

Cambridge Zero Policy Forum

Summary note of a discussion on the rapid decarbonisation of healthcare

Discussion organised by Dr James Smith as part of his Cambridge Zero Darwin College David MacKay Research Associate project

Wednesday 6 October, 2021, 12.00 – 13.00, online via Zoom

Reported by Jessica Foster, CSaP Communications Coordinator and Ryan Francis, CSaP Policy Intern

A multidisciplinary group of practitioners and academics gathered virtually for the first Cambridge Zero Policy Forum discussion of the academic year to discuss the rapid decarbonisation of healthcare and what might be learned from the pandemic.

This discussion was led by Dr James Smith, Cambridge Zero and Darwin College David MacKay Research Associate. Dr Smith is Assistant Director of Public Health Studies at the Department of Public Health and Primary Care, University of Cambridge, and a practicing GP.

Questions the discussion sought to explore included:

- Throughout the COVID-19 pandemic the NHS experienced a rapid change in the delivery of healthcare: can this sense of critical urgency be harnessed and applied to the decarbonisation of the national health service?
- How do we pursue zero carbon initiatives at the same time as handling the more immediate and clinical care challenges?
- How can rapid decarbonisation be implemented without compromising the delivery of healthcare?

A key idea discussed in the workshop was how decision makers need to perceive climate change as an urgent and immediate problem for rapid changes to happen, as we saw during the COVID-19 pandemic. Participants discussed mechanisms for enabling rapid change and generating impact. Participants explored the concept “purposeful anarchy”, which involves modifying bureaucratic structures and delegating authority, powers and freedoms to local professionals and front-line staff.

Key challenges

- Healthcare accounts for approximately 5% of the global emissions footprint. Major contributors include providing power and heating to the healthcare estate; travel; procurement of goods and services, notably pharmaceuticals and medical devices; and the use of anaesthetics and metered dose inhalers.
- The amount of electricity consumed by Addenbrooke's Hospital in Cambridge is equivalent to the consumption of three small towns.
- The NHS should not be immune to the intense demands, scrutiny and pressures of decarbonisation as faced by other industries, including aviation, food, and motoring.
- The NHS in England is not just one organisation, it is a complex system comprising many organisations.
- The NHS is often too focussed on “the here and now” as opposed to than the longer-term and more global challenges.

Case study: inhalers

- There are complex cultural issues amongst both professionals and patients and barriers to change, which may include vested corporate interests. Focus has been pushed by some towards disposal of inhalers, when there could greater climate benefit from switching inhalers.
- Currently, metered dose inhalers (MDIs) are the dominant type of inhaler used in the UK. MDIs use hydrofluorocarbons (HFCs) as propellants with global warming potential of 1,430 or 3,220 times more than CO₂. Switching to dry powder inhalers (DPIs), which are a low carbon alternative which do not contain propellants, could yield important benefits.

The need for urgency

- It was suggested that in March 2020, at the beginning of the pandemic, what enabled changes in healthcare to be made, was a sense of common purpose and urgency.
- This resulted in decisions being made locally, with expertise from the University of Cambridge about local solutions, rather than depending on the national response. Adopting new approaches and technologies would normally take years.
- Prior to 2019, nearly all outpatient appointments were face-face at Cambridge University Hospitals. The initial plan was to shift 30% of in-person appointments to virtual appointments in five years, using media like Zoom. This plan was originally deemed “unachievable”. However, during the pandemic around two-thirds (66%) of appointments were taking place virtually.

Possible solutions

Possible solutions discussed by participants included:

- Organisations such as in the NHS need to balance appropriately their focus on cutting both internal (the company’s direct emissions) and external indirect emissions.
- We should not underestimate the lobbying potential public organisations such as the NHS have, in shaping policy and sustainable behaviours among major biotech companies, as the NHS is the biggest purchaser of pharmaceuticals globally.
- The pandemic proved to be a “game changer” because of the survivorship response it triggered and the tangible threat the pandemic posed. Decision-makers therefore need to perceive climate change as an urgent emergency, for any real action to happen.
- The formation of organisational partnerships, for example between health trusts and care providers, could help implement large-scale changes in helping to solve global challenges such as climate change.
- Breaking away from current bureaucratic structures and instead delegating authority, powers and freedoms to local professionals and front-line staff within healthcare, to propose creative, ambitious, and even radical carbon-cutting solutions. Recreating the “purposeful anarchy” we saw during the COVID-19 pandemic.
- There are political factors at play - 2030 net zero policy ideas cannot sway too far away from public opinion, otherwise it will not be attractive to decision-makers.
- The switch from metered dose inhalers (MDIs) to dry powder inhalers (DPIs) when clinically appropriate is a simple and relatively straightforward way to reduce the amount of greenhouse gas emissions. As witnessed in Scandinavia, the high use of DPIs is compatible with good respiratory outcomes for patients.
- It was proposed that a revolution which places communities as the focal point is needed, and the NHS must move beyond simply reacting when patients are unwell.
- One participant raised the concept of purposeful anarchy, a 19th century Prussian military strategy: formulate a strategy and an overarching goal but allow officers and lower ranks to achieve that goal, in whatever way they find the most appropriate.
- The net zero plan put together by the NHS is very ambitious, to accelerate this plan one must find a way of enabling the more creative, less obvious innovations.
- Giving people permission and freedoms to assert their influence in their sphere, modifying bureaucracies and instead delegating authority to those on the front line, might reengineer enthusiasm as witnessed during the pandemic.

Relevant publication

Delivering a 'Net Zero' National Health Service (2020):

<https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf>

- The breakdown of the type of carbon emissions produced by the NHS can be found in the diagram on page 11 of the document.
- The current zero carbon projections can be found on page 16 and 17 of the document.

Participants

Dr James Smith (Project lead), Assistant Director of Public Health Studies, Department of Public Health and Primary Care, University of Cambridge

Dr Stephen Wallis, Divisional Director, Cambridge University Hospitals NHS Foundation Trust

Dr Rob Doubleday (Chair), Executive Director, Centre for Science and Policy, University of Cambridge

Dr Claire Barlow, University Senior Lecturer, Department of Engineering, University of Cambridge

Dr Angie Burnett, Research Associate, Department of Plant Sciences, University of Cambridge

Professor John Clarkson, Director, Cambridge Engineering Design Centre, Department of Engineering, University of Cambridge

Dr Shaun Fitzgerald, Director, Centre for Climate Repair, University of Cambridge

Owen Garling, Knowledge Transfer Facilitator, Bennett Institute for Public Policy, University of Cambridge

Professor Peter Guthrie, Director of Research in Sustainable Development, Department of Engineering, University of Cambridge

Dr Luke Kemp, Research Associate, Centre for the Study of Existential Risk (CSER)

Dr Kristen MacAskill, Lecturer, Department of Engineering, University of Cambridge

Dr Kamiar Mohaddes, University Senior Lecturer, Cambridge Judge Business School, University of Cambridge

Dr Mike Rands, Master, Darwin College, University of Cambridge

Dr Emily Shuckburgh, Director, Cambridge Zero, University of Cambridge

Organisers

Lauren Milden, Policy Adviser, Centre for Science and Policy, University of Cambridge

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