

# Developing a sustainable health care system: the United Kingdom experience

High quality care depends on addressing the social and environmental determinants of health and disease

**T**he changes we are causing to our global environment now threaten everyone's health. As such, health systems and professionals should consider environmental sustainability as part of good health and care. Climate change is only one of the global challenges we face, but the problems presented by ignoring it, and the immediate health benefits offered by addressing it, are too significant for health professionals to ignore.

Ten years ago in England, the National Health Service (NHS) established a dedicated unit to coordinate research, policy and action that would help health systems and health professionals address these issues in practical, evidence-based ways. The NHS and Public Health England Sustainable Development Unit has initiated and coordinated widespread actions and learnt some important lessons. The Sustainable Development Unit started measuring the carbon footprint of the NHS regularly 10 years ago. Between 2007 and 2015, the NHS achieved an 11% reduction in greenhouse gas emissions (in line with NHS and national targets) while the level of health care activity rose by 18%.<sup>1</sup> By 2017, the associated financial savings associated with environmental sustainability (mainly energy, waste and water) rose to £90 million annually.<sup>2</sup>

These actions started with regular, robust consultations with frontline staff: doctors, nurses, therapists and managers. The results generated practical, scientifically valid guidance (both nationally<sup>3</sup> and locally<sup>4</sup>) covering issues from energy and carbon management, to food procurement, travel plans and waste management — particularly of pharmaceuticals. Research showed that procurement accounted for 60% of the health service's carbon emissions, with pharmaceuticals being the single largest component.<sup>1</sup> Best practice (often initiated by clinicians and managers collaboratively) was identified, quantified and has been steadily embedded into national reporting requirements from all health care organisations. The top three measures that convince policy makers and funders are actions that help comply with the national law (reporting on carbon emissions, having climate adaptation plans for hospitals); avoid wasting money (energy and waste management, overprescribing, overtreatment); and address issues where a change of policy and practice protects health and prevents harm. For example, almost one in twenty of all road journeys in England is related to the health service, producing air pollution, greenhouse gases, road trauma and noise.<sup>5</sup> The air pollution impact can be reduced by 25% by simply improving hospital staff commuting through encouraging multi-occupancy car journeys, installing more electric vehicle charging points, and providing

better facilities for active travellers (bike lanes, cycle storage and showers).<sup>5</sup>

The actions taken throughout the English health and care system in response to these challenges have been supported by national climate change legislation and global mechanisms such as the Sustainable Development Goals.<sup>6</sup> Helping one of the world's largest employers<sup>7</sup> address what *The Lancet* described in 2009 as "the biggest global health threat of the 21st century"<sup>8</sup> and revisited in 2015 as the "the greatest global health opportunity of the 21st century"<sup>9</sup> requires actions tested through research and closely aligned with the objectives and values of health organisations and their workforce.

The first lesson has therefore been that devising and implementing practical actions has depended on effective staff engagement. For example, when a local hospital system significantly improves its food system for patients, staff and visitors (with increased fresh, organic and seasonal food sourced more locally) — thereby improving human health, the local economy and the environment, all at no extra cost — the evidence of how this is done can be shared and implemented widely through clinical and other staff networks.<sup>10</sup> Health systems are often the largest local employers and procurers. Their contribution to the social, environmental and economic determinants of health in local communities can complement their core role as health care providers in measurable ways. Eric Chivian, doctor and Nobel Prize winner, has shown that mobilising the power and influence of health professionals about the health risks of climate change and the health benefits of sustainable development means using the language of health with patients, public and policy makers, not just the language of environment.<sup>11</sup> Health professionals can be powerful advocates for health by communicating examples of climate-friendly policies and practices that protect and improve both public and planetary health. These improvements include substantial reductions in heart disease, cancer, obesity, diabetes, road deaths and injuries, and air pollution.<sup>12,13</sup>

The second lesson concerns the roles of governance and regulation — to ensure that historic rules and practices are not barriers to health care innovation spreading quickly. By failing to disrupt entrenched attitudes, we risk simply improving the efficiency of a suboptimal system, thereby blinding us to the health benefits of a radically better system (eg, where health professionals and organisations are rewarded for protecting and improving health and preventing illness as much as for treating illness). The World Health Organization has highlighted the reinforcing nature of the environmental, social and economic sustainability in health systems, improving health services now while also improving the health of future generations.<sup>14</sup> Regulatory systems can accelerate

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implementation and spread more sustainable practices in health systems legally,<sup>15</sup> and normalise them socially. The United Kingdom and its devolved administrations now have laws such as the *Well-being of Future Generations (Wales) Act 2015*, *Climate Change Act 2008* and *Public Services (Social Value) Act 2012*, all of which give confidence and guidance to those leading change.

The third lesson has been that research is an essential but insufficient part of the process of health care improvement.<sup>16</sup> The Intergovernmental Panel on Climate Change has been crucial in coordinating the research evidence on health and climate change.<sup>17</sup> Biomedical research about the health problems associated with climate change needs to be complemented with transdisciplinary research (eg, behavioural and economic evidence) about how such solutions are effectively implemented at scale.

The steps taken over the past 10 years in the NHS in England offer three lessons to other countries and systems. First, robust and regular engagement with health care staff elicits the best practical ideas that protect health and the most effective mandate from trusted professionals to implement them. Second, governance,

regulatory and reporting mechanisms need to be understood in order to remove barriers to improvement and ensure the rapid spread of effective innovation in health and care. The NHS in England now annually reviews and reports on the harmful effect of the health system on the environment and the risk of a changing environment on health and care systems.<sup>18</sup> Third, traditional medical research that identifies health threats requires complementary interdisciplinary research focused on solutions — such as models of care that balance hospital treatment with care closer to home and community prevention strategies. This helps move the debate from simply funding more care and repair to encouraging better care and prevention, and supports physicians and nurses to be more vocal and practical about protecting the environmental and social determinants of health.

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