

## Clinical Senate Council Meeting

Thursday 28<sup>th</sup> November 2019  
South West Clinical Senate Council: Climate Change

### Deliberative Topic

***The NHS produces millions of tonnes of waste, and is responsible for 6.3% of England's total carbon emissions and 5% of travel in the UK;***

***What are the top 5 high impact changes that healthcare systems can make as a meaningful contribution towards mitigating climate change?***

### Overview

This topic was proposed by South West Senate Clinicians who requested that the Senate Council consider the responsibility of the healthcare system to respond to climate change and explore the concept that climate emergency is a healthcare emergency.

A number of healthcare organisations within England have declared climate emergencies in the last 3 months and NHSEI is expected to publish a climate change action plan imminently. A dual expectation therefore of these recommendations was that independent clinical advice informing these action plans would be welcomed and that the South West might be able to establish itself as an early implementer of those changes identified.

In developing these recommendations, the Clinical Senate brought together the Sustainability Development Unit (SDU), regional sustainability leads, CCG and provider leads, Royal College input, PHE and Pharmaceutical expertise, to present evidence and suggest how the NHS can mitigate against climate change.

### Evidence

The Climate Change Act was introduced in 2008 to ensure the UK cuts its carbon dioxide equivalent emissions by 80% by 2050 against a 1990 baseline. Each greenhouse gas's (GHG) global warming potential (GWP) is measured against CO<sub>2</sub> as a reference gas. The interim targets for reductions in carbon dioxide equivalent emissions to meet the Climate Change Act are a 34% reduction by 2020 and a 50% reduction by 2025.

Set against a backdrop of increased clinical activity and during a period of transformation, the NHS has demonstrated significant progress by reducing its carbon emissions by 18.5% between 2007 and 2017, reducing its water footprint by 21% between 2010 and 2017 and ensuring 85% of NHS provider waste is avoiding going directly to landfill.

However, major changes are required if it is to help make the UK carbon net neutral to reduce carbon dioxide equivalent emissions across building energy use, travel and procurement of goods and services by its target of 34% by 2020. Currently the NHS contributes around 6.5% of England's total carbon dioxide emissions, continuing to be the largest public sector contributor to climate change. 2019 however has seen significant societal change, encouraging leaders to make environmental changes in their organisations. The November 2019 Lancet Countdown Review on health and climate change stated; 'An unprecedented challenge demands an unprecedented response'.

The NHS Long Term Plan, published in 2019, states that 'the NHS will work to reduce air pollution from all sources. Specifically, we will cut business mileage and fleet air pollutant emissions by 20% by 2023/24. Almost 30% of preventable deaths in England are due to non-communicable diseases specifically attributed to air pollution. More than 2,000 GP practices and 200 hospitals are in areas affected by toxic air. In 2017, 3.5% (9.5 billion miles) of all road travel in England was related to patients, visitors, staff and suppliers to the NHS. At least 90% of the NHS fleet will use low-emissions engines (including 25% Ultra Low Emissions) by 2028, and primary heating from coal and oil fuel in NHS sites will be fully phased out. Redesigned care and greater use of 'virtual' appointments will also reduce the need for patient and staff travel.'

The SDU, set up by NHSEI and PHE to lead on sustainability within the NHS focuses on 3 key workstreams. These are air quality, reducing carbon, waste and water and reducing single use plastics. They plan to reduce mileage and fleet emissions through a reduction in outpatient appointments and the way in which they are organised, a gradual rehaul of the NHS fleet and a large scale move away from using coal and oil energy. Other key areas of focus regarded as quick wins are the use of anaesthetic gases and respiratory inhalers. It was noted that the emphasis on infection control in the 1990s has had unintended consequences around single use items in healthcare delivery and that infection control leads need to be engaged in climate change planning to debunk certain myths. Senior healthcare leadership is starting to take its responsibility for climate change seriously but further widespread culture shift is still needed to change behaviour across the board. There are huge opportunities to make an impact within estates, waste, travel, pharmaceuticals, freight, single use items and food and drink.

The Clinical Senate heard about the Green Impact for Health Awards Scheme, employed by many GP practices and providers in the South West. A successful reward scheme to incentivise sustainable working with different levels of attainment, all local healthcare systems were encouraged to use the scheme and build them into their STP climate adaptation plans. It follows a simple but effective cycle, focusing on providing simple actions, supporting people to make the changes and rewarding them for their efforts.

UHB and NBT as provider trusts, jointly declared a climate emergency in September 2019, linking up to the Bristol One City Plan for a 2030 target to become carbon neutral, developing an accelerated approach to carbon reduction. They are focusing on the short term of 0-5 years and targeting the largest contributors to emissions: transport, energy & water, anaesthetic gases, waste and the supply chain. The supply chain accounts for the largest area of their footprint (65-72%). Initiatives include fleet optimisation and rationalisation, greater use of telemedicine, increased electronic vehicle charging ports, business mileage reduction, energy review and implementation, maximised waste segregation, development of a sustainable procurement strategy and anaesthetic gas use reduction. 2% of the 51% reduction required in the NHS carbon footprint by 2025 is expected to come from reduced anaesthetic gases. Desflurane has 60 times the

environmental impact of less harmful gases and UH Bristol, NBT and Gloucestershire Hospitals working together have successfully reduced the use of desflurane by 135,000 kg of CO<sub>2</sub> a month, saving over £7,000 per month.

Anaesthetic gases are problematic overall with 50% of anaesthetic gas carbon emissions coming from Nitrous Oxide, 17% from Desflurane and 2% from Sevoflurane. There is consensus amongst anaesthetists and the RCA now that desflurane should very rarely be used. It was noted that nitrous oxide in methane from agriculture is a much bigger problem but in terms of the responsibility of healthcare around climate change, alternative pain relief in labour and emergency care should be offered, with patients given more information about the carbon currency or passenger miles attached to certain elements of care, particularly where it is optional. Climate change is also another reason to avoid unnecessary interventions and surgery where possible and promote the self-care and prevention agenda. It was also put forward that all theatres should use low flow anaesthesia, which recycles gases and recovers around 60% of the volatile agents.

In terms of peri-operative care it was also highlighted that UK theatres produce significantly more waste (up to 4 times) than those in Germany and France and the culture around single use items in the UK needs to be challenged, citing the 'gloves off' campaign at Great Ormond St Hospital, ditching single use gloves in favour of hand washing. It was also noted that there is significant appetite from staff to work sustainably, innovate and change behaviour which should be embraced and encouraged. HEE should start to include education around sustainability within healthcare in clinical training.

In addition to anaesthetic devices, the impact of the use of respiratory inhalers was explored, noting that a move to dry powders over traditional metered dose inhalers (MDIs) which are less harmful to the environment is encouraged, but that different options should be considered both in terms of clinical appropriateness and in terms of the carbon footprint, not just cost. Currently around 53% of all prescribed inhalers are MDIs. NICE has an inhaler prescribing decision aid which can be used to facilitate discussions. Recycling schemes for inhaler devices were also discussed, noting that community pharmacies could have a role in encouraging recycling when dispensing new prescriptions. Via medicines use reviews there is also an opportunity for community pharmacists to educate patients around the correct use of inhalers and switch to dry powders and new smart inhalers where clinically appropriate. A shift to dry powder inhalers is expected to deliver a reduction of 4% in the NHS' commitment to reduce its carbon footprint.

The impact of global warming was also explored, in terms of how healthcare needs to adapt to climate change, considering excess winter deaths (which had been falling until recently), excess mortality as a result of heatwaves, the mental health impacts of extreme events such as flooding and how vulnerable groups will be impacted the most by the effects of climate change. Even with mitigation and carbon reduction plans we can expect to see a 3 degree rise in temperature by the end of the century with more extreme events, continual adverse weather, water shortages, food security risks and the potential for new diseases. As well as taking a responsibility to mitigate against healthcare's contribution to climate change the NHS must plan to adapt to a changing environment in terms of estates management and seasonal planning. The temperature rises to date have already brought increases in some types of extreme weather, droughts, floods, sea level rise and biodiversity loss. Currently Intergovernmental Panels on Climate Change report that that global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate. In this context, there is a strong case for both accelerating emissions reductions but also preparing for the impacts of a changing climate. Organisations are advised to prepare our health and care systems to both respond and adapt to the impacts of climate change. This includes being able to withstand more frequent and severe extreme weather events.

Public demand and staff support for the sustainable use of resources is high. 92% of the public and 93% of staff expect the health and social care system to operate in a sustainable manner by, for example, improving resource efficiency, reducing and offsetting carbon emissions and reducing waste. The Citizens' Assembly reported to the Senate Council on the huge public appetite in the South West to make the NHS environmentally sustainable and reduce journeys in particular, and recommended that this enthusiasm is maintained and harnessed.

The public had fed back suggestions around an increased use of e-appointments, synchronising appointments so only one trip is needed, e-prescription services and more telephone bookings, community staff to be incentivised or supported to use bicycles, innovative use of existing NHS green spaces, were 'appalled' at the amount of single use plastic being used and supported the discussion with infection control teams about which single use items can be ditched and which can be reverted back to reusable items for sterilisation. It was suggested that the law around including lengthy instructions inside packaging for commonly understood medicines such as paracetamol could be challenged, using QR codes instead, and that blister packs for medicines were an unnecessary use of packaging. One patient reported "I assumed he was to be seen by a registrar from the surgical team. He was seen by a dressings nurse. The total journey was 108 miles. I picked him up at 08.45 and returned him home at 13.40hrs" and another "An enormous amount of wasteful packaging used for medication. Why do so many medications have to be in blister packs? My mother cannot get her tablets out of the blisters."

One successful online pre-op tool was considered by the council, which demonstrated real potential to save nursing hours and patient travel. Over 5 weeks 18787 patients used the tool (completing an online form rather than travelling to hospital to attend an appointment) and 31% reported that the application saved them an additional trip to hospital and 13,029.4 miles of travel were saved (return journeys), equating to a carbon saving of 5.96 tonnes of CO<sub>2</sub> and an average of 2.45 hrs of time per patient and on parking costs. It has been calculated that online pre-operative appointments have the potential to save approximately 1million outpatient appointments per year. This equates to 6,700 tonnes of carbon and would remove the need for approximately 1,000 car parking spaces.

## **Recommendations**

It was clearly acknowledged by the Clinical Senate Council that climate change should be treated as a healthcare emergency and that there is much that can be done both in the short and medium term to make the NHS more sustainable, at provider, organisational, procurement, estates and individual levels.

The healthcare system should be an exemplar of climate change prevention and mitigation both through its actions and the behaviour of its staff, not only because of the huge impact it has on the environment through emissions but also because of the existing and future impacts of both climate change and pollution on health, which the NHS will have to respond to. The NHS is both part of the problem and the solution, noting that the consequences of climate change via health impacts can be used as a lever to mobilise and catalyse change.

The Clinical Senate Council advised that the 'S' in STPs needs to be addressed much more seriously and wider systems need to work together to query the environmental impact every time money is spent in health and social care. Much of the evidence reviewed suggested that incremental change at scale across the health service could be very powerful. It was also felt that clinicians and senior leaders within health and

social care have an opportunity as opinion leaders to promote cathedral thinking around climate change mitigation, encouraging a shift in culture, promoting education and innovation and prompting the snowball effect of small changes that are high impact at scale. In addition, all staff working in the NHS have a responsibility to modify their own work patterns to minimise the impact on climate change.

**Key Recommendations are as follows:**

**Travel**

1. Providers and patients should be supported by NHS digital services to avoid unnecessary visits to the hospital via telephone appointments, video appointments and online applications. These appointments should attract the same tariff as face to face appointments or even be incentivised through tariffs.
2. There should be no new NHS vehicles put on the road that aren't electric from 2021, and recharge points should be established at all NHS sites for patients, visitors and staff, including recharge points for ambulances at A&E.
3. All hospitals should have a comprehensive local electric shuttle service to limit single passenger car journeys to provider organisations.
4. All NHS organisations should ensure they have ample and safe bike rack arrangements.
5. All NHS organisations should create social networks of support for travel arrangements, encouraging lift sharing and taxi sharing.

**Estates**

6. All hospitals should sign up to the Clean Air Hospitals Framework.
7. All hospitals should seek to use their buildings for solar power and should be incentivised to do so.
8. Waste management, including correct bin usage and recycling should be standardised across all NHS organisations across the South West and built into trust inductions and training processes.
9. Estate teams should be supported to plan for the future and implement sustainability policies – this includes insulation review, heating control upgrades and switching to renewable energy where possible.
10. All new estate projects should be designed to be carbon neutral.

**Workforce**

11. The NHS workforce should strive to be leaders of public opinion, acting as role models and talking to patients and the public about the options available to them to reduce global warming.

12. Incentives for green travel for staff such as cycling and electric vehicles should be established and encouraged.
13. HEE should include environmental sustainability in staff training.

### **Anaesthetics**

14. All hospitals should have an identified anaesthetic lead with responsibility for promoting environmentally friendly anaesthesia.
15. All hospitals should have policies to minimise the use of desflurane.
16. All theatres should upgrade to have the capability to deliver low flow anaesthesia at the earliest opportunity.

### **Inhalers**

17. Dry powder inhalers should be considered as a first-choice prescription.
18. Prescribers should receive information on the global warming potential of their prescribing as compared to other providers.
19. PCNs should work with Community Pharmacists to promote the recycling of inhalers.

### **Organisations**

20. All NHS organisations should have a sustainability lead at board level with sustainability on the agenda at every meeting to encourage and maintain consistent innovative leadership around sustainability. There should be a clear focus on reducing travel through efficiency and improved technology as well as a cultural change in attitude to make climate change everyone's business. Organisations could also set a monthly 'Green day' to initiate staff and organisational pledges.
21. NHSEI should consider a '6<sup>th</sup> test' as part of its assurance process to review large scale change and all changes to service models or procurement of services should include a Sustainability Impact Assessment.
22. All organisations should sign up to the Green Impact for Health Scheme and have it on the agenda for every board meeting.
23. Sustainability should be built into CQC inspections as a key measure, also ensuring that private providers of healthcare take responsibility for climate change.
24. The NHS should only use sustainable meeting venues. The SDU website information on sustainable meetings should be adopted. NHSEI has a responsibility to amend the calders booking system to ensure only bookings at sustainable venues are used, with no plastic bottles or single use catering items.

25. NHSEI, as advised by the SDU, should develop a common measure such as carbon footprint or miles for NHS devices, medicines and episodes of care to assist discussion with patients and allow comparison of products and services in terms of environmental sustainability.
26. PHE should undertake a climate change campaign to challenge and change the behaviour of individuals and in the context of prevention being the greenest thing we can do for the NHS.

### **Digital**

27. All provider organisations should only email or text patients with appointment details as standard procedure unless patients have opted in to receive letters. (Patient confidentiality should not be used as an excuse to not undertake this given the possibilities around intercepting post.)
28. All NHS organisations, providers and meeting venues should have wifi good enough for video conferencing and access to video conferencing that can be used on a 1:1 basis or at scale, ensuring high quality audio and visual effects.

### **Procurement**

29. All NHS providers should sign up to the SDU's plastics pledge and all NHS organisations should ban plastic food utensils, cups and bottles. This should be supported at a national level by procurement systems so that these purchases are not possible.
30. National procurement teams should work with infection control to develop policies to stop using gloves, aprons and single use products where possible.
31. Pharmaceutical procurement should seek to procure and prescribe medicine in recyclable packaging and limit the use of blister packs.
32. Pharmaceutical procurement should seek to change the law around instructions in packaging for commonly understood medicines where the instructions are sufficiently included on the external packaging.
33. A carbon footprint measure for all products should be developed to weigh up both the cost and the environmental impact of a product. Sustainable procurement strategy should be prioritised at a national level and purchasing power harnessed to mitigate against climate change. NHS procurement should be asking for information about the sustainability of the supply chain process and life cycle of our products to inform procurement decisions by asking suppliers how they are going to help meet carbon neutral targets we can influence the cycle of products. This has been demonstrated by UHB and NBT and other trusts should follow suit in writing to suppliers.

### **Inpatient Providers**

34. NHS inpatients should be supported to act sustainably with the opportunity to communicate with friends and relatives via skype or another facility and given information on bringing reusable water bottles and cups with them for elective inpatient stays.
35. NHS catering services should participate in meat free Mondays.



### **Next steps**

The intention is that these recommendations will be shared with the SDU, Simon Stevens' Office, NHSEI procurement, infection control and pharmacy leads, sustainability leads, NHSX and NHSEI regional medical director and digital director and Chief Executives across acute and community trusts, PCNs, STP and ICS leads and other Clinical Senates for use in other regions.

### **Pre-reading**

1. <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2819%2932596-6>
2. <https://www.channel4.com/news/hospital-declares-climate-emergency>
3. [https://www.sduhealth.org.uk/documents/publications/1237308334\\_qyIG\\_saving\\_carbon\\_improving\\_health\\_nhs\\_carbon\\_reducti.pdf](https://www.sduhealth.org.uk/documents/publications/1237308334_qyIG_saving_carbon_improving_health_nhs_carbon_reducti.pdf)
4. [https://www.kingsfund.org.uk/sites/default/files/field/field\\_publication\\_file/sustainable-health-social-care-appleby-naylor-mar2012.pdf](https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/sustainable-health-social-care-appleby-naylor-mar2012.pdf)
5. [http://www.newcastle-hospitals.org.uk/downloads/About%20us%20pages/Sustainability\\_Strategy.pdf](http://www.newcastle-hospitals.org.uk/downloads/About%20us%20pages/Sustainability_Strategy.pdf)
6. **Clean Air Hospital Framework DOWNLOAD THE CLEAN AIR HOSPITAL FRAMEWORK (PDF)**
7. <https://www.bathnes.gov.uk/climate-emergency>
8. <https://www.healthylondon.org/wp-content/uploads/2019/09/Improving-air-quality.pdf>
9. [https://ccs.edfenergy.com/save/energy-saving-services?utm\\_source=EDF%20Energy%20Ltd&utm\\_medium=email&utm\\_campaign=1090417](https://ccs.edfenergy.com/save/energy-saving-services?utm_source=EDF%20Energy%20Ltd&utm_medium=email&utm_campaign=1090417)
10. <http://www.oxfordahsn.org/wp-content/uploads/2017/01/Sustainability-Report.pdf>
11. <https://www.telegraph.co.uk/news/2019/10/20/nhs-boss-announces-air-pollution-emergency-major-study-shows/>
11. <https://bmjopen.bmj.com/content/bmjopen/9/10/e028763.full.pdf>
13. <https://anaesthetists.org/Home/Resources-publications/Environment/Our-environmental-work/Why-it-matters-facts-figures>
14. [https://www.sduhealth.org.uk/documents/publications/2017/Identifying\\_High\\_Greenhouse\\_Gas\\_Intensity\\_Procured\\_Items\\_for\\_the\\_NHS\\_in\\_England\\_FINAL.pdf](https://www.sduhealth.org.uk/documents/publications/2017/Identifying_High_Greenhouse_Gas_Intensity_Procured_Items_for_the_NHS_in_England_FINAL.pdf)
15. [www.carbonfootprint.com/calculator1.html](http://www.carbonfootprint.com/calculator1.html)
16. [www.carbontrust.com/resources/faqs/services/calculate-carbon-footprint/](http://www.carbontrust.com/resources/faqs/services/calculate-carbon-footprint/)

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