Question	Answer
How can individuals, communities and organisations mitigate & adapt to the mental health impacts of climate change on the UK public?	The impacts of climate change on mental health and wellbeing will be some of the biggest adverse effects. The report highlights the evidence on this for example in relation to flooding, however, although we know what factors exacerbate mental health impacts, the evidence-based on effective interventions to protect health from these is still lacking. We need to work with local authorities and others to design and evaluate interventions that protect mental health and build greater community resilience.
The impacts of flooding on mental health was mentioned. Was there any consideration in the report on the wider impacts on mental health?	The Health Effects of Climate Change report touches on mental health in multiple chapters including Temperature, Flooding, Wildfires, Drought, Solar Radiation and Net Zero. The mental health impacts of climate change is an area of work that UKHSA hopes to expand in future.
How will UKHSA help Council planning and environment colleagues understand health risks from climate change? Will these findings be communicated via regional health protection teams? Will there also be engagement with insurers and finance to help increase understanding on future health threats?	The Centre for Climate, Health and Security within UKHSA have a dedicated mobilisation team to ensure our knowledge is disseminated to local authorities, public health practitioners and the private sector where relevant. Findings and information will be communicated to these stakeholders in many ways, for example via workshops/ webinars on key climate change and health topics. We have strong links with regional health protection teams and will continue to utilise these links to disseminate knowledge. Many of our planned engagement events will be open to the private sector and we will continue to build and strengths links here.
How will UKHSA (and OHID) assist ensuring that health, climate, and equity included in all key policies with support through data, centralised policy, and guidance for planners, transport planners, and economists with health and climate put on equal footing to other considerations that are often given priority (e.g. economic 'growth'). Please could you discuss the impacts of climate change on pre-existing inequality within the UK	The UKHSA is committed to achieving more equitable outcomes across its work, as identified in the UKHSA Strategic Plan. To inform this, UKHSA is conducting an evidence review to better understand the unequal health impacts of climate change and the solutions taken to address climate change in populations included in the CORE20PLUS framework in England. The initial mapping and protocol have been published and will be followed by an evidence review which will inform future work by UKHSA in this area.

How will the UKHSA CCHS support regional/local authorities with their place-based health risks assessments? The basis for local policy and action is a climate risk and vulnerability assessment but there is v limited capacity for this and it is a significant barrier to progress. Are there any robust models you can recommend using at LA level to model the health and wellbeing impacts of climate change on our local communities – would be helpful in making the case for action on health as well as sustainability grounds locally. Many thanks	The UKHSA Centre for Climate and Health Security mobilisation team are developing a digital service that will host a range of information on climate change and health. We are working with public sector colleagues to understand their needs including place-based information and frameworks. This digital service will host information as well as signposting to other relevant tools and information to consider the health and wellbeing impacts of climate change across scales.
Everyone is focussing on mitigation measures i.e., the government , NHS , LA's etc. but there is little or no focus on adaptation , how can this perception and focus be changed , how can UKHSA help?	Our work highlights the need of both mitigation and adaptation measures. It also highlights the fact that any delays in taking action will mean that these actions are more costly, less effective or less equitable. In UKHSA, our remit is greatest in the area of adaptation and we are working with local authorities, academic partners and other partners to better understand different forms of vulnerability and effective interventions to ensure more resilient communities The government has a broad focus on adaptation led under DEFRA's National Adaptation Programme, of which the UKHSA has several actions to support meaningful adaptation activities for health.
What would be tremendously helpful would be a set of recommendations on what mitigation and adaptation measures need to be implemented at a local level. We need to know specific actions	The flooding guidance that was mentioned in the webinar can be found here: https://www.gov.uk/government/collections/flooding-health-guidance-and-advice The guidance covers a range of actions for the public and for frontline responders spanning

rather than vague commissioning recommendations i.e. instead of advice to act on flooding, we need to know WHAT to do about flooding. Can UKHSA use its influence to work across government to develop an action plan for LAs?	preparedness, response and recovery, and covering mental health, contamination risks and other dimensions
It is obvious that we need to increase our own food security - including by diversifying into new crops that thrive in higher temperatures - rather than relying on imports or putting housing estates on fertile land. How (soon) can this be reflected in local and national housing planning strategies?	UKHSA focuses on health protection activities, however the Health Effects of Climate Change report does highlight risks to health from a changing climate with regard to food security, and we have ensured that relevant Government departments are aware of our findings in this area
Very interesting presentation. Thanks. Will be important at a local level to understand which population groups are are most at risk across the differing impacts of climate change so that we can ensure responses are equitable	Yes, we agree, we have been doing some pilot and feasibility work with a local authority partner to better understand and identify vulnerability and risk at very local level so that interventions can be targeted most effectively
Was there any consideration of UK Overseas Territories in the report? These territories lean heavily on the UK and do not have a seat with the UN.	The Health Effects of Climate Change report is specifically focusing on risks to the UK, but UKHSA's Medical Entomology team (MEZE) is actively supporting UKOT countries to build capacity around VBD risks. Through funding from FCDO, MEZE provide dengue prevention support to the relevant UKOTs (primarily in the Caribbean, but also Gibraltar), this including support with vector surveillance and control, contingency planning and training.
How likely it is that London will be flooded by the Thames on a regular basis in the near future? Are flood defences being planned or not the case at this stage	The Flooding chapter shows that the number of people at risk of flooding in London will increase in future. The Environment Agency is responsible for flood defence planning. A link to their plans for the Thames Estuary can be found here
What are the plans for addressing vector diseases? Vaccination, medication?	We have strengthened surveillance both of vectors (mosquitoes and ticks) and also of human cases. Some of the infections they carry are identified as high consequence infectious diseases and there are plans to respond to those. There are a range of areas of work to ensure we are best prepared as possible, and this includes working with industry,

	academia and international partners to make sure that we have the tools that we need to respond. The most appropriate approach needed to respond and protect health will depend on the pathogen.
The NHS has been focused on decarbonisation but less so on climate change and its impact on health and wellbeing, I hope UKHSA will be working with the NHS to address this in particular in context of vulnerable groups.	UKHSA is working closely with colleagues at Greener-NHS, who are leading preparedness of the NHS for climate change. While early focus has been on decarbonisation within the NHS, they are actively looking at adaptation as well, and UKHSA is working closely with Greener-NHS to support their assessment of adaptation options and priorities within the NHS.
Will there be opportunities for public health registrars to undertake a placement at the Centre?	The Centre for Climate and Health Security (CCHS) has recently been approved by the Faculty of Public Health as a Nationally available Training Placement for Specialty Registrars in Public Health; further information is available on the Faculty of Public Health's Training & Carers page. The first CCHS cohort of registrars are due to start in Spring 2024, and further applications for training will be invited annually in May and November.
Can you say a little more about what modelling has been undertaken in UKHSA in the development of these findings and recommendations? Met Office has provided necessary inputs, notably the climate projections - can you say a little more about how UKHSA has collaborated with the Met Office?	We have worked closely with colleagues at the Met Office on the development of the report, making use of the high-temporal resolution projections where possible. CCHS participates in the Met Office Hadley Centre Climate Programme User groups. A key recommendation from the report is to assess health risks at different levels of warming, and we hope to expand this work in future working together with met office colleagues
I was surprised that the vulnerable groups identified, in relation to how climate change impacts may be unequally distributed and exacerbate existing inequalities, did not mention anything about socioeconomic status or poverty. Was there any evidence on this?	Climate will impact health via existing health inequalities, and this includes numerous gradients in health, including socioeconomic status. The report does highlight the links between deprivation and health impacts of climate change, particularly in relation to the effects of air pollution but is also included throughout the report where data is available. The report also highlights evidence that certain factors, including socioeconomic status, might influence risks associated with high or low temperatures. The report synthesised data wherever available, including socioeconomic status or protected characteristics. As highlighted in the Temperature chapter, detailed demographic data is required to better understand the risks to the most vulnerable individuals in society

How does the UKHSA/Centre for Climate Change assess contribution of other countries to the impact of climate change in the UK? What is our contribution to global efforts?	Climate change is a global challenge. The impacts are being felt and will be felt globally although not equitably distributed and actions need to be taken at all levels, locally, nationally and globally. We are not in a position to assess the contribution of other countries to climate change but we do work globally to protect health. We have been supporting ministers and government officials during COP28, we are supporting other countries as part of capacity development work, we are working closely with WHO, UN and other international organisations, with organisations working globally such as Wellcome Trust and with partner countries bilaterally. The CCHS is also undertaking an assessment of where UKHSA can deliver the most impact internationally regarding the health impacts of climate change which will inform the CCHS's priorities and future work in this area.
There is currently much interest regarding the indoor environments and the many impacts that exist on or health. It would be good if the knowledge we have regarding climate change could be used to get the balance right keeping our indoor environments cool, well ventilated and energy efficient.	The report has chapters on indoor environments and the health implications of net zero actions which both consider these points. Energy efficiency retrofit on buildings will be necessary to help meet carbon targets by reducing building energy use, providing health benefits like keeping homes warmer in winter and reducing energy bills. However, retrofit needs to be designed and implemented with care to ensure that any possible unintended negative effects are minimised. For example, reducing draughty homes might also increase exposure to indoor sources of air pollution or lead to mould growth if adequate ventilation is not also provided.
Was there any consideration to health trade-offs required to mitigate against climate change? We hear a lot about health benefits of climate mitigation, frequently termed "co-benefits", but are there negative consequences to mitigation we should be preparing or understanding of?	While the focus of the report is on the health impacts from climate change, there is a dedicated chapter on the effects of climate mitigation actions on health, which highlights not only important co-benefits but also any potential trade-offs that need to be carefully considered (see chapter 14 concerning Net Zero).
Does the report consider the climate & nature crises as one indivisible threat to health (as global public health experts are increasingly doing)? Policymakers need to be able to tackle both crises together, rather than focusing too narrowly	In the Net Zero chapter (chapter 14), nature-based solutions relating to carbon storage are discussed, highlighting the important benefits to health. The section further highlights the importance of biodiversity to sustain our ecosystem. In addition, the Net Zero, Vector-borne disease and Aeroallergens chapters all discuss the importance of careful design to ensure that any measures to increase biodiversity do not have unintended consequences to health (such as increased risk from aeroallergens or vectors)

on decarbonisation and not enough on the health impacts of biodiversity & ecological damage	
Should we link more with the RHS as they have been doing work on trees for taking out PMs and for cooling and insultation and other plants/spaces to enable rain gardens/SUDS	The report highlights how trees can provide benefits to health through shading for cooling, potential to aid draining and reduce flood risk, and how they may benefit air quality. Urban green and blue spaces benefit from being designed carefully to ensure any risks from aeroallergens are minimised
Will there be support with health promotion and explaining why we are promoting and implementing measures, e.g. active travel? At present we can experience backlash, driven from certain groups, against such interventions, so wish to pave the way through clear communication as to the evidence as to why (not just climate change evidence, which is well trodden, but that these interventions are necessary, and (should) work).	The transport section of the Net zero chapter clearly highlights the health and economic benefits of increased active travel, stemming from both the improvements in air quality and increased physical activity. The chapter further highlights current barriers to active travel. UKHSA is in close contact with DHSC/OHID regarding active travel. The levers for active travel policy are held by DfT and ATE, and OHID works collaboratively to improve health and reduce disparities.
When comparing with the previous 2012 UKHSA report and this latest report, what reflections did the authors have on the previous report - its strengths and weaknesses and the extent to which it influenced action and to what extent did that inform thinking on the production of the latest report.	The 2012 HECC report used the UKCP09 projections data from the Met Office, whilst the 2023 report has used the UKCP18 data. All of the topics that were included in the 2012 report are also included in the current report, with some increased scope (for example, the only food- and waterborne disease was included in 2012, whilst a greater range of infectious diseases were considered in Chapter 7. Since the publication of the 2012 report, there have been several emerging areas of concern to public health which we wanted to include in the report for the first time. These new areas are Food supply, Wildfires, Drought, Net Zero and Indicators for climate change and public health tracking.
Local authorities need to be supported by national messaging in order to have the political space to act. On transport, this messaging is now moving away from promoting active travel. What is UKHSA's role in influencing national policy?	UKHSA is an Executive Agency to the Department of Health and Social Care and provides scientific expertise to ensure that policymakers have the most up to date scientific evidence base to inform policy. Health is affected by many different things in our environment, such as housing, transport, food, and the natural and built environment, as well as the health and social care system, and the report highlights areas where there is evidence that can be used to inform policy, and also identifies where there are gaps in the evidence base.

How does the work from the HECC report influence policymaking?	
Is any early consideration being made with UKHSA and NHSE about future changes to immunisation programmes to take account of potential increased risks from new vector borne diseases?	Vaccines against tick-borne encephalitis are already available, and Lyme disease vaccines are undergoing international clinical trials. The Joint Committee on Vaccination and Immunisation has a mandate to assess evidence and advise if changes to immunisation programmes should be considered.
Are there any decarbonisation/mitigation measures with an adverse impact on health and we need to lobby against those?	The chapter on the health implications of actions to mitigate climate change highlights important co-benefits to health from actions aimed at reducing greenhouse gas emissions. The chapter also identifies some potential health risks that may be associated with certain mitigation actions if they are not carefully designed and implemented. For example, home energy retrofit measures can help keep homes warmer and reduce energy consumption, but there is a risk that exposure to indoor sources of pollution might be made worse if adequate purpose-built ventilation is not included.
what about indirect effects - such as people relying on carers, when their carers cant get there due to flooding, or vulnerable people cant evac and drown?	In the event of a flood, local authorities may consider if evacuation is necessary to keep people safe. Evacuation processes ought to consider and provide necessary support to people who might be more vulnerable to being harmed (such as people in receipt of care support) to ensure they remain safe.
Very little change has been achieved on reducing use of wood burning stoves which create more harmful air pollution in many residential areas than transport. Even our dear King has been installing wood burning stoves in his rental properties we hear! Could more be done to prevent installation of this source of pollution	UKHSA conducted a review on the effects of exposure to solid fuel burning in higher-income countries, such as the UK. It showed that there is limited evidence that indoor exposure to wood burning is associated with asthma and respiratory infections in children, and with an increased risk of lung cancer and COPD in adults. UKHSA is working to develop further the health evidence associated with exposure to solid fuel burning
Will the UKHSA be able to influence local policy in terms of supporting transport infrastructure and regional inequalities? For example electric bus fleets planned for cities like Oxford but inadequate and carbon intensive bus services in other regions, leading more people to rely on cars. For many vulnerable people or those with	The Net zero chapter highlights that there is very little evidence on benefits from active travel for people with disabilities, those living with long-term conditions and the effect on groups living with different levels of deprivation, and that this is something that should be addressed.

chronic conditions such as neurological diseases shifting to 'active travel' is not possible	UKHSA is an Executive Agency to the Department of Health and Social Care and provides scientific expertise to ensure that policymakers have the most up to date scientific evidence base to inform policy. Health is affected by many different things in our environment, such as housing, transport, food, and the natural and built environment, as well as the health and social care system, and the report highlights areas where there is evidence that can be used to inform policy, and also identifies where there are gaps in the evidence base.