



INSPIRE EMPOWER TRANSFORM

# CENTRE FOR SUSTAINABLE HEALTHCARE

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10 Year Impact Review

The Centre for Sustainable Healthcare inspires and empowers people to transform healthcare for a sustainable future.



We are sustainability experts, healthcare professionals and environmentalists. We work to bring people together across sectors and to provide strategic input and consultancy to national and local programmes.

Our Sustainable Specialties Programme is designed to mainstream sustainability within clinical areas so that it is integral to the planning of health systems and the practice of healthcare professionals. This is supported by our work in medical education and in carbon modelling of clinical care.

Our greenspace projects, especially the NHS Forest, help organisations to improve their natural environment and reconnect their staff, patients and the wider community with their local greenspaces to benefit their health.

Thank you for being part of our work.

**6.2 billion**

kg CO<sub>2</sub>e reduction in England's carbon footprint since 2007

**58,000**

trees planted on NHS sites

**£2.3 billion**

per annum waste identified in NHS

The Centre for Sustainable Healthcare is registered in England & Wales as a company limited by guarantee No. 7450026 and as a charity No. 1143189. Registered address: 8 King Edward Street, Oxford, OX1 4HL.

# The Centre for Sustainable Healthcare

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**Since we started the Centre 10 years ago**, out of a concern for the future of healthcare and of people's health in light of climate change, sustainability has matured from a fringe issue to mainstream. Everyone, from NHS Trusts to patient groups, is doing their own version. For us, sustainable healthcare is about prevention and quality improvement, patient-centred care and maximising value, underpinned by understanding and fully measuring resources.



I am so proud of what the team has contributed to the shift in healthcare towards sustainability. Five staff have been there from the start in 2008 and having that core of fantastic people who have developed programmes in collaboration with many partners, and pulled in different people and ideas over time, has been hugely valuable.

CSH has inspired a shift in thinking about sustainable healthcare away from the buildings and boilers to include health professionals and systems of care, and has pioneered the Fellowship model of change with clinical specialties.

We have worked with 11 specialties in depth as well as providing tools and resources for thousands of people. Our carbon footprinting work is also helping clinical groups to better understand resource use. The numbers on page 8 indicate some of our achievements.

CSH has always promoted and developed work across sectors, breaking down silos with roundtables and workshops - opening doors in healthcare for organisations working in the natural environment, planning, local authorities and industry. This has, among other outcomes, contributed to the introduction of green prescribing into mainstream healthcare.

I would like to thank all of our colleagues and partners – listed on page 18, and many other individuals for their hard work in taking forward this exciting field. Huge thanks to all of our amazing staff and Trustees, associates and members listed on pages 19 and 20 for their work and support for the organisation.

By empowering and, at the same time, learning from partners, fellows and scholars, associates, interns and volunteers we are all transforming healthcare for a sustainable future. But there is still a huge amount to do! See page 16 for what we will do next. The stakes are high, the opportunities are clear and we look forward to working with you all over the next 10 years to develop a healthcare system which is fit for the future as well as a planet which is fit for health.

Rachel Stancliffe, CSH Director

# Why do we care about carbon?

The World Health Organisation has stated that climate change is “the greatest threat to global health in the 21st Century”.

Global warming has clear links with health, from pollution, heatwaves and flooding to infection and allergies. Cutting carbon through healthier lifestyles and reducing resource use reduces climate change and also has direct health benefits.

The transformation to a more sustainable society will include organisations and people in all sectors to start making significant changes. However, the health sector in particular can make a vital contribution to sustainable development for a number of key reasons:

- **The healthcare sector** is dedicated to ensuring the health and wellbeing of the population - which is profoundly impacted by global environmental change.
- **Healthcare itself** has a significant environmental impact that urgently needs to be reduced. The NHS is the UK’s biggest public greenhouse gas emitter, responsible for ~5% of all UK environmental emissions with over 20 million tons of carbon from NHS England alone.
- **Health professionals** are highly respected and trusted, and are ideally positioned to model and lead sustainable change through their interactions with their patients and with the public.



Climate change is a serious threat to health



Healthcare contributes significantly to Carbon emissions

Engaging clinicians in sustainability can reduce Carbon emissions



Green space directly benefits health



CENTRE for  
SUSTAINABLE  
HEALTHCARE  
inspire • empower • transform



# Our vision of sustainable health and care

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## The 4 Principles of Sustainable Clinical Practice

### 1) **Prevention** - Through broader advocacy and in individual patient care, specialties should aim to tackle underlying causes of disease.

egs

- NHS Forest works with healthcare organisations to open up their green spaces to local communities. Through improving access to natural environments, we support local people to stay healthy and aid in recovery of patients.
- Royal College of Psychiatrists and CSH Sustainability Fellow, Dr. Daniel Maughan, is leading work on social prescribing in the mental health field to help with underlying causes of illness rather than just treating symptoms.

### 2) **Patient empowerment** - To reduce disease progression and pre-empt complications, many patients could be empowered to take on a greater role in the management of their own health and healthcare.

egs

- The **Green Nephrology** programme highlighted the use of Patient View, a web-based portal which gives patients direct access to their own laboratory results and medical records, empowering patients as owners and partners in their care.
- Social prescribing provides support to patients to choose interventions which suit them.

### 3) **Lean service delivery** - Improving clinical decision-making in the selection and targeting of interventions will reduce lower value activities and their associated environmental impacts.

egs

- As part of the **Sustainability in Quality Improvement** approach, Dr Chantelle Rizan, Sustainable Surgery Fellow, is using lean methodology to tackle environmental and social hotspots in surgical pathways.
- RCPsych and CSH Sustainability Fellow Dr Daniel Maughan, authored a guide for the Academy of Medical Royal Colleges called **Protecting resources, promoting value** to support doctors in identifying and cutting waste in clinical care.
- Our Green Ward competition engages ward and unit teams to develop, run and measure their sustainability projects to deliver savings both for their immediate service and for the Trust.

### 4) **Low Carbon alternatives** - where possible treatment options and medical technologies with lower environmental impact should be used. Inclusion of sustainability measures in the evaluation of medical technologies will allow for decisions to be made on clinical efficacy and environmental impact.

egs

- CSH has helped to pioneer the use of carbon footprinting and triple bottom line analysis in evaluation of alternative models of care.
- Sustainable Respiratory programme helped raise awareness of clinically effective alternatives to environmentally damaging metred-dose inhalers (MDIs).

*The Sustainable Physician, Mortimer, ClinMed April 1, 2010 vol. 10, no. 2110-2111*

# Highlights from the last 10 years

## Inspire

- **Conferences**, summits, roundtable discussions and workshops with a wide range of interdisciplinary partners
- **Mapping** actions and case studies
- **Campaigns** including 10:10, the NHS Forest, Age of Stupid, Show the Love
- **Sharing** best practice through online networks for clinicians



## Empower

- **Sustainability fellows** - embedding change within healthcare specialities
- **Carbon foot printing** of healthcare pathways and interventions



# Highlights from the last 10 years

## Transform

- **Research:** pioneering research at the interfaces between health and environmental change adaptations and greenspace
- **Sustainable healthcare education:** developed priority learning outcomes for the GMC, sustainability in Outcomes for Doctors; working with medical schools across the UK



- **Case studies:** implementing and measuring changes in healthcare services; sharing ideas and approaches to sustainable change
- **Clinical programmes:** such as our “Green Ward Competition” empower change from the grass roots
- **Promoting ethical procurement:** through partnering with the Medical Fair & Ethical Trade group.
- **Greening the NHS** by planting the NHS Forest on 181 healthcare sites and creating Green Health Routes to link local communities.



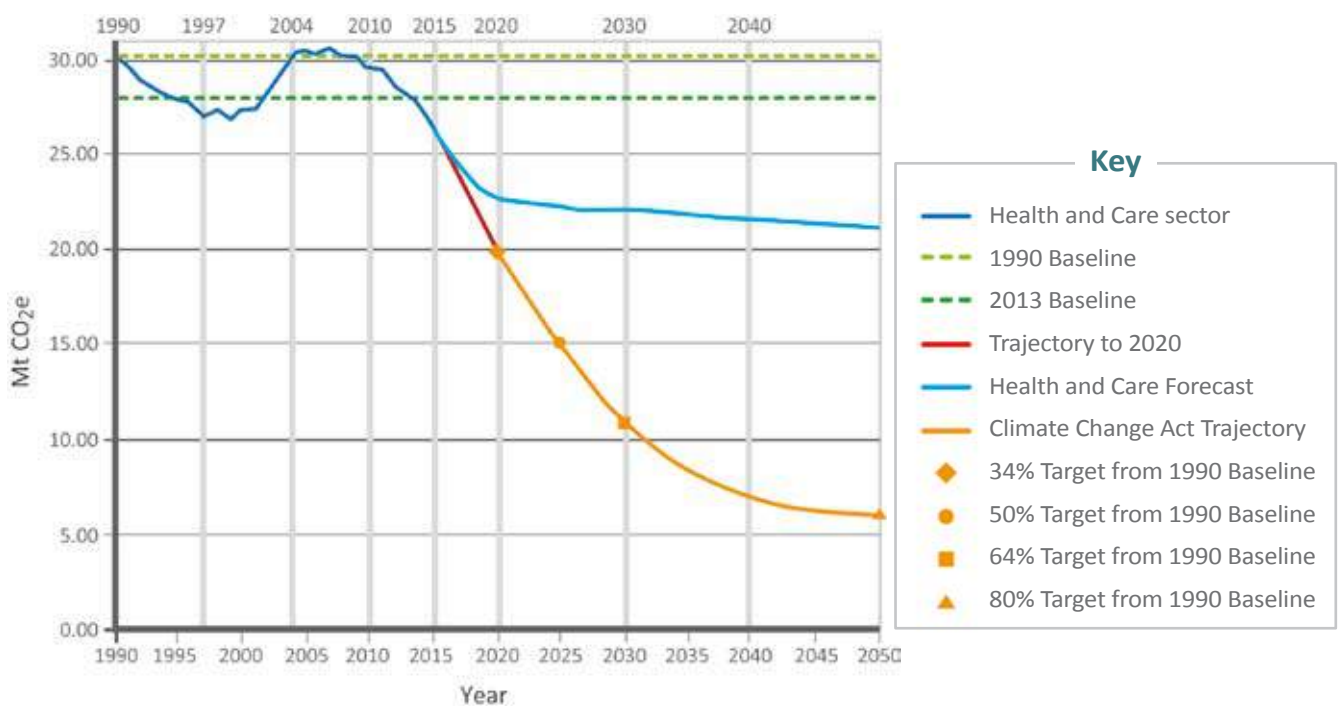
# Why we work with clinical specialties

## Why work with clinicians?

Since our inception the Centre for Sustainable Healthcare (CSH) has advocated that clinicians and health professionals are fundamental to creating a robust and sustainable healthcare system. This is not least due to the fact that healthcare professionals, together with patients, are the primary stakeholders within the system.

Put simply, without clinicians onboard, the NHS will be unable to achieve its legally binding carbon reduction targets of 80% by 2050. The majority of the 22.8 million tonnes of carbon dioxide equivalent emitted yearly by the NHS are due to clinical procurement such as pharmaceuticals (21%) and medical instruments (11%) over which clinicians have an enormous influence.

**Sustainable Development Unit, NHS**



## Streamlining Care

In order to even reach the 2020 carbon reduction target of 34%, clinicians will have to work with frontline staff, to streamline day-to-day care into an efficient lean and low-waste system. Empowering clinicians to question and re-evaluate the processes, habits and routines of their team is key.

## Transforming Care

Achieving long-term environmental sustainability, that does not contribute to a rise above 2 degrees Celsius in global temperatures as stipulated in the Paris Agreement, will require more than a dedication to streamlined care. It will require the healthcare system to transform to a largely preventative system that focuses on wellbeing rather than one in which chronic conditions are treated on a large scale with resource-intensive treatments. Only by working with clinicians, public health, social care and policy makers will this be achieved.

## Influence and Leadership

Finally, working with clinicians is key to affecting wider change. Healthcare professionals are trusted and respected in their communities. By taking a leadership role in the fight against climate change, they can inspire their patients and community to affect similar change in their own lives.



36

Workshops, summits and training courses (organised by CSH)

58,000

trees planted at 181 NHS Forest sites

168,368

kg CO2e saved annually on Green Wards

8

Green Ward Competitions held at Hospitals

11,000

kg CO2e annual savings from Green Nephrology



5

Fellows

19

Scholars

11

Clinical Specialties

72,000

healthcare and greenspace professionals, volunteers and members of the public reached

17

CSH Conferences

# Highlights from our clinical specialty programmes

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## Nephrology

- Established a new approach and model of working on sustainable clinical transformation with support from the National Clinical Director. First sustainable fellow - Dr Andy Connor.
- Developed first national sustainable clinical network with champions in 85% of renal units.
- Ground breaking research articles published including comparative carbon footprint of haemodialysis at home vs in-centre, and a carbon footprint of a renal service.
- Collation of local green nephrology case studies, with estimated savings of £7 million, 11,000 kg CO<sub>2</sub>e and 470 million litres of water per annum.



## Mental health

- Royal College of Psychiatry and CSH Sustainable Psychiatry fellow for 2 years.
- Academy of Medical Royal Colleges report, *Protecting Resources, Promoting Value*, which identified £2 billion waste in the system and reached the front page of the Guardian in 2014.
- *Guidance for Commissioners of Financially, Environmentally and Socially Sustainable Mental Health Services, 2015*.
- *Sustainability in Psychiatry*, occasional paper 97 of RCPsych.
- Policy changes and other integration at RCPsych. Fellow now has role in College.
- Development of the e-learning module on the social role of doctors.
- 8 sustainable psychiatry scholars and a network with over 400 people.



## Dentistry

- Wrote the national carbon footprint for dentistry, published with Public Health England.
- Established the sustainable dentistry network.
- 2018 Sustainable Dentistry conference co-hosted by Health Education England.
- 4 sustainable dental scholars developed e-learning module, How To Guide and video.

# Clinical specialty programmes

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## Occupational Therapy

- Occupational Therapy Sustainable Practice Network formed - now 796 members.
- Guiding Principles for Sustainability published by the World Federation of Occupational Therapists.
- The Art of Sustainable Living study day at the University of Brighton
- 10:10 Occupational Therapy Checklist.



## Nursing

- Establishment of the Green Nurse Network in 2018.
- Engagement of nurses through our Green Ward programme.



## Eye Care

- Establishment of the sustainable EyeHealth network with support from *Bausch and Lomb*.
- Royal College of Ophthalmology: Sustainable Working group set up, annual sessions at Congress and regular seminars in College.
- Development of Eyeefficiency: a global audit tool to reduce carbon emissions of cataract surgery as part of Seeing Is Believing programme with many international partners.
- Published a triple bottom line analysis of eye motility services at Moorfields.
- Moorfield Eye hospital appointed a sustainable ophthalmology fellow.



## Operating Theatres

- Sustainable Surgical Fellow started 2018. Collaboration with Brighton Medical School.
- Fellow in Environmental Anaesthesia to start February 2019, joint with Association of Anaesthetists of Great Britain and Ireland and Newcastle upon Tyne Hospitals NHS FT.
- International collaboration with US and Canada.



## Respiratory Health

- Roundtable with key stakeholders in respiratory medicine.
- BMJ article raising awareness among clinicians of the green house gas emissions from metered dose inhalers.
- Sustainable COPD inhaler framework guide produced.
- Work programmes designed – now need funding!

# Clinical change programmes



## Sustainable Healthcare Education

Our aim is that all students in health professional training are able to apply skills for improving the sustainability of healthcare and that this learning informs their behaviours and activities as health professionals, so that they promote health by incorporating environmental sustainability in their workplaces and professional roles.

Through the Sustainable Healthcare Education network, CSH co-led the development of priority learning outcomes for sustainability in medical education in a national consultation in 2012-13. The outcomes, published in *The Lancet*, have led to the inclusion of sustainable healthcare in the General Medical Council's mandatory outcomes for medical graduates in the UK. CSH is now working with medical schools to support them to implement these in their curricula and teaching.

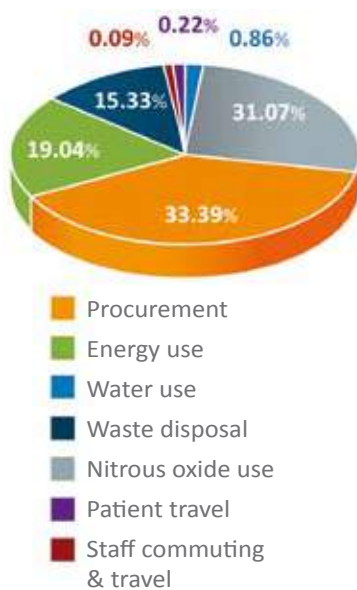
A key area for sustainable healthcare education is the link to quality improvement (QI). CSH has developed a "SusQI" framework for integrating sustainability into mainstream QI methodologies, and is working with Trusts, Royal Colleges and education providers to pilot and evaluate the approach.

## Carbon footprinting

A carbon footprint analysis offers a way to measure the environmental impact of a service, product or organisation by calculating the total sum of direct and indirect greenhouse gas emissions that are produced throughout the supply chain. Calculating the carbon footprint helps to identify carbon hotspots. By having a greater understanding of where carbon emissions are coming from, organisations can identify how to reduce them. A triple bottom line analysis extends this further to consider not only the environmental impact of an organisation or service, but also its social and financial impact.

Over the last few years CSH has carried out some interesting carbon foot-printing and triple bottom line analyses. We have looked into the greenhouse gas emissions embedded in the mental health service line of Nottinghamshire Healthcare Trust, identified carbon hotspots of NHS England dental care and Oxfordshire's Clinical Commissioning Group. We compared the greenhouse gas emissions embedded in bariatric surgery and conventional treatment of Diabetes 2 patients and analysed and contrasted the carbon footprint of two of Becton Dickenson's syringes. CSH also conducted a comparative triple bottom line analysis of eye motility services at Moorfields Eye Hospital and its satellites.

**Total Annual Carbon Footprint of Dental Services in England - 675,706 tCO<sub>2</sub>e**



# Green Ward Competition

**The Green Ward Competition** is a clinical engagement programme for NHS Trusts wishing to improve their environmental sustainability and reduce their costs.

CSH staff work directly with ward and unit teams to develop, run and measure their sustainability projects to deliver savings both for their immediate service and for their Trust.

The best ideas compete to win a **Green Ward prize** which is judged by senior CSH and hospital staff.



## Case Study: Dartford and Gravesham NHS Trust - Cardiology team

Adopting a new technology - insertable cardiac monitoring devices (LINQ) - allowed the cardiology team to replace the previously used implantable loop recorders for heart rhythm monitoring. The LINQ monitors do not need a consultant to implant them nor do they need to be fitted in the pacing lab. This frees up pacing lab time, consultant time and patient's follow up appointments.

### 78kg CO<sub>2</sub>e and £170 are saved per LINQ substitution

Assuming 6 conventional ILRs are substituted by LINQs insertions and that an hour of nursing and consultant time is saved per procedure the known annual savings are:

**Carbon saving:** 23,000kg CO<sub>2</sub>e

**Money saving:** £50,000 per annum

For more information on this case study and others, visit our Mapping Greener Healthcare website:

<http://map.sustainablehealthcare.org.uk/>



# Why green space is important

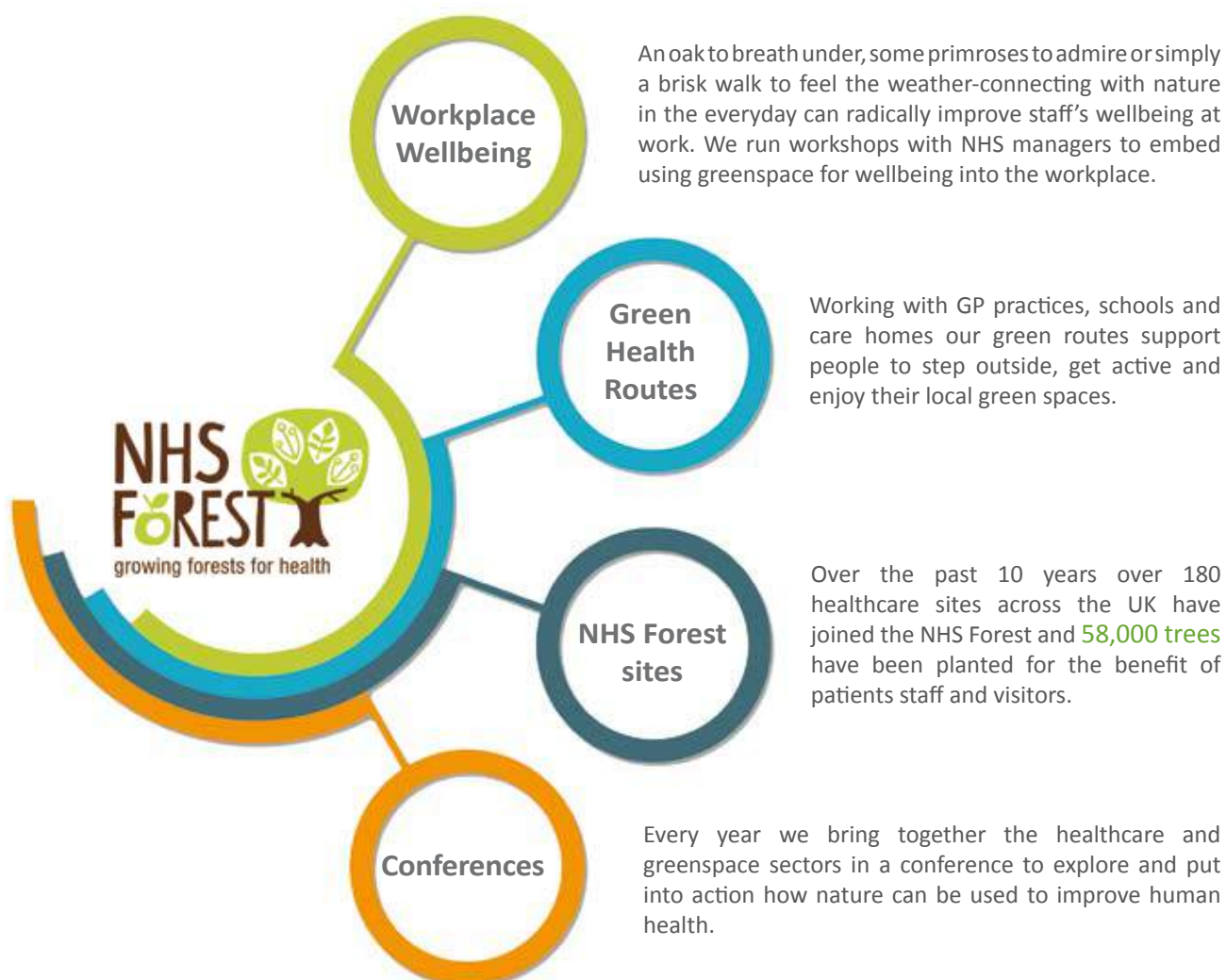


## What can Green Space do for our health and wellbeing?

Green spaces play a vital role in both promoting good health and in supporting recovery. The effects of spending time in nature have been shown to be beneficial for a whole range of different medical conditions, from cancer to diabetes, obesity, ADHD, anxiety, clinical depression alongside many others.

**The NHS Forest is a national programme** creating healing outdoor environments for local communities, patients and healthcare staff. Initially a tree planting project, CSH has continually developed the programme since 2009 to encompass a huge range of outdoor environments and activities. These include community orchards and growing spaces, as well as specialist rehabilitation and dementia-friendly gardens. These all make positive contributions to people's wellbeing and the local environment, and reduce the resources used by healthcare.

## How the NHS Forest has grown:



# What we do in green space



**Our Green Health Route Programme** supports communities to connect with parks, gardens and forests in their local area enabling people to experience the health benefits of nature on their doorstep. We work with GPs, local schools, neighbourhood centres and care homes, encouraging the use of nature to promote a healthy lifestyle for all.



## Case Study: Lancashire Care

Over the last 10 years, the NHS Forest has grown - with 181 sites around the UK in 2018. Lancashire Care NHS Foundation Trust is one such project where the NHS Forest has been working since 2013. Numerous horticultural and woodland projects have seen a total of 1,650 trees being planted. Over the years staff and service users have worked on an orchard restoration project and more recently on a 'Grow Your Own' food production project.



Palliative medicine

Primary Care

Pharmacy

Diabetes and Endocrinology

Vascular surgery

Immunology

What next?

Geriatrics

Urology

Neurology

Pathology

Respiratory medicine

Radiology

Colon and Rectal Surgery

Neonatology

Vascular medicine

General surgery

Orthopaedics

Cardiology

Clinical biochemistry

Gastroenterology

Dermatology

Anaesthetics

Cancer Care

Infectious disease

Obstetrics and gynaecology

Orthodontics

Musculoskeletal

Mental Health



# What next?

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**Since CSH started work in 2008**, it has spent £2,342,000 engaging people through tools, evidence and stories of positive change. This is money well spent on supporting and developing individuals, teams and organisations to innovate and to lead; to understand, measure and reduce resource use; to begin their own transformation.

There is still much work to do. We urgently need to engage with all the remaining areas of medicine as soon as possible and to work with them on practice and policy, education and training. CSH plans to have supported at least one Sustainability Fellow and to have established an active sustainability group in each specialty by 2028.

When we started the NHS Forest, people thought it was a nice gimmick. We did not think that within 10 years the natural environment would have been so widely accepted into the mainstream health system as a vital component of prevention and care. Over the next 10 years we want to ensure that every person in the UK has access to good quality green space via their local healthcare organisations.

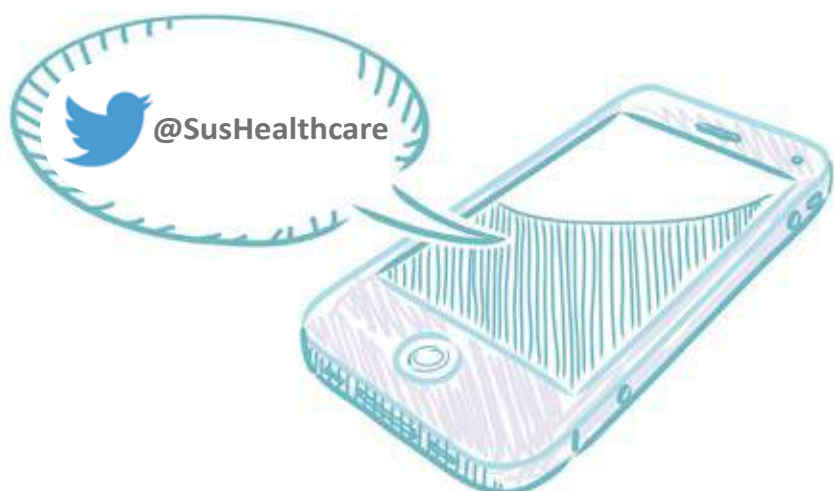
CSH will also push for a concerted effort to agree how researchers, economists and healthcare managers measure the triple bottom line of social, financial and environmental value and how we use this to decide where we focus our resources. CSH will work with the key organisations in these areas to embed these broader measures of resource into existing systems.

The opportunities are huge, and we look forward to working with you all over the next 10 years to develop a healthcare system as well as playing our part for a planet which is fit for health.

Everyone has a role to play. **What will you do?** ....Share your ideas with us!

email: **info@sustainablehealthcare.org.uk** ...Sign up to our newsletter

- ... Request a Green Ward competition in your hospital
- ... Send us a pic of your Green Team
- ... Tell us what sustainability initiatives you are involved with
- ... Attend our Sustainability School
- ... Suggest a hot topic for a webinar
- ... Send us a pic of your organisation's greenspace



# How you can be involved

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**To make healthcare more environmentally, socially and economically viable we need a whole host of different skills, expertise and people on the ground.**



## **Ways to be involved:**

**Use our resources** to find out about how your organisation or clinical practice can be more environmentally sustainable.

**NHS Trusts** can save money and increase sustainability by partnering on CSH's Green Ward Competition and joining the NHS Forest.

**Royal Colleges** and specialty bodies can link with CSH's Sustainable Specialty Fellowship programme and networks.

**Healthcare professionals** with an interest in sustainability should join the CSH sustainable specialties networks - a platform to connect and exchange knowledge and questions.

[www.sustainablehealthcare.org.uk/networks](http://www.sustainablehealthcare.org.uk/networks)

There are numerous **sponsorship opportunities** with the NHS Forest, our clinical specialty networks and Green Ward Competition. Please get in touch with our Director at: [rachel@sustainablehealthcare.org.uk](mailto:rachel@sustainablehealthcare.org.uk)

For updates **sign up to our newsletters** - a regular update on all things sustainable healthcare.

Or... lend a hand and **volunteer for us!** We regularly advertise internships and volunteer opportunities.

# Our partners

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10:10 • 2 Degrees Network • Academic Health Science Networks • Agile Collective • Airedale NHS Foundation Trust • Anthesis Group • Archer Yates • Ashford and St. Peter's Hospital NHS Trust • Association of Renal Industries • Barnet, Enfield and Haringey Mental Health Trust • Barts Health NHS Trust • Bausch and Lomb • Baxter Healthcare • Becton and Dickinson • Birmingham Royal Orthopaedic Hospital • Brains and Cheek • British Heart Foundation • British Renal Society • Broomfield Hospital • Bupa • Buro Happold • Canal and River Trust • Cherwell District Council • Cheshire and Wirral Partnership Trust • CISCO • City and Hackney Clinical Commissioning Group • Clarity First Ltd • CleanMed Clinical Commissioning Groups • COIN • Community Forests • Construction Specialties • Dartford and Gravesham NHS Trust • DECC • Defra • Devon Partnership NHS Trust • Ecohost • Ecosystems Knowledge Network • Environmental Change Institute, Oxford University • European Centre for Environment and Human Health • Falmouth Community Hospital • Fetal Anomaly Screening Programme • Forest Research • Forestry Commission • Forum for the Future • GE Healthcare • Gloucestershire Care Services NHS Trust • Gothenburg University • Greater London Authority Tree Programme • Green Gyms • Green Infrastructure Partnership • Grundfos • GSK • Health and Environment Alliance • Health Education Kent, Surrey and Sussex • Health Education Thames Valley • Healthcare Without Harm • Healthy Planet • Hedgerley Wood • Impress • International Association for the Prevention of Blindness • Janssen • John Ellerman Foundation • Johnson and Johnson • Keele University • Kent and Medway NHS Trust • KPMG • Lancashire Care NHS Foundation Trust • LandShare • Leeds Teaching Hospitals NHS Trust • Local Nature Partnerships • Logica • London School of Hygiene and Tropical Medicine • Map of Medicine • MedAct • Medsin • Mersey Care • Mersey Forest • Meteos • Mid Essex Hospital Services NHS Trust • Moorfield's Eye Hospital • Mr and Mrs J A Pye's Charitable Settlement • Natural England • Natural Environment Research Council's Valuing Nature Programme • New Economics Foundation • Newcastle Hospitals NHS Foundation Trusts • NHS England • NHS Gloucestershire Clinical Commissioning Group • NHS Kidney Care • Northampton University • Nora • Nordic Centre of Sustainable Healthcare • Norwich Mental Health Trust • Nottinghamshire Healthcare Trust • Oxford Academic Health Science Network • Oxford Brookes University School of Health • Oxford City Council • Oxford Health • Oxford University Hospitals • Oxfordshire Clinical Commissioning Group • People's Health Trust • Pharmafilter • Philips • Postcode Local Trust • Public Health Educators in Medical Schools Network • Public Health England • Research Council Urban Living Partnerships • Rotherham, Doncaster and South Humber Mental Health NHS Foundation Trust • Royal College of General Practitioners • Royal College of Nursing • Royal College of Physicians • Royal College of Psychiatrists • Royal Devon and Exeter NHS Foundation Trust • Sandwell and West Birmingham Hospitals NHS Trust • SE Green Infrastructure Partnership • Social Farms & Gardens • South Essex Mental Health Trust • Southport Hospital • Sport England • Stockholm Environment Institute • Strategic Clinical Networks • Sustrans • The Academy of Medical Royal Colleges • The Big Lottery • The Carbon Disclosure Project • The Carbon Trust • The Cornwall Food Programme • The Gerald Micklem Charitable Trust • The Great Outdoor Gym Company • The King's Fund • The Land Trust • The Medical Fair and Ethical Trade Group of the BMA • The NHS Sustainable Development Unit • The North West London Hospitals NHS Trust • The Plunkett Foundation • The Renal Association • The Royal College of Occupational Therapists • The Royal College of Ophthalmologists • The Swedish Embassy • The UK Public Health Association • The University Hospital of North Staffordshire NHS Trust • The University of Oxford • Tree Council • UK Health Alliance of Climate Change • UK National Kidney Federation • University College London Hospitals NHS Foundation Trust • University Hospitals Birmingham NHS Foundation Trust • University Hospitals Coventry and Warwickshire NHS Trust • University Hospital Southampton NHS Foundation Trust • University of East Anglia • University of Warwick • Warwick Medical School • WasteWatch • WHO • Wild Oxfordshire • Wittington Health NHS Trust • World Federation of Occupational Therapists

# CSH Team

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**Rachel Stancliffe** is the Founder and Director of The Centre for Sustainable Healthcare, and has a background in public health initiatives and evidence-based research.



**Dr Frances Mortimer** is Medical Director at CSH and has led the development of the innovative Sustainable Specialties programmes and of the CSH Principles of Sustainable Clinical Practice.



**Ingeborg Steinbach** leads the work within CSH on the management of knowledge and is also CSH's Finance Director.



**Sarah Dandy** is Coordinator of CSH's NHS Forest Programme having led the project's development for several years and is also an experienced sustainability advisor.



**Jacqueline Cutting** is CSH's fundraiser and has a background in marketing and appeals.



**Makena Lohr** works on the NHS Forest programme and also leads on CSH's communications.



**Ben Whittaker** combines Sustainable Occupational Therapy work at CSH with OT practice in the NHS. His remit includes running the network, OT Susnet, research and speaking at conferences.



**Dr Olivia Bush** is the Clinical Programme Lead at CSH with a national remit for engaging clinical teams in quality improvement with a sustainability focus and managing these projects.



**Louis Pilard** has a background in sustainable international development and environmental policy from the University of Oxford. At CSH he leads our clinical programmes- such as Green Ward.



**Dr Emily Farrow** has been a GP in the NHS for 20 years. More recently she completed a MSc in Global Public Health and combines her primary care practice with work at CSH.



**Rebecca Gibbs** is the Sustainable Specialties Programme Manager for CSH. Originally trained as a nurse, she has extensive clinical and Whitehall policy experience in sustainable development.



**Sir Muir Gray**  
We are very grateful to Muir, who supported us in our early years setting up CSH and continues to be a constant source of ideas and energy.

# Trustees

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**David Doughty** CSH's Chair, is also Chair of Thames Valley Health Innovation and Education Cluster and has extensive experience of NHS Leadership Development programmes.



**Gill Manning** works as a business manager specialising in marketing and communications for Janssen, pharmaceutical arm of Johnson & Johnson.



**Harry Rutter** is Professor of Global Public Health at the University of Bath.



**Michael Smeeth** is the Global Resiliency Leader for GE Distributed Power and has the health sector as a core focus globally.



**Fiona Daly** is the National Sustainability and EFM Workforce Lead for NHS Improvement.



**Dr Caroline Jessel** has been a GP for 30 years in Kent and until 2017 was the NHS England Lead for the South Regional Sustainability and Health Network.



**Jessica Rhys-Griffith** is Chief Operating Officer at Oxford Policy Management. She has extensive experience in business planning and strategy for operational management and development.

**Rachel Stancliffe**, (top left) CSH's Director, also sits on the Board.

## IT Team

We are especially grateful to the ever-patient David Lefebvre and the amazing team at Agile Collective for supporting us with IT help and websites for the past 10 years.

## Associates

**Brett Duane**  
**Mahmood Bhutta**  
**Sarah Walpole**  
**Andy Cassels-Brown**  
**Cassandra Thiel**  
**Aileen Shackwell**

# Resources

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**The Centre for Sustainable Healthcare** has published numerous **papers and reports on sustainable commissioning, carbon foot printing and sustainable clinical improvement.**

A list of CSH publications can be found at: <https://sustainablehealthcare.org.uk/resources/publications>

**Our publications focus on sustainability within the fields of:**

- What a sustainable healthcare system looks like
- The key clinical principles of sustainable healthcare
- The healthcare and public health implications of green space initiatives
- Primary care
- Mental health
- Nephrology
- Respiratory care
- Dentistry
- Occupational Therapy
- Healthcare Education
- Ophthalmology

A wider set of resources including learning materials, slide sets, reports and publications is on the **Centre for Sustainable Healthcare Resources Library at:**

<https://networks.sustainablehealthcare.org.uk/resources>

*“CSH is leading the way in a complex area with integrity and high quality work. They are also great fun to work with! It is a pleasure to support them.”*

And finally...

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...a big  
**Thank you**  
to all our partners, clients  
and funders over the  
past 10 years!



The Centre for Sustainable Healthcare,  
Cranbrook House,  
287-291 Banbury Road,  
Oxford, OX2 7JQ, UK

t: +44 (0)1865 515811

e: [info@sustainablehealthcare.org.uk](mailto:info@sustainablehealthcare.org.uk)

[www.sustainablehealthcare.org.uk](http://www.sustainablehealthcare.org.uk)

*CSH on Twitter: @SusHealthcare*

*NHS Forest on Twitter: @NHSForest*



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inspire • empower • transform

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