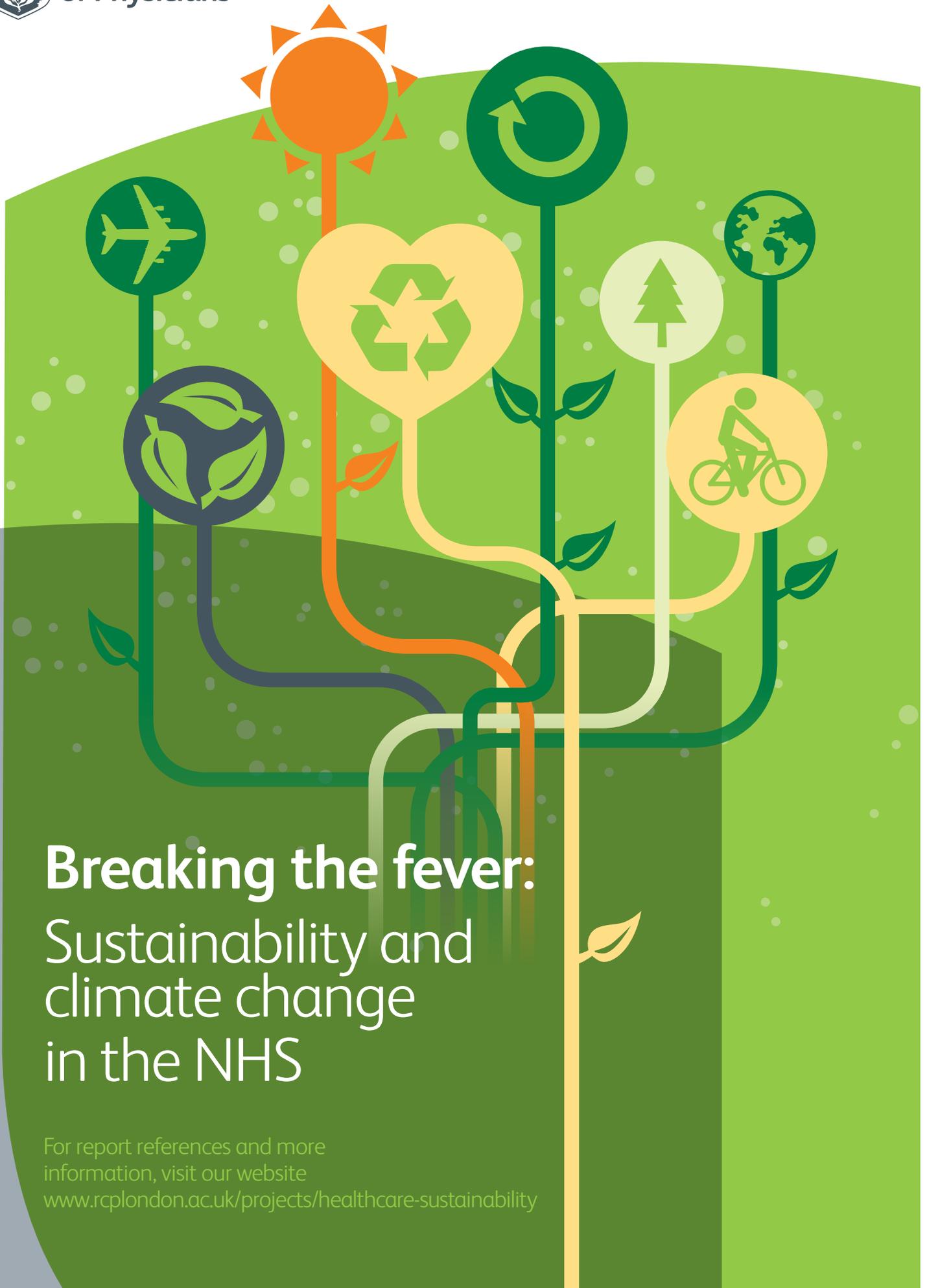




Royal College
of Physicians



Breaking the fever: Sustainability and climate change in the NHS

For report references and more
information, visit our website
www.rcplondon.ac.uk/projects/healthcare-sustainability

This briefing gives an overview of the impact of climate change on healthcare in the UK, and how physicians and the NHS can contribute to reducing greenhouse gas emissions.

The NHS produces more carbon emissions annually than all the planes taking off from Heathrow each year.¹



540% increase in premature deaths from higher temperatures alone in next 65 years.²



Sending digital discharge summaries and outpatient letters to GPs could save nearly 1.5 million trees per annum.^{3*}



The **NHS** is one of the largest contributors of greenhouse gas emissions in the UK

Heat-related deaths rising to **7,000** a year

What is climate change?

Climate change is 'the biggest global health threat of the 21st century' according to *The Lancet*.⁴

It represents a real, significant and imminent threat. Without urgent action to reduce greenhouse gas emissions disease patterns will change, the frequency of extreme weather events will increase and demand for clinical services will rise across all social groups, both locally and globally.

The average global temperature rose by almost 1°C in the last century and 13 of the 14 warmest years have occurred since 2000.⁵ It is predicted that average global temperatures will continue to rise by 3°C or more, compared with the 19th century.⁵ Unless these trends are reversed, average summer temperatures in south-east England are projected to rise by over 2°C – warmer than the 2003 European heatwave that killed 2,000 people in England and Wales, and may have resulted in the premature deaths of 70,000 people across Europe.^{6,7,8} The Met Office warn that summers like 2003 could occur as frequently as every other year up to 2050.⁹

These rising temperatures will be accompanied by increased flooding with rising sea levels, extreme weather events such as hurricanes, and worsening air pollution.

Impact of climate change on health

It is estimated that between 2030 and 2050 climate change will be responsible for an additional **250,000 deaths** a year globally.¹⁰

Extreme weather – the UK will become prone to increasingly frequent and intense heatwaves and droughts.¹¹ The UK's infrastructure is not equipped to cope with warmer climates. The number of **heat-related deaths** in the UK during heatwaves could increase to **7,000 a year**.¹² Children and older people will be most at risk of dehydration, cardiovascular disease from heat stress and acute kidney injury.²

Rising sea levels and inundation – sea levels in the UK are rising at around 3mm a year and are expected to rise by as much as a metre by 2100, putting a constant strain on 200km of the UK's coastal defences, and flooding London once every decade.^{13,14} Up to **5 million people in the UK** will be significantly likely to experience flooding in the next 63 years, causing huge displacement of people, tremendous financial ramifications, as well as the psychological impact on victims of flooding – indeed, after the 2007 floods there was a **two- to five-fold increase in mental health issues**.^{12,15} Flooding is more likely to affect the least well off in our society – the most deprived 10% of the population are eight times more likely to live in the coastal floodplain than the least deprived 10% leaving them especially vulnerable.¹⁶ Furthermore, 7% of hospitals in England are **built on a flood plain** as well as 9% of GP surgeries and health centres and 13% of police, fire and ambulance stations.¹⁷

Increased disease risk – the population of disease-spreading insects will increase, which could lead to the increased spread of vector-borne diseases and the introduction of new diseases.¹² Other communicable diseases such as **salmonella**, **campylobacter** and **legionnaire's** may become more common.²

Pollution and air quality – toxic health effects of air pollution were highlighted by the RCP’s report *Every breath we take*.¹⁸ As well as impacts of pollutants affecting the **6–9 million people living with respiratory diseases**² air pollution is linked to higher rates of cancer, asthma, stroke, heart disease, diabetes, obesity and dementia.

Higher risk of UV exposure – increased risk of exposure to high levels of UV are associated with the rising climate temperatures. This will increase the incidence of **skin cancer and cataracts** in the UK.²

Risk to food supply – changes in temperature, rainfall and an increase in extreme weather events may affect food supply. Even with low levels of warming (less than 2°C above the temperature in 1800), global production of major **crops such as wheat, rice, soya and maize may be harmed**. The UK is reliant on imports; **46% of our food is imported**.¹⁹ Floods or droughts across the world could have a major impact on the cost and availability of food in the UK, made more acute after the UK leaves the EU, which provides 27% of all UK food imports.¹⁹

Cost to the NHS – the 2003 heatwave cost the NHS **£41.4 million** and the economy more widely **£399.8 million**.²⁰

Air pollution already costs the UK economy some £20 billion a year and this will only increase if temperatures rise.¹⁸ Evidence of long-term financial benefits are starting to be published.^{21,22} These financial savings can be directed towards preventative or improved care to further improve patient wellbeing and reduce health service demand.

Impact of the NHS on the environment

The NHS is one of the largest contributors to greenhouse gas emissions in the UK.

In England alone the NHS produces more CO² per year than all passenger planes taking off from Heathrow annually. Within the public sector the NHS is the single biggest contributor of greenhouse gas emissions – some 25% of the total. Almost two-thirds (65%) of the NHS’s carbon footprint is due to procurement – including pharmaceuticals and medical devices – and 16% is due to patient and staff travel.¹ Unless action is taken, the NHS’s carbon footprint will only expand as demand from a growing and more medically complex population also increases.^{1,23}

Every clinical contact utilises energy and medical resources and produces multiple types of waste, including staff and patient travel, infrastructure, prescriptions and medical equipment. Global consumption of natural resources is growing to beyond what the Earth’s capacity can support and the production of waste entering back into the environment is accelerating climate change.

Progress has been made in recent years to reduce carbon emissions created by NHS services, but is predicted to stall by 2020.²⁴

Action is therefore needed to create a sustainable model of healthcare in the NHS and reduce its carbon footprint.

What is healthcare sustainability?

‘Healthcare sustainability’ refers to the **financial, environmental and social impact** of health services.²⁵ It assesses sustainability based on:

- > available resources
- > waste
- > the long-term implications of our current practice on the environment, society and the physical health of our patients.

These are also referred to as the **triple bottom line**. The aim of sustainable healthcare is to provide better care for patients today without compromising health and care provision in the future.

Considering the sustainability of healthcare delivery is as important as considering the financial viability of services. Without a sustainable environment, healthcare costs will rise and delivery will be made more difficult by the changing climate.

We have already seen the impact of climate change across the world and here in the UK as more extreme weather events become more frequent and sea levels are rising.²⁶ However, we are reaching an irreversible turning point where it may be impossible to prevent or mitigate further damage to the environment.

Everyone, including physicians, must play their part in reducing the impact of carbon emissions on the environment and ensure that we leave not only a sustainable health system, but also a healthy planet for generations to come.

Summary

- 1 Climate change is a real, significant and imminent health issue in the UK; its impact will increase demand for NHS services.
- 2 The NHS creates a substantial amount of greenhouse gas emissions, contributing to climate change.
- 3 As physicians we all have a responsibility to protect the current and future health of our patients.
- 4 We can be the drivers of change by promoting, understanding and working together to improve our individual practices, services and organisations.

Everyone, including **physicians**, must play their part in reducing the impact of carbon emissions on the environment

What can you do?

As physicians we have a responsibility to help our patients today and in the future.

This means ensuring that our services and management decisions are not only helping our patients now, but preserving their – and, indeed, all of our – health and wellbeing in the future. We must take a holistic view of value and quality in healthcare settings to include environmental and social impact, as well as economic and, most importantly, clinical outcomes.

Healthcare professionals from all disciplines, managers and senior NHS leaders should see action on climate change as a central issue in organisational objectives and risk management.

You can help drive the urgent changes needed in your healthcare setting. As an organisation, the NHS makes one million clinical patient contacts every 36 hours and has an annual purchasing budget of £20 billion.^{3,27} Our ability to make an impact is significant, through the service and care we provide and how we procure medicines and medical devices.

What is the RCP doing?

The RCP is committed to working to promote and integrate sustainability across the healthcare economy, to ensure it is embedded into immediate and long-term planning and service design. We believe that this will help to improve patient care, increase productivity and reduce waste and pollution.

We will promote the role of sustainable healthcare principles in delivering environmental and financial savings while maintaining excellence in patient care.

If you would like to find out more about our sustainable healthcare programme, please contact us at: sustainability@rcplondon.ac.uk or visit our website at www.rcplondon.ac.uk/projects/healthcare-sustainability.

Share your sustainability ideas and examples through the Future Hospital Programme's *Tell us your story* initiative.

You can:

- 1 Inform your patients and the public about the need to act on climate change and the health benefits of a low-carbon society, with cleaner air and more active, healthier lifestyles to help combat obesity, cancer, cardiovascular and other diseases.
- 2 Explore and promote sustainable healthcare practices and their benefit.
- 3 Question your own service models and challenge ourselves and others to reduce our professional and personal carbon footprints.

The **RCP** is committed to working to promote and integrate sustainability across the healthcare economy

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