

Health impacts of overheating on vulnerable prisoner cohorts and associated policy solutions

Project overview

The Maximising UK Adaptation to Climate Change (MACC) Hub works across the UK to implement and build crucial evidence on the efficacy of adaptation policy and interventions. The Hub is led by King's College London and is funded by the Department of Environment, Food and Rural Affairs (Defra) and UK Research and Innovation (UKRI). Through its Policy Response Unit, the Hub is working closely with Defra and other UK government departments to coordinate a series of rapid turnaround research projects that will fill critical knowledge gaps relating to climate change adaptation.

The MACC Hub, through King's College London, is commissioning research on the interdependencies between climate change, vulnerabilities, and health and wellbeing in the justice estate, to inform Ministry of Justice (MoJ) policy.

Background

The 2021 Climate Change Risk Assessment (CCRA3) identified 'Risks to prison services' as a specific new risk, given the vulnerability of prisons to high ambient temperature. The MoJ has a risk reduction goal under the National Adaptation Programme (NAP3) to "Improve the resilience of prisons to climate risks and build adaptive capacity, to minimise the impact of climate change on the justice system".

The prison estate can be prone to overheating due to security modifications on site and an extensive historic portfolio of prisons (there are around 32 Victorian prisons) which can be poorly ventilated and less adapted to withstand high temperatures.

The MoJ has chosen vulnerable cohorts as the focus of this research due to the ageing population of prisons. Research indicates that prisoners' health

and social care needs are around 10 years ahead of people the same age within the wider community. As such, in prison an “older adult” is defined as someone aged 50 years or above. More than 17% of prisoners are over 50 years of age and this is the fastest-growing prisoner cohort, due to longer sentences and a rise in the prosecution of historical offences. The 50-plus cohort has grown from 5,300 prisoners in 2004 to 15,700 in 2024. Due to complex health needs, the standardised mortality rate of prisoners is 50% higher than in the general population, and older prisoners are more likely to be vulnerable to overheating.

A greater understanding of the potential health implications of overheating on vulnerable prisoners – including, but not limited to, older adult prisoners – will allow the MoJ to create policies and strategies to mitigate these risks.

Specification of work

The aim of this research is to provide quantitative evidence on the ways in which heat is impacting the health and wellbeing of vulnerable adults in prisons. In particular, the MoJ would like to know:

- What is the impact of overheating on the health of the prison population?
- Within this population, which cohorts are particularly vulnerable?
- What policy solutions exist to mitigate these risks?

This research focuses on providing quantitative estimates of the health and mortality impacts associated with future climate change, to support an economic case for investing in climate adaptation measures in prisons.

The main cohort of interest is older adult prisoners (those aged 50 and over). However, the MoJ wishes to understand the health impacts on other potentially vulnerable cohorts and intersecting vulnerabilities. These could include:

- women
- those with substance dependencies or on certain medications
- disabled people
- those with palliative care needs
- those with pre-existing physical and mental health conditions
- possible consideration of the young children and babies who visit prisons or are in mother-and-baby units

Methodology

We expect the consultant to work on a new quantitative secondary data analysis, extracting insights from several administrative datasets on the prevalence and impacts of overheating in prisons, and modelling how these risks might evolve. We welcome suggestions from consultants on how to go about the analysis and a specification of work that aligns with the available budget and time. However, at a minimum, the research should cover:

- high-level data and figures, and synthesis of evidence, from existing literature;
- figures on the current numbers of vulnerable prisoners and predictions of future scenarios with an ageing population;
- projected health impacts based on climate forecasting in different warming scenarios in different regions and settings;
- the risk of excess deaths of older prisoners from overheating now and in future.

The MoJ will provide quantitative and qualitative datasets to support the analysis (subject to data sharing agreements) including:

- number and locations of vulnerable prisoner cohorts
- number and locations of palliative care wings and mother-and-baby units
- prison ombudsmen reports

- infectious disease data
- temperature, CO₂ and relative humidity data on six prison archetypes and overheating risk assessment using climate models from the Met Office

Potential/limited data sources include:

- self-reported health information from noise study
- mortality and excess death data

In addition, consultants are encouraged to draw on resources such as the Worldwide Prison Health Research & Engagement Network (WEPHREN) database of research, the UKHSA Health Effects of Climate Change (HECC) report, Health Deep Dive from Climate Change Committee, National Institute for Health and Care Research (NIHR) health study, HEARTH study, and overheating and violence study.

Note: The MoJ's prison portfolio includes English and Welsh prisons. However, the approach should also consider opportunities to work with, and learn from, devolved governments, building on existing links between the MoJ and Scottish sustainability and climate adaptation groups and the Scottish prison service.

Outputs

The research findings will be presented in a report of up to 20 pages aimed at informing future policy in this area, a 2-page policy brief highlighting key findings for each of the three devolved nations, and accessible data summaries, including infographics and a slide deck. The candidate will work closely with the Climate Change & Sustainability Unit, Ministry of Justice team.

Project management and governance

The research will take place between October 2025 and February 2026. A timeline will be finalised and confirmed with the successful bidder at the start of the contract.

The project is commissioned and managed by King's College London.

Regular update calls will be scheduled fortnightly between the successful bidder and the KCL Project Manager to discuss progress and address any issues.

Application process

Please submit the following information, keeping your application within a maximum of 8 pages (see assessment criteria below):

- **Proposal (max. 5 pages):** Please outline your understanding of the brief, your approach and methodology, proposed outputs, and workplan.
- **Experience of the team (max. 2 pages):** Include short bios of the team that demonstrate your suitability for this consultancy
- **Budget (max. 1 page):** Applicants should provide a brief breakdown of their costs, with day rates. The consultant shall be paid a total fee of up to £20,000, inclusive of VAT at the prevailing rate and any reimbursable expenses supported by valid receipts. Payments will be made in instalments, contingent upon submission of payment schedule/invoices detailing the agreed outputs and their scheduled delivery dates (as outlined in the table below).

The submission deadline is 17:00 BST on Monday 22 September 2025. Applications should be submitted by email to MACCFlexiblefund@kcl.ac.uk with "Overheating for vulnerable prison cohorts research project" in the subject line. Candidates will be informed of the outcome by w/c Monday 6

October 2025, with the expectation that the successful candidate will be in role by w/c 20 October 2025.

Please email any questions or queries to MACCFlexiblefund@kcl.ac.uk

Timeline

Milestone	Completed by
Project set-up meeting	October 22 2025
Progress meetings with MACC PRU manager	Fortnightly until end of contract
Draft approach submitted for review by MoJ	November 3 2025
Call to discuss comments on draft approach and agree approach	November 10 2025
Draft results shared for review by MoJ	December 15 2025
Call with MoJ to discuss results and agree future direction	December 19 2025
Submission of draft report	12 January 2026
Call with MoJ to discuss draft report and agree on revisions	19 January 2026
Submission of the accessible data summaries, a policy brief for each devolved nation, highlighting the relevant findings for that nation, and the final report	16 February 2026

Note: The milestones highlighted in bold in the table above, along with their completion dates, represent the payment schedule.

Award criteria:

Value for money 20%, Quality 80%

Quality Criteria	Descriptor	Weight
Understanding the research specification and the policy environment	<p>Provide an introduction to completing this piece of work that demonstrates a clear understanding of the research requirements, including as a minimum:</p> <ul style="list-style-type: none"> • The policy environment • The need for this research • The research aim, and how the proposal will address this need 	20%
Research methodology	<p>Detail your approach to a high quality and workable research methodology that will deliver the outputs in the required timescale, including as a minimum:</p> <ul style="list-style-type: none"> • How the evidence will be identified, reviewed and assessed • How the proposed analytical steps will address the research objectives • The suitability, robustness, and limitations of the methodology • Detail specific data management tasks (and their related costs) 	25%
Project management and staff resource	<p>Detail your overall approach to managing this project, which as a minimum should include:</p> <ul style="list-style-type: none"> • a clear project plan, including a timetable for delivery of tasks and milestones that captures: 	15%

	<ul style="list-style-type: none"> the key steps required to deliver the desired output within scope and to time Reference – where relevant – to mechanisms for compliance with regulations (e.g. GDPR) Details of individual staff members who will work on this project and show the allocation of staff and staff time against each task <p>Proposals should demonstrate how they will meet the project requirements, specifically their experience and expertise:</p> <ul style="list-style-type: none"> In research generally In tasks specific to this research Provide a commitment that named staff members will be available to work on the contract if the bid is successful Set out the management arrangements for the project 	
Communication and report writing	<p>Describe the approach to writing the report, which will be published on the MACC Hub website:</p> <ul style="list-style-type: none"> Include how different contributions from the team will be brought together Outline any planned visualisations and/or added value presentations of the material 	10%

	<ul style="list-style-type: none"> • Name who will take lead responsibility for report-writing and overall report quality • Provide accessible links to outputs and/or publications they have been involved in, detailing their role in the work 	
Quality assurance and risk mitigation	<p>Provide details of quality assurance procedures to demonstrate how the contract will be continuously delivered to a high standard:</p> <ul style="list-style-type: none"> • Specifically address issues of quality control at different stages of the project, including evidence gathering, analysis and report writing • Provide a risk assessment matrix detailing any risks identified in relation to the delivery of this contract, and proposed mitigation measures to minimise their probability and impact 	10%