

Sustainability and Medicines: A briefing for Medicines Information/Advice Services

August 2023

Due to the emerging data associated with NHS medicines sustainability initiatives, the place of Medicines Information / Advice services is expected to be to signpost others to the resources below and contribute their skills in medicines optimisation.

This document has been produced to assist UKMi members in understanding the GreenerNHS initiative and its impact.

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What do this mean for Medicines Information / Medicines Advice services?

Staff in these services are not expected to calculate the carbon emission of medicines. This is a task outside the remit and speciality of Medicines Information/ Medicines Advice services. Instead, staff in these services can support other HCPs by steering them in the right direction or educating them in the basic principles.

Staff should always include signposting enquirers with sustainability questions to their Trust or Pharmacy Greener NHS lead or their ICB Sustainability lead.

What is it all about?

The climate emergency is a health emergency.

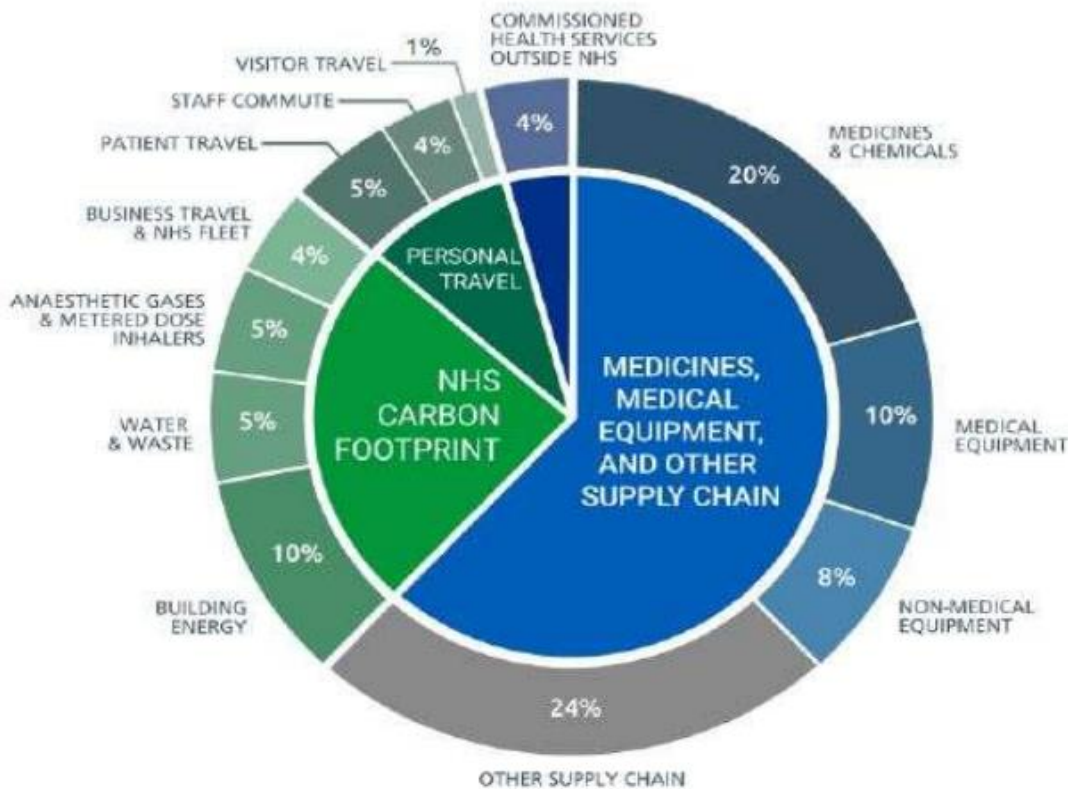
Climate change is a significant health threat affecting clean air, safe drinking water, food, and shelter. Many of the drivers of climate change (e.g., combustion of fossil fuels) are also the drivers of ill health and health inequalities. By reducing harmful carbon emissions we can improve health and save lives.

In October 2020, The NHS announced its aim to become the [world's first net zero health service](#) (net zero by the year 2040 for emissions it controls directly, and net zero by 2045 for emissions it influences but does not directly control).

What about medicines and carbon emissions?

Medicines account for about 25% of carbon emissions within the NHS, with a small number of medicines accounting for a large portion of these emissions (inhalers [approximately 3% of emissions] and anaesthetic gases [approx. 2% of emissions]). The remaining 20% of emissions are found in the manufacturing and transport of medicines.

The NHS Long Term Plan is committed to several initiatives to reduce emissions from medicines including, inhalers and anaesthetic gases.



In addition, pharmaceuticals also have wider impacts on the environment with pharmaceutical products being found in measurable concentrations in soil samples and drinking water. It is also has been estimated that over £300 million of medicines go unused each year in England.

As experts in medicines, pharmacists have a professional responsibility to take a leading role in reducing the environmental impact of medicines use.

What is being done?

Each Trust and Integrated Care System (ICS) in England must produce a Green Plan, setting out its aims, objectives and delivery plans for carbon reduction while reflecting national priorities. These Green Plans should be accessible to the public via the ICS's or Trust's website.

What impact has it had on medicines so far?

Inhalers

The propellant used in metered dose inhalers (MDIs) is responsible for most of the emissions from inhalers. Alternatives such as dry powder inhalers (DPIs) have a significantly lower carbon footprint, with similar clinical effectiveness.

The UK has a higher MDI prescribing rate compared with other European countries. These countries have demonstrated that safe and effective care can still be delivered using other (lower carbon) inhaler devices.

Huge amounts of work have taken place to reduce MDI prescribing rates and use and switch to lower carbon alternatives. Recycling programmes encouraging patient patients to return inhaler devices to pharmacies for greener disposal are also underway.

Anaesthetic gases

NHS E (with [the support of the Royal College of Anaesthetists and Association of Anaesthetists](#)) announced the [decommissioning of desflurane by early 2024](#). Desflurane has a global warming potential 2,500 times greater than carbon dioxide and appropriate alternatives (including alternative general anaesthetic gases and alternative anaesthetic techniques) with significantly lower global warming potential exist.

Medicines supply chain

Beyond anaesthetic gases and inhalers, most of the remaining emissions from medicines are embedded in the medicines supply chain, for example from manufacturing processes and transport.

The NHS is working towards reducing emissions from the medicines supply chain by:

- engaging with suppliers to ensure that they are decarbonising their supply chain in alignment with the net zero supplier roadmap
- leveraging procurement power through national, regional, and local decision making
- and ensuring that national, regional, and local procurement teams have information and training on the NHS supplier commitments and supplier roadmap.

The NHS is engaging with medicines suppliers, MHRA and NICE to encourage joint action on decarbonisation.

Optimising medicines prescribing, use and disposal

There are many other actions to reduce emissions from medicines, at the same time as improving patient care and saving money. Reducing waste of medicines, optimising prescribing by [reducing overprescribing](#) and other medicines optimisation issues, reducing inappropriate polypharmacy, and substituting high carbon products for lower carbon alternatives could significantly reduce those emissions.

It is estimated that 10% of medicines prescribed in the NHS are a result of overprescribing alone. This can be reduced by organisations following recommendations from the [National Overprescribing Review](#).

What targets have been set?

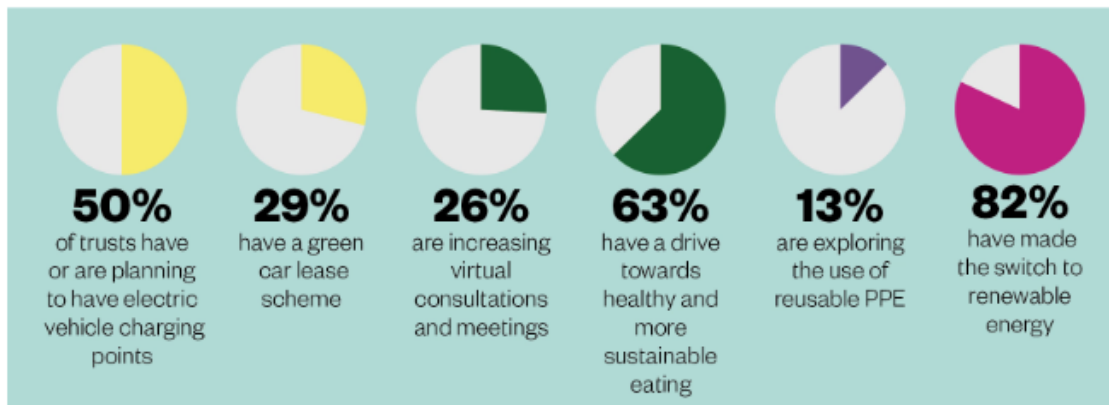
NHS England is aiming to become net zero by the year 2040 for emissions it controls directly, and then to reach net zero by 2045 for emissions it influences but does not directly control.

NHS Scotland is aiming to achieve its target date for achieving net zero emissions in 2040.

NHS Wales is aiming for net zero carbon by 2030 in the public sector, and the NHS to contribute to a 34% reduction by 2030.

What else is going on?

Check with your Trust or primary care organisation. Every ICB has a plan, and they will vary. The steps may be small, but the impact will be high. The diagram below shows what Trusts in England are doing (based on data from PJ March 2022):



Examples of initiatives:

- Reducing air pollution through encouraging more environmentally friendly vehicle use by staff and contracted transport companies, e.g., transport of medicines from wholesaler
- Reducing plastic waste, e.g., reusable PPE, volume of plastic ampoules
- Reducing medicines disposal which can pollute rivers and streams and waterways through medicines optimisation and reducing overprescribing
- Teamwork as it will take everyone to do interventions that will reach net zero

Sustainability training

If additional training is required regarding the GreenerNHS, register with <https://future.nhs.uk/sustainabilitynetwork/view?objectID=40570224> which has a training hub. The training is divided into introductory (30mins & free), intermediate (7.5 hours and free; £10 for accreditation), and leadership development (1 day including workshops, free; £10 for accreditation).

Useful resources when reviewing the environmental impact of medicines

- Trust GreenerNHS lead (or equivalent for Health Boards)
- Pharmacy GreenerNHS lead
- Local Trust policy on Greener NHS plan
- Pharmaceutical Industry
- <https://www.england.nhs.uk/greenernhs/>
- <https://ukhealthalliance.org/>
- <https://future.nhs.uk/sustainabilitynetwork>. (Invitation to membership required)
- <https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract>
- <https://circularecology.com/emodied-carbon-footprint-database.html#.VN4yPmdyZYc>.

References

- <https://www.rpharms.com/recognition/all-our-campaigns/policy-a-z/pharmacys-role-in-climate-action-and-sustainable-healthcare>
- <https://future.nhs.uk/sustainabilitynetwork/view?objectID=40446480>
- <http://www.msi.ucl.ac.uk/news/impact-greener-nhs-pharmaceutical-industry-and-smes>
- <https://www.abpi.org.uk/reputation/sustainability-in-the-pharmaceutical-industry/>
- <https://pharmaceutical-journal.com/article/feature/how-will-the-nhs-get-to-net-zero>
- <https://www.fph.org.uk/media/3126/k9-fph-sig-nhs-carbon-footprint-final.pdf>
- <https://www.nice.org.uk/Media/Default/About/what-we-do/Into-practice/resource-impact-assessment/Medicines-optimisation-sustainability-report.pdf>
- <https://ehma.org/app/uploads/2022/11/White-Paper-Environmental-impact-of-medicines-Nov-22.pdf>
- <https://pharmaceutical-journal.com/article/feature/pharmaceuticals-in-the-environment-a-growing-problem>
- <https://www.england.nhs.uk/ahp/greener-ahp-hub/specific-areas-for-consideration/reducing-the-environmental-impact-of-equipment-medicines-and-resources/>

Updated by Iram Husain: 22nd August 2023

Acknowledgments:

- UKMi Quality & Risk Management Group members
(<https://future.nhs.uk/UKMedsInfoNetwk/view?objectID=31467536>)
- Kieran Reynolds (CPhO Clinical Fellow, Specialist Pharmacy Service (SPS), Chief Pharmaceutical Officer's Clinical Fellow Scheme 2022/23)