# Societal Resilience and Mental Capital

## PRIORITY POLICY QUESTIONS: SUMMARY OF KEY FINDINGS

Environment and National Security: Exploring the Risk Pathways

**July 2026**

## About

This document is one of a series of reports from the Agile Initiative's Environment and National Security: Exploring the Risk Pathways project. The Priority Policy Questions: Summary of Key Findings reports respond to questions emerging from discussions with policymakers. Designed to be concise and accessible, each provides a list of key findings, a synthesis of available scientific evidence, a graphic illustrating the pathways between environmental pressures and national security, an explanation of the implications for UK national security, a list of priority policy recommendations, and description of relevant uncertainties and evidence gaps.

## The Priority Policy Questions Series

- The role of critical natural infrastructure in supporting national security
- Managing demand: energy security, food security and UK national security
- Climate risks and opportunities for maritime shipping and UK trade
- Environment-driven mobilities and UK national security
- Weaponisation of nature
- Environment and social resilience

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# Policy Questions

## Q1

**What does societal resilience mean and how do social, economic, and mental capital interact to shape it?**

## Q2

**How does national mental capital and wellbeing intersect with environmental challenges, including toxins, climate change, and food security?**

## Q3

**How do "forgotten ecosystems" (the wider network of green and blue spaces beyond formally recognised parks and protected areas) contribute to mental capital?**

# Summary


- Environmental decline is a national-security issue: floods, heat, pollution, and food and water insecurity erode the mental, social, and economic capital that lets people, communities, and institutions absorb shocks. Protecting everyday environments, including overlooked 'forgotten ecosystems', is a low-cost, near-term way to strengthen UK resilience before the next crisis.

### Why societal resilience and mental capital matter for UK national security

Environmental pressures harm health, livelihoods, services, and public trust, weakening the population's capacity to cope and recover. Resilient societies govern Critical Natural Infrastructure better and recover faster, thus, investment in resilience creates positive feedback loops.

### Key findings

Environmental pressures weaken societal resilience by harming health, livelihoods, trust, services, and access to nature. (HIGH CONFIDENCE)

Climate and environmental change affect mental capital through multiple pathways: including acute shocks, chronic exposures, resource insecurity, nature disconnection, and life course, compounding existing vulnerabilities (MODERATE CONFIDENCE).

'Forgotten ecosystems' beyond formally protected areas (e.g. verges, scrub, hedgerows) provide a range of essential services (e.g. flood protection, pollinator habitat) and give people everyday contact with nature that supports mental capital (LOW-MODERATE CONFIDENCE).

## Policy priority recommendations

Treat the three capitals as resilience infrastructure: embed mental, social, and economic capital across project cycles, from appraisal to evaluation.

Shift resilience investment upstream: fund prevention rather than relying only on crisis response.

Apply a mental capital equity test to infrastructure and adaptation decisions: who is protected, who remains exposed, who can recover.

Unlock the resilience value of forgotten ecosystems: use Biodiversity Net Gain, Local Nature Recovery Strategies, and planning guidance to protect overlooked habitats.

## Uncertainties

Current evidence is dominated by reviews, qualitative and cross-sectional studies. Mental health and related components are widely studied but mental capital is rarely examined directly.

Most empirical evidence comes from countries already experiencing severe climate impacts, so UK-specific research is needed as climate risks increase.

Stronger UK longitudinal evidence is needed, particularly on vulnerable communities and the long-term mental health impacts of nature-based interventions.

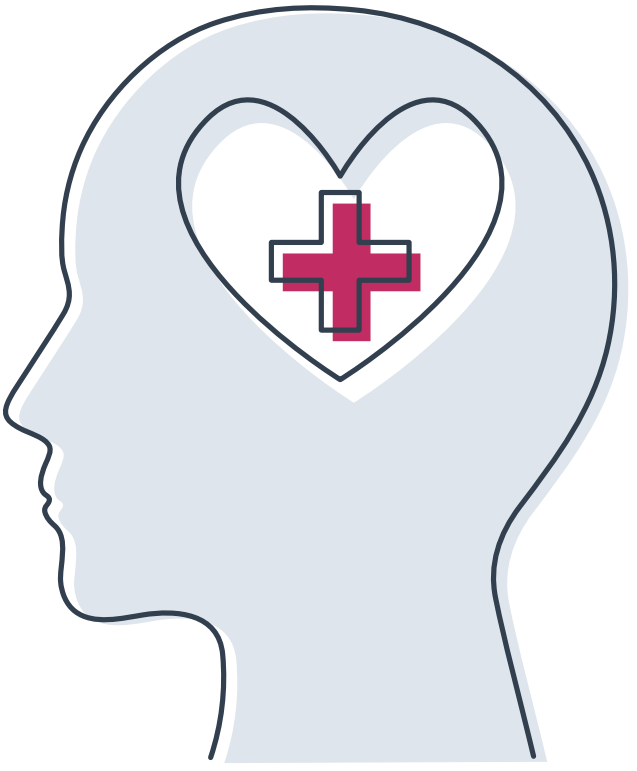
Mental capital should be framed around enabling environments and individual agency together, not individual responsibility alone, reducing structural vulnerability while supporting personal coping.

# Key Findings

Climate and environmental pressures can weaken societal resilience (comprised of mental, social, and/or economic capital) by harming health, disrupting livelihoods, straining trust and services, and reducing access to the natural and built environments that supports everyday functioning (HIGH CONFIDENCE).

Climate change and other environmental challenges have a complex relationship with mental capital and wellbeing, via multiple pathways: including acute shocks, chronic exposures, resource insecurity resulting from both acute and chronic hazards, as well as disconnection from nature – all of which can be compounded by life stage and other socio-demographic factors (MODERATE CONFIDENCE)

'Forgotten ecosystems' – the wider network of green and blue space outside designated areas – are often undervalued or overlooked – yet they sustain less visible ecological processes (e.g. pollination and soil biodiversity) that underpin healthy food systems and biodiverse landscapes, and can contribute to mental capital by providing accessible everyday contact with nature (LOW-MODERATE CONFIDENCE).



# Implications for UK National Security

- **Environmental integrity is linked to national security through its impacts on people and societies**, such as floods, droughts, food prices and loss of access to nature. These pressures can undermine health, livelihoods, public trust and social stability.

**Mental capital and societal resilience underpin effective responses to crises**. The UK Government's Mental Capital and Wellbeing Foresight report defined mental capital as the cognitive and emotional resources people draw on to learn, reason, cope with stress, maintain relationships, and participate in society.[1] Concepts such as brain capital and mental wealth extend this framing from individuals to populations, highlighting how collective cognitive and emotional capacities shape resilience.[2] Societal resilience literature increasingly treats collective cognitive and emotional capacities, social cohesion, trust, and inclusion as **key enablers of resilient responses and adaptation to crises**. Wellbeing is multidimensional, encompassing subjective life satisfaction[3], psychological wellbeing[4], and objective social indicators.[5] National resilience depends not only on physical assets but also on whether people can process risk, decide under pressure, trust information, cooperate, and recover from shocks; and whether the government can reduce structural vulnerabilities to enable such societal resilience.

Three arguments follow

1. **Societal resilience depends on the interaction of mental, social, and economic capital** – people and institutions cope, recover, and adapt better when cognitive-emotional capacity, trust, cooperation, and material security reinforce one another (Figure 1);

2. **Environmental challenges** such as climate change, pollution, resource insecurity, and nature disconnection **can erode mental capital and wellbeing**, especially where vulnerabilities are already high; and

3. The **environments that sustain mental capital** should be treated as resilience infrastructure, including overlooked ecological assets that support everyday wellbeing, social connection, and adaptive capacity.

## Societal Resiience

The 3Cs interact to shape how people and communities cope, cooperate, recover, and adapt

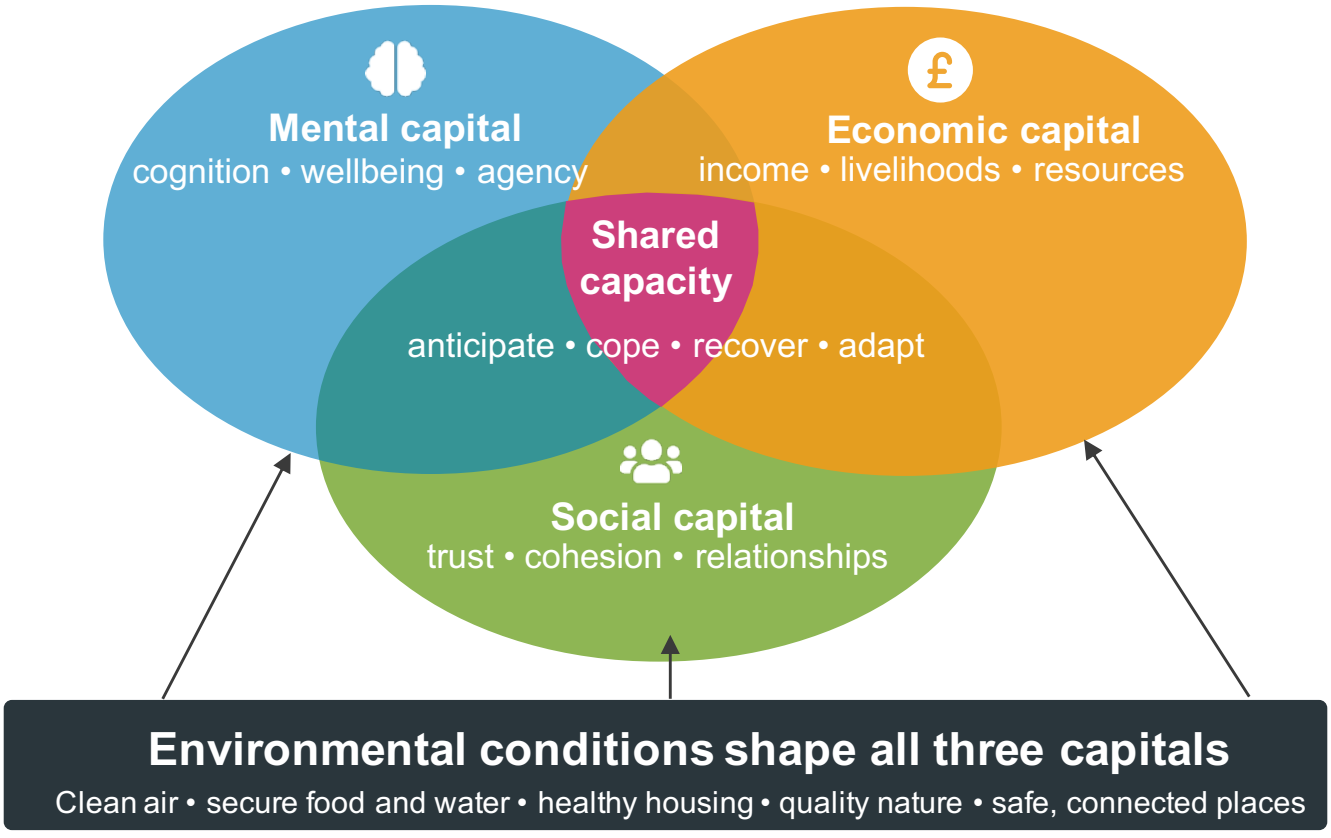



**Figure 1.** The three capitals of societal resilience. Mental, social, and economic capital interact to generate shared capacity to anticipate cope, recover, and adapt. Environmental conditions (clean air, secure food and water, quality nature, and safe connected places) underpin all three, while changes in those dimensions in turn shape environmental conditions.

# Causal Pathway

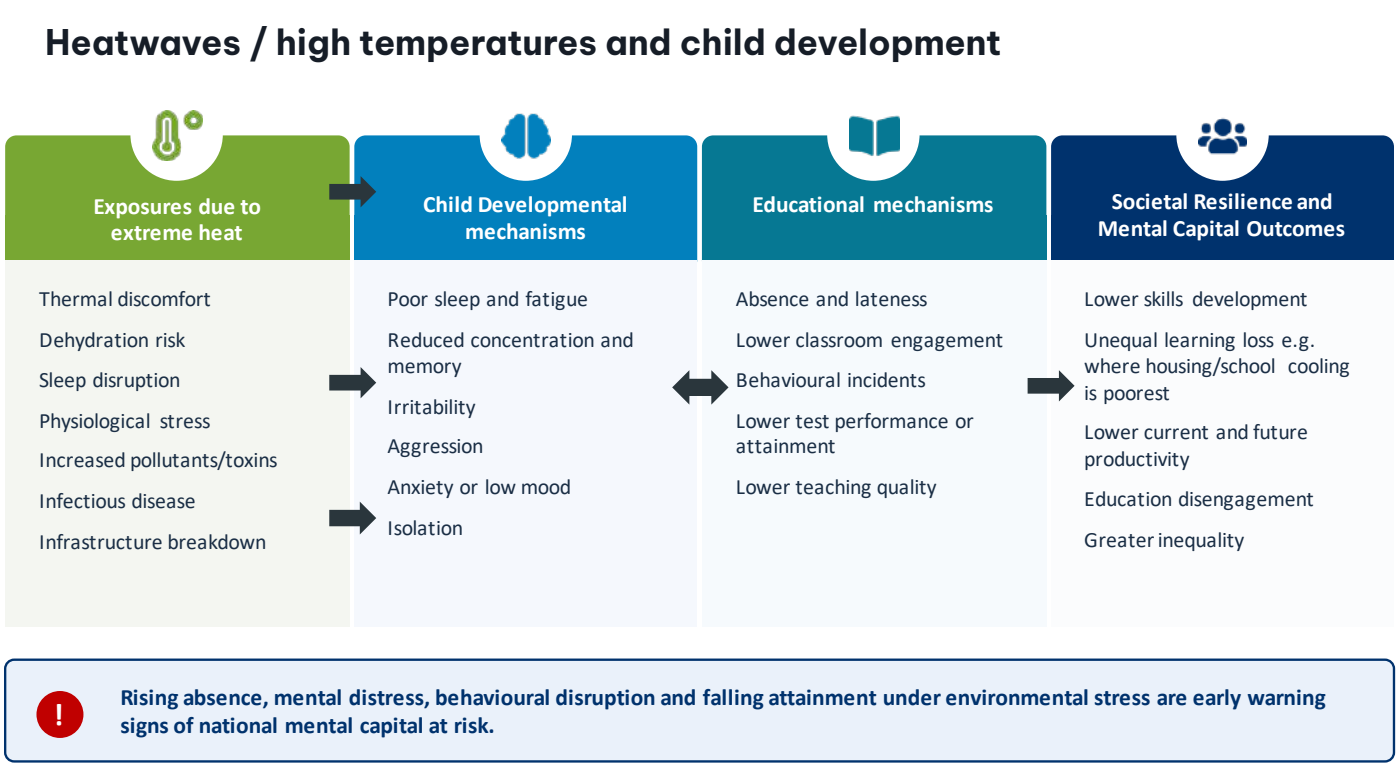



**Figure 2.** An example of a potential causal pathway: in this case, the effect that exposure to heatwaves or high temperatures can have on children's mental capital and education, leading to negative societal resilience and national security outcomes.

# Evidence Synthesis

## Q1: Societal resilience: What it means and how social, economic, and mental capital interact to shape it

Societal resilience is the collective capacity of people, communities, and institutions to anticipate, withstand, recover from, and adapt to shocks while maintaining wellbeing, trust, and adaptive capacity. It extends beyond infrastructure to the human conditions of resilience, mental wellbeing, social connection, and economic security – as the COVID-19 pandemic showed, technical delivery is not enough without public trust.[6]

Resilience rests on three capitals: Mental capital enables people to cope, adapt, and decide but is increasingly threatened by flooding, heat, pollution, and climate anxiety.[7] Social capital strengthens collective action through trust and cooperation, and economic capital provides resources to prepare and recover. **Mental, social, and economic resilience are therefore deeply interconnected**.[8] Investment in healthy environments, trusted institutions, and green and blue spaces improves wellbeing, preparedness, and recovery.[9] Conversely, environmental hazards amplify inequalities and vulnerabilities, creating feedback loops of mental distress, declining trust, and reduced adaptive capacity.[10]

### Policy implications

The practical implication is that the government should consider mental capital across policies, plans, projects, and programmes, from early appraisal and design through to delivery and evaluation, since these decisions shape the conditions that affect people's ability to cope, understand risk, trust institutions, and adapt.

## Q2: Mental capital: How it intersects with environmental challenges

Mental capital is an under-recognised component of resilience, despite growing evidence that climate change and environmental degradation affect mental wellbeing through **multiple interconnected pathways**: acute shocks, chronic environmental exposures, resource insecurity, nature disconnection, and life course. **Acute shocks** such as floods increase trauma and distress, particularly among vulnerable groups.[11] **Chronic exposures**, including pollution, drought, and ecosystem degradation, contribute to eco-anxiety and solastalgia.[12] Climate-related **resource insecurity** (e.g. food, water, and livelihood) further reinforce distress and displacement,[13] while **nature disconnection** undermines wellbeing through issues such as biodiversity loss and reduced access to nature.[14] Impacts vary across the **life course**, with children, older adults, and climate-vulnerable workers particularly affected.[15] Protective factors include social support, community cohesion, access to green and blue spaces, effective coping strategies, and climate education that strengthens emotional resilience.[16]

## Policy implications

Resilience and mental capital investment should be moved upstream, focusing on prevention rather than mainly crisis response. Factors that determine whether people cope during disruption are shaped before shocks occur: this means treating mental health support, community infrastructure, green and blue spaces, housing retrofit, public communication, etc as preventive resilience measures. There is also a need to evaluate who is protected, who remains exposed, who pays, and who has the capacity to recover. Environmental shocks resulting in an impact on mental capital are rarely experienced equally, and policies that improve aggregate resilience can still leave some groups worse off or less able to adapt.

## Q3: Forgotten ecosystems: How they contribute to mental capital

Green and blue spaces **support mental capital and societal resilience** by reducing mental distress while strengthening social cohesion and wellbeing.[17] Their benefits depend on access to nearby restorative environments, including overlooked **'forgotten ecosystems'** such as small patches of grassland, scrubland or wetland close to people's homes, which are not formally protected but contribute to biodiversity.[18]

Less visible ecosystems (e.g. soils, fungi, microbes, insects) underpin pollination, nutrient cycling, and healthy landscapes that indirectly support mental wellbeing, despite being undervalued.[19] The quality of green spaces, including biodiversity and accessibility, influences the mental health value of green spaces.[20] Birdsong and biodiverse soundscapes promote emotional regulation,[21] while blue infrastructure such as wetlands and rain gardens provides climate adaptation, biodiversity, recreation, and wellbeing benefits.[22] These ecosystems can create the environmental conditions that strengthen mental wellbeing, social connection, and long-term adaptive capacity.[23]

## Policy implications

There is opportunity to implement a policy framework that requires new projects to account for non-market value – in this case, social and psychological value. Investment in the built and natural environment can help improve mental capital and therefore societal resilience.

# Policy Recommendations

## Mental capital as resilience infrastructure

The government should consider mental capital across policies, plans, projects and programmes from early design and appraisal through delivery and evaluation. This principle should inform planning, infrastructure, housing, transport, nature recovery, public services, education and community programmes; recognising that these decisions shape people's capacity to understand risk, trust institutions and adapt. Mental capital should be considered early in programme design, alongside climate, biodiversity, health, and equity considerations.

## Prioritise preparedness over crisis response

The government should prioritise upstream investment in resilience and mental capital, focusing on prevention rather than mainly crisis response. Investing in mental health, community infrastructure, green and blue spaces, green skills, housing retrofit, and trusted communication strengthens resilience, reduces the impacts of future crises, and lowers demand on critical systems before shocks occur.

## Make resilience explicitly distributional

Resilience policy should assess who is protected, who remains exposed, who bears costs, and who can recover. A distributional approach helps ensure resilience measures do not deepen inequalities by overlooking vulnerable groups. This is particularly important across climate adaptation, housing, energy, transport, and regeneration, where impacts vary across different communities.

## Enhance the resilience value of forgotten ecosystems

Biodiversity Net Gain demonstrates how policy can require investment beyond market value. An approach similar to BNG could strengthen resilience by recognising mental capital infrastructure, ensuring built and natural environment projects leave communities measurably better able to think, adapt and cope, alongside delivering ecological and economic benefits.

Specific recommendations are listed in Table 1 below. Policy recommendations with a short-term timeframe are actionable "quick wins", while others may need to be implemented over the long-term.

## Short-term recommendations

| Recommendation | Lead departments/ actors* | Time | Evidence | Complexity | Dependencies/trade-offs |
|---|---|---|---|---|---|
| **Integrate mental health and wellbeing into climate adaptation plans** | Defra | Short -term | Established | Low | Political will to expand adaptation scope beyond physical risk; DHSC and NHS cross-departmental sign-off; HM Treasury appraisal alignment |
| **Include wellbeing in climate and environmental appraisal** | Defra | Short -term | Established | Low | HM Treasury Green Book revision/endorsement; analytical capacity in departments; consistency with existing WELLBY valuation framework |
| **Make food insecurity a recognised mental health risk signal** | Defra, DHSC | Short -term | Established | Low | DWP and DHSC buy-in; data sharing across departments; political sensitivity around poverty framing |
| **Identify early warning signals for population-level mental capital decline (e.g., food insecurity)** | Defra, DHSC, ONS, etc | Short -term | Established | Medium | Cross-departmental data-sharing agreements; ONS indicator framework alignment; resource for surveillance infrastructure |
| **Embed nature in local mental health delivery through existing structures (e.g., GSP)** | DHSC, NHS | Short -term | Emerging | Medium | Sustained cross-departmental funding beyond pilot phase; NHS and ICS capacity; local authority engagement; evidence base still emerging |
| **Use trusted local institutions to reach vulnerable communities** | MHCLG, DHSC; local authorities; voluntary and community sector | Short -term | Developing | Medium | Community sector funding stability; local authority capacity; data governance for targeting; equalities considerations |
| **Fund evaluated community and psychosocial interventions focused on climate preparedness** | DHSC, Defra, NHS, etc | Short -term | Developing | Medium | Evaluation infrastructure funding; intervention standardisation; competition with acute NHS spending priorities |
| Target vulnerable groups and their environmental, community contexts and infrastructure to increase resilience | DHSC, DfE, DWP, MHCLG, etc | Short-term | Developing | Medium | Equity of geographic reach; joined-up data on vulnerability; cross-departmental resource allocation; risk of siloed delivery |

# Long-term recommendations

| Recommendation | Lead departments/ actors* | Time | Evidence | Complexity | Dependencies/trade-offs |
|---|---|---|---|---|---|
| **Develop a national mental capital and environmental security framework (linking mental, natural, human, and social capital in national risk and resilience planning)** | Defra | Long-term | Developing | Medium | PM/Cabinet Office sponsorship; cross-departmental consensus on scope; HM Treasury inclusion in national risk planning |
| **Create a longitudinal environmental mental capital observatory** | DHSC, Defra, ONS, NHS | Long-term | Developing | High | Long-term research funding commitment; data linkage governance; academic–government partnership model; infrastructure costs |
| **Establish a cross-government Mental Capital and Environment Unit** | DHSC, Defra, MoD, DfE, etc | Long-term | Developing | High | Cabinet Office mandate and PM-level backing; departmental resource commitments; risk of marginalisation without statutory footing |
| **Create a cross-government evidence lane on toxins and mental capital (covering pollution and neurodevelopment, cognition, learning, and productivity)** | UKHSA, Environment Agency, Defra | Long-term | Established | High | Industry pushback (chemical, water, food sectors); regulatory coordination with Environment Agency; international evidence alignment |
| **Build an environmental mental health risk dashboard and register (possibly in collaboration with the ONS)** | ONS, Defra, Environment Agency | Long-term | Established | Medium | Data interoperability across agencies; sustained resourcing for maintenance; agreement on core indicators; public communication strategy |
| **Extend the role of Nature Recovery to include mental health resilience infrastructure** | Defra, NHS England, Natural England; MHCLG | Long-term | Emerging | Medium | Integration into Local Nature Recovery Strategies; planning system alignment; NHS commissioning buy-in; land access and management costs |
| **Include mental capital in cost-benefit analysis for major environmental and infrastructure decisions** | HM Treasury, Defra; Cabinet Office; National Infrastructure and Service Transformation Authority (NISTA) | Long-term | Developing | Medium | Green Book revision process; analytical skills gap across government; industry resistance to monetising social/mental costs; NICE/WELLBY methodology consensus |

| Recommendation | Lead departments/ actors* | Time | Evidence | Complexity | Dependencies/trade-offs |
|---|---|---|---|---|---|
| Create a mental capital test for environmental policy (ask major policies such as water, food, etc. to address societal resilience specifically) | Cabinet Office, Defra, DHSC; HM Treasury | Long-term | Established | High | Regulatory/policy gateway reform; departmental compliance burden; risk of box-ticking without enforcement; cross-departmental political agreement |
| Shift the policy frame from crisis response to prevention and long-term resilience | Cabinet Office, DHSC, HM Treasury; NHS England | Long-term | Established | Medium | Cross-spending-review budget reallocation; short electoral cycle incentives working against prevention framing; public and media framing |
| Develop demand management approaches as a preventive mental health frame | DHSC, NHS England, DWP; Cabinet Office | Long-term | Established | High | NHS provider and commissioner buy-in; workforce reorientation; risk of cost-cutting framing undermining public trust; evidence base for specific demand interventions |
| Build climate-ready mental health community services (linked to NHS structures) | DHSC, NHS England; Defra; MHCLG | Long-term | Developing | High | NHS capital and workforce capacity; ICS-level implementation variability; long funding lead times; integration with wider climate adaptation strategy |

*With cross-appointed scientific advisors recommended to work the respective departments.
Abbreviations: Defra = Department for Environment, Food & Rural Affairs; DHSC = Department of Health and Social Care; DfE = Department for Education; DWP = Department for Work and Pensions; MoD = Ministry of Defence; UKHSA = UK Health Security Agency; ONS = Office for National Statistics; MHCLG = Ministry of Housing, Communities and Local Government; NISTA = National Infrastructure and Service Transformation Authority; ICS = Integrated Care System; GSP = Green Social Prescribing; WELLBY = Wellbeing-adjusted life year; NICE = National Institute for Health and Care Excellence.

# Uncertainty and Priority Evidence Gaps

- Most evidence on mental capital and the environment is based on reviews, qualitative research, or cross-sectional studies; with little research explicitly examining mental capital as the central phenomenon – rather focusing on mental health/wellbeing and components of mental capital such as emotional regulation, coping strategies, etc.

  Existing empirical studies largely come from regions already experiencing severe climate and environmental issues, but through these we can learn about possible future impacts in the UK as climate impacts accelerate. Further UK-based research (particularly in areas vulnerable to climate change and environmental contaminants) is needed, alongside longitudinal evaluations of nature-based interventions to inform long-term policy.

  Furthermore, conceptualisations of mental capital run the risk of focusing more on individual responsibility; however, addressing the broader social, economic, and structural conditions that create vulnerability and adversity in the first place is imperative.

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