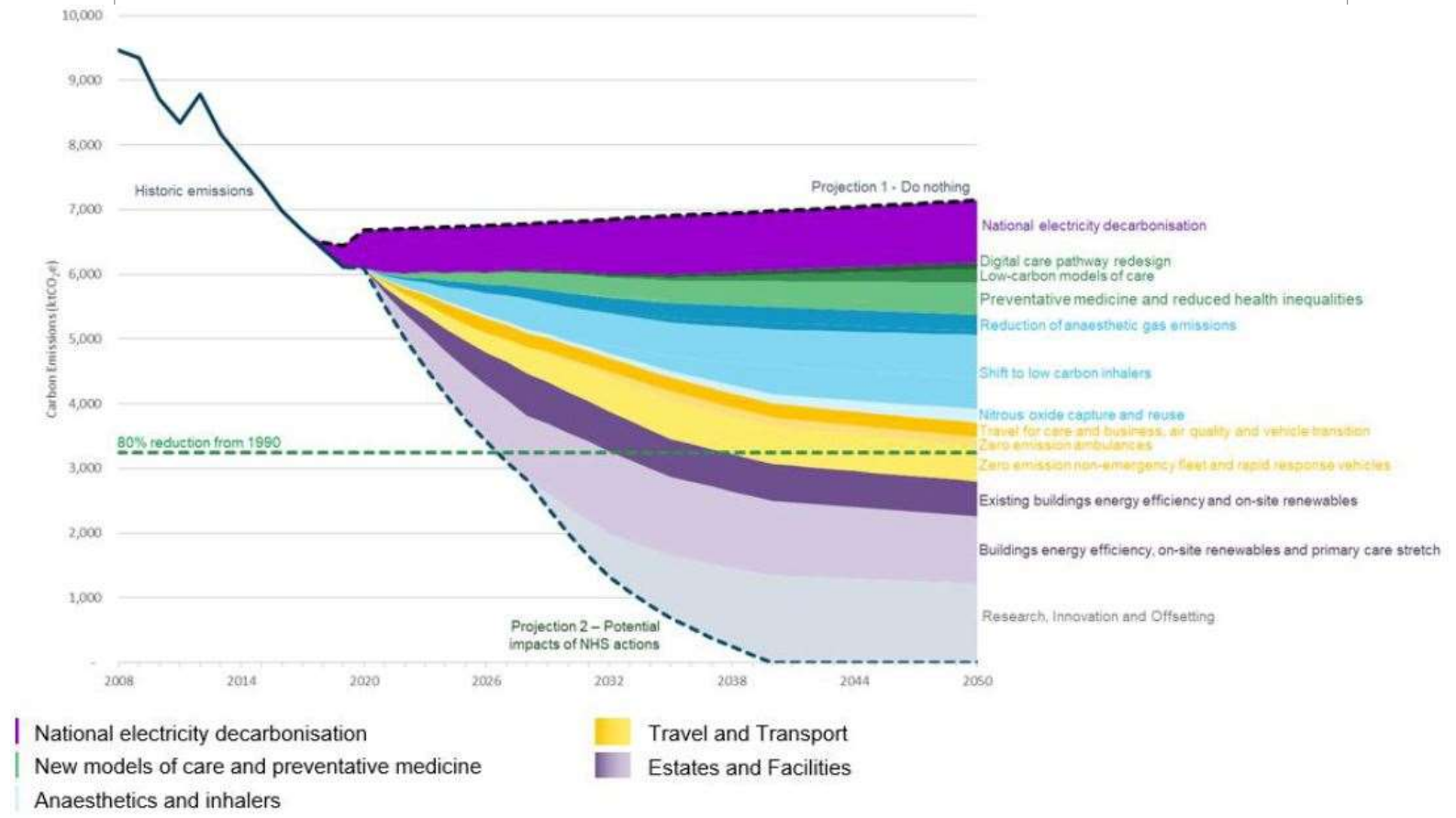
TOWARDS A NET-ZERO CARBON NHS

The Triple Bottom Line: framing actions for public health practitioners

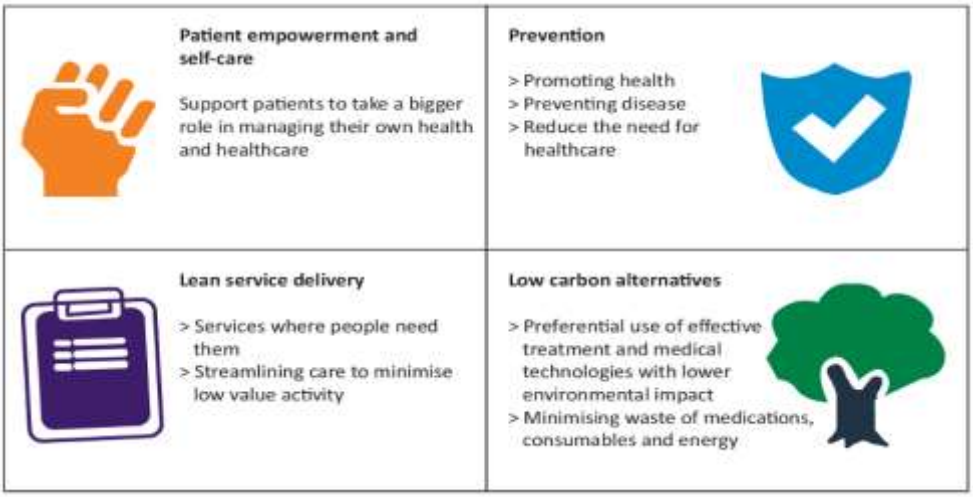
A sustainable health and care system "works within the available environmental and social resources protecting and improving health now and for future generations"[1].

Pathway to net Zero for the NHS Carbon Footprint Scope
(Figure 4 from "Delivering a Net Zero National Health Service, October 2020[2])



This graphic shows a net zero target by 2040 for the NHS Carbon Footprint, with an ambition for an 80% reduction (compared with a 1990 baseline) by 2028 to 2032. The wedges in the graphic show the contributions from national electricity decarbonisation (purple), new models of care and preventive medicine (green), anaesthetics and inhalers (blue), travel and transport (yellow), estates and facilities (mauve) and the remaining gap which needs to be filled by other actions and offsetting (grey)

Four key areas for action[3]



Key links and resources

UK Health Alliance
http://www.ukhealthalliance.org/

Centre for Sustainable Healthcare
https://sustainablehealthcare.org.uk

For a greener NHS
https://www.england.nhs.uk/greenernhs/

Four key areas for action: Commentary on the graphic by Mortimer[3] on page 1

1. Patient empowerment and self-care
Informed patients are in a strong position to coordinate their care, reducing duplication and misunderstanding. As well as improving patient experience, resources are used more efficiently.

2. Disease prevention and health promotion
Public health professionals can of course have a large influence in this area, for example:

- **Support active travel strategies** (see FPH Resource A4 forthcoming) – reduces demand for health care
- **Promote healthier diets** (see FPH Resource K7 and Resource A3 (forthcoming)) to reduce the need for healthcare
- **Advocate for minimum unit pricing on alcohol**: This reduces health harm from alcohol and reduces the amount of healthcare required[4]
- **Improving housing** can cut carbon emissions, and also improve health[5]. A modelling study estimated savings of 850 disability adjusted life years (DALYs) per million population and 0.6 megatonnes (Mt) of carbon dioxide annually[6]. (See FPH Resource A6 – Fuel Poverty and Affordable Warmth)

3. Lean service delivery – these approaches can be promoted and supported by public health professionals including those who work in NHS Trusts
Lean service delivery favours effective activities that can improve care and save money. For example:

- **The Sus-QI mode**l, promoted by The Academy of Medical Royal Colleges, incorporates sustainability into quality improvement, while focussing on overall value[7]
- **Reducing the need for unnecessary patient travel**, for example through telephone or online consultations. As well as cutting carbon emissions, this can be more convenient for patients[8]. In the NHS, early estimates from the Covid-19 pandemic "suggest that moving outpatient appointments online could have avoided 58,000,000 miles over three months"[2]
- NICE has published guidance on **medicines optimisation**, i.e. ensuring medicines are used safely and effectively[9]. It is estimated that adherence to these guidelines could save, per 100,000 population, 202 tonnes of GHG emissions, 24 tonnes of waste and 0.3million m^3 of fresh water[10]

4. Low-carbon alternatives – public health professionals can advocate for these

Metered dose Inhalers
*Around 3.5% of the **entire** NHS carbon footprint is derived from the use of pressurised metered dose inhalers (pMDIs) used in the management of asthma and chronic obstructive pulmonary disease (COPD)*[11]. The propellants in pMDIs are potent greenhouse gases whereas dry powder inhalers (DPIs) are propellant free. The UK has a high proportion of MDI use (70%) compared with <50% in the rest of Europe, and only about 10% in Sweden[12]. The Environmental Audit Committee has set a goal that by 2022 at least 50% of the inhalers prescribed in the UK should be DPIs[13] and the NHS Long Term Plan also highlights this[14]. It is estimated that a 50% cut in the carbon footprint of inhalers would save 0.425Mt CO2e which is 4% of the total carbon saving needed for the NHS as a whole.

Medical gases
Inhalational anaesthetic agents such as nitrous oxide and Desflurane are potent greenhouse gases and contribute the equivalent of around 5% of the carbon footprint of acute NHS Trusts or around 1.7% of the total NHS, public health and social care carbon footprint[15]. There are several ways in which this impact can be reduced and changing clinicians behaviour is key[16].

Antidepressants
Serotonin reuptake inhibitors (SSRIs) are one of the most commonly prescribed groups of drugs in primary care and their use has increased significantly over the past 2 decades[17]. Clinically and cost effective alternatives to drug therapy for mild-moderate depression and anxiety include talking therapies such as CBT[18], social prescribing for exercise and access to green spaces (see action resource A5 Health and Nature). Sustainable mental health care incorporates concepts such as patient empowerment, prevention and service transformation[19].

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Professional Development Questions

1. Describe four potential areas for action to reduce NHS carbon emissions

2. Describe one action you could take in your local area to improve healthcare sustainability.

For a model answer to Q1, see separate document “Model Answers to CPD Questions” on the Sustainable Development Resources introductory page https://www.fph.org.uk/policy-campaigns/special-interest-groups/special-interest-groups-list/sustainable-development-special-interest-group/resources-on-sustainable-development-and-climate-change/

FPH General CPD Questions

1. What did I learn from this activity or event?

2. How am I going to apply this learning in my work?

3. What am I going to do in future to further develop this learning and/or meet any gaps in my knowledge, skills or understanding?