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Addressing risks to mental health from climate change: a policy capacity analysis of England

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ABSTRACT

Climate change and mental health are inextricably linked crises that demand urgent responses within the health sector and beyond. Mental health challenges associated with climate change are wide-ranging. They include depression, anxiety and post-traumatic stress resulting from increased exposure to extreme weather events, generalized climate anxiety and indirect impacts. However, there is a significant adaptation gap when it comes to addressing the mental health risks posed by climate change. Lack of capacity is frequently cited as a barrier to adaptation, yet 'capacity' covers many facets. This article examines the capacities of policy systems to design and implement adaptation initiatives for addressing the increasing risks to mental health posed by climate change. Focusing on England (UK) as an illustrative case study, this article deploys a policy capacity framework and draws on semi-structured interviews and policy document analysis. It identifies the ways that analytical, operational and political policy (in)capacities manifest across relevant policy areas, which include health, flood and coastal erosion risk management, spatial planning, natural environment and emergency management. Our analysis reveals that despite some strengths in analytical and political capacity, strained operational capacity is exacerbating and reinforcing adaptation gaps. We also demonstrate some of the complex interactions between different types of capacities that both enable and hamper adaptation. This article demonstrates the value of analysing policy capacity, and its potential in identifying and designing the necessary interventions to help circumvent a growing mental health crisis under climate change.

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Key policy insights

- In England, efforts to adapt to risks to mental health under climate change are supported through strong *analytical* capacity, involving research and knowledge generation, education and training, particularly in the mental health sector and Flood and Coastal Erosion Risk Management (FCERM). There is, however, room for improvement.
- Relatively strong *political* capacity, including advocacy and the role of policy champions, have led to increasing legitimization of the issue and fostered a growing policy landscape. However, some discernible gaps remain.
- There are significant weaknesses in *operational* capacity, restricting coordinated, preventative adaptation. This is partly due to significant resource constraints, and historic and current fragmentation within and between the health sector and others.

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1. Introduction

A central part of the global climate emergency is its impact on mental health. While the causes of the current global crisis for mental health are multiple (WHO, 2022), the Intergovernmental Panel on Climate Change indicates the scale and complexity of the links with climate change: “‘Mental health’ includes impacts from extreme weather events, cumulative events, and vicarious or anticipatory events ... some mental health challenges are associated with increasing temperatures ... trauma from weather and climate extreme events ... and loss of livelihoods and culture’ (IPCC, 2022, p. 11). The impacts of extreme events are important, for example: ‘In England, most of the health burden associated with flooding is due to the impacts of flooding on mental health and wellbeing’ (UKHSA, 2022). However, despite the strong relationship between climate change and mental health, it has been surprisingly under-researched. More worryingly, there is a growing adaptation gap – ‘the difference between actually implemented adaptation and a societally set goal’ (UNEP, 2023, p. vi) – when it comes to adapting and responding to the mental health risks posed by climate change (WHO, 2022). This reflects broader trends in climate adaptation in general (UNEP, 2023), attributed to a diverse range of reasons, including the lack of ‘capacity’ (e.g. Howlett et al., 2019). This article makes two particular contributions. First, it examines more closely adaptation gaps specifically in the context of mental health, looking beyond the health sector to include other crucial policy areas, such as flood risk management, and natural and built environment policy. For example, the health benefits of green–blue spaces have been well-documented (e.g. Pouso et al., 2021), yet benefits are dependent on access to these spaces. Furthermore, poor building quality can inhibit the regulation of internal temperature, resulting in detrimental impacts for mental health (e.g. Beemer et al., 2021). Second, this article responds to the call by Rahman et al. (2019) for more analysis of *policy capacity*. Policy capacity can be defined as ‘the set of skills and resources – or competences and capabilities – necessary to perform policy functions’ (Capano et al., 2020, p. 298), i.e. it specifically examines the capacities of policy actors, institutions and processes to do their work. We focus on England, one of the four nations of the UK,² as an illustrative case study for testing out the policy capacity framework and its utility in identifying and explaining adaptation gaps. This article examines: (i) *What policy activities address the increasing risks to mental health posed by climate change in England?* (ii) *What policy capacities and capacity gaps appear in the context of these activities?*

In the following sections, we introduce various bodies of literature related to the intersection between climate change adaptation, mental health and policy capacity. We then summarize our research design, analytical framework and methods, followed by substantive case analysis, structured around different dimensions of policy capacity. The final section reviews the article’s contributions to the understanding of mental health and climate change, and points towards promising lines of future research.

Climate change, mental health and policy capacity

The relationship between climate change and mental health is currently a relatively small sub-field of research and largely dominated by ‘impact studies, with mitigation and adaptation responses and their co-benefits and co-risks remaining niche topics ... [and] major gaps in evidence on climate health research for mental health’ (Berrang-Ford et al., 2021, p. e514). However, this sub-field is growing. Mental health and wellbeing are impacted by climate change through a number of direct and indirect ‘pathways’ spanning differing spatio-temporal scales, from the distress and psychological morbidity associated with extreme weather events (such as depression, anxiety and post-traumatic stress disorder PTSD), through to more generalized climate anxiety and solastalgia (Ali et al., 2020; Clayton et al., 2017; Corvalan et al., 2022; Hayes et al., 2018; Lawrance et al., 2022; Romanello et al., 2021). Mental health impacts are influenced by a complex variety of interacting factors, including demographic and personal traits, individual psychology and lifestyle factors, social and

²England, Scotland, Wales and Northern Ireland each have different health systems, under the umbrella of the National Health Service (NHS). Responsibilities and funding for certain aspects of health policy are further devolved to local authorities and regions in different ways across the UK (Shuttleworth & Nicholson, 2020).

community networks, living and working conditions, alongside environmental, socio-economic, political and cultural conditions (Lawrance et al., 2022). In addition to the impacts on individuals, and the increased burden this places on health and social care services, the effects of climate change also directly impact key assets and service delivery within the health sector, creating significant disruptions to care provision more widely. Research has drawn attention to health inequalities and demonstrated how impacts often fall most heavily on those already marginalized (Hayes & Poland, 2018). However, analysis of mental health impacts encounters several challenges, such as specifying and measuring what the impacts are, and attributing cause and effect (Hayes & Poland, 2018). As a result, research has tended to focus on direct and short-term health impacts, with some notable exceptions (e.g. Waite et al., 2017). Impacts are also most often assessed on individuals, for example using mental health surveys, rather than on communities or institutions more widely. More broadly, significant gaps exist in the global assessment and monitoring of mental health, which has been attributed to regional and cultural differences in its definition, acknowledgement, stigmatization and treatment (Romanello et al., 2021).

Research on *adaptive responses* to climate change impacts on mental health, and critical analysis of those responses, covers a range of different angles. Overall, several key points emerge (Clayton et al., 2017; Hayes et al., 2018; Lawrance et al., 2022; Palinkas et al., 2020). The causes of mental health problems are historically contingent on socio-economic factors, with climate change and societal responses layered on top of these (Hayes et al., 2019); 'climate change acts as a risk amplifier by disrupting the conditions known to support good mental health, including socio-economic, cultural and environmental conditions, and living and working conditions' (Lawrance et al., 2022, p. 443). For instance, pre-existing 'mental health symptoms, including those associated with prior disaster exposure, may influence preparedness for future disasters' (James et al., 2020, p. 343). Furthermore, mental and physical health problems are closely inter-related (Ali et al., 2020), often limiting peoples' ability to respond. Similarly, pre-existing weaknesses in health systems can be exacerbated by climate change, and addressing these weaknesses more broadly is crucial for adaptive responses.

The World Health Organization's operational framework for building climate-resilient health systems explicitly recognizes some of the complexity challenges, including: the importance of integrating local knowledge and contexts; coherence across a range of policy areas such as planning, water, food and energy; and 'reducing existing health system vulnerabilities' (WHO, 2015, p. 5). Corvalan et al. (2022) demonstrate the importance of both integrating climate change into mental health policies and vice versa. Adaptation responses for addressing mental health risks (see, e.g. Corvalan et al., 2022; Hayes et al., 2019; IPCC, 2022, p. 1972) include:

- Therapies, including counselling and nature therapy (e.g. 'green prescribing')
- Education and training for health and other professionals (e.g. emergency responders)
- Public education on climate change impacts and responses
- Disaster preparation and recovery
- Community building, including community involvement in planning and support
- Research and networks to support education, knowledge exchange and policy-making
- Resources to improve mental health care generally
- Cross-sectoral collaboration.

Relational and community elements are particularly notable. While addressing mental health symptoms is important, building community cohesion, for example, can help improve preparedness for all sorts of disasters, making the relationship between climate change and mental health more multi-directional (see, e.g. James et al., 2020). However, decisions are often made without the input of the most vulnerable (Orru et al., 2018).

Strategies for adapting to health impacts sometimes refer explicitly to building capacity. For example, the WHO's framework aims 'to enhance the capacity of health systems to protect and improve population health in an unstable and changing climate' (WHO, 2015, p. 5). Key components include leadership, information systems, tools such as vulnerability, capacity and adaptation assessments (see also Hayes & Poland, 2018), risk monitoring, and designing health operations to be climate-resilient. It has long been recognized that it is crucial to understand peoples' and communities' capacity to adapt to how they experience climate change and its

impacts (e.g. Adger, 2010), adaptation actions at multiple levels and their interactions, including challenges to wider systems as well as individuals (Adger, 2016).

An important question is how these adaptation responses fare when attempts are made to implement them. Hayes et al. (2019) set out several factors that influence the capacity at multiple levels to adapt to the mental health consequences of a changing climate. These include: social capital; access to resources; healthy community preparedness sensitive to multiple needs; healthy governance and collaboration between a wide range of actors including mental health professionals, climate scientists, public health, NGOs. Where these factors are low or absent, such as with weak coordination or sporadic funding, adaptive capacity is correspondingly diminished (Hayes & Poland, 2018).

As part of this, to better understand struggles to effectively adapt to climate change, it is important to examine explicitly the capacity of *policy systems* to design and implement adaptation initiatives (Austin et al., 2019; Pirkle et al., 2022; Rahman et al., 2019). Such analysis must capture the political nature of policy-making. Rather than assuming adaptation initiatives are functionalist responses to solving a clear problem, we must examine 'the various interests and capacities of policy managers, policy designers, formulators, decision-makers and others involved in the policy process' (Howlett et al., 2019, p. 51). Avoiding policy failures depends on the ability to exercise three types of skills or competences: Analytical, Operational, Political, each involving resources or capabilities at three different levels: Individual, Organizational and Systemic (Wu et al., 2015). The resulting nine types of capacity provide an overarching framework for assessing policy subsystems, and build up a picture of 'the set of skills and resources – or competences and capabilities – necessary to perform policy functions' (Capano et al., 2020, p. 298). Such analyses can enrich and deepen understanding of where strengths and weaknesses lie across a wide range of policy actors and activities (Capano & Howlett, 2020).

Health systems generally have been a popular field for policy capacity analyses in recent years, for example the cases of New Zealand (Dickinson et al., 2022; Tenbenschel & Silwal, 2022), Australia (Dickinson et al., 2022; Hughes et al., 2015), China (Husain et al., 2021), Canada (Denis et al., 2022), and India (Bali & Ramesh, 2021). Capano and Lippi (2021) examined policy capacities in Italian regional responses to Covid-19, finding that responses to emergencies often reproduce strengths and weaknesses in current systems. However, the complexities of analysing health policy capacity (Bali & Ramesh, 2021; Hughes et al., 2015) are many, including: the need to look across sectors such as employment, education, transport; the presence of multiple actors in planning, financing and service delivery; different actors' interests and incentives (such as patients, professionals, drug companies, governments, and (tax) payers); financial constraints; inequality between causes and impacts of problems, needs, and willingness/ability to pay; and information asymmetries (e.g. between drug companies and patients). Orru et al. (2018) examined factors influencing the effectiveness of health systems in response to climate change, deploying the WHO operational framework (WHO, 2015) to examine capacities related to analytical, institutional and inter-ministry coordination, albeit without explicitly using Wu et al. (2015) policy capacity framework.

Overall, policy capacity analyses can provide 'a useful diagnostic tool to assess strengths and weaknesses in health policy capabilities' (Bali & Ramesh, 2021, p. 289), to reveal nuances that better understand observed adaptation gaps. Indeed, 'sophisticated health policy designs, even when backed by broad political support, may be undermined during implementation due to capacity gaps' (Bali & Ramesh, 2021, p. 289). Therefore, this article asks: (i) *What policy activities address the increasing risks to mental health posed by climate change in England?* (ii) *What policy capacities and capacity gaps appear in the context of these activities?*

Our framework is inspired by that presented by Wu et al. (2015), and further interpretations by Howlett and Ramesh (2016, pp. 304–5), Rahman et al. (2019), Bali and Ramesh (2021), and Capano and Lippi (2021). Our primary focus is on the Systemic level (Table 1).

2. Methods

Informed by the above literature review, we looked beyond the mental health sector to explore (in)direct ways in which mental health under climate change may be related to other policy areas: flood and coastal erosion risk management (FCERM), emergency management, the natural environment and spatial planning. Data were gathered as part of a larger cross-national and cross-sector research project on

Table 1. Systemic-level characteristics of different dimensions of policy capacity for responding to the mental health impacts of climate change.

| Systemic-level COMPETENCES | Characteristics |
|----------------------------|--|
| Analytical | <ul style="list-style-type: none"> • A range of accessible and useful institutions and resources for system-wide data collection and sharing; creating and mobilizing ideas, expertise on policies, their design and selection, and support (e.g. advisory and training bodies) • Flexibility in what analytical expertise is required, and when • Good general level of skills, education and training in mental health and climate change – the problems, causes, impacts – and of policies to address risks |
| Operational | <ul style="list-style-type: none"> • Clear and effective engagement between actors (e.g. coordination across health sector and beyond) • Clarity in the roles and responsibilities of different organizations in policy design and implementation • High level of interorganizational trust to complete actual operational processes • Adequate resources to fund policy design and implementation |
| Political | <ul style="list-style-type: none"> • Mental health and climate change as a priority in public or other wider support – presence of policy and powerful champions • Clear and effective ways of involving a variety of voices, and ability to challenge established interests and ideas • Action enabled through adequate resourcing • High level of public trust in actors to carry out actions • Key actors have political capital to canvass support, build coalitions, overcome opposition, navigate political and legislative processes and exploit opportunities |

climate change adaptation (see acknowledgements). Data were drawn first from analysis of legislation, policy documents, reports, guidance, position statements and organizational websites. Documents were selected through purposive and snowball sampling, starting with key national strategies and legislation identified through the websites of the government departments and public bodies responsible for the above policy areas, alongside the legislation.gov.uk database. While the focus was on analysing the current policy landscape (between January 2021 and July 2022), prior policies were also examined to provide relevant contextual background. This analysis was accompanied by 30 semi-structured interviews across the above policy areas in 2021 and 2022. Interviewees were identified via purposive and snowballing sampling, including of national government departments, non-departmental public bodies, advisory bodies, professional bodies, medical practitioners, third sector organizations and academic and other expertise (see Table 2).

Table 2 indicates the expertise and affiliations of some interviewees covered more than one policy area and institution. In all, 8 interviewees were classified under ‘Health’, 10 under FCERM, 10 under natural environment and 2 across sectors. Interviewees were at the senior manager and leadership level. Interviews were carried out following approval from the authors’ institution’s Research Ethics Committee, with participants’ informed consent. Interviews were semi-structured, so detailed questions and topics of discussion were tailored to each interviewee’s areas of expertise, within a framework of general topics: observed adaptation gaps, perceived reasons for these, general strengths and weaknesses within policy systems, and barriers and opportunities for change. Interviews typically lasted around an hour were conducted via MSTeams and were recorded, and transcribed verbatim. Documents and interviews were analysed thematically; themes were developed inductively within a more deductive analysis based on the different dimensions of policy capacity (analytical, operational and political) and systemic-level characteristics outlined in Table 1.

3. Analysis

Climate change and mental health: the English policy context

Relevant policies, programmes and interventions cover combinations of physical and mental health, sustainability, climate change mitigation and adaptation. Many of these consider mental health and climate change adaptation to varying extents. The UK’s Net Zero commitment is embedded, via statutory guidance (NHS, 2022), in the Health and Care Act 2022, including the ‘Greener NHS’ programme (NHS, 2022, p. 46). Although mitigation is at the forefront, adaptation is acknowledged in this agenda and the two priorities are framed as

Table 2. Anonymized summary of interviews [NE = Natural Environment; TSO = Third Sector Organization; NDPB = Non-Departmental Public Body].

| Interview ID | Policy area | Type of interview |
|--------------|--------------|---|
| 1 | Health | Academic expert |
| 2 | Health | NHS Trust |
| 3 | Health | NHS Leadership |
| 4 | Health | Medical Practitioner/Professional body |
| 5 | Health | Medical Practitioner/Professional body |
| 6 | Health | Medical Practitioner /Professional body |
| 7 | Health | TSO |
| 8 | Health / NE | Medical Practitioner/Partnership organization |
| 9 | Cross-sector | Advisory body |
| 10 | FCERM | Consultant expert |
| 11 | FCERM | Academic expert |
| 12 | FCERM | TSO |
| 13 | FCERM | National government department |
| 14 | FCERM | Academic expert |
| 15 | FCERM | National government department |
| 16 | FCERM | Academic expert |
| 17 | FCERM | National government department |
| 18 | FCERM | Partnership organization |
| 19 | FCERM | NDPB |
| 20 | NE | NDPB |
| 21 | NE | TSO |
| 22 | NE | National government department |
| 23 | NE | Representation organization |
| 24 | NE | TSO |
| 25 | NE | TSO |
| 26 | NE | TSO |
| 27 | NE | Academic expert |
| 28 | NE | Academic expert |
| 29 | NE | NDPB |
| 30 | Cross-sector | Consultant expert |

'often mutually strengthening' (NHS, 2022, p. 47) and pursued in projects such as the NHSForest³ (NHS, 2022, p. 37). In other policy areas, there is increased recognition and emphasis on the mental health benefits of green space (HM Government, 2023a; UKHSA, 2023) and green/blue social prescribing (HM Government, 2023a). This is indirectly supported through spatial planning policies that support green infrastructure (MHCLG, 2021) and potential for increased access to nature through for example a legal requirement under the Environment Act 2021 for biodiversity net gain alongside new developments.

The overlapping priorities on health and climate adaptation (NHS, 2021), adverse weather and health (UKHSA, 2023), and in particular public mental health and flooding (UKHSA, 2022) share certain elements. These include: an emphasis on research; data collection on impacts; mapping of risk, including socio-economic factors; service continuity in the event of climate disruption; emergency responses that give appropriate attention to vulnerable people, including mental health needs; education and training in impacts and responses; the importance of adjacent policy areas such as urban design; physical, practical and therapy support; and involving community groups and building community resilience. At first sight, comparisons with types of climate adaptation responses (Hayes et al., 2019) appear favourable and supported by a strong policy landscape. However, our analysis highlights the varying extents to which this is the case and reveals the presence of key adaptation gaps and underlying policy incapacities.

Policy capacities and capacity gaps

Analytical (in)capacities

There are several long-standing work programmes and key institutions which support mental health under climate change, through research and knowledge generation, education and training. These activities help bolster analytical capacities to inform policy design and implementation.

³<https://nhsforest.org/>

Within the environment sector, Natural England – an executive non-departmental public body, sponsored by the UK Department for Environment, Food and Rural Affairs (Defra) – administers the *People and Nature Survey for England*,⁴ which ‘gathers evidence and trend data ... relating to people’s enjoyment, access, understanding of and attitudes to the natural environment, and its contributions to wellbeing’, with data publicly accessible online. These data help inform Defra policy and natural capital accounting, as well as supporting several outcome indicators for monitoring the effectiveness of the 25 Year Environment Plan (Defra, 2019; HM Government, 2023a) [IV-29]. FCERM, including emergency management, policy has also been supported by research into mental health impacts of flooding, extending back at least a decade (Defra, 2014). For example, the WHO-Europe and Public Health England (PHE)’s 2009–2011 project investigated the health effects of flooding (Menne & Murray, 2013). Subsequently, PHE established the *English National Study of Flooding and Health*⁵ to investigate the medium and longer-term mental health impacts of floods and inform preventative and recovery strategies to reduce future harm. In turn, research assessing the mental health costs of flooding (Viavattene & Priest, 2020) now influences the allocation of public FCERM Grant-in-Aid funding for flood mitigation schemes.⁶ However, gaps remain and research is continuing around other mental health issues beyond anxiety, depression and PTSD, and the mental health impacts on children.

Within the health sector, the Centre for Sustainable Healthcare (CSH),⁷ a registered charity, ‘offers strategic input and consultancy on sustainable healthcare research and practice to national and local programmes’. CSH has a Green Space for Health programme (including projects such as the NHS Forest) and also develops educational resources, training events, networks and analytical tools to support the NHS and other healthcare providers, for example in implementing the Green Plans required of NHS Trusts. Furthermore, CSH offers a Sustainable Specialty Fellowship programme, to develop research and leadership capacity among clinicians. Specifically related to climate change, there are resources to allow members of the public to support themselves, and signposting to further help.

Furthermore, the Royal College of Psychiatrists has an established Sustainability and Planetary Health Committee⁸ which supports knowledge exchange in addition to resources and guidance around sustainable mental health – see for example the EcoCAMHS Network on child and adolescent mental health, and materials on eco distress for children and young people.⁹

While the above examples indicate rich analytical capacity, this is hindered by several challenges. Key analytical capacity gaps remain as a result of the complex causal mechanisms that influence mental health outcomes, the difficulty in specifying appropriate indicators, and lack of data [IV-1]. Where data do exist they are collected and held by a vast array of different organizations with their own protocols, formats and confidentiality constraints [IV-2]. Focussing data gathering on more tangible physical impacts can be more tractable. For example, climate change adaptation data gathered at present are mainly about overheating within NHS estates [IV-3]. Notwithstanding the wide range of education initiatives within the health sector [IVs-1,3,4,5] and for other professionals [IV-1], there is still some way to go in improving awareness among health professionals of climate change and its potential impacts on mental health:

It was only a year or two ago I couldn’t say to my colleagues, ‘I’m interested in the impact of climate change on mental health’, and most people would say, ‘Well, there’s not really any direct impacts are there?’ [IV-6]

More widely, established norms about what constitutes evidence and scientific rigour affect the assessment of activities such as green prescribing, which are not easily subjected to randomized control trials (RCTs). Quantitative evidence can be given primacy, especially within the health sector:

the numbers get used in such a way that they’re effectively kind of weaponised [IV-4]

⁴<https://www.gov.uk/government/collections/people-and-nature-survey-for-england>

⁵<https://www.gov.uk/guidance/flooding-and-health-national-study>

⁶<https://www.gov.uk/government/publications/mental-health-costs-of-flooding-and-erosion>

⁷<https://sustainablehealthcare.org.uk/>

⁸<https://www.rcpsych.ac.uk/improving-care/working-sustainably>

⁹<https://www.rcpsych.ac.uk/improving-care/sustainability-and-mental-health/the-eco-crisis-and-camhs>

and qualitative approaches seen as less rigorous, partly because it is much harder to be clear when and where benefits of prevention appear [IV-2]:

people say, 'Well what's the evidence?' ... I think we've become quite narrow in what we accept as scientific evidence [IV-6]

The relative absence of conventional quantitative evidence has consequences, including for investment [IV-9]. Social prescribing for example is much less likely to be funded by industry, relying instead on research charities [IV-5]. And the incentive for social prescribing may actually be low because of systems of resource allocation:

the hospital gets what you would class as a revenue stream from treating people. So actually if less people attend it could have a counter effect if less people need operations [IV-2]

Operational (in)capacities

NHS funding is fundamental to operational capacity: 'The NHS Long Term Plan (LTP) makes a renewed commitment that mental health services will grow faster than the overall NHS budget with a ringfenced investment worth at least £2.3 billion a year for mental health services by 2023/24' (NHS, 2019, p. 5). However, distribution of funding and resources towards mental health is considerably lower than primary and secondary care. In 2019/20, 14% of the total Clinical Commissioning Groups' funding allocations were committed to mental health, learning disability and dementia services (Baker, 2020). In spite of increased funding, systems are strained already [IV-6]. Even the most basic sustainability considerations – for example in health equipment procurement – have to be done in addition to regular tasks [IV-2], making it very difficult to find space to even add something to current systems let alone re-think direction and large-scale aims:

how do you make space for that sort of intervention [green prescribing] in a service that's straining at the seams? [IV-6].

Resource constraints and skills gaps beyond the health sector have an impact too. For example, capacity gaps within local planning authorities constrain the requirement for biodiversity net gain within new developments, with impacts on health:

the majority of people will access nature less than 2 kilometres from their home ... If they don't have a local park, they don't access this green space so they don't get the health benefits. [IV-20]

To address historic fragmentation and poor coordination within the NHS, statutory Integrated Care Systems (ICs) have been established under the Health and Care Act 2022, including partnership between NHS and local authorities. Coordination is also occurring via Greener NHS and some of the bodies mentioned above. There is evidence of increased policy alignment – see for example NHS (2019), UKHSA (2022), HM Government (2023a) – and attempts to join up the work of different policy actors and institutions and agencies, organizations, and policy areas, in for example emergency management. Mechanisms such as the Climate Change Risk Assessment (CCRA; Betts et al., 2021) and National Adaptation Programme (NAP; HM Government, 2023b) are ways to enable discussion across government departments [IV-3]. However, there is arguably still a tendency towards siloed working, and the challenge is formidable. This is partly because work is needed across disciplines, and across organizations and policy areas [IVs-1, 3]:

it has been very siloed, the funding as well so I think that lack of infrastructure, that funding infrastructure has held back the research which has then held back everything else. [IV-1]

Piecemeal initiatives from different parts of government and others [IV-7] face challenges where they clash with other policy areas. Devolution of responsibilities and funding for health policy can exacerbate such clashes. For example, national policy encouraging exercise in open spaces faces challenges when local authority expenditure on sport, play and parks has fallen by 33%, and on open spaces by 19%, since 2010.¹⁰ Additionally, the sheer multitude of institutions involved are hard to keep track of, let alone agree positive changes with: mental health trusts, community trust, General Practitioners, ICS and thousands of sub-contracted bodies

¹⁰Mean for all English authorities, adjusted to 2022–23 prices. Source: Local Government Association <https://vfm.lginform.local.gov.uk/>

[IV-2] – while public health sits within local authorities [IV-5], all at strained capacity [IV-6], with potentially contradictory legal requirements and frequent changes of structure, remit and governance complicating the picture:

over the last 15 years it's gone from Health Protection Agency, Public Health England and now it's changed again ... there's a massive churn every time they re-brand and re-orientate. [IV-5]

The Operational capacity gaps were seen by some interviewees as much more intractable than Analytical ones – ‘we don't need more research. Like it's super simple. Like we all know what we need to do’ [IV-4]. Climate change, and associated new or exacerbated mental health risks, cutting across several policy areas, are not necessarily seen as belonging within the remit, or capacity, of any one sector. This makes it easy to shift responsibility and difficult to make progress. There is evidence of passing responsibility for mental health around different bodies [IV-7; IV-19], partly to avoid the demands that would bring. Partly also because questions of who pays and who benefits, for example from developing urban green space [IV-1], and the associated power relations, require detailed negotiation between many bodies including different tiers of government:

There's quite a lot of tension about whose job is it anyway, to sort [mental health] out. In the eyes of a lot of bits of the system, people will look to the NHS and think, 'Well the NHS is very well-resourced, so why can't it just divert some of its resources to mental health, rather than us having to stump up for it?' [IV-7]

This kind of problem is well-documented around climate change and health: see, for example, Workman et al.'s (2018) review of barriers to integrating health co-benefits into climate mitigation policy.

Political (in)capacities

The UK has historically had strong political and societal support for the NHS generally. However, satisfaction with the NHS had by 2022 fallen to a historic low, driven by long waiting times, staff shortages and perception of underfunding (Morris et al., 2023). At the same time, a May 2021 survey from the Royal College of Psychiatrists found ‘more than four-fifths (84%) of the UK public think the climate and ecological emergencies will affect mental health in a decade at least as much as unemployment (83%)’.¹¹ More generally, there is evidence of shifting taboos around mental health in British society – see, for example, the significant increases in positive attitudes and their relationship to the Time to Change campaign (2009–2021) (Evans-Lacko et al., 2014).

The presence of policy entrepreneurs or ‘champions’ within the health, environment and flood risk management sectors [IV-29], and increased investment in mental health generally [IV-7], are complemented by institutional advocates. Advocacy around health and climate more generally is central to the work of the UK Health Alliance on Climate Change,¹² a network of 37 UK health organizations, and the Academy of Medical Royal Colleges – see, for example, their 2020 statement on climate change.¹³ The Royal College of Psychiatrists also acts as an advocate and publicly declared a climate and ecological emergency in 2021. There are also instances of policy actors mobilizing opportunities to influence policy change, for example, severe flood events in 2014 were a catalyst for the *English National Study of Flooding and Health* (see above).

In spite of the above developments [IVs-4, 5, 7], a wider public awareness of climate change [IV-5] and of the relationship between climate change and health [IV-7], there has been overall a lack of coherent adaptation actions around climate change and mental health [IV-1]. There appear to be several reasons. First, climate mitigation within the health sector has taken priority to date, for example in the Greener NHS programme [IV-4] and NHS Green Plans [IV-5], partly because of the scale of change required for effective adaptation: ‘adaptation is just, I mean, that's like just a byword for ‘system overhaul’ ’ [IV-4]. Second, even if the environment generally may be rising up the political agenda [IV-20], alongside shifting

¹¹<https://www.rcpsych.ac.uk/news-and-features/latest-news/detail/2021/05/05/rcpsych-declares-a-climate-and-ecological-emergency?searchTerms=sustainability>

¹²<http://www.ukhealthalliance.org/>

¹³https://www.aomrc.org.uk/wp-content/uploads/2020/07/200707_climate_change_statement.pdf

taboos around mental health, concern about the effects of climate change can also be undermined and belittled through the media [IV-6]. And cultural stigmas associated with ‘connecting with nature’ can be persistent [IV-4]. Third, environmental gains often conflict with other political priorities and interests [IVs-9, 20, 24, 30]. In particular, housing and economic growth agendas continue to be politically prioritized over environmental gains, with impacts on health:

it probably comes down to a political interest in business and finance which sits in [UK government Department for Business] versus the environment, which sits in Defra but Defra historically has always been quite a weak department in that sense, that it’s forever chasing its own tail trying to resource things but also it doesn’t have a lot of influence across government. [IV-9]

The effects of relatively small amounts of resources for mental health [IVs-2, 5] can be seen particularly within work on climate change. Low political capacity is indicated by the generally very small teams responsible for large and diverse remits covered by NHS Trust Green Plans [IV-2]. Also, reliance on a small number of committed individuals across health sector organizations, whether as ‘champions’ [IV-4] or as those who lead by example and offer their time and energy [IV-2], makes activities vulnerable to individuals leaving their posts, or indeed having enough time.

Several interviewees commented on a fundamental political capacity issue: whilst adaptive responses to climate change impacts on mental health need to be embedded in a public health preventative model, the predominant model in the UK is focussed around reactive treatment rather than prevention [IVs-2, 6, 8]:

The NHS is set up as a kind of repair shop to react to disease and illness when it happens. [IV-2]

Interviewees stressed the importance of challenging this model [IV-4] and the value of alternative approaches, such as prescribing exercise rather than drugs. Interviewees recognized that attempts to shift to a prevention model must engage with a wide range of capacity gaps that make it politically difficult. These factors range from the individual behavioural scale [IV-8] through to the societal scale [IV-4]:

Nobody wants to do anything as boring as change their diet or go up a hill every day. That’s hard work. A pill is easy. [IV-8]

Any discussion of prevention and public health highlights wider challenges and risk-enhancing factors such as limited employment opportunities [IVs-4, 5, 7], poverty [IVs-5, 7], childhood trauma [IV-5], poor housing [IVs-4, 7], impact of racism [IV-7], the design and operation of the welfare-benefits system [IV-7], lack of healthy communities more widely [IV-4] and the need for long-term adaptive planning rather than reactive emergency planning [IV-3]. All generate heated political debate. The impacts of climate change often enhance existing inequalities, impacting the most vulnerable most significantly [IVs-1, 4]. Anxiety about climate change, for example, often occurs alongside and compounds other anxieties [IV-5]. And work to support other climate-related mental health problems can be particularly challenging, requiring specialist support alongside low ability to create effective interest groups and succeed in making political changes:

people with major mental illness, who are a smaller amount of the population but have very little voice actually and very little advocacy ability. [IV-5]

4. Discussion

Given a need ‘to dramatically accelerate’ efforts to address climate change impacts on mental health (Corvalan et al., 2022, p. 8), the ability to identify policy capacities and capacity gaps is paramount. In our case study, although there is room for improvement, commitments to research, knowledge generation, education and training through a variety of work programmes and key institutions, serve to bolster *analytical capacity*. Moreover, public belief in the importance of addressing mental health and climate change, and the strong (at least historically) support for the NHS, underpins *political capacity* to some extent. However, the political difficulties of shifting to a more public health model, with the many socio-economic factors influencing public health, along with the complexity of climate adaptation responses, make translating this general political capacity into effective action difficult. Despite general public support for addressing mental health problems, the advocacy power of those particularly vulnerable is low. And while the efforts of policy champions are increasing the legitimation of the issue, some discernible gaps remain.

At the heart of the problem, we observe how adaptation efforts are hindered by significant weaknesses in systemic *operational capacity*. Two particular capacity gaps appear well-entrenched. First, the diversity of initiatives, policy areas, actors – and their complex histories, interests and aims – make coordinated action particularly complicated and resource-intensive. Stronger policy alignment requires considerable work. This is exacerbated by a second operational capacity gap: the strains and weaknesses already present, particularly within the health care system. Indeed, adaptive responses are sometimes expected to be done ‘in addition to’ existing work with no additional resource for a system already stretched beyond capacity. Both operational capacity gaps are significant: healthy governance and collaboration between sectors and actors, and appropriate resources of various sorts, are crucial factors in enabling adaptation efforts (Corvalan et al., 2022; Hayes et al., 2019).

It is important to examine the ‘dynamics and feedback loops between operational, political and analytical policy capacity’ (Tenbenschel & Silwal, 2022, p. 1), and the presence of ‘virtuous’ (or conversely ‘vicious’) circles as one type of policy capacity enhances or diminishes the others. Understanding such dynamics is crucial for informing strategies for bolstering or dissolving (un)desirable feedbacks. While climate change is itself a risk amplifier (Lawrance et al., 2022), adaptive responses both reflect and reinforce prior capacities and incapacities. In this regard, we observe several key interactions. First, analytical and political capacities can be mutually supportive. For instance, the same organizations (e.g. Royal College of Psychiatrists) can both produce analytical resources and act as advocates. More generally, analytical capacity plays an important role in garnering political resources and raising the political profile of the issue. Likewise, political capacity can steer efforts to bolster analytical capacity. This is evident in the efforts to understand and include mental health impacts of flooding within FCERM, which has filtered into the operational arrangements for administering funding. As political capacity is enhanced through opportunities to respond to ‘catalyst’ climate change impacts, analytical capacity in understanding those impacts and informing potential responses can be deployed at opportune moments. This dynamic further strengthens analytical capacity, and can enhance operational capacity in the form of resources.

Second, however, we observe how analytical capacity can be hindered by lack of political capacity. For instance, despite growing awareness of the mental health impacts of climate change and value of alternative forms of preventative care, this has yet to be mainstreamed in the health sector and comes into conflict with other political priorities. While there is no shortage of ideas around climate change and mental health, these run into established norms about what constitutes acceptable evidence, with consequent prioritizing of certain types of responses both politically and operationally.

Third, adaptation efforts can be constrained by the intersection between political and operational capacity. Efforts to strengthen alignment across policy areas are challenged by their siloed histories. A lack of political capacity to overcome fragmentation, and to fully resource and respond to the needs of an over-stretched health sector, reinforces operational incapacity and makes it even harder to respond adequately to the additional burdens created by climate change. For example, a reliance on committed ‘champions’ to lead policy and programmes can lead to vulnerability of systems and resourcing. The less-than-robust operational capacity this implies also indicates gaps in political capacity.

Fourth, attempts to overcome fragmentation may be evident in efforts to build analytical capacity, but constrained through imbalances in political capacity: see a degree of reluctance by some actors to adopt joint responsibility for adaptation actions, or readiness to shift responsibility to other actors. The presence of these additional ideas and agendas put further strain on operational capacity.

5. Conclusion and policy recommendations

This article provides an empirical case study to support emerging interest in mental health and climate change. It further demonstrates the analytical value and applicability of the policy capacity framework for understanding current adaptation gaps at the systemic scale. A strength of the framework is its attention to different dimensions of policy capacity and explicit consideration of the political aspects of climate adaptation actions. In the case of England, we propose several policy recommendations which may help close the adaptation gap. First, there is a need to build on current strengths in analytical capacity to raise the political profile of mental health and climate change; in turn, this can secure further resources to strengthen operational capacity.

Second, while it may be difficult to boost political capacity directly, it is important to strengthen the advocacy power of those particularly vulnerable to ensure socially just adaptation. Third, clearer oversight of adaptive responses is needed, including power to resolve differing interests and manage responsibility shifting. This could come through stronger leadership at the national scale, and through Integrated Care Systems at the local scale. Fourth, mental health must be resourced for the scale of the challenges: not simply funding, but also structures such as teams and processes that reduce reliance on champions, and direct funding towards integrated solutions that maximize gains.

For future research, there is considerable scope for comparative analysis across other countries and governance settings. Systemic-level analysis can guide detailed case research into specific dimensions of policy capacity, such as where weaknesses appear to be present, or towards organizational and individual levels. Similarly, policy capacity analysis of specific interventions (e.g. green social prescribing programmes), organizations, or cases of how policy or guidance was implemented (e.g. on flooding and mental health) at national or sub-national levels may prove fruitful. Further, while this article has discussed several types of mental health problems, anxiety was a strong theme. This aligns with Pirkle et al. (2022) analysis of UK Parliamentary speeches, which found anxiety has been far more commonly mentioned than, for example, grief and PTSD. It would be useful to further investigate reasons for different responses to different types of mental health problems. This would enhance the understanding of dynamics and feedback loops between policy capacities, and inform recommendations for enhancing capacities in varied contexts, as well as design and implementation of interventions. Closing this particular adaptation gap demands commitment to bolster all facets of policy capacity, within the health sector and beyond.

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Author contributions

JT led the conceptual framing, literature review and writing of the article. MA led the data collection and analysis, and contributed to the article writing.

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