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Webinar meeting report July 2022

The role of the health sector in climate change- Lessons from the UK



UK Government

Dr Ben Coghlan

Senior Health Specialist at the Asian Development Bank

Introducing the webinar, Ben Coghlan said the UK and its institutions are leading the way in engaging with climate change and health. The topic was even more pertinent as Europe is currently dealing with an unprecedented heatwave with many countries not used to coping with extreme temperatures. Across Asia and the Pacific, nations are seeing records for extreme heat and significant weather events regularly broken. He said that policy makers are increasingly recognising it is time to act on both mitigation and adaptation fronts. The Asian Development Bank has placed combating climate change and its consequences at the top of its development agenda.



Paul Davison

Development Lead, Centre for Climate and Health Security,
UK Health Security Agency

Created in 2021 the UK Health Security Agency (UKHSA) is responsible for protecting every member of the community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. It provides intellectual, scientific and operational leadership at national and local level, as well as working with global partners.

It has recognised that a step change is needed the way it responds to the inevitable health impacts of the climate emergency. Consequently, it is in the process of establishing the Centre for Climate and Health Security (CCHS) bringing together three areas of expertise that existed previously in different parts of the organisation. The CCHS will be formally launched in autumn 2022.

The new centre will lead UKHSA's work to provide evidence-based advice to policy makers, helping them reduce harm caused by climate health threats.

Paul Davison described the work of the centre's three teams:

- Climate Change and Health team – roles include mapping and monitoring health effects of climate change, undertaking research, and providing expert advice. It leads on the completion of the fourth iteration of the Health Effects of Climate Change in the UK which feeds into the UK's National Adaptation Programme.

- Medical Entomology and Zoonoses Ecology group (MEZE) – risk assessments and surveillance on all emerging vector-borne diseases, carrying out research, conducting modelling, increasing public awareness. The team also engages in incident response providing specialist expertise.
- Extreme Events and Health Protection team (EEHP) – works to support the efforts on climate change adaptation by reducing the impacts of adverse weather events on health and wellbeing through preparation, response, surveillance, monitoring and evaluation. It is leading UKHSA's work on developing a Single Adverse Weather and Health Plan to replace and update the Heatwave and Cold Weather Plans. It will provide updated guidance in cold and hot weather, drought and flooding informed by scientific evidence nationally and internationally.

He also noted that the CCHS will work closely with other teams in UKHSA that also have a shared interest in climate response such as the Air Quality and Public Health Team and the Environmental Epidemiology Group.

Building resilience to future events is vital, Davison said. "It's not just about how we manage to mitigate the impact of a specific climate related event, but how can we adapt effectively to reduce the risk for the future."



Successes

The centre has successfully provided expertise to support front-line health protection services, local authorities and healthcare organisations through the provision of emerging evidence support and advice.



Challenges

Davison said one of the key challenges is to ensure it provides guidance and information that makes sense to those who need to hear it so that it results in people and organisations taking the necessary actions to protect themselves and others.



Laura Wilkes

Deputy Director, Greener NHS

Laura Wilkes started off by summarising the threats of climate change to health. “Climate change is a health emergency and more than 13 million deaths around the world each year are due to avoidable environmental causes. Air pollution is the single greatest environmental threat to health in the UK, contributing to 1 in 20 deaths as well as increased cases of asthma, cancer and heart disease.”

She told the webinar that the health sector would be the fifth largest emitter on the planet if it was its own country. “This places an enormous responsibility on all healthcare institutions to recognise and act on the emissions they are causing. The NHS is a global scale polluter, individually responsible for generating more carbon emissions than the majority of nation states -generating about 4% of all UK emissions and 40% of public sector emissions.” The NHS is both part of the problem and part of the solution, she said.

There has already been good progress; since 2010 the NHS has reduced its emissions by 30%. In October 2020 the NHS became the world’s first health system to commit to become ‘carbon net zero.’ Within that commitment are two targets - to become net zero by 2040 for emissions that the NHS directly controls and by 2045 for the emissions that the NHS can influence, for example through its supply chains.

In June 2022 for the first time, all 212 NHS trusts set out their own roadmaps to tackle climate change. These green plans together will reduce emissions by more than a million tonnes of carbon in the next three years – equivalent to taking 520 000 cars off the road, Wilkes told the webinar.

The new Health and Care Bill, which received royal assent on 1 July 2022, also places a duty on NHS organisations to consider climate change in their operations. This makes the NHS the first healthcare system to embed net zero in legislation. “This is an incredible success of our work that we now have it on a statutory footing,” said Wilkes.



Successes

Wilkes said that a major success is that the NHS leadership has inspired global action with 20 countries following its example and setting net zero targets. “A huge strength is our staff and their commitment to this agenda with 9 in 10 staff supporting a net zero NHS,” she added. There are also numerous examples of NHS people and teams pioneering sustainable healthcare solutions around the UK. For example, at Wythenshawe Hospital in Manchester clinicians have switched to using intravenous anaesthetics 80% of the time. As well as avoiding the release of greenhouse gases at the point of use, the intravenous anaesthesia helps patients feel brighter when they wake up. London Ambulance Service has invested £16 million in an electric response fleet which will see it become the greenest fleet in the country.



Challenges

Wilkes said an ongoing challenge is to keep abreast of the rapidly changing technology and harness it to help mitigate climate change. Another challenge is to keep feeding the research pipeline, so there will be evidence in the future to support low carbon care pathways. Finally, she said they had already identified hotspots around asthma inhalers and anaesthetics and now needed to identify which other areas within care pathways can be done differently to help get to net zero.



James Dixon

Associate Director, Sustainability, Newcastle Hospitals and Sustainability Lead for North East & North Cumbria Integrated Care System

In June 2019, Newcastle Hospitals became the first healthcare organisation in the world to publically declare a climate emergency. James Dixon told the webinar that this meant three things: a public acknowledgment that the climate crisis is a health crisis, a commitment to fast-tracking the reductions of carbon emissions, and a plan to work collaboratively with civic partners across the city.

The trust has had a number of notable achievements. These included creating a climate emergency executive oversight group, banning diesel for fleet and lease vehicles, and more staff cycling into work. They were also the first trust to adopt Ecosia as a default internet search engine – this uses the profit from searches to plant trees. Newcastle Hospitals were also the first in Europe to use reusable sharps boxes; a move which results in a 90% reduction in lifecycle carbon dioxide emissions.

Newcastle Hospitals have set more ambitious targets than those set nationally with a target of 2030 for the emissions they can directly control to be net zero and 2040 for emissions that they can influence to be net zero.

Dixon explained how they set up SHINE (Sustainable Healthcare in Newcastle) which established a clear identity and direction. Within SHINE are eight priority areas – energy, water, waste, buildings and land, journeys, procurement, care, and people. They have published a 5 year plan which sets out what they want to achieve in each area by 2025, how they will achieve it and how it will be measured. Progress towards targets are reported in annual SHINE reports.



Successes

The trust has had great success in mapping the estates energy and power use, Dixon told the webinar. “This is by far the biggest part of our controllable emissions; 88% of our 2030 target is associated with the heat and power of our big acute hospital sites.”

Another area which has seen huge progress is journeys. The trust developed the UK’s first Integrated Care for Cleaner Air framework and approved a subsidy to support staff to commute sustainably. There has been a 62% reduction in travel and transport carbon emissions since 2019-20.

Newcastle Hospitals was the first to trial nitrous oxide cracking technology in labour wards. Nitrous oxide is commonly used in the UK to provide pain relief during labour but it is a powerful greenhouse gas, almost 300 times more potent than carbon dioxide, Dixon said. This new technology ‘cracks’ any residual nitrous oxide into harmless nitrogen and oxygen.



Challenges

Dixon said they have worked on demand reduction but it has not kept pace with the increased use of energy. For example, white boards for patient information have been replaced with electric whiteboards which use real time data. This is better for patient care but means an increase in electricity usage.

The area of waste continues to be challenging particularly with the large quantities of PPE used during the COVID-19 pandemic. “We need to dispose of less and reuse and recycle more,” he told the webinar.

A big challenge on procurement was one of confidence in the data, Dixon said. We need to work with suppliers to increase confidence in the supply chain carbon data accuracy.



Renzo Guinto

Chief Planetary Health Scientist, Sunway Centre for Planetary Health, Malaysia and Director, Planetary and Global Health Program, St Luke's Medical Center College of Medicine, Philippines

The moderator for the debate, Renzo Guinto, said that low and middle income countries have long standing experience in disaster risk reduction. For example, the Philippines has more than 20 typhoons annually which are increasing in severity and frequency. He added that gains made in terms of the control of infectious diseases such as dengue and malaria are now at risk because of the climate emergency. "There is so much we can learn from each other. The effects of climate change are becoming familiar whether you live in the UK or in South East Asia," he said.

He reminded the audience that in low and middle income countries some health systems don't even have a reliable supply of electricity. "When talking about decarbonising it is important to deal with these issues through an equity lens."

Summing up what other countries could learn from the UK and the NHS, Guinto said: "A number of critical ingredients are needed in order to effect long lasting change - top level leadership coupled with good technology and financial and infrastructure resources."

Question and Answer Session

A number of valuable questions were shared with the panel but due to time constraints, only a few could be chosen.

Are there any lessons from the COVID-19 pandemic that can be applied to tackling climate change?

James Dixon said the pandemic has resulted in both positives and negatives from an environmental point of view. Waste from single use plastic increased massively, although hospitals are getting better at segregating so it is not all sent to landfill. There have been big gains in clean air with more people cycling, for example. However, there has actually been an increase in energy use with the need for more ventilation to control an airborne disease. And even if more people are working from home the hospital still needs heating. "The pandemic has shown that society can change when it wants to when the threat is immediately apparent," he told the webinar.

Laura Wilkes said the UK government has now launched its enquiry onto the response to the COVID-19 pandemic so over time it will become apparent what lessons can be learnt. "What we saw during the pandemic was 1.4 million members of staff collectively coming together to really make a difference. The challenge now is how to harness that power but over a longer period of time."

What are the barriers to change and how did you try to overcome them?

Laura Wilkes said a real challenge was how to make the move to net zero personal and real to everyone wherever they work - whether it is in the hospital canteen, as a driver or in direct patient care.

She said that another challenge is that the supply chain makes up a large part of the carbon footprint and this is not directly controlled by the NHS. "The NHS relies on around 80 000 suppliers and this includes medicines, equipment and food. We need to bring our suppliers with us on this." She said one way they had tried to do this was through an [open letter](#), published in the BMJ, urging suppliers to commit to work with the NHS to decarbonise their operations and share best practice.

How can we share learning?

Laura Wilkes said the NHS and the World Health Organization are currently setting up a small team to support other countries to reach their own commitments around net zero through shared learning, setting standards and metrics and providing tools and resources.

James Dixon pointed to a great BMJ article – "[What Can You Do?](#)" (2019) about what health professionals can do to counter the Climate Emergency and improve their health.

He added that no small action will be inconsequential and it was important to talk about it with others. "Don't underestimate your power," he said.

The NHS has also published a roadmap for suppliers to bring them on the journey to net zero. From this year a 10% net zero and social value weighting will be placed on all NHS procurements. By 2030 suppliers will only be able to qualify for NHS contracts if they can show they have decarbonised.

James Dixon added that the appetite for change is there but the workforce is exhausted as a result of the pandemic and the cost of living crisis. He said they had tried to overcome that by creating sustainability fellowships for clinicians and nurses and give them 50% of protected time to work on sustainability projects. This has been supported by charitable funding.

Renzo Guinto said that at St Luke's Medical Center in the Philippines they are launching an online course for climate-smart healthcare in developing countries in the coming months.

He closed the webinar by saying: "Climate change is an area that is ripe for innovation. There is an opportunity to think outside the box. We should use our connections and learn from each other."

About the BMJ and ADB partnership

BMJ and the Asian Development Bank (ADB) launched the [COVID-19 \(Coronavirus\): ADB Information Centre](#) to support frontline health professionals manage patients with COVID-19, its relevant differential diagnosis and common comorbidities in real-time, at the point of care.

The Information Centre provides free access to digital health tools such as clinical decision support from BMJ Best Practice, accredited e-learning courses from BMJ Learning as well as patient information leaflets and procedural videos. Evidence on COVID-19 is rapidly changing and frontline healthcare professionals can benefit from trusted, evidence-based and continually updated international guidelines.

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