



Brought to you by:



UK Health Alliance
on Climate Change

Key Summaries Report on the Net Zero Clinical Care Conference 2023

JANUARY 2024

“The most hopeful, positive, inspirational and practical conference about climate change I have been to in a long time.”

**NICKY PHILPOTT, HEAD OF SUSTAINABILITY AND NET ZERO,
NHS ENGLAND, SOUTH WEST**



The BMJ and UK Health Alliance on Climate Change (UKHACC) joined forces on 10 October 2023 to host the inaugural conference on Net Zero Clinical Care, in partnership with the Greener NHS programme at NHS England. Health professionals, policy makers and others from across the health and care system came together to share examples of good practice, inspire others and build momentum to deliver change.

Climate change is a global health and care emergency.

Recognising this, in October 2020 the NHS became the first health system in the world to commit to a target of reaching net zero carbon emissions; by 2040 for directly controlled emissions and by 2045 for emissions that the NHS influences.

“Clinical care will be fundamental to reaching those targets and patient care must be at the heart of everything we do.”

CHRIS GORMLEY, ACTING CHIEF SUSTAINABILITY OFFICER FOR GREENER NHS

Introduction

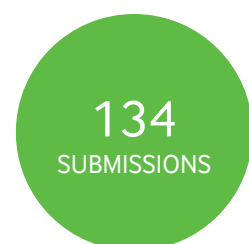
Opening the conference, Chris Gormley, Acting Chief Sustainability Officer for Greener NHS, acknowledged that clinical care will be fundamental to reaching our NHS net zero targets and said, “Clinical care will be fundamental to reaching those targets and patient care must be at the heart of everything we do.”

The NHS is responsible for more than 4% of UK emissions and is both part of the challenge and part of the solution. The NHS interacts with 1.6 million patients every day and every one of those interactions has an associated carbon footprint - from an outpatient appointment through to the medicines and equipment used in a treatment plan. For the NHS to meet its net zero targets it needs to transform the way that clinical care and services are designed, developed and delivered to ensure that they are as low carbon as possible whilst offering the highest quality patient care.

Change is required across the whole system, across all professional groups, with collaborative and cross sector working essential to delivery. There also needs to be wider collaboration between estates teams, academics, educators, policy makers and professional bodies as well as local councils and voluntary organisations. Patients must be part of the conversation, particularly when making changes to clinical pathways.

The conference was attended in person by 216 people plus more than 1,700 online. Speakers were invited following an abstract submission process, which attracted 134 high quality submissions. These were reviewed by a peer review panel and all the posters can be viewed [here](#).

Event sessions covered the key principles needed to decarbonise clinical care in a way that ensures health and wellbeing and delivers high quality care. These core principles are keeping people healthy, delivering efficient and appropriate care, reducing carbon associated with treatments and care settings, and system change.



“Prevention is cost-effective, compassionate as well as being sustainable.”

HELEN KINGSTON, FROME GP

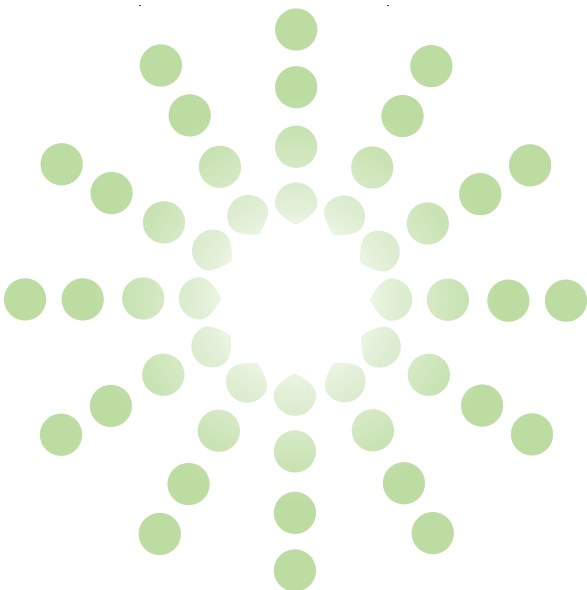
Keeping people healthy

Keeping people healthy and reducing the burden of disease negates the need for care in the first place. The public health workforce has a leading role in protecting health.

Alyssa Ralph, Public Health Registrar at the University of East Anglia, said that a survey of public health registrars revealed that 80% never, or infrequently, incorporated environmental sustainability into their work. She told the conference about a practical toolkit she has helped formulate to support public health registrars in developing expertise and leadership skills around climate change and sustainability.

The Somerset town of Frome showed the dramatic changes that can be achieved when a whole community works together towards a common goal of building a healthier and greener community. Frome Medical Practice works with the town council and local groups on a range of projects, including supporting elderly people in their own homes to **reduce their care needs**. GP Helen Kingston told the conference they had **reduced emergency hospital admission by 17% through holistic practices**. “Prevention is cost-effective, compassionate as well as being sustainable.”

Cornwall is another area of the country leading the way on promoting a **healthy and low carbon lifestyle**. Greener Practice Cornwall gave a lively presentation showing how primary care works with the council and voluntary sector on projects including community gardens and electric bikes.





Delivering efficient care

The carbon footprint of clinical care can be dramatically reduced if the right care is given in the right place and at the right time. This includes reducing inappropriate, low value or duplicate activity. Minimising patient travel to appointments through streamlining care, one stop clinics or switching to remote appointments, where clinically appropriate, can help meet net zero emission targets. A poster presentation from Barking Havering and Redbridge University Hospitals Trust demonstrated patient satisfaction and carbon savings when they switched to a neurology consultant follow-up telephone clinic.

Lynn Riddell, Clinical Service Lead for Northamptonshire Integrated Sexual Health and HIV Services, demonstrated how they collaborated with patients to transform a clinical pathway and produce environmental, social and financial savings. Switching from 6 monthly to 12 monthly assessments for the measurement of viral load proved popular with patients and did not adversely affect clinical outcomes. The new approach saves the CO₂ equivalent of 154 return trips from Northampton to Glasgow per year, £64,000 a year on consumables and 500 hours of Band 6 nursing time.

Faraz Ayyaz, National Clinical Fellow with the Getting it Right First Time (GIRFT) programme at Manchester University Foundation Trust, explained how the carbon footprint of surgical procedures in the NHS could be reduced by optimising day-case surgical pathways. He presented research that showed that 66% of the 48,000 laparoscopic cholecystectomies in England were carried out as day case surgery, but there was massive variation across the 42 integrated care boards (ICBs). He explained that if all ICBs performed as well as the top quartile it would save 190,000 KgCO₂e—equivalent to powering 172 homes for a year. "It seems like a no-brainer to be working towards more day case surgery. It is cost saving and saves carbon as well."

"It seems like a no-brainer to be working towards more day case surgery. It is cost saving and saves carbon as well."

FARAZ AYYAZ, NATIONAL CLINICAL FELLOW FROM MANCHESTER UNIVERSITY FOUNDATION TRUST

Clinical pathways create vast amounts of clinical waste and a short film shown at the meeting brought home this point in a powerful way. The artist Maria Kojick had breast reconstruction surgery in the Netherlands following a mastectomy and asked to keep all the waste generated during the procedure, including mountains of disposable gloves and gowns. Her award winning film asks: [Is there another way?](#) It's not only disposable equipment that needs to be considered. A poster from Leeds Teaching Hospitals Trust examined how many reusable surgical instruments are unused during procedures but still need to be decontaminated. They showed how rationalising the surgical tray in laparoscopic cholecystectomy could save more than 1tCO₂e locally. If this was introduced across the country for all laparoscopic procedures it could yield 300 tCO₂e and £1.5m in savings.

Many hospitals and trusts are working to reduce waste and promote recycling. For example, a poster presentation from the Royal Surrey County Hospital NHS Foundation Trust showed how they are cutting the large volume of clinical waste produced during colorectal resections through education and introducing recycling waste bags into the theatre environment. Another poster from Imperial College Healthcare demonstrated how they had implemented a walking aid reuse and recycling scheme. There is a clear opportunity to align environmental sustainability with other existing NHS priorities such as efficiency, producing a win-win scenario for patient and planetary health.



saved if all ICBs performed as well as the top quartile—equivalent to powering 172 homes for a year



Lower carbon treatments and care settings

Identifying and prioritising low carbon treatment options and reducing waste or unnecessary use of medicines or medical gases is vital if the NHS is to meet its net zero targets. Peter Morgan, Medicines Net Zero Assistant Director at NHS England, told the conference that medicines make up 25% of the carbon footprint of the NHS in England, with inhalers making up 3% and inhaled medical gases 2% of this at point of use. He said "The largest chunk of the impact of medicines is in their manufacture and embedded in the supply chain. That is where we can have the most impact. So we need to work with suppliers."

Abigail Mann, an anaesthetic trainee from the Southwest of England, told the audience about the moves they have made in her hospital to tackle leakage of nitrous oxide, another anaesthetic gas with a high global warming potential. She explained that nitrous oxide is rarely used in her trust, yet a jaw-dropping 4.6 million litres was delivered every year, at a cost of £500,000. They discovered that the majority of the nitrous oxide was lost through leakage and established a working group to decommission the cylinder manifold used to store the gas. The small amount of nitrous oxide they clinically needed now comes from portable cylinders, costing around £550 a year.

Ethyl chloride is a topical anaesthetic spray with a large carbon footprint and a number of posters demonstrated how anaesthetists had successfully introduced a sustainable alternative. A Coolstick is a cold metal stick which is kept in the fridge and can be cleaned after each use, producing both environmental and cost-saving benefits.

Pressurised metered dose inhalers (MDIs) use hydrofluorocarbons as a propellant which are powerful greenhouse gases. A number of poster presentations covered switching asthma patients to alternatives such as dry powder inhalers, which have a lower carbon footprint or highlighted the importance of shared decision making with patients when switching inhalers. Maria van Hove, a public health registrar at the University of Exeter, demonstrated an audit tool to assess the factors affecting inhaler use. Their survey of 143 respondents at eight sites found that two thirds of asthma patients care about their carbon footprint, and 69% would consider switching to a lower carbon inhaler. Shockingly, she found that 78% of patients wrongly dispose of asthma inhalers in their household recycling bin which is a problem as they often still contain propellant.

"The biggest waste in medication is those medicines that are prescribed but never used. Involve patients in the conversations."

DEBORAH GOMPERTZ, SOMERSET GP

A simple but innovative idea, from King's College Hospital NHS Foundation Trust showed how stickers placed on the outer packaging of all MDIs helped encourage recycling through local pharmacies. Another poster presentation from Greener Norwich demonstrated success in increasing the number of inhalers returned and disposed of safely via local pharmacies as well as switching patients to greener inhalers.

Waste is a massive issue in the NHS. And as Deborah Gompertz, a GP in Somerset, said, "The biggest waste in medication is those medicines that are prescribed but never used." She told the conference about a relatively simple solution: asking community colleagues to ask patients on routine home visits to show them their meds. They discovered that 1 in 4 patients in her area was non-adherent resulting in an awful lot of wasted medication. She said it was important to identify patients' goals and wishes when carrying out a medicine review and "involve patients in the conversations." The scheme also worked with pharmacists to simplify regimes to aid compliance and reduce wastage.

Another example of a collaborative national initiative is the UK Kidney Association (UKKA) sustainable kidney care programme. They set a target for circularity by 2045, with an ambition for 80% reduction in waste to landfill or incineration by 2036-2039. Significantly, they shifted the onus for waste management away from the end-user. Frances Mortimer, Medical Director at the Centre for Sustainable Healthcare, told the conference that they worked with industry to develop a statement of demand to produce greener products. The UKKA has also set up a scheme to have a [sustainability champion in each UK kidney unit](#) so that best practice ideas can be disseminated more quickly.



System change

Lowering the carbon footprint of clinical care needs to be embedded into organisational structures, processes and culture. And educating the future and current workforce is a necessary first step to achieve the NHS ambition for net zero clinical care. Anna Jones, Clinical Teaching Fellow at Brighton and Sussex Medical School, told the conference about the first [Education for Sustainable Healthcare curriculum](#) that has been nationally endorsed by the Medical Schools Council. It lays out the key foundations for sustainable healthcare and gives structure to sustainable clinical care in differing specialties.

Students are also driving change as Lauren Franklin, a medical student at Keele University, explained. The planetary [health report card](#) is a student-led initiative to assess and rank medical schools on a number of metrics including their planetary health curriculum and sustainability. There are now 100 medical schools worldwide in 11 nations taking part and the scheme is expanding into dentistry and nursing schools. The report card can help prospective students choose where to study and medical students can also see how their own institution has scored and use that information to push for change.

The conference heard about a number of examples where whole specialties or pathways have begun decarbonising. For example, [Green ED](#) is an exciting Royal College of Emergency Medicine initiative to measure and reduce the environmental impact of Emergency Departments in the UK. Philip Anderson explained how it started as a grassroots movement with doctors lobbying the college to divest in fossil fuels. A special interest group led to a pilot programme and the Green ED programme went live in 2023. The framework outlines evidence based actions divided into bronze, silver and gold levels with the guidelines and resources required to help achieve them. The toolkit includes cost calculators to assess CO₂ savings and cost savings and allows users to log progress. The portal also offers ongoing and peer support and the opportunity to share ideas about what works.

“The largest chunk of the impact of medicines is in their manufacture and embedded in the supply chain. So we need to work with suppliers.”

PETER MORGAN, NHS ENGLAND

Sustainability is also becoming embedded into quality improvement processes through the [SusQI education programme](#). This is an open access website with a wealth of resources to embed sustainability into any QI project. Catherine Richards from the Centre for Sustainable Healthcare shared a SusQI project which reduced low value and unnecessary blood testing on the elderly by 9.8% across three wards, saving 937 kg CO₂e/year and £18,000. And Maureen Jersby and Angela Ridley, assistant professors in the department of nursing, midwifery and health at Northumbria University, showed how they had integrated the SusQI framework into their nursing and allied healthcare curriculum so that “we are educating our future leaders now.”

The importance of collaborative working across the multidisciplinary healthcare team, and including the wider workforce such as cleaners and porters, was emphasised at many points throughout the day. Talking about the nitrous oxide decommissioning in her hospital, Abigail Mann said how beneficial it was to involve the gas porters and the whole theatre team and get everyone on board with the project.

Building relationships with colleagues, academics and people in the wider community can help drive change. Greener Practice is the first primary care network for sustainable healthcare which links clinicians locally into local and special interest groups. The organisation’s directors, Tamsin Ellis and Mike Tomson, stressed the importance of [building networks to spread and share ideas](#). And Anya Gopfert, Senior Public Health Registrar at South west Deanery told the meeting about the Connecting for Change project which brought together academics and NHS staff from the local area to develop research projects. This has the benefit of giving [clinical insights into research and translating research into practice](#).



The power of grassroots activism was demonstrated by a number of speakers. Greener Practice Cornwall built a network of “creative disruptors” with the message “communicate for contagious change.” Manda Brookman from Volunteer Cornwall said she often acted without waiting for permission. For example, assume you can use some unused land near the surgery to make a garden or build a bike shelter. As GP Kathrine Brown said, “We just rolled up our sleeves and got on with it.”

Many of the projects presented at the conference were undertaken by clinicians, often in addition to their day jobs. Richard Smith, chair of the UKHACC, emphasised how this is not sustainable, and if the NHS is to reach net zero people will have to be given paid or protected time to work on the changes needed. “We are going to have to find a way to give people the time to have the capacity to work on this,” he said. A number of solutions to this were shared during the day such as working with the royal colleges, fellowship schemes and nursing hybrid roles. Nicky Philpott said projects work well when they have a sustainability lead working alongside clinicians on the ground - “that’s when the magic happens.”

The conference heard there are a number of ready-made support tools that can help busy healthcare workers so that they do not have to start projects from scratch. For example, Rachel Soper, from Students Organising for Sustainability, told the meeting about the Green Impact toolkit which helps primary care to create a sustainable healthcare system and to celebrate and champion [what is already being done around the country](#). She said that many healthcare workers are aware of the negative environmental impacts within their day to day operations but may be too busy or not feel empowered to take action. What they need is simple, effective and easily accessible information that is relevant to their role and they want to connect to others embarking on the same journey.

Richard Smith, [summarised the conference in 12 C’s](#) – clinical change, capacity, collaboration, community, connectivity, compassion, complexity, cost, contagion, courage, creativity and Cornwall. Closing the meeting, he captured the energy in the room saying, “We are about action, about making connections. You now need to go home and do something! Without clinical change the NHS is never going to get to net zero; and you are the people to make it happen.” There has been an enormous amount of interest in the conference and the hope is that it will become an annual event.

“Without clinical change the NHS is never going to get to net zero; and you are the people to make it happen.”

RICHARD SMITH, CHAIR OF THE UK HEALTH ALLIANCE ON CLIMATE CHANGE



