Mental Health
Foundation
Scotland

Climate change and mental health:
Report from a COP-26 public participation event

April 2022

Authors:
Dr Naomi Wilson
and Keith Rae

Contents

Introduction

The overwhelmingly negative health effects of Climate Change (CC) mean it is rapidly emerging as one of the greatest public health challenges of the 21st century[1]. Rising global temperatures will disrupt harvests, deplete fisheries, and threaten water supplies, increasing food and water insecurity worldwide. Extreme high air temperatures will increase allergens and other harmful air pollutants, directly contributing to deaths from cardiovascular and respiratory disease. Rising sea levels and increasingly extreme weather events will destroy homes, medical facilities and other essential services, threatening billions of lives and livelihoods. Changing climatic conditions will also strongly affect water and food-borne diseases, potentially contributing to further pandemics[2].

An area which, until recently, has been less frequently discussed, is the impact these changes in our climate will have on our mental wellbeing. CC will inevitably affect many of the social and environmental determinants of mental health, including people's access to sufficient food, water, and shelter; their financial security; and the stability of their social and community networks[3]. As such, an expanding body of research now exists which demonstrates how CC is also dramatically affecting the mental health of populations around the world[4].

Despite the recent growth of research in this area, several knowledge gaps remain. In particular, while some small-scale surveys have been conducted, very few studies have addressed the indirect effects of CC on mental wellbeing in the United Kingdom; and no large-scale studies have been conducted exploring the extent of mental ill-health as an indirect result of climate change and its effects[5]. As such, little is known about the UK population's views on the mental health effects of climate change. In addition, aside from the actions required to slow or reverse the changes in our climate, questions remain surrounding if and how the mental health effects of climate change in the UK should be mitigated against[6]. Moreover, as the UK transitions to a net-zero economy, evidence is needed on how to ensure that this transition is socially just, guarantees no one is left behind, and is conducted in a manner which strives towards improved public mental health and wellbeing outcomes.

The Mental Health Foundation has a longstanding interest in reducing mental health inequalities and addressing the social determinants of mental health problems. Our **'Tackling Social Inequalities to Reduce Mental Health Problems'** report identified that the climate crisis contributes to mental health inequalities and raised the importance of addressing it. Our 2021 Mental Health Awareness Week (MHAW) campaign also emphasised how critical our natural surroundings are for supporting good mental health.

To further understand this concern, as part of COP-26, we held a UK-wide community participation event with the aim of exploring: (1) the current knowledge gaps on how climate change will affect population mental health; and (2) how communities and governments should respond to the mental health effects of climate change. This paper reports on the findings of the community participation event and is presented in three main sections:

(1) a brief outline of the evidence on the mental health impacts of climate change drawn from the existing scientific literature;

(2) a summary of the knowledge gaps which remain;

(3) an outline of our community participation event and its findings.

What is already known?

The mental health effects of climate change

The impacts of CC on human wellbeing will vary widely and will not be equally distributed. Factors that may increase communities' vulnerability to the psychological effects of climate change include the frequency and intensity of climate impacts, weakened physical infrastructure, social stressors such as racism and economic inequality, and socioeconomic and demographic variables such as education levels and numbers of people who are dependent (for example, children and older adults in need of care)[7].

These impacts will also arise through three different pathways[8], namely:

- impacts which stem directly from changes in our climate itself;
- indirect impacts due to observing climate change and anticipating the consequences it will have for oneself; and
- societal impacts occurring through weakened infrastructure and less secure food systems.

Direct mental health impacts of climate change

This refers to mental health consequences which occur as a direct result of changes in our climate – for example, the mental health consequences of climate-related natural disasters, including floods, wildfires, droughts and hurricanes[9]. When people experience these traumatic and often unexpected events, their first reaction is usually a combination of fear and distress. For most people, these feelings will eventually subside, but for some these emotions continue and can increase their risk of developing more long-term mental health difficulties[10]. Mental health research following natural disasters has found the number of people who experience Post-Traumatic Stress Disorder (PTSD) is substantial, affecting almost a quarter of the population (24%) in some studies[11]. Significant increases in levels of anxiety, depression, emotional instability and general psychological distress have also been found in studies of post-disaster populations across the world[12-14]. In addition, rising levels of almost all forms of substance use and misuse (including alcohol, marijuana and narcotics)[15-17] and an increased risk of suicidal thoughts[18] and acts among natural disaster survivors around the world is now well documented[19].

More gradual changes in our climate, namely rising global temperatures, are also likely to directly impact mental health and wellbeing. Researchers have found a strong link between rising temperatures and increased aggression[20]. This aggression can be directed toward others, with numerous studies identifying a link between hotter weather and violence[21-22]. However, it can also be directed at oneself, with a clear association between hotter weather and rising psychiatric hospitalisations[23] and suicide rates[24]. Increases in air pollution are also likely to have a direct effect on mental health, with research suggesting it may also trigger and exacerbate mental health difficulties[25].

Indirect mental health impacts of climate change

More recently, attention has also turned to mental health difficulties arising not because of experiencing CC's effects directly, but rather due to anxiety or concern about the problem. The worsening climate situation, as well as a rise in media reports on CC have led to an increasing number of people experiencing substantial distress, anxiety and worry about CC and its consequences[26]. Such is the rise in the experience of and interest in climate-related anxiety, that in 2017, the American Psychiatric Association (APA) defined the term 'eco-anxiety' as "a chronic fear of environmental doom" caused by "watching the slow and seemingly irrevocable impacts of climate change unfold" combined with "worrying about the future for oneself, children, and later generations"[27].

In the past five years, a small but growing number of studies have found rising levels of eco-anxiety through surveys of the general population in a number of different countries. In particular, nationally representative surveys in Australia[28], North America[29], Finland[30] and Greenland[31] have all shown that a substantial proportion of adults in these countries report significant distress or worry about the effects of CC. For example, a nationally representative survey conducted in the USA by Yale University, found two in three Americans (66%) said they are at least "somewhat worried" about global warming, with three in ten (30%) reporting they are "very worried," a nearly three-fold increase since October 2014[32].

To date, no nationally representative studies have explored the prevalence of eco-anxiety or other climate related mental health issues in the United Kingdom. However, in a recent national poll conducted by the Mental Health Foundation, more than two in five young adults (41% of 18- to 24-year-olds) reported that thoughts and feelings about CC have a negative impact on their mental health, while a quarter (25%) of those aged 25 to 44 reported that it made them fear the future. Several other small-scale studies have also indicated that anxiety, concern and fear may be widespread. For example, a recent study of 2,000 young people aged 8–16 years, commissioned by the BBC, found that 73 per cent were worried about the state of the planet, 19 per cent have had a bad dream about climate change, and 41 per cent do not trust adults to tackle the challenges presented by CC[33].

Another study, this time of child and adolescent psychiatrists in England, conducted by the Royal College of Psychiatrists, found that over half (57%) are seeing children and young people distressed about the climate crisis and the state of the environment[34]. In addition, a study of 700 university students in Bristol also found that over 70 per cent reported having experienced significant worry or anxiety as a result of CC, with 56 per cent stating that it had affected their desire to have a family in the future and 44 per cent stating that their motivation to work towards their life goals had been negatively affected.

Societal consequences of climate change

Finally, one of the starkest ways in which CC is likely to impact mental health around the world will be through the effects it has on people's social circumstances, such as their income, homes, jobs and livelihoods[35]. Persistent drought, for instance, destroys crops, leaving people without income or food; while deforestation, desertification and rising sea levels result in loss of land and space for people to live and work.

The impacts of climate change on agriculture across the globe will also have direct implications for UK food security and food prices, as the UK imports 40% of the food it consumes[36]. People may also want, or be forced, to leave their homes due to rising sea levels, thawing permafrost, melting glaciers, or desertification, all of which make it impossible or undesirable to remain[37]. For example, in 2018 alone, 18.8 million people were displaced as a result of disasters, including storms, floods and cyclones[38].

Climate change is therefore now recognized as a key driver of mobility in the Agenda for Humanity; the 2016 United Nations Summit for Refugees and Migrants; the Global Compact for Migration; and the Global Compact on Refugees[39].

As a result, the World Bank estimates that over the next 10 years climate change will push more than 100 million people into poverty if urgent action is not taken, with those who are already vulnerable, including women, children and those already living in poverty being most at risk[40]. The effects of this on people's mental health must not be underestimated. Poverty, and its consequences, can have a corrosive impact on people's mental wellbeing and is one of the biggest drivers of mental ill-health worldwide[41].

Box 1. The mental health impacts of climate change

1. Direct impacts

- Mental health effects of climate related natural disasters, including PTSD, anxiety, depression, and addiction issues.

- An association between rising temperatures and a rise in psychiatric hospital admissions.

- An association between rising temperatures and an increase in suicidal thoughts and acts.

2. Indirect impacts

- Climate related anxiety and 'eco-anxiety'.

3. Societal consequences

- An increase in displacement and 'climate refugees'.

- Increases in poverty and food insecurity worldwide.

The mental health impacts of transition to net-zero

To reduce the effects of CC, societies will need to undergo radical transformation in several areas. Reliance on fossil fuels must end and countries will have to cut their carbon emissions down to net zero. Without action to achieve this, the most devastating effects of CC will not be avoided and its catastrophic consequences for the health and wellbeing of communities around the world will not be averted.

Yet, while achieving net zero is clearly necessary, it becomes complex in industrial areas and cities where the livelihoods of a significant proportion of the population are tied to polluting industries, for example, oil and gas workers, aviation engineers and factory workers making petrol and diesel vehicles. These industries will need to change completely and some of them will shrink with significant consequences for these workers and their communities.

Our experiences from the past show that a careless, unplanned transition to net zero is likely to worsen the situation for many. In the UK for example, the dismantling of many heavy industries in the 1980's was done abruptly with seeming disregard for the lives of those it affected. Issues raised by workers and unions were ignored, and mines were unexpectedly forced to close, without due consideration of people's livelihoods or future prospects. In the aftermath, whole towns and communities were left with little or no support; many still have not recovered. A recent report by Sheffield University found that more than a third of those living in former coalfields across England, Scotland, and Wales report significant health difficulties and that 1 in 12 live on either Disability Living Allowance or Personal Independence Payments.

In an effort to avoid repeating the mistakes of the past, the 'Just Transition' framework was developed. Put simply, a 'just transition' is about moving to an environmentally-sustainable economy without leaving workers in polluting industries behind. It aims to support good quality jobs and decent livelihoods when polluting industries decline and greener industries expand. For example, creating cleaner transport, building renewable energy, insulating homes, and restoring nature are all industries that will grow in a 'green economy'. A 'just transition' also provides an opportunity to address existing inequalities in the labour market, within housing and in other sectors, to create a fairer and more equal society. For instance, improving public transport links, ensuring better quality and warmer homes are built, and expanding access to green space, are all aims of a just transition which will also have public health benefits.

What still needs considered?

Although interest in the links between CC and mental wellbeing is burgeoning, it is a research and policy area still in its infancy. Knowledge gaps are therefore vast and numerous. In the first instance, further research on the indirect mental health effects of climate change in the United Kingdom is desperately needed. For while small surveys have indicated that the level of anxiety and worry among young people as a result of CC may be profound, well conducted large scale studies to scope the extent of eco-anxiety amongst the general population and its consequent mental health effects are required to understand the scale of the problem and the steps required to address it.

Secondly, considerable debate is needed to determine how to address the mental health effects of CC in the UK. While there is now a broad consensus that CC is a considerable source of distress, many argue that a high degree of eco-anxiety is both proportionate and appropriate, while others view it as a necessary response to drive the vast societal changes that are required to slow or reverse CC's effects. Others have cautioned against addressing climate anxiety on an individual level, through counselling or one-to-one interventions, for an issue which has its roots in a social and environmental problem.

Rather, they have highlighted that CC is a collective issue, and as such, requires structural solutions such as improved education and awareness on the topic, strategies to build community resilience, and interventions which foster civic engagement and empower communities to take collective action.

Finally, concerns persist surrounding the ability of UK governments to ensure our transition to net-zero is equitable, fair, and socially just. For example, to-date there has been little consideration of the potential impact the growth in green jobs will have on women's labour market equality. The sectors currently considered core to a net zero economy are heavily male-dominated industries such as energy, transport, construction, agriculture, and manufacturing.

Charities have therefore argued that increased focus and investment in these sectors may widen the gender pay gap. Others have highlighted that inadequate consideration has been given to how policies which aim to reduce emissions could impact consumer bills, including heating and food bills, in ways that are unfair to lower income households. In order to ensure a just transition, it is essential that all of these considerations are identified, researched, and properly addressed as policy is developed.

Box 2. Knowledge gaps

1. How prevalent is eco-anxiety in the UK?

2. Who does it affect and in what way?

3. What are the other indirect mental health effects of climate change in the UK?

4. What are people's views on eco-anxiety and the other indirect effects of climate change on mental health in the UK?

5. How should we address or mitigate against eco-anxiety and other climate related mental health impacts in the UK?

6. How will transitioning to a net-zero economy impact upon people's mental health at an individual, community and national level?

Our consultation

Opportunities to share the most recent research findings and to provoke discussion from a variety of perspectives on new ideas and approaches to tackling the crisis are urgently needed. As part of COP-26, the Mental Health Foundation held a UK-wide community participation event.

The aim of this event was to bring together people from affected communities, mental health practitioners, policymakers, academics, and activists in order to identify areas of common understanding on this complex issue and seek a consensus on areas of knowledge that require development. Attendees provided verbal consent to be recorded and for their views to be anonymously shared within this report.

Participants: To form a broadly representative panel, 70 attendees joined from across each of the four nations of the UK. These representatives were sought from the following seven stakeholder groups: people with lived experience of mental health difficulties; service providers; health professionals; policymakers; non-governmental organisations; activists; and academics.

Seminar: The event began with an overview provided by leading experts of the current evidence about the impacts of climate change on mental health, with particular attention to the inequitable impacts of climate change on the mental health of marginalised and vulnerable populations in the UK. Speakers and the sessions they delivered included:

- Dr Panu Pihkala (University of Helsinki): Climate Change and Climate Emotions

- Professor Susan Clayton (College of Wooster, Ohio): Climate Change Impacts on Mental Health and Wellbeing

- Dr Michael Mikulewicz (Research Fellow, Glasgow Caledonian University): Connecting Climate Justice, a Just Transition and Mental Health

- Abdul-Moiz Siddiqi, (Activist, Mental Health Foundation Young Leader and former Youth Mayor of Derby): The impact of Climate Change on the Mental Wellbeing of Young People

- Dr Gary Belkin (President, Billion Minds Institute): Public Mental Health Service Responses

- Councillor Susan Aitken (Leader, Glasgow City Council): Glasgow: The Transitioning City

Focus Groups: Thereafter, two 45-minute breakout room discussions were held. These discussions explored attendees' views on the mental health effects of CC and of transitioning to net-zero, as well as their views on how communities and governments should respond. Each focus group was facilitated by a staff member of the Mental Health Foundation. Discussions were audio-recorded, notes were taken by facilitators, and participants were also offered the opportunity to share their views using an online whiteboard.

Analysis: Interviews and audio-recordings were first manually analysed by two researchers independently. First, descriptive codes were applied which focused on the content of the participants' narratives. Recordings and whiteboards were then reviewed for a second time, with linguistic codes being applied. These focused on the language used by participants and whether any additional narrative could be drawn from this, particularly if emotive terms were used. Finally, the codes which had been developed in both stages were used to develop conceptual codes aimed at identifying themes at a more abstract and conceptual level. These codes and exploratory comments were then analysed by both researchers together to identify emergent themes and patterns. For example, initial conceptual codes such as "anxiety about the future", "worries about children", and "hopelessness" were grouped into an overarching theme of "Concern for the Future and for Future Generations". Throughout the process, researchers met regularly to review the coding strategy. The codes which had been independently applied were compared in order to assess inter-rater reliability; any discrepancies were resolved through discussion until a consensus was reached. Our findings are presented below thematically, with illustrative quotes for each of the themes presented.

Findings

The mental health impacts of climate change

Concern for the future and for future generations

A strong theme which quickly emerged from our analysis was the deep concern for the future and for the wellbeing of future generations, held by many attendees. Throughout the discussions, participants frequently referred to the acute sense of anxiety, sadness, worry and fear CC created for them and the impact that these emotions had on their day-to-day lives. For parents and older attendees, much of their feelings and concern centred on either their own children or on the wellbeing of generations to come.

> *"I feel the saddest for my children. I want to play my part to help the mess we've made for ourselves collectively. I also feel sad for the children I haven't even had yet."*

> *"As a mother, it's hard to get my head around this."*

> *"I work with young people and have grave anxieties for them. Sometimes my attitude to deal with this is to bury my head in the sand to cope, which has its own repercussions."*

For younger participants, this extended to apprehension surrounding their own future, with concerns about CC impacting almost all significant decisions. Worries included their ability to gain and maintain employment, about whether or not they should have children, and for some, an overwhelming general sense of hopelessness about their future.

> *"Hopelessness for younger people isn't just about climate change. Young people are making big decisions for themselves from a young age. How can you make a good decision if you don't have a vision for a good future? This issue is having a ripple effect on lots of other areas of young people's decision-making. Young people are struggling to make big decisions because they're overwhelmed with a sense of hopelessness."*

Institutional mistrust

A notable feeling of mistrust surfaced towards governments and institutions in general. For example, attendees felt that bold rhetoric coming from politicians on the issue of reducing greenhouse gas emissions is not being met with tangible policy change to meet these targets, creating feelings of scepticism and distrust.

> *"Climate change policies need to be more ambitious and better communicated to the public rather than just empty rhetoric during COP-26."*

Some attendees also expressed cynicism that both local and national governments were not taking the mental health of their children and future generations into account in their day-to-day deliberations. Instead, the view was expressed that governments were 'stuck' in five-year electoral cycle mindsets, rather than laying the groundwork to tackle climate change in the long-term.

Powerlessness

Finally, a sense of powerlessness and loss of autonomy emerged through our analysis of the discussions. Participants frequently expressed perspectives that CC was 'out of [their] control' and that their efforts to address the climate crisis were of limited consequence or impact, creating a sense of frustration, anger, and despondency.

> *"The locus of control on climate change is for the most part out of reach, which is feeding into people's sense of hopelessness."*

Several attendees also explained that this sense of powerlessness was impacting people's willingness to address the climate crisis or to deal with its mental health consequences.

> *"Sometimes my attitude to deal with this is to bury my head in the sand to cope, which has its own repercussions."*

Box 3. Participants' views on the mental health impacts of climate change

Concern for the future and for future generations
- Emotions included anxiety, sadness, worry, fear and hopelessness.
- Concerns included career choices and choices about having a family.

Institutional mistrust
- A lack of confidence in local and national governments' ability and will to meet their climate change commitments.
- Scepticism surrounding corporations' and institutions' motivation to take accountability for their actions.

Powerlessness
- Participants expressed feelings of powerlessness about their ability to make meaningful changes to reduce climate change.
- Other emotions included frustration, anger and despondency.

The mental health impacts of transition to net-zero

Potential for widening of inequalities

From our analysis it was clear that many attendees were determined to make necessary changes in their own lives to be more sustainable. For example, one attendee detailed how they and their friends have reduced their carbon footprints by sharing one vehicle:

> *"Last year me and my friends decided that we didn't all need our own car and that we would all share the same car. Now we use the car as and when we need it. As well as cutting our collective carbon footprint, we have saved in financial terms too!"*

However, the view was also expressed that people felt they did not have the resources necessary to make sustainability changes in their own lives, with apprehensions that transitioning to net-zero would make them worse-off financially.

> *"'I'd love to switch to an electric vehicle but there's no charging point in my local area and I just can't afford it."*

A degree of anxiety was also expressed on the conduct of public debates concerning fossil fuel industries. For many people, jobs in the oil and gas sector are the lifeblood of their local communities; participants revealed perceptions of politicians failing to recognise these industries' importance to their livelihoods.

> *"It's vital we lay the groundwork for a just transition in the here and now but that shouldn't mean I'm made unemployed overnight; that's just not fair and will make a bad situation even worse."*

Taken together, this created concern that the transition to net-zero may not be 'just' and as such holds the potential for widening existing inequalities. For example, some participants shared stories of what had happened in their own communities during the 1980's and expressed concern that they may be abandoned yet again in the transition from fossil fuels.

> *"I'm really concerned that my community will be left by the wayside again like it was in the '80s. We're always last on the list of the government's priorities."*

Potential for improved living standards in deprived communities

There were several attendees contributing to the discussion who lived (or had previously lived) in a community blighted by de-industrialisation, primarily from the closure of heavy industry in the 1980's.

From this point of view, attendees expressed genuine optimism that large-scale investment in upskilling and green infrastructure would create the jobs needed to improve the life chances of people living in deprived communities.

"My town hasn't been the same since the mill closed but all this talk of new green jobs makes me feel more hopeful for the life chances of my children and grandchildren."

Attendees also expressed hope that new green industry in the area might re-ignite a sense of community cohesion, something they felt had deteriorated in recent years.

"Back in the day everyone knew everyone's business because we were all working under the same roof and living on the same street. I hope we go back to that. Nobody speaks to each other anymore, which is a shame. Maybe some new industry in the area will change that!"

Finally, the view was expressed that having the means to live more sustainable lives could improve people's overall standard of living. For example, one attendee highlighted the poor public transport connections in their community being a barrier to cleaner air and economic activity:

"Bus services have been cut to the bone in my town in recent years and more people than ever are using cars. If public transport was made more affordable, accessible, and sustainable – I really do think more locals would opt for the bus over the car. The high street has been really struggling these past few years and it could really benefit from more people getting the bus into town."

Actions needed

Clear action from local and central government

Throughout the event, a clear sense that governments were not proving able to address the climate crisis emerged. Several participants explained that these feelings had been created through a lack of clear climate action, a failure to follow through on publicly made political promises, and a perceived failure to prioritise this issue.

Box 4. Participants' views on the potential mental health impacts of transitioning to a net-zero economy

Potential for widening of inequalities

- As a result of job losses and unemployment created through the scaling down and closure of polluting industries.
- Due to the rising cost of living.
- Due to differences in people's ability to make sustainable choices based on their income.

Potential for improved living standards in deprived communities

- Hope that green industries could create new job opportunities in deprived communities.
- Aspirations that new green industry in these areas might reignite a sense of community cohesion.
- Thoughts that making sustainable choices could improve the physical health of deprived communities contributing to improved mental health outcomes.

It was quickly apparent that to mitigate the mental health effects of climate change, participants saw clear and decisive governmental action to either curb and/ or address it as fundamental. Numerous government actions were suggested by participants, including the creation of better social housing, more green jobs, investment in renewable energy and better public transport. However, uniting these was the ubiquitous sense that only through local and central government prioritising this issue and taking ambitious steps to address the crisis, will the mental health effects of climate change in the UK be mitigated.

"The mental health impacts will only be mitigated if climate change is halted or reversed – this requires action and accountability from the top."

"We need commitments from the top."

"Governments need to start taking some real action!"

"A clear and committed plan for the whole of the UK, that people believe in, I think would make a huge difference to people's anxiety."

Opportunities for grassroots activism

From the narratives of those attending the event, it was clear that to mitigate both the mental health consequences of climate change and of transitioning to net-zero, greater opportunities for meaningful involvement in activities to overcome these challenges are needed. For many, this was seen as a necessary response to the feelings of powerlessness and loss of autonomy that the climate crisis has created.

"Support for grassroots and community led initiatives are needed, particularly shining a light on... those not usually heard"

"People need opportunities to take part and to address climate change in their own communities"

For others, it was also seen as a chance to bolster community resilience, through creating opportunities for them to remain or become connected.

"Inclusive groups and networks are needed so that people can feel connected and are able to take part in local and national initiatives."

Education and training

The importance of public education was also highlighted by many participants. Several explained their view that environmental education on the effects of climate change and the individual steps we can take to address it may help empower people and alleviate some of the anxiety they are experiencing.

"Education on climate change should be part of the schools curriculum."

"We all... all need to be educated... on how to care for the environment."

Others suggested that better mental health education amongst the general public is also needed. It was suggested that this may help people better identify the difficulties they are experiencing, improve their ability to seek help when required, and may also equip them with knowledge of how to look after their own mental health and wellbeing.

"We need better education about protecting both our mental health and our environment."

"We need tips and courses on how we can help ourselves keep our mental health in a good condition; for example by going out in nature, planting flowers, fruit and vegetables."

It was also suggested that better education and training for mental health professionals is required. In particular, educating them on the prevalence of climate change anxiety, strategies for managing it and on trauma-informed responses were suggested.

"Raising awareness of the link between climate change and mental health amongst professionals."

"Better trauma-informed responses amongst professionals to the direct and indirect effects of climate related circumstances are needed."

"We need more trauma-informed mental health professionals."

Research needed

Finally, from our discussions with those attending, two clear research priorities emerged. Firstly, it was clear that participants felt the scale of climate-related mental health problems in the UK requires further exploration. Although a handful of surveys have begun to explore the number of people experiencing 'eco-anxiety' in the UK, our participants felt such research should not be limited to this term and should explore more broadly the mental health consequences of the climate crisis for people of all ages and demographic groups across the UK.

Participants also indicated that some of this research should be qualitative in nature, with the aim of exploring how these mental health problems are both created and manifest at a deeper level.
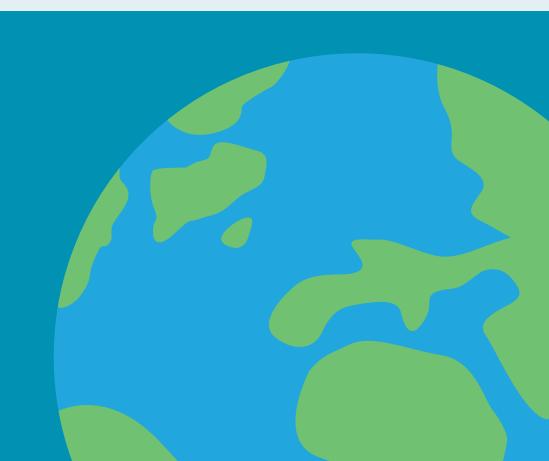
"We need to understand how and why people are feeling the way they do about the climate crisis."

"We should look at how everyone is affected, you know... are old people feeling it too, we need to know."

Secondly, further research is required on the impact of resilience enhancing strategies which are aimed at preventing these adverse mental health consequences. Several participants felt that addressing this need within mental health services was not the solution and interventions which bolster community resilience would perhaps be more effective, but that research to determine this is warranted.

"Looking at what helps would be good, like things in towns and communities to help people with how they are feeling."

"I don't think mental health services will have all the answers."

"We need to look at other ways of helping."

Conclusion

The Mental Health Foundation has a longstanding interest in reducing mental health inequalities and addressing the social determinants of mental health problems. CC is a determinant of mental health problems that has the potential to widen existing mental health inequalities. As part of COP-26, we held a UK-wide community participation event with the aim of exploring: (1) the current knowledge gaps on how CC will affect population mental health; and (2) how communities and governments should respond to the mental health effects of climate change.

Alongside a small but growing evidence base, our analysis of attendees' stories, thoughts, and narratives indicates that climate change is already having a considerable impact on people's mental health across the UK. Fear, anxiety, hopelessness, anger, frustration, sadness, guilt, worry and concern were all expressed throughout the Foundation's COP-26 engagement event discussions. In the main, people displayed deep concerns about their children's futures and the world they will inherit. Participants also highlighted how different demographic groups will experience CC in different ways. Such feelings and concerns point to the need to take the mental health effects of CC seriously in the UK, and to look carefully at how it may be exacerbating existing mental health inequalities.

Attendees also expressed concern, based on experiences of recent de-industrialisation, that the transition to a net zero economy has the potential to negatively impact the life chances and standard of living of those who can least afford it. However, feelings of hopefulness that this necessary transition will mark a fresh start for communities blighted by de-industrialisation, generational unemployment, and poverty in recent decades also emerged. As such, strategic industrial policy to decarbonise our economy can be viewed both as an economic priority and as an exciting opportunity to regenerate left behind communities.

Finally, participants expressed frustration at the perceived inadequate scale of response being driven by local and national governments. In the view of participants who spoke to the Foundation at this event, tackling climate change itself is the most important way of reducing its negative mental health effects and only through local and central government prioritising this issue, will the mental health effects of climate change in the UK be mitigated.

There is much we should be taking responsibility for in our individual lifestyle choices to address climate change. However, the implications of our findings are that alongside individual actions, more concrete steps are needed by governments working together with business and civil society across the UK to meet our international climate change obligations in full. Empowering communities to take local action will form a core plank of this journey. It is also vital that minority communities are brought into the fold to determine the meaningful solutions that affect their everyday lives.

Major gaps also exist in the evidence base about the effects of climate change on people's mental health in the UK. Indications in this report point to significant numbers of people being affected. Research is needed in order to understand the scale and nature of the problem as well as to develop effective responses that advert or reduce CC's negative mental health impacts. Such research must be conducted using participatory methods so that those directly affected shape the research agenda and its findings.

We face an uncertain and at times worrying future, however our findings suggest that there are steps that can be taken which have the potential to mitigate the mental health impacts of climate change. While more research is required, the preliminary findings that climate anxiety is rising amongst young people and is among one of their biggest concerns, suggest that action to address this is increasingly warranted. We hope that our findings will be of help to those seeking to prioritise this issue.

References

1. Watts, N., Amann, M., Ayeb-Karlsson, S., Belesova, K., Bouley, T., Boykoff, M., ... & Costello, A. (2018). The Lancet Countdown on health and climate change: from 25 years of inaction to a global transformation for public health. *The Lancet*, 391(10120), 581-630.
2. World Health Organisation (2018). *Climate Change and Health*. Retrieved from: https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health
3. Cianconi, P., Betrò, S., & Janiri, L. (2020). The impact of climate change on mental health: a systematic descriptive review. *Frontiers in psychiatry*, 74.
4. Lawrance, E., Thompson, R. H. I. A. N. N. O. N., Fontana, G. I. A. N. L. U. C. A., & Jennings, D. N. (2021). *The impact of climate change on mental health and emotional wellbeing: current evidence and implications for policy and practice*. Avalable at: https://www.imperial. ac. uk/grantham/publications/all-publications/the-impact-of-climate-change-on-mentalhealth-and-emotional-wellbeing-current-evidence-and-implications-for-policy-and-practice. php.
5. Ingle, H & Jafry, T (2019). Climate Change, Climate Justice & Mental Health: Knowledge Exchange. *National Centre for Resilience*.
6. Ingle, H. E., & Mikulewicz, M. (2020). Mental health and climate change: Tackling invisible injustice. *The Lancet Planetary Health*, 4(4), e128-e130.
7. Watts, N., Amann, M., Ayeb-Karlsson, S., Belesova, K., Bouley, T., Boykoff, M., ... & Costello, A. (2018). The Lancet Countdown on health and climate change: from 25 years of inaction to a global transformation for public health. *The Lancet*, 391(10120), 581-630.
8. Doherty, T. J., & Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, 66(4), 265.
9. Doherty, T. J., & Clayton, S. (2011). The psychological impacts of global climate change. *American Psychologist*, 66(4), 265.
10. Cianconi, P., Betrò, S., & Janiri, L. (2020). The impact of climate change on mental health: a systematic descriptive review. *Frontiers in psychiatry*, 11, 74.
11. Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: a systematic review. *Psychological medicine*, 38(4), 467-480.
12. Beaglehole, B., Mulder, R. T., Frampton, C. M., Boden, J. M., Newton-Howes, G., & Bell, C. J. (2018). Psychological distress and psychiatric disorder after natural disasters: systematic review and meta-analysis. The British *Journal of Psychiatry*, 213(6), 716-722.
13. Benevolenza, M. A., & DeRigne, L. (2019). The impact of climate change and natural disasters on vulnerable populations: A systematic review of literature. *Journal of Human Behavior in the Social Environment*, 29(2), 266-281.
14. Palinkas, L. A., & Wong, M. (2020). *Global climate change and mental health. Current opinion in psychology*, 32, 12-16.
15. Alexander, A. C., & Ward, K. D. (2018). Understanding post-disaster substance use and psychological distress using concepts from the self-medication hypothesis and social cognitive theory. *Journal of psychoactive drugs*, 50(2), 177-186.
16. Alexander, A. C., & Ward, K. D. (2018). Understanding post-disaster substance use and psychological distress using concepts from the self-medication hypothesis and social cognitive theory. *Journal of psychoactive drugs*, 50(2), 177-186.
17. Maclean, J. C., Popovici, I., & French, M. T. (2016). Are natural disasters in early childhood associated with mental health and substance use disorders as an adult? *Social Science & Medicine*, 151, 78-91.
18. Fitzpatrick, K. M., & Spialek, M. L. (2020). Suicide ideation and a post-disaster assessment of risk and protective factors among Hurricane Harvey survivors. *Journal of affective disorders*, 277, 681-687.
19. Safarpour, H., Sohrabizadeh, S., Malekyan, L., Safi-Keykaleh, M., Pirani, D., Daliri, S., & Bazyar, J. (2020). Suicide death rate after disasters: a meta-analysis study. *Archives of suicide research*, 1-14.
20. Anderson, C. A. (2001). *Heat and violence. Current directions in psychological science*, 10(1), 33-38.
21. Cohn, E. G. (1993). The prediction of police calls for service: The influence of weather and temporal variables on rape and domestic violence. *Journal of Environmental Psychology*, 13(1), 71-83.
22. Cohn, E. G. (1993). The prediction of police calls for service: The influence of weather and temporal variables on rape and domestic violence. *Journal of Environmental Psychology*, 13(1), 71-83.
23. Mullins, J. T., & White, C. (2019). Temperature and mental health: Evidence from the spectrum of mental health outcomes. *Journal of health economics*, 68, 102240.
24. Burke, M., González, F., Baylis, P., Heft-Neal, S., Baysan, C., Basu, S., & Hsiang, S. (2018). Higher temperatures increase suicide rates in the United States and Mexico. *Nature climate change*, 8(8), 723-729.
25. Newbury, J. B., Stewart, R., Fisher, H. L., Beevers, S., Dajnak, D., Broadbent, M., ... & Bakolis, I. (2021). Association between air pollution exposure and mental health service use among individuals with first presentations of psychotic and mood disorders: retrospective cohort study. *The British Journal of Psychiatry*, 1-8.
26. Clayton, S. (2020). Climate anxiety: Psychological responses to climate change. *Journal of Anxiety Disorders*, 74, 102263.
27. Clayton, S., Manning, C. M., Krygsman, K., & Speiser, M. (2017). Mental Health and Our Changing Climate: Impacts, Implications, and Guidance. Washington, D.C.: *American Psychological Association, and ecoAmerica*.
28. Searle, K., & Gow, K. (2010). Do concerns about climate change lead to distress?. *International Journal of Climate Change Strategies and Management*.
29. Leiserowitz, A., Maibach, E. W., Rosenthal, S., Kotcher, J., Bergquist, P., Ballew, M., ... & Gustafson, A. (2019). Climate change in the American mind: April 2019. Yale University and George Mason University. New Haven, CT: *Yale Program on Climate Change Communication*.
30. Pihkala, P. (2019). *Climate Anxiety*. Retrieved from: https://researchportal.helsinki.fi/en/publications/climate-anxiety
31. Minor, K., Agneman, G., Davidsen, N., Kleemann, N., Markussen, U., Lassen, D. D., & Rosing, M. (2018). Greenlandic perspectives on climate change 2018–2019: results from a National Survey. *Greenlandic Perspectives on Climate Change*, 2019.
32. Leiserowitz, A., Maibach, E. W., Rosenthal, S., Kotcher, J., Bergquist, P., Ballew, M., ... & Gustafson, A. (2019). *Climate change in the American mind: April 2019. Yale University and George Mason University*. New Haven, CT: Yale Program on Climate Change Communication.
33. Cunsolo, A., Harper, S. L., Minor, K., Hayes, K., Williams, K. G., & Howard, C. (2020). Ecological grief and anxiety: the start of a healthy response to climate change?. *The Lancet Planetary Health*, 4(7), e261-e263.
34. Royal College of Psychiatrists [RCPsych] (2020). *The Climate Crisis is Taking a Toll on the Mental Health of Children and Young People. Online*: RCPsych
35. World Vision (2021). *How Climate Change Affects Poverty*. Retrieved from: https://www.worldvision.ca/stories/climate-change/how-climate-change-impacts-poverty
36. Parliamentary Office of Science and Technology (2019). C*limate Change and Agriculture*. https://researchbriefings.files.parliament.uk/documents/POST-PN-0600/POST-PN-0600.pdf
37. Reuveny, R. (2007). *Climate change-induced migration and violent conflict. Political geography*, 26(6), 656-673.
38. Internal Displacement Monitoring Centre (2018). *Global Report on Internal Displacement*. Retrieved from: https://www.internal-displacement.org/global-report/grid2018/
39. Kaczan, D. J., & Orgill-Meyer, J. (2020). T*he impact of climate change on migration: a synthesis of recent empirical insights. Climatic Change*, 158(3), 281-300.
40. The World Bank (2021). *Climate Change*. Retrieved from: https://www.worldbank.org/en/topic/climatechange/overview
41. World Health Organisation (2014). *Social Determinants of Mental Health. Geneva: World Health Organisation*. Retrieved from: https://apps.who.int/iris/bitstream/handle/10665/112828/9789241506809_eng.pdf

#MentalHealth
#COP26

Mental Health
Foundation
Scotland

URGENT CONTACT INFORMATION

Mr Keith Rae
Policy and Public Affairs Officer
Email KRae@mentalhealth.org.uk
Telephone (+44) 7563 400037

@mhfscot

@MHFScot

scotland@mentalhealth.org.uk

mentalhealth.org.uk