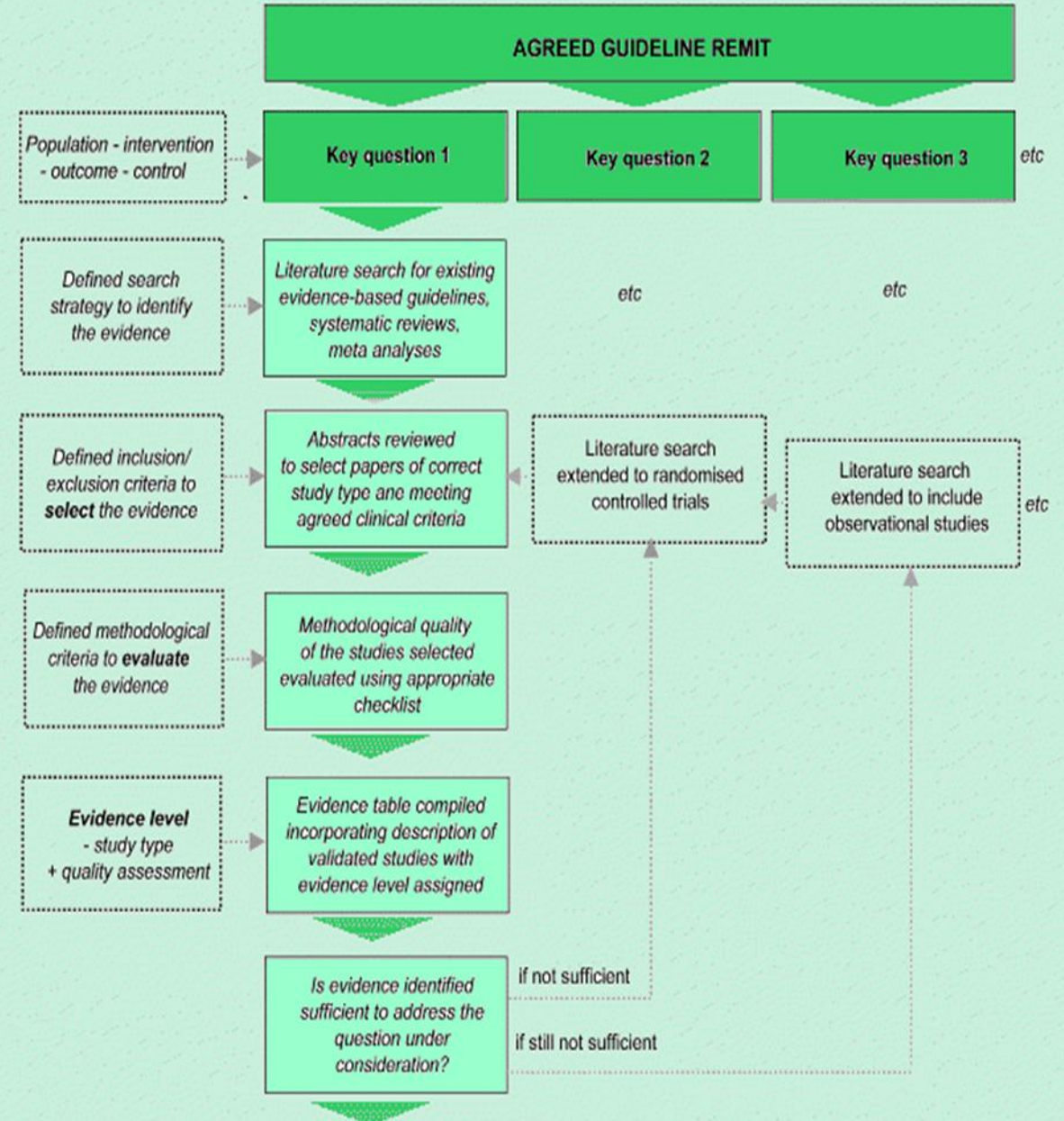
What **evidence** is there that surgical treatment of fractured hip within 24 hours of occurrence improves 90 day mortality of elderly patients compared to immobilisation?



A systematic approach to questions & judgements

Patients
Intervention
Comparison
Outcome
Sustainability

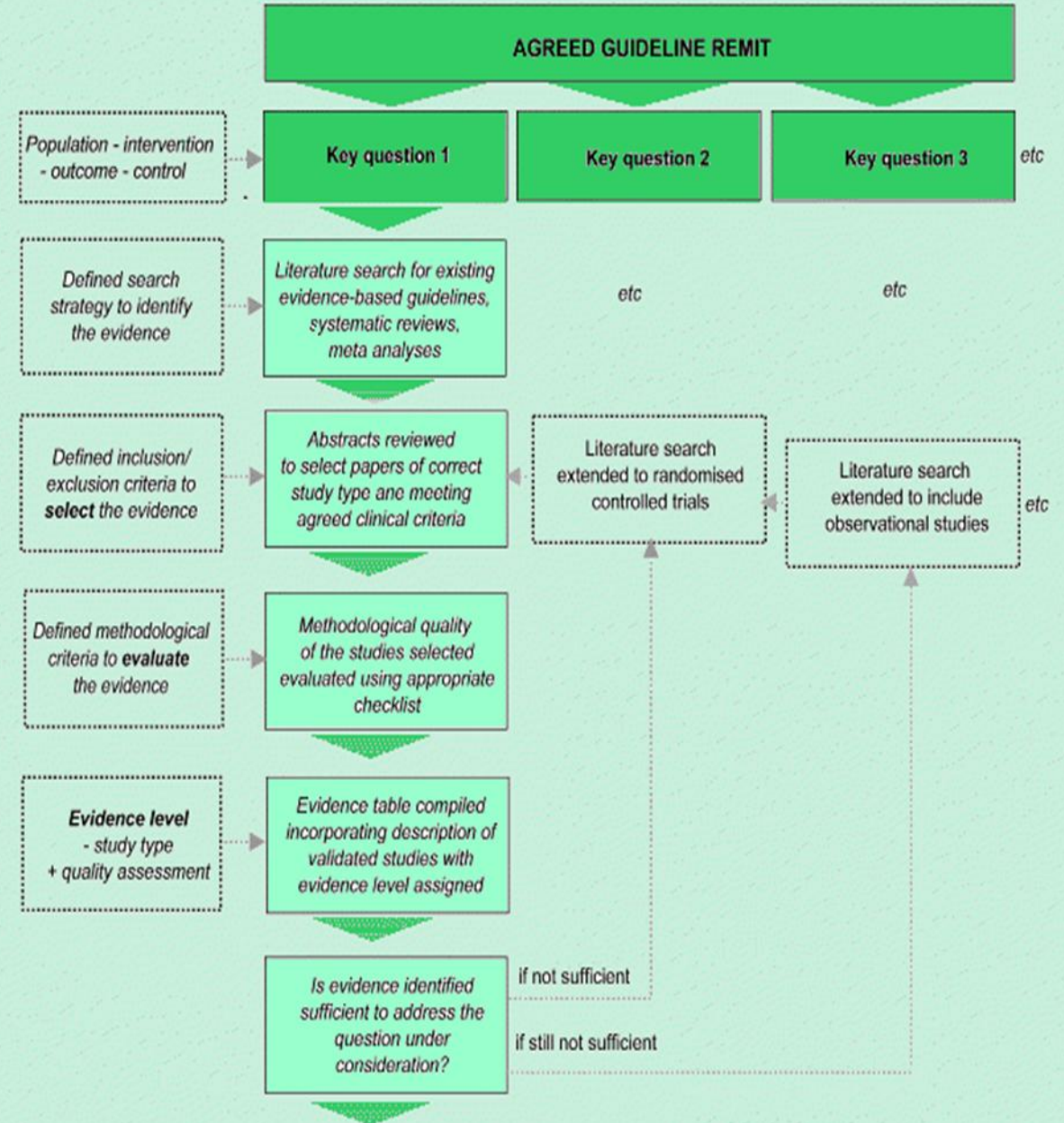
What **evidence** is there that surgical treatment of fractured hip within 24 hours of occurrence improves 90 day mortality of elderly patients compared to immobilisation?



A systematic approach to questions & judgements

Patients
Intervention
Comparison
Outcome
Sustainability

What **evidence** is there that surgical treatment of fractured hip within 24 hours of occurrence improves 90 day mortality of elderly patients compared to immobilisation and how do they differ in terms of environmental sustainability, resource utilisation and alignment with NHS net-zero and circular economy goals?



Changing practice one recommendation at a time...

- The propellant used in MDIs prescribed for patients with asthma and COPD are powerful greenhouse gases with global warming potentials of either 1430 or 3220 times greater than CO₂. Around 4.5 million MDIs were dispensed in Scotland in 2020/21.
- The estimated tCO₂e for the propellant in MDIs dispensed through NHS Scotland in 2020/21 is more than the emissions from the NHS fleet and waste combined.
- The UK has a high proportion of MDI use (70%) compared with the rest of Europe (< 50%) and Scandinavia (10–30%).⁶⁵

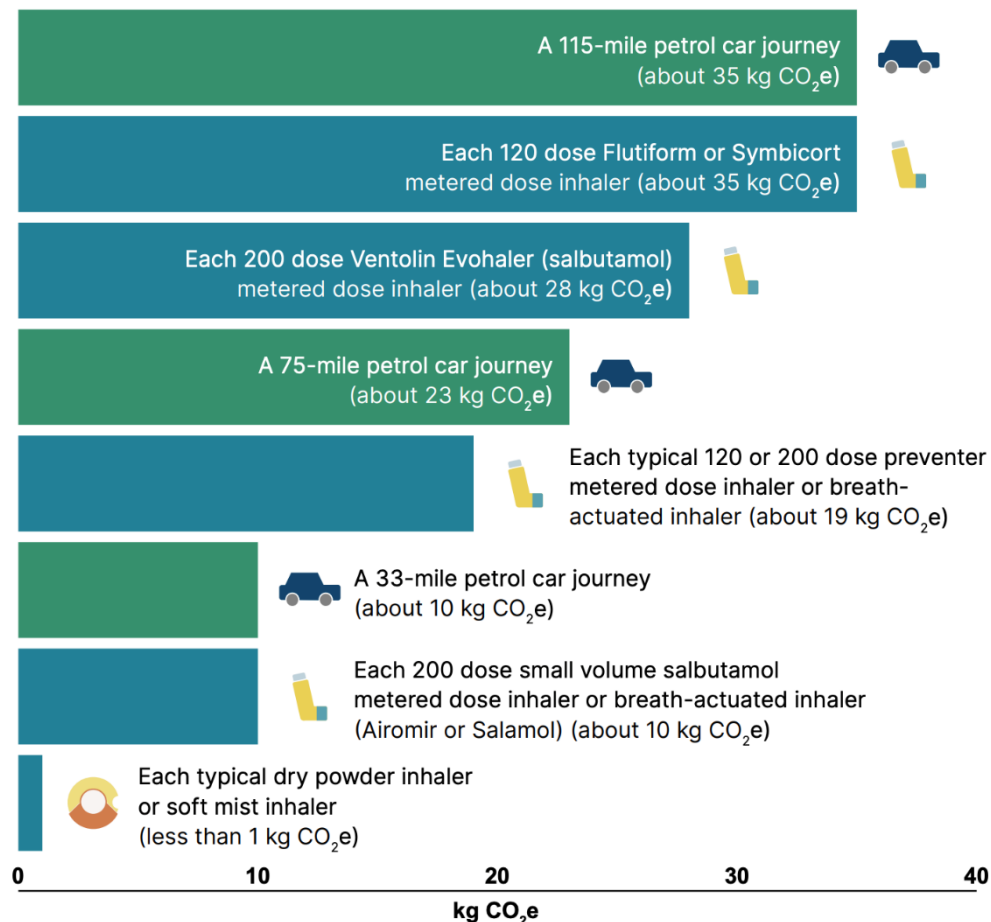


NICE
SIGN

Asthma: diagnosis, monitoring and
chronic asthma management
(SIGN 245)

[Find out more](#)

New recommendations on inhaler use - Person Centred



NHS BOARD CHIEF EXECUTIVES Business Meeting

10 September 2025

Climate Action Briefing Paper

Inhaler propellant

Encouraging progress is being seen through National Therapeutic Indicators (NTIs) in adoption and implementation of respiratory guidance across all Health Boards.

We are updating the NTIs to monitor and reflect the updated BTS/NICE/SIGN asthma guidance (use of combination AIR/MART treatment) and also updating the relevant sections of the Quality Prescribing Guide for Respiratory in light of this updated guidance.

We are more ambitious than one
recommendation at a time...

introducing

THE SIGN SUSTAINABILITY AND CLIMATE
PRINCIPLES FOR HEALTHCARE

Purpose and Vision

SIGN's dual-track approach includes:

- nine guiding principles to promote health, reduce harm, and embed sustainability in care delivery
- an operational framework for sustainable guideline development

Presented as a pilot in a new **SIGN Trusted Voice** methodology for creating non-guideline position statements.

How we did this: new Trusted Voice Methodology

- **Evidence review & topic exploration:** literature search, partner organisation,
- **Interdisciplinary engagement:** NICE, Heidelberg Institute of Global Health (HIGH). Formation of multidisciplinary SLWG.
- **Working group presentations:** Stakeholder presentations SGSS, health inequalities, global position, pharmaceutical pollution. Iterative drafting; GIN + Here
- **Governance & accountability.** SIGN Council, SIGN Senior Management Team, and Evidence & Digital Directorate (HIS). Robust public partner policies



Nine sustainability and climate principles for healthcare

1. Promote health,
prevent illness

2. Empower
people & share
decisions

3. Explore
alternatives

4. Use social (incl.
blue-green)
prescribing

5. Appropriate
medicines use

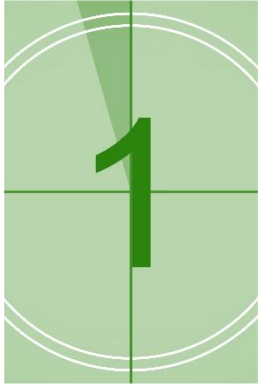
6. Reduce waste

7. Promote
co-benefits

8. Consider
environmental
impact

9. Adapt

Principles 1 and 2 – Promote health & Empower people



Promote health – prevent illness

- Act early on **modifiable risk factors**, using best evidence.
- ☐ Use risk assessment tools only alongside **clinical judgement**—never as a substitute.



Empower people & share decisions

- Use a structured **shared decision-making** approach (for example, BRAN – Benefits, Risks, Alternatives, Nothing).
- Where helpful, delay decisions and use **decision aids** or information resources, with follow-up. Recognise the role of **continuity and trust**.
- Offer control and choice; use positive **risk management** and safety-netting.



Principles 3 and 4 – Additionality and credibility

3

Explore alternatives:

- Consider all evidence-based options, not only drugs or surgery, aligned with **what matters** to the person.
- ☐ Ask whether no active intervention (watchful waiting/self-care) is reasonable.
- ☐ Where combining therapies, weigh incremental benefit against **resource use, polypharmacy, and harm**. Recognise and address **expectations** that may bias towards intervention.

4

Use social (incl. blue-green) prescribing

- Consider **social prescribing** (including blue-green / nature-based options) where evidence supports benefit.
- ☐ Utilise knowledge of access and equity: local availability, transport, deprivation, language, disability, digital access.
- ☐ Personalise: advise on changes likely to be **sustainable long-term** for each person.



Principles 5 and 6 – Appropriate use and reduced waste

5

Appropriate medicines use:

- Use an effective dose for an appropriate duration.
- ☐ Systematically address drug interactions and **polypharmacy** (with deprescribing where appropriate).
- ☐ Anticipate and mitigate problems with medicines **concordance**.
- ☐ Appreciate how access, understanding and inequality affect how medicines are taken.

6

Reduce waste:

- **Start small, review soon:** initiate medicines in appropriate quantities until planned review. Confirm effectiveness, adverse effects and actual use prior to re-prescribing.
- ☐ Utilise **audit** to improve correct use (concordance, dose, duration).
- ☐ Reduce wasted encounters: Where clinically appropriate, use alternatives to routine referral/follow-up (e.g., patient-initiated follow-up, remote or self-directed pathways) with equity in mind.



Principle 7 Promote co-benefits

7

Promote co-benefits:

- Consider additional benefits of each intervention (health, financial, environmental, psychological, community/spiritual). Examples include wider benefits of active travel and dietary change.
- Use **inclusive approaches** so co-benefits are achievable across deprivation, disability, language and access barriers.



Principle 8 – Consider environmental impact



Consider environmental impact:

- Identify whether a proposed treatment/device causes environmental pollution (air, water, soil) or has high life-cycle impacts.
- ☐ Where clinical effectiveness and safety are comparable, prefer lower-impact equivalents.
- ☐ Consider impacts across R&D: manufacturing, distribution, use and disposal.
- ☐ Use environmental framing to engage with people, not ration; retain clinical need and equity as first principles.



Principle 9 – Adapt

6

Adapt:

- Anticipate change: Economic, social, supply-chain and climate pressures will alter what is feasible; plan for this explicitly.
- ☐ Leverage constraints for innovation: Use shortages and system limits to accelerate safe, lower-burden alternatives (care models, devices, pathways).
- ☐ Protect vulnerable groups: Build equity safeguards into decisions and updates.
- ☐ Review over time: Reassess treatments and recommendations as circumstances and evidence change (“living” mind-set).



Framework Overview

- **Guideline Planning** – Submission process, Declarations of Interest
- **Guideline Development** – Education, integration with SIGN50, question formulation, evidence assessment, peer review
- **Guideline Implementation** – Piloting, standardised statement, indicators, reporting



Key risks and mitigations

- **Evidence gaps/heterogeneity.** Environmental data is yet sparse in healthcare. A consistent *call for evidence* is a key part of the integration.
- **Equity risks.** We must assess access, deprivation, disability and language at each stage. SIGN has a world-leading public partner initiative. How do we monitor impact?
- **Operational pressure:** SIGN is engaging in an ambitious programme with a small team. The importance of this issue should be raised on a national scale for adequate resource.
- **Misinterpretation** (including "greenwashing" or care rationing): we must communicate clearly, stand by methodology/process, emphasise engagement and co-benefits.

Commitments and potential

- **Pilot a guideline development framework based on** this statement on an agreed clinical guideline
- **Consult** with wider guideline organisation and submit for peer review
- **Educate** via concise training for those involved in guideline development
- **Document, measure & report** indicators to SIGN Council, with regular review of this position



Closing – thank you

- We welcome your feedback and look forward to working together to embed sustainability in healthcare guidance.
- *Written feedback on sustainability principles:*
 - james.morton4@nhs.scot

