

# PEACCH Project Report

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PEACCH has its own project webpages on the Centre for Sustainable Development's main website, accessible here: <https://www.csd.eng.cam.ac.uk/current-projects/PEACCH>.

PEACCH (Project to Embed Adaptation to Climate Change in Healthcare) is a collaboration between partners from Cambridge University's Centre for Sustainable Development, Anglia Ruskin University and NHS practitioners. Together we want to raise awareness not only of the need to adapt, but also to provide practical steps that healthcare managers and practitioners can take, to adapt their environments and practices to the main physical climate risks facing UK health systems. Aligned with the recently adopted NHS Climate Adaptation Framework<sup>1</sup> and building on outputs<sup>2</sup> from several research projects, PEACCH delivered a series of events, designed to help healthcare staff take adaptation-positive action, which complements the Net-Zero agenda and addresses the physical challenges of climate change in the UK health sector.

The following report provides an overview of the project team, events and resources that formed and delivered PEACCH.

- A webinar series on climate adaptation in healthcare settings
- Wider dissemination activities: An online workshop on adaptation positive procurement and decision making to the Green Futures Network communities of practice and a presentation at the 2025 Greener NHS week online conference, run by NHS England's North East and Yorkshire Region.
- A hybrid healthcare climate adaptation workshop focused specifically on Essex's health and care system, including the development of the Healthcare Adaptation Resource Kit (HARK)

PEACCH is funded jointly by an EPSRC and ESRC Impact Acceleration Award [EP/X525686/1]. This project is targeted at EPSRC and ESRC funding because it involves thinking about physical engineering solutions to climate change alongside the social and economic aspects of investments and decision making.

This straddles the remit of the two councils and involves interdisciplinary collaboration to bring together engineers, emergency planners and resilience specialists, climate science and sustainability leads and procurement specialists.

ESRC themes that are currently being funded.

- Building a secure and resilient world: strategic theme
- Climate change and sustainability
- Climate, environment and health

EPSRC themes that are currently being funded.

- Building a secure and resilient world: strategic theme
- UK climate resilience programme

Many partners supported the project during its life time by attending our events and contributing to content as speakers and participants or providing resources. Particular note goes to Neil Cartwright and Stella Cockerill from NHS England's Greener NHS regional teams and Morgan Roberts from Sustainability West Midlands, who were not on the initial project team but were extremely generous with their time and knowledge. Thanks also to Ashbee Design Consultants for design input into the HARK resource kit.

## PEACCH Project Partners



**Dr. Louise Elstow, Infrastructure Climate Adaptation Research Associate, Centre for Sustainable Development, Cambridge University, [Lfe21@cam.ac.uk](mailto:Lfe21@cam.ac.uk)**

PEACCH Project Lead. Louise is a resilience specialist and research associate at the Centre for Sustainable Development in Cambridge University, where she has worked on adaptation-positive investment decisions, climate resilience in healthcare facilities and making new knowledge in contamination emergencies. Outside academia she is a consultant, working with everyone from

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<sup>1</sup> <https://www.england.nhs.uk/long-read/a-climate-adaptation-framework-for-nhs-organisations-in-england/>

<sup>2</sup> Life Resystal research project (<https://life-resystal.eu/>), and include Federica's and Maryam's research projects.

emergency responders, and utilities providers, to farmers and woodland creation charities, on emergency management, risk and environmental resilience projects.



**Dr. Federica Pascale, Associate Professor of Sustainable Built Environment, Anglia Ruskin University, [federica.pascale@aru.ac.uk](mailto:federica.pascale@aru.ac.uk)**

Federica has over ten years of international research experience in healthcare sustainability, resilience, and the ageing population. In 2022, she was awarded the 2021/2022 THIS Institute's sustainability & healthcare improvement fellowship from The Healthcare Improvement Studies Institute at the University of Cambridge. She collaborated with WHO and co-authored their new guidelines, "Underground shelters and services in hospitals." She also worked with the Department of Health and co-authored the "Health Building Note 08-02".



**Alexis Percival, Environmental and Sustainability Manager, Yorkshire Ambulance Service, [alexis.percival@nhs.net](mailto:alexis.percival@nhs.net)**

As well as working on various strands of decarbonisation work, Alexis is passionate about working to prepare the ambulance service for climate adaptation assessing the impact of flooding, heat waves and sea inundation. Leading the way, she set up the GrEAN (Green Environmental Ambulance Network) in 2010, connecting all of the sustainability leads across UK ambulance services to drive forwards the Net Zero agenda.



**Peter Lefort, Green Futures Network, Exeter University, [P.Lefort@exeter.ac.uk](mailto:P.Lefort@exeter.ac.uk)**

Peter has worked in response to the climate crisis for over 15 years, predominantly as a network builder and campaigner, focusing on complex systems, large and small, and how they inform our work, how they shape us, and how we can identify patterns and frameworks to better understand and influence them. He has been part of large and small organisations and teams, including the Eden Project, Cornwall National Landscape Partnership, Sustainable Food Cornwall and the international Transition Network. He runs three communities of practice for the Green Futures Network, including one for climate change adaptation and scope 3 emissions.



**Jim Cook, Associate Director Emergency Preparedness Resilience and Response (EPRR), Mid and South Essex Integrated Care System, [jim.cook3@nhs.net](mailto:jim.cook3@nhs.net)**

Jim is a specialist in resilience and emergency management and has worked in the field since 2008, with roles in local authorities, the Cabinet Office, Civil Contingencies Secretariat and in the health sector. He has worked at a systems level and within acute trusts to deliver emergency planning, preparedness and response across multiple healthcare sites. He is now supporting Mid and South Essex's ICB to become more resilient to the impacts of climate change, through his role managing the secretariat to the Local Health Resilience Partnership.

## Deliverable 1: Webinar series

A series of 4 webinars was held in June 2025, covering an introduction to climate adaptation for healthcare systems, a closer look at heatwaves, flooding and water scarcity, and finally an overview of tools for embedding adaptation in healthcare action. All four sessions were recorded and the slides and recorded presentations made available afterwards on the PEACCH project website: <https://www-csd.eng.cam.ac.uk/current-projects/PEACCH>, with the videos publicly available on YouTube and will remain there as a legacy of the project.

Programme of events and speakerz	Attendees
<p><b>PEACCH Webinar 1: Introduction to adapting healthcare to climate change (17 June 2025).</b>  <a href="https://youtu.be/G7N8mb48utk">https://youtu.be/G7N8mb48utk</a></p> <ul style="list-style-type: none"> <li>Louise Elstow: An introduction to climate adaptation</li> <li>Alexis Percival: A focus on adaptation in the health sector</li> <li>Federica Pascale: An overview of healthcare adaptation research</li> <li>Neil Cartwright: An introduction to UK Healthcare Adaptation Policy</li> </ul>	56 (87 registered)
<p><b>PEACCH Webinar 2: A closer look at adapting healthcare to heatwaves (18 June 2025)</b> <a href="https://youtu.be/PsZnSyLLUEo">https://youtu.be/PsZnSyLLUEo</a></p> <ul style="list-style-type: none"> <li>Federica Pascale: An introduction to climate-change-driven heat risk and using a digital twin to explore heat interventions in healthcare settings</li> <li>Alexis Percival: An overview of physical interventions for heat risks</li> <li>Susie Vernon: Sussex Community NHS Trust Case Study: Findings from research on impacts on their patients and staff of 2022 heatwave, use of an Impact Assessment, and an overview of interventions considered or implemented</li> </ul>	53 (86 registered)
<p><b>PEACCH Webinar 3: A closer look at adapting healthcare to flooding and droughts (23 June 2025)</b>  <a href="https://youtu.be/Ts5U_J5radM">https://youtu.be/Ts5U_J5radM</a></p> <ul style="list-style-type: none"> <li>Stuart McLelland: Causes and consequences of Flooding</li> <li>Alexis Percival: Water risks (flooding and drought) and interventions in the context of healthcare.</li> <li>Jamie Fountain: East of England Ambulance Service Trust Case study: The impact of flooding at St Neots Ambulance station and actions EASST is taking to address these to reduce future risks.</li> </ul>	47 (76 registered)
<p><b>PEACCH Webinar 4 - Tools for embedding climate adaptation in Healthcare Practice (25 June 2025)</b>  <a href="https://youtu.be/BOTVGADnKVE">https://youtu.be/BOTVGADnKVE</a></p> <ul style="list-style-type: none"> <li>Morgan Roberts: Introduction to the NHS Climate Adaptation Framework and NHS Climate Change Risk Assessment (CCRA) Tool</li> <li>Petar Tabakov: The future of sustainable procurement and what this means for adaptation</li> <li>Louise Elstow: 12 principles for making adaptation-positive investment decisions</li> <li>Karen Amber: NHS Commercial Solutions Sustainable Estates Solutions Framework.</li> <li>Alexis Percival: Finding creative ways to fund adaptation</li> <li>Maryam Imani: Embedding monitoring of implementation for good governance – case study of drainage systems (SUDS) at ARU’s Peterborough Campus and how this is being monitored</li> </ul>	63 (97 registered)

The content (presenter slides and links to recordings) has been published on the project webpages.



Figure 1: Screenshot of the Centre for Sustainable Development (CSD) project webpage for the webinar series

**Webinar Speakers (in addition to project team members already introduced)**



**Neil Cartwright, Net Zero Programme Manager (Greener NHS), NHS England,**  
[neil.cartwright@nhs.net](mailto:neil.cartwright@nhs.net)

Neil is part of the Greener NHS team serving the North East and Yorkshire region focused on improving the environmental sustainability of the NHS. He has been involved in the development of the new NHS Climate Adaptation Framework which was adopted by NHS England on 8th May and is passionate about climate adaptation in healthcare.



**Susie Vernon, Associate Director for Sustainability, Care Without Carbon and Sussex Community NHS Trust,** [susie.vernon@nhs.net](mailto:susie.vernon@nhs.net)

Susie leads the Care Without Carbon team delivering sustainability programmes in Sussex, Surrey and beyond. Susie drives SCFT's transformational programmes at a strategic level. She has a Masters in Leadership for Sustainable Development and practiced this in a range of different sectors. Before joining the NHS she worked for sustainability consultancy and development company, Beyond Green.



**Stuart McLelland, Professor of Water Sciences, University of Hull,** [S.J.McLelland@hull.ac.uk](mailto:S.J.McLelland@hull.ac.uk)

Stuart's research focuses on physical modelling of flow processes and sediment transport dynamics. His main interests are in river dynamics, but sediment and water are everywhere so he works across a range of scales and also studies estuarine and coastal environments. He has worked with the northern England NHS regions on delivering a Flood Risk for the NHS course.



**Jamie Fountain, Resilience Manager, East of England Ambulance Service Trust**

Jamie has over 20 years' experience in the Ambulance Service first training as a Paramedic in London Ambulance Service and volunteering with NGOs involved with international disaster response and mitigation. Having helped to design the national Hazardous Area Response Team (HART) project, he moved to East of England Ambulance Service. Jamie works with Cambridgeshire and Peterborough Resilience Forum (CPLRF) where, in addition to other emergency planning functions, he chairs the CPLRF Climate Change, Sustainability and Future Risks Group.



**Morgan Roberts, Project Manager, Sustainability West Midlands**

Morgan supports research, reporting, and the delivery of projects across all areas of environmental Sustainability, with a particular focus on Climate Change Adaptation. She has recently been involved in several activities building capacity for adaptation in the NHS, including the development of the new NHS Climate Adaptation Framework and delivering training to operational colleagues and senior leaders across England.



**Maryam Imani, Associate Professor of Water Systems Engineering, Anglia Ruskin University**

Maryam leads the Sustainable and Resilient Infrastructure and Communities research group at ARU. Her research focuses on the resilience and adaptation of water and wastewater infrastructure, with a particular emphasis on the role of Sustainable Drainage Systems (SuDS)/Nature Based Solutions (NBS) in supporting climate adaptation. Maryam is especially interested in integrating emerging techniques and technologies, such as AI, to support resilience-informed decision-making for improved water management.



**Petar Tabakov, Research Fellow for Sust. Healthcare (Circular Economy), BSMS**

Petar is currently working with the University Hospitals Sussex NHS Foundation Trust's procurement team to explore the opportunities, challenges and financial savings of decarbonizing the trust's clinical consumption, especially with regards to making the switch from single use to reusable items. With his current research work tied closely to reusing clinical items and reducing material usage, Petar's presentation will focus on the importance of a circular economy in shaping sustainable procurement and its related implications for climate change adaptation.



**Karen Amber, Sustainability and Social Value Manager, NHS Commercial Solutions**

Karen leads on Sustainability & Social Value in one of four NHS collaborative procurement hubs in England. She is passionate about environmental sustainability, conservation, research and Human Rights, and leads multiple networks on sustainability, tackling modern slavery, and equality and diversity. Recent work involves the Just Transition, supplier training, innovation and development of processes to embed meaningful sustainability and social value into procurement processes, and frameworks enabling the public sector to build resilience to and adapt to climate change.

### Attendee demographics (organisations and roles)

The majority of the 65 organisations represented by webinar audience members were NHS Trusts, but local authorities, national NHS organisations, private healthcare providers and international healthcare providers and inspectors were also included.

Organisations Represented across the 4 webinars (live)	
Austrian Healthcare Organisation (not specified)	Lister House
Bradford District Care NHS Foundation Trust	Maidstone and Tunbridge Wells NHS Trust
Cambridge University Hospital	Mid and South Essex ICB
Cambridgeshire And Peterborough ICS	Mid Yorkshire Teaching NHS Trust
Central London Community Healthcare NHS Trust	NHS Commercial Solutions
Consorti Hospitalari de Vic	NHS England
Dutch Healthcare inspectorate	NHS Scotland Assure
East London Foundation Trust	North East London Foundation Trust (NELFT)
East of England Ambulance Service NHS Trust	North West Ambulance Service NHS Trust
East Suffolk & North Essex NHS Foundation Trust	Northumbria Healthcare NHS Foundation Trust
Falck	Oxford Health NHS Foundation Trust
George Mason University	Oxford Hospitals NHS Foundation Trust
Great Ormond Street Hospital	Portsmouth City Council
Guys and St Thomas NHS	Portsmouth Hospitals University NHS Trust
Hampshire Hospitals	Royal Free Group
Hampshire Hospitals Foundation Trust	Sexual Health Hertfordshire
Hampshire Hospitals NHS Foundation Trust	Sheffield Teaching Hospitals NHS Foundation Trust
Haxby Group Practice	South East Coast Ambulance Service
HCWH Europe	South London and the Maudsley NHS FT
Health and Youth Care Inspectorate	South West London & St George's Mental Health Trust
Hertfordshire Community NHS Trust	Suffolk & North East Essex ICB
Hertfordshire Partnership NHS Foundation Trust	Sussex Community NHS Foundation Trust
Herts & West Essex ICB (formerly West Essex CCG)	Sussex ICB
Homerton Healthcare NHS Foundation Trust	Sustain Psychology
Hull University Teaching Hospitals NHS Trust	Tirol Kliniken
Imperial College Healthcare NHS Trust	UCLH Charity
Isle of Wight NHS Trust	University College London Hospitals NHS Foundation Trust
JBA Consulting	University of Leeds
Kent and Medway ICB	West London NHS Trust
Kent Community Health NHS Foundation Trust	West Yorkshire ICB
Lancashire and South Cumbria NHS Foundation Trust	West Yorkshire Police
Leeds and York Partnership NHS Foundation Trust	Yorkshire Ambulance Service NHS Trust
Lincolnshire ICB	

A broad range of job titles and levels of seniority were represented by attendees across the 4 live sessions. A significant proportion of job roles included the terms Sustainability/Climate and EPRR (Emergency Preparedness, Resilience and Response), however there was a broader representation of functions within the audience, which also included decarbonisation, senior management and strategic roles, as well as public health, estates and finance roles. A range of posts of differing seniority attended – from a students and trainees, through to heads of service, middle managers and senior managers.

Job titles	
Assistant Director of Public Health	Health and Safety Advisor
Assistant Sustainability Manager	HPB Dietitian
Associate Director Clinical EPRR & Patient Flow	Inpatient Service Manager
Associate Director of Sustainability and Growth	Major Donor Manager
Associate Director Sustainability	Net Zero Delivery Manager
Associate Specialist	Net Zero Programme Manager (x 2)
Business Support Team Assistant	Nurse
Climate Projects Officer	Paediatric Trainee
Clinical psychologist	Paramedic/ Trade Union Sustainability Officer x 2
Clinical Sustainability Project Lead	Planning & Development Coordinator
Consultant	Principal Climate Adaptation Consultant
Consultant Anaesthetist	Professor
Deputy General Manager	Programme Director
Digital Engagement Specialist	Project Manager
District Charge Nurse	Project Manager for Sustainability
Divisional PA	Public health registrar
Doctor (Ärztin)	Regional Business Continuity Advisor
Emergency Planning Officer (x 6)	Resilience Manager
Energy, Waste and Sustainability Manager	Senior Sustainability Manager NHSE
Environmental Data Analyst (x 4)	SHO
EPRR (Emergency Preparedness, Response and Resilience) Manager (x 9)	Strategy & Planning Manager

EPRR & UEC System Specialist Administrator	Student
EPRR Lead (x 2)	Sustainability Advisor
Estate Decarbonisation Manager	Sustainability Engagement Coordinator
Finance Coordinator	Sustainability Engineer
GP assistant	Sustainability Lead (x3)
Graduate management trainee	Sustainability Manager (x6)
Greener NHS Regional Lead	Sustainability Programme Manager
Head of Capital Development	Sustainability Project Manager
Head of Emergency Preparedness and Specialist Operations	Sustainability Project support Officer
Head of Environmental Sustainability	Technical Director, Decarbonisation
Head of Net Zero and Sustainable Procurement	Technical Lead (Sustainability)
Head of Sustainability (x 3)	UNISON Branch Environmental Officer

**Online access to resources**

The recordings are hosted on the CSIC YouTube channel and have been freely published online and so are searchable via YouTube – the following analytics are correct as of 17 Aug 2025.





Video	Visibility	Restrictions	Date	Views
 <p>PEACCH Webinar 1: Introduction to ada... This video is the first in our PEACCH [Project to Embed Adaptation to Climate...</p>	Public	None	Jul 14, 2025 Published	96
 <p>PEACCH Webinar 2: A closer look at ada... Recording of the second webinar in the PEACCH [Project to Embed Adaptation to...</p>	Public	None	Jul 14, 2025 Published	204
 <p>PEACCH Webinar 3 Flooding and droug... Webinar 3 in the PEACCH [Project to Embed Adaptation to Climate Change in...</p>	Public	None	Jul 14, 2025 Published	67
 <p>PEACCH Webinar 4 - Tools for embeddi... The final webinar in the PEACCH [Project to Embed Adaptation to Climate Change in...</p>	Public	None	Jul 14, 2025 Published	495

Figure 2: Analytics of Webinar Recordings as YouTube uploads



### Greener NHS Week 2025 Presentation:

On 6<sup>th</sup> June PEACCH project partners Louise Elstow and Alexis Percival (Yorkshire Ambulance Service) spoke at the NHS England North East and Yorkshire Region Greener NHS online showcase event: *Greener NHS Week 2025* on the subject of adapting emergency response to climate change.

Date	Total Views	Moderated Views
January 2025	50	37
February 2025	554	344
March 2025	78	52
April 2025	247	151
May 2025	255	173
June 2025	3,058	1,538
July 2025	307	129
August 2025	0	0
September 2025	0	0
October 2025	0	0
November 2025	0	0
December 2025	0	0



Around 30 attendees joined the call during our part of the event (which was hosted online from 2-6 June 2025). No further breakdown of attendees is available as it was coordinated centrally by the North East and Yorkshire Region Greener NHS team, rather than by PEACCH.

The recordings of the events are available online to NHS colleagues with access to NHS Futures (the NHS collaboration platform: [https://future.nhs.uk/North\\_East\\_Yorkshire\\_Greener\\_NHS/](https://future.nhs.uk/North_East_Yorkshire_Greener_NHS/)) and the table above gives an indication of the increased traffic driven to the event webpage, as a result of the event overall.

## Deliverable 3: Essex Healthcare Adaptation Workshop

On 15<sup>th</sup> July 2025 the PEACCH project facilitated a hybrid (in person and online) event examining climate adaptation in relation to Essex’s healthcare system, and which was kindly hosted by ARU at their Chelmsford Campus.

The workshop was intended to be an interactive way help those working in healthcare in Essex to learn more about adaptation in general and begin a collective conversation about how to advance any climate action together, and to help refine PEACCH resources. The objectives of the event were to:

1. Raise awareness of the general impact of climate change on healthcare provision
2. Provide a networking event for key stakeholders to meet each other and make new connections in relation to climate adaptation.
3. Examine with a specific focus on the local area (Essex and the East of England NHS Region), local climate change predictions and what they mean for local healthcare infrastructures, service provision, staff and patients.
4. Explore the potential tools available to support appropriate decision-making on appropriate interventions.

Speakers from local and regional healthcare organisations explored the specific risks that Essex’s health and social care system is facing from climate change, as well as showcasing new tools for taking action and updates from organisations about what action they are already taken.

The second half of the event involved interactive sessions using a new healthcare adaptation resource kit (HARK) developed as part of PEACCH, and feedback from attendees will inform a final version which will be published for free online as a resource kit for any healthcare organisations wanting to open up conversations about climate adaptation in healthcare. We ended the event with a discussion about next steps in Essex to take the conversation forward.

Workshop Programme
<ul style="list-style-type: none"> <li>• <b>Event Welcome.</b> Sarah Muckle, Dir. of Wellbeing, Public Health and Communities (Essex County Council) and co-chair of LHRP</li> <li>• <b>Introduction and event overview.</b> Louise Elstow, PEACCH Project Lead (Cambridge University), and Jim Cook, Associate Director EPRR (MSE ICB)</li> <li>• <b>What does climate change look like in Essex?</b> Louise Tennekoon, Climate Action Engagement Manager (Essex County Council)</li> <li>• <b>Resources for adaptation planning in the NHS.</b> Stella Cockerill, East of England Regional team, and Frances Lamburn, Strategy Analyst, Greener NHS, NHS England</li> <li>• <b>Climate adaptation in SNEE ICB.</b> Andrew Urquhart, ICB Sustainability lead for SNEE</li> <li>• <b>Roles and responsibilities for adaptation.</b> Pam Green, Alliance Director Basildon and Brentwood (Mid and South Essex Integrated Care Board)</li> </ul>
<i>BREAK</i>
<ul style="list-style-type: none"> <li>• <b>Research Overview: Heat and digital twins at MSEFT.</b> Federica Pascale (ARU)</li> <li>• <b>Research Overview: Water catchment project in Essex.</b> Maryam Imani (ARU)</li> <li>• <b>A message from the Host.</b> Mark Tree (ARU)</li> <li>• <b>Interactive workshop session.</b> Facilitated by Louise Elstow</li> <li>• Mentimeter discussions.</li> <li>• Phase 1: Exploring exposures and vulnerabilities for a chosen site (hospital, community health centre and GP, or ambulance station).</li> <li>• Phase 2: Introduction to adaptation-positive investment and procurement principles. Using these to select and prioritise appropriate interventions and to build a suitable 5-year adaptation pathway.</li> <li>• <b>Next steps for Essex.</b> Group discussion facilitated by Jim Cook</li> <li>• <b>Reflections on the day.</b> Pam Green, Alliance Director Basildon and Brentwood (Mid and South Essex Integrated Care Board)</li> </ul>

In total 23 people attended either in person or online (online attendees did not participate in the afternoon interactive workshop), from a range of Essex-based health and social care delivery organisations, as well as researchers from ARU and Cambridge.

Workshop Attendees		
Name	Role	Organisation
Emma BRINKLEY	Project Manager - Natural Environment and Climate Change	Suffolk County Council
Hannah CALVERT	EPRR and Business Continuity Support Manager	Mid and South Essex ICB
Stella COCKERILL	Regional Net Zero Programme Lead	NHSe
Jim COOK	Assistant Director of EPRR	Mid and South Essex ICB
Louise ELSTOW	Research Associate and PEACCH Project Lead	Centre for Sustainable Development, Cambridge University
Jenni GALLOP	Director - Estates	Provide CIC
Kristina GECAITE	EPRR Officer	SNEE ICB
Pam GREEN	MSEICB Alliance Director, Exec Lead for Primary Care	MSEICB
Maryam IMANI	Associate Prof. of Water Systems Engineering	Anglia Ruskin University
Frances LAMBURN	Strategy Analyst	NHS England
Nicky MCLEAN	Head of EPRR	Provide CiC and North East London NHS Foundation Trust (NELFT)
Katherine MIDDLETON	Environment and Sustainability Manager	East of England Ambulance Service NHS Trust
Anne MORRIS	Associate Director Clinical EPRR & Patient Flow.	East Suffolk & North Essex NHS FT
Sarah MUCKLE	Director Wellbeing Public Health & Communities	Essex County Council
Federica PASCALE	Associate Prof. of Sustainable Built Environment	Anglia Ruskin University
Becca PATCHETT	Sustainability Engagement Coordinator	East of England Ambulance Service NHS Trust
Mark SPRIGGS	Sustainability Programme Manager	Hertfordshire and West Essex ICB
Grainne STEPHENSON	EPRR Manager	Herts & West Essex ICB (formerly West Essex CCG)
Louise TENNEKOON	Climate Action Engagement Manager	Essex County Council
Ben TONGUE	Greener Digital Lead	NHS England
Andrew URQUHART	Sustainability Lead	SNEE ICB
Amanda WEBB	Emergency Planning and Compliance Manager	EPUT

## Key Points Raised

- Climate change is not something that is coming in the future or to other people in other countries. It is happening now, in the UK and its impacts will only get worse and more frequent. However intractable it may seem, we are not powerless; we need collective action and a common purpose. We need the right forums, the right sponsors and the right assurance and reporting mechanisms. As change makers, we might need to fight for uncomfortable things in order to change the status quo.

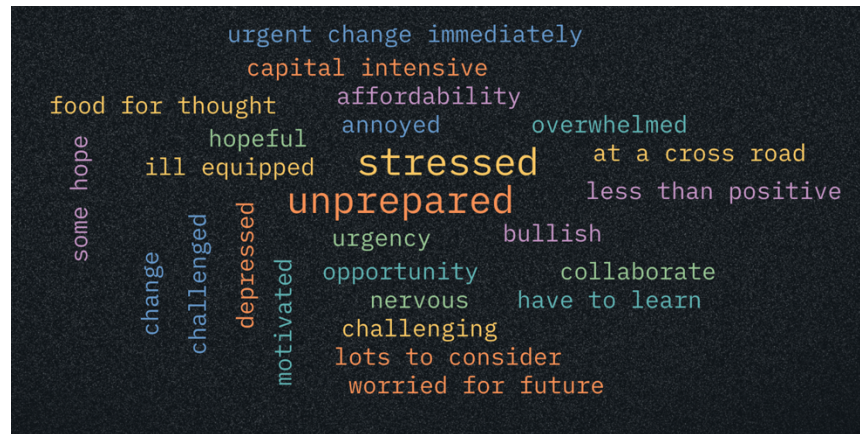


Figure 4: Participant responses when asked how they felt about climate adaptation in the health sector.

- The ongoing reform activity in both the NHS and also local authorities is presenting a significant challenge for climate adaptation action in the health and social care sector. Participants raised concerns, not only about the potential loss of their own or colleagues' jobs and the direct impact the stress of this was placing on team's abilities to continue with their existing delivery activities, but also uncertainty about how adaptation responsibilities will be transferred to providers in the new Model ICB announced recently.
- Adaptation conversation and collective action currently has no home in Essex. The group discussed the need for a single central point of oversight and coordination for climate adaptation planning, delivery and assurance. There is no way of knowing what other organisations are doing on adaptation or what the overall picture of risks and planned activity looks like for Essex. For acute risks this would typically be the Local Resilience Forum, however this is unlikely to be the best forum for climate adaptation action, as the onus needs to be on taking preventative action rather than just ensuring response plans are in place. It is not clear how this is being managed elsewhere in the UK however the UK's new [Chronic Risk Analysis](#) may influence structurally where responsibilities for oversight and coordination of these risks (of which Climate Change is one) sit. A positive example was provided of the collective approach to developing an Air Quality Strategy as this was a health system risk – can the same approach be taken?
- Taking a 'catchment area' approach to adaptation might be an effective approach to adaptation. Following on from a presentation on the 'catchment approach' to water management (to mitigate against water scarcity, flooding and water quality issues) whereby interventions for water management are taken with a landscape scale impact in mind, the group discussed whether conceptually the same approach should be taken for adaptation analysis and action. This approach acknowledges that we need to consider where climate hazards 'arrive in the health sector as a whole, (e.g. where is the rain falling?), what needs to be protected (who or what assets are either exposed to it or more susceptible to its impact?), and the impact of those interventions elsewhere on the system. Some interventions might expose new people or assets to a new risk, or may exacerbate existing inequalities. Many interventions will be more effective if they have been designed with the whole system in mind, rather than ad hoc piecemeal actions which tinker at the edge. Traditionally climate adaptation specialists have spoken about using systems thinking approaches, but 'catchment area' approaches show that there are also flows of people and resources within the health system.
- It was identified that there is a need to integrate the adaptation actions of the health sector within the wider local context and the actions of other related parties. In particular, healthcare organisations need to understand what local governments are doing, what their suppliers and supply chain are doing about adaptation risks. There are implications for adaptation action arising the new local government reform - in a new unitary authority, who might have responsibility for driving forward adaptation action at a population level? Who would this sit with? How does local business fit in?
- It would be beneficial to develop tools to help embed adaptation into processes and procedures. In the new NHS there won't always be a sustainability lead in the room who can help define what the business case is for a more sustainable option which addresses climate adaptation sufficiently. Adaptation considerations need to be systematised and operationalised so they are consistently embedded in NHS processes/procedures/policies, and understood by contractors as well as employees. As an example, any NHS organisation's Board Assurance Framework (BAF) which is public facing should highlight climate adaptation risks, so that it is public facing.
- Everyone has an opportunity to make adaptation-positive choices within their healthcare role. There is a need for a broader level of understanding about climate adaptation within all members of staff in the health and social care system, because adaptation-positive interventions include a range of activities (from physical interventions in the healthcare environment and facilities, to ensuring that adaptation is systematically woven into all strategy, policies and decisions made). Adaptation is therefore not just a concern for sustainability leads, but also estates and facilities, EPRR, procurement, managers and directors and beyond. Everyone needs to understand what adaptation is, what it means for healthcare and what they can do within their role to support it.



## HARK Development

HARK was developed alongside health and social care practitioners involved in PEACCH. Content for some of the interventions cards was based on initial work undertaken by [Actierra Ingerop](#), an environmental engineering consultancy company in Marseille and the Adaptation Principles were developed by Cambridge University - both for the [Life Resystal Project](#). These have been further developed by PEACCH project partners.

Feedback from workshop participants confirmed it was a useful way to prompt discussions about adaptation with a location-specific focus.

The different sets of cards were demonstrated to be suitable for engaging participants with different levels of prior knowledge and understanding about different aspects of adaptation. Participants fed back that they enjoyed not just learning more about the technical details and co-benefits of specific physical interventions (e.g. green roofs, wet flood proofing, SUDs or nature-based solutions etc.), but also being able to consider the ways in which their processes for making adaptation interventions take into account long-term benefits and costs avoided, how to start to think about adaptation pathways and the timescales and timing of being able to implement interventions. The generic site plans provided could easily be substituted for plans of real-life sites. Doing so would enable more specific focused discussion and outputs relating to a real place, real staff and real patients. One person has fed back that they will be using the workshop cards as evidence to support their adaptation strategy.

As our understanding of climate change and the interventions we can take to become resilient to its harmful effects continue to develop, new interventions cards, new sites and new hazard information can be incorporated into the HARK set. It is hoped that future iterations of HARK could include other health and social care settings (e.g. residential care homes), as well as other high-risk institutional settings (e.g. prisons, detention centres etc.).



Figure 7: A group identifying the exposures and vulnerabilities of flooding risk on a GP surgery and community health centre



Figure 8: A group considering how to prioritise the most appropriate intervention when considering a 5-year plan and the 12 principles for adaptation positive investment for an ambulance station in a coastal erosion and coastal flooding zone.

Version 1.0 of the HARK resources and PEACCH recordings are now freely available on the project website.

### Next Steps

- PEACCH project members intend to continue to develop the HARK resource kit further so that they could be used in discussions around other institutional/health and social care settings (e.g. schools and other residential educational facilities, prisons and detention centres, residential care homes).
- Project Partners are already collaborating on new funding bids and exploring ways to work together in the future.
- We are in the process of publishing additional articles on the WeAdapt website, in order to reach a wider audience outside healthcare and outside the UK.