



Knowledge mobilisation for cross-sectoral, sustainable energy planning

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Background

The NHS has a duty to advocate for patients that now extends to the impact of health care on the environment. Improving patient care without consideration for the environmental effects is no longer sufficient for publicly funded research. Achieving a carbon reduced NHS will require all key stakeholders to work together with a deliberate focus on collaboration, rapid scaling, and shared learning.¹ On 14th March 2024, a preliminary meeting was convened by researchers at the University of Birmingham to discuss energy supply and expansion of renewable energies to the healthcare and education facilities at the Exchange, Birmingham, West Midlands, UK. Starting in one region could be used as an example to guide change to the rest of the UK, and beyond.

Objectives

A cross-disciplinary group of experts, researchers, policy makers, NHS managers, and members of the public shared their views and their experience with a view to co-producing a plan for research, advocacy, and investment over the next 5-years. The meeting had 2 main objectives: (1) to learn from experiences of sites and leaders that had already completed or supported solar transformation projects and (2) to elicit opinions of public and expert members related to key design tenets of solar expansion projects.

Results

Prof Aneel Bhangu (Professor of Global Surgery, University of Birmingham) opened the meeting with a panel of experts from various sectors (figure 1), to

discuss the practical aspects of decarbonising healthcare collaboratively. Prof Dion Morton (Barling Professor of Surgery, University of Birmingham) along with Dr Virginia Ledda (Research Fellow in Global Surgery, University of Birmingham) led on why surgeons are key to delivering unrivalled innovation across the world to initiate changes in practice.²

We heard how about establishment of the NIHR Green Surgery Programme, the focus of each three pillars of behavioural change within the NHS:

1. The DRAGON RCT, a large cluster -randomised trial of reusable vs disposable drapes and gowns.
2. The use and movement away from anaesthetic gases that contribute to greenhouse gases.
3. Waste management and optimisation of waste.

Energy supply projects including solar farms, conversion of waste into energy, and supply chain management were shared and discussed. Early challenges identified included safety of solar farms, connection to the national grid, permissions, and planning approvals.

We heard from other experts including Mr Simon Clarke (University Hospitals Birmingham) on how 65% of the scope 3 emissions come from the NHS supply chain and how changes in behaviour can help to reduce this. Prof Martin Freer (University of Birmingham) gave an insight in the efforts taking place across the university in the form of tech development policy as well as locally at the Tyseley Energy Park to modernise the management of medicinal waste and to ensure the park continues to



be a world leader in waste management. Trevor Payne (University of Birmingham) provided perspective on how the infrastructure of healthcare buildings can be challenging given the variable timelines of building dates and how the university is moving to transition from new to old as well as the cost implications of this.

An excellent example of collaborative working was shared by Prof David Loughton, chief executive of the Royal Wolverhampton NHS trust. The trust and the city council have partnered to use redundant and unused land adjacent to the hospital, to build a solar farm. Once established and running there will be enough electricity generated to power the hospital for 288 days in a year. The meeting discussed that if these experiences and solutions found are not shared now, they will be lost, slowing progress. Therefore, it was judged essential to work collaboratively and share lessons learned from previous work. Shared learning and energy resources between health and education was felt as a possible route to speed up planning, funding, and installation. The need to identify key stakeholders from both institutions, hold joint meetings, and maintain momentum was discussed. Following on from the panel discussion, an interactive session on public perspectives on energy strategies in health care and education was conducted. Members of the audience were invited to contribute to the discussion and offer perspective as well as opinions.

Prof Adewale Adisa (Ife-Ife, Nigeria) joined the meeting online to give a perspective of how these collaborative efforts could be shared globally to overcome challenges faced abroad, which include power supply issues affecting delivery of services.

Following on from the panel discussion, Dr Lizzy Li, Dr James Glasbey and Dr Mike Bahrami-Hessari (University of Birmingham) led an interactive session on public perspectives on energy strategies in health care and education. Members of the audience were invited to contribute to the discussion and offer perspective as well as opinions. This was a great opportunity to engage the public and to allow voices from the wider parts of the community to be heard and become a part of the collaborative.

Discussion

It was of great interest to all to hear of the challenges faced throughout the process of this development. The need to share information for learning and benefit for

purposes of health economics, cost effectiveness and from a community perspective are essential. There was also a suggestion of forming a central team for consultation advice, given the challenges that may be encountered on this endeavour with no examples to take note from.

A joint effort between hospitals and universities can provide the keystone to promote rapid change and avoid work duplication, both in the UK and beyond. To achieve this, innovation networks can provide platforms to have access to specialists and to accelerate the change in the public sector. This includes creating living toolkits for knowledge mobilisation, that include business cases and case studies. Once established in the West Midlands this scheme can be rolled out across the healthcare trusts in the UK, adapting to local needs based on the collaborative model. We can also see the additional far-reaching potential benefits that could be applied abroad by working with global partners.

Figure 1: Energy strategies for healthcare and education meeting (Birmingham, UK, March 14th, 2024)





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