United Kingdom
Humanitarian
Innovation Hub

Development of
Systems Innovation Partnership

# Mortality Estimation in Humanitarian Crises

Phase 2

Invitation for Expressions of Interest
July 2025

## Important Information

Funding for this call is contingent on additional support being awarded to the UK Humanitarian Innovation Hub (UKHIH) by the UK Foreign, Commonwealth and Development Office (FCDO). At the time of publication, UKHIH has secured £100,000 to support activities under this Mortality Estimation Systems Innovation Partnership. We anticipate a further uplift in funding - bringing the total available envelope to £650,000 - pending confirmation of an additional FCDO grant expected by the end of July. Applicants are encouraged to apply but should be aware that any final funding decisions will be subject to confirmation of the full funding allocation to UKHIH.

This call is intended for organisations with demonstrable expertise in mortality estimation, humanitarian research data systems, and/or relevant qualitative, policy or coordination experience in crises and mortality-related domains. We strongly **encourage only those with relevant, verifiable experience and capability to apply**. Please ensure you read the **eligibility requirements carefully when considering applying.** Due to the complexity of this initiative and UKHIH's limited operational capacity, we are **unable to consider speculative applications** that do not clearly demonstrate technical suitability and strategic alignment with the aims of this work.

Please also note the following key eligibility requirements:

- Applications must be submitted by a consortium (not a single actor), with at least one partner based in a low- or middle-income country (LMIC). Consortia led by LMIC-based organisations are especially encouraged.
- Expressions of Interest that do not meet the above requirements, or which are missing required documentation, will not be considered.

UKHIH reserves the right to close the call for expressions of interest early if there is an exceptionally high volume of interest.

# 1. Summary

UKHIH wants to identify key partners to collaboratively explore and drive action on systematic mortality estimation in humanitarian settings.

Work packages have been proposed following a process of foundational research, consultation and completion of the Phase 1 Systems Innovation Partnership. We are now inviting interest from prospective collaborations to deliver a Phase 2.

Following a process of selection, partners will be invited to develop a full collaboration funding proposal for consideration by UKHIH.

**Expressions of interest should be made using the templates provided (narrative and budget) and returned no later than 5pm UTC on Monday 11 August 2025. Completed templates should be returned to information@ukhih.org.**

**Queries concerning the submission process, eligibility and/or work packages should be submitted to UKHIH by 5pm UTC on Friday 25 July 2025 as follows:**

- **Email to: information@ukhih.org**
- **Subject line: QUERY – Mortality Estimation – [your organisation(s') name(s)]**

**A consolidated list of FAQs and responses will be posted on the UKHIH website by 5pm UTC Thursday 31st July 2025.**

# 2. Background: UKHIH's Systems Innovation Partnerships

Since its inception in 2020, UKHIH has adopted an approach of brokering and facilitating Systems Innovation Partnerships (SIPs). These are high-impact collaborations that contribute to major advances in humanitarian innovation through a shared strategic learning process.

SIPs are focused on humanitarian challenges where there are significant opportunities for collaborative learning and collective action. Fundamentally, SIPs are constructed around collaboration, evidence gathering, assessing potential opportunities and barriers to change, and engaging stakeholders to prioritise solutions which could address common humanitarian challenges.

## 2.1 Background & Rationale

Estimating mortality associated with a humanitarian crisis is critical to assessing needs objectively and key for evaluating humanitarian responses. Indeed, many humanitarians consider mortality estimation to be one of the most significant metrics to define the severity and magnitude of a crisis and a critical measure for tracking the impact of humanitarian responses.

However, in practice mortality estimation is rarely accurate or comprehensive in crisis-affected settings, if attempted at all. Commonly, mortality estimates are met with methodological critiques of validity and there is little consensus regarding the credibility of

estimates. Different methodological approaches can yield hugely differing results – a recent survey in the Central African Republic generated mortality estimates four times that of previous UN estimates[i]. The implementation and uptake of mortality evidence is particularly problematic in settings where host governments are a player in the crisis, or where evidence could be used to document famine or record violence, exposing the state to criticisms of failing to serve and protect their populations.

These challenges are amplified in politically sensitive settings, where mortality data may be viewed as threatening to state or institutional interests. As a result, even credible evidence is often contested or disregarded. The debate surrounding mortality reports from the Gaza Ministry of Health highlights how political dynamics can undermine the acceptance and use of vital data[ii].

However, there are instances of mortality evidence being accepted, valued and acted upon in small-scale settings. Commonly, mortality estimates related to refugee camps and local settings, especially those that are not politically charged, are relatively stable or where estimates are low, are usually accepted. This indicates there are situations where mortality evidence is effectively informing decision-making including funding, policy and operational response, although limited in scale.

### 2.2 Current & Future Imperative for Mortality Evidence

Strengthening the humanitarian sector's ability to robustly measure mortality in crises will greatly improve needs-based responses to current and future challenges. Humanitarian needs are escalating in the face of challenging global conditions including:

- The Climate Crisis is driving an increase in the frequency and severity of disasters, including floods, food insecurity and famine. Secondary effects of these disasters, such as population displacement, food and water scarcity, and exposure to the elements are likely to increase deaths among affected populations;
- Humanitarian needs are at an all-time high and there is constant pressure for resources to stretch further or be prioritised to those most vulnerable;
- Humanitarian funding continues to be predominately shaped by the interests of a select number of predominantly western donor governments, whose prioritisation is not always needs-based and can be subject to national political agendas and budgetary pressures. Aid spending may also fluctuate in response to media coverage, waning domestic support or intensified opposition.

In light of increasingly complex and challenging circumstances in the humanitarian system, mortality estimates can offer a cogent metric conveying quickly and concisely the severity and magnitude of a humanitarian emergency. Used alongside other key humanitarian indicators and contextual factors, mortality estimates have the potential to offer key insight and leverage for decision-making on needs-based resource prioritisation.

### 2.3 Key Challenges

**Data Uses:** Mortality data are utilised in a number of applications with widely differing objectives, methods and timescales. In part, this has contributed to a lack of consensus and acceptability of mortality estimates. The main three applications are:

1. **Epidemiological evidence for action**: Time-sensitive, actionable snapshot to inform decision-making responding to an ongoing crisis.
2. **Evidence for transitional justice and memorialisation**: Accuracy and confidence in estimates is of paramount importance to ensure defensibility e.g. in court.
3. **Documenting costs of and lessons learned from actions during crises**: Repeated, retrospective assessment demonstrating impact of actions e.g. protective effect of Bangladesh hurricane shelters[iii].

**Methodological:**

- **Primary data collection**: Limited access to affected populations and sites in acute emergency settings, which hinders primary data collection; creates sampling bias and ultimately often leads to varying mortality estimates due to the use of different methods.
- **Politicisation**: Estimates are sometimes inflated, under-reported and/or critiqued on the basis of political expediency. In some cases, mortality evidence is suppressed due to anticipated political repercussions.
- **Coordination & Collaboration**: Coordination of humanitarian stakeholders in relation to mortality evidence is fragmented and lacks a consistent 'home'. As a result, researchers and humanitarian actors have differing agendas, objectives, methods, capacities, autonomy and often find themselves competing for resources.

### 2.4 Opportunity Space & Vision

A range of actors have been exploring and developing approaches to estimate mortality recently, particularly in response to the COVID-19 pandemic, though most are reliant on established vital registration systems and oriented towards high-income countries. Only a small number of research groups, academic and operational, exist with the expertise to estimate mortality in crises settings, particularly low- and middle-income countries (LMICs) where vital registration is often weak or non-existent.

Mortality evidence work in humanitarian settings is often ad hoc and reactively prompted by the onset of an acute crisis. As a result, there is an opportunity and need to develop a systematic strengthening of mortality evidence generation and uptake in humanitarian settings. Catalysing existing technical and operational expertise, in addition to connecting with actors beyond research groups, is critical to sector wide collection, adoption, and credence of mortality estimates.

UKHIH brokers and facilitates collaborations, bringing together researchers, humanitarian responders, donors, companies and local communities, and seize the opportunity to support sector-wide integration mortality data collection, uptake and integration. There is great potential for local and international humanitarian actors to strengthen their capacity to undertake and utilise mortality evidence to guide programmes, ultimately making crises response and aid more effective.

UKHIH-funded mortality initiatives such as the Systems Innovation Partnership Phase 1 has laid the groundwork for a sustainable, evidence-driven approach to mortality estimation - building data infrastructure, strengthening technical capacity, strengthening governance, and promoting transparency and accountability across contexts Meanwhile, the Gaza Projections and the AMBER Sudan projects have delivered real-time, scenario-based forecasts on

mortality and malnutrition in some of the world's most volatile and inaccessible crises - directly informing life-saving decisions and resource allocation by actors like the FCDO.

These efforts have already strengthened anticipatory action, improved operational planning, and elevated the role of rigorous data in humanitarian decision-making. The next step is to consolidate and scale this progress by supporting:

1. Approaches to systematising mortality estimation in the humanitarian system and increasing the perceived understanding and value of mortality evidence among key stakeholders;
2. Learning about mortality estimation development and uptake among stakeholders, including those critical of methodologies;
3. Creating an enabling environment including: leadership, funding, a Community of Practice, partnership, dialogue and engagement among humanitarian stakeholders.

## 3. Proposed Work Packages for Funding

We endeavour to support a multi-faceted programme designed to drive mortality estimation agenda forward to enable partners to:

1. **Develop a Strategic Framework** for sustainable mortality estimation across the humanitarian system;
2. **Strengthen Capacity & Localisation** by empowering national actors and institutions to lead data collection, analysis, and advocacy;
3. **Advance Methodological Innovation** in mortality and nutrition modelling, particularly in hard-to-access and data-scarce environments;
4. **Convene, Build Consensus & Collaboration** among key stakeholders to embed mortality estimation as a core pillar of humanitarian decision-making.

The SIP Phase 2 intends to support some or all of the following work packages, with the potential addition of ideas proposed by applicants. UKHIH expects to fund up to two consortia to deliver a meaningful combination of these work packages. While all activities should be completed by March 2026, some outputs (such as frameworks or toolkits) may focus on laying strong foundations for long-term sector change.

### WP 1: Humanitarian Sector Mortality Estimation Strategic Framework Working Group (focused on long-term strategic coordination and system-level vision)

**Aim:** Develop and socialise a *Humanitarian Mortality Estimation Strategic Framework* that strengthens a mortality data ecosystem and supports a more informed, data driven humanitarian system.

**Value:** Provide critical direction and coordination where mortality estimation expertise and resources are currently limited and fragmented. This collaborative process would aim to:

- Promote a shared strategic vision across the ecosystem
- Encourage investment aligned with common goals
- Strengthen localisation and innovation in mortality estimation methods
- Improve coordination, reduce duplication, and create sustainable momentum

**Potential Methods or Process:** The initiative will convene a diverse group of thought leaders, technical experts, funders, and operational actors from across the humanitarian sector to collaboratively develop a strategic framework. This working group will be primarily convened online, with the potential for one or two in-person meetings to deepen

engagement - one of which will be a broader validation workshop involving key stakeholders to refine the strategy and build sector-wide buy-in. The process will include:

- Establishing Humanitarian Mortality Estimation Strategy Group to guide long-term visioning.
- Providing strategic guidance on key system-level components, including:
    - Dedicated and pooled funding mechanisms
    - Capacity strengthening and localisation
    - Fostering collaboration and cross-sector partnerships
    - Methodological innovation
    - Mortality data uptake and use in policy and programming

**Outputs**

- A comprehensive 5- and 10-year *Humanitarian Mortality Estimation Strategic Framework*, articulating a clear roadmap for strengthening mortality data systems and their use in humanitarian action, in particular:
    - *Improved decision-making* through better access to timely and reliable data
    - *Enhanced accountability* via more ethical, transparent, and policy-relevant use of mortality data
    - *Increased donor alignment* with a coherent and credible strategy
    - *Systemic, sustainable improvements* in how mortality is measured, understood, and addressed in humanitarian contexts
- A Validation and Socialisation Workshop, convening key stakeholders to refine the strategy, ensure relevance, and foster adoption across the sector

**Priority Synergies:** WP 2 Capacity Strengthening; WP 3 Data Repository; WP 4 Innovative Methods; WP 5 Methods Compendium (see bottom of form).

## WP 2: Mortality Estimation Capacity Strengthening in Crises Settings

**Aim:** Address the limited and concentrated mortality estimation technical capabilities broadly in the humanitarian sector, and more specifically in crises contexts among crisis-affected communities through capacity strengthening among local actors to produce relevant and reliable mortality data for humanitarian decision-making.

**Value:** Potential to meet critical information gaps establishing mortality data in crises – both prospective and retrospective among teams based within a crisis increasing timeliness, relevance and uptake of locally-led mortality estimation.

**Potential Methods or Process:** A partnership between:

- An accomplished technical mortality estimation team (academic and/or operational) and;
- An established or emerging operational mortality estimation team based in a LMIC.

Either entity could be the lead partner or co-lead the initiative.

Policy, operational response and transitional justice efforts would be greatly informed and enhanced through locally-led mortality estimation data uptake including:

- *UN, INGOs, NGOs* – Use mortality data to monitor, prioritise and inform policy and operations decision-making, and evaluate impact including: needs assessments, response planning, intervention design
- *Integrated Food Security Phase Classification (IPC)* – Determining Phase 4 Emergency and Phase 5 Famine status
- *Sphere Standards* – Setting humanitarian benchmarks
- *Standardised Monitoring & Assessment of Relief Transitions Survey for Nutrition, Food Security & WASH (SMART)* – Survey collects primary mortality data which can be used to generate other mortality data (e.g. build mathematical models) and can be

a comparator estimate for other mortality estimation approaches conducted in the same locale and time.

**Outputs:** Establish or strengthen locally-led mortality estimation team(s) capable of identifying opportunities to generate relevant, timely and context-specific estimates and ensuring relevance and ensuring their uptake to support rapid, evidence-informed crisis response

**Synergies:** WP 1 Strategic Framework Working Group; WP 3 Data Repository; WP 4 Innovative Methods; WP 5 Methods Compendium

## WP 3: Data Repository Development

**Aim:** Establish a centralised, secure and accessible mortality data repository to enable humanitarian actors to share, access and analyse data from crisis-affected contexts for decision-making and action.

**Value:** The platform will enable real-time evidence generation and transform localised mortality surveys and related data into broader, actionable insights to inform humanitarian response. This initiative will enhance the availability and utility of mortality data by providing a secure, centralised platform for analysis and collaboration. It will enable robust, timely, data driven decision-making and promote greater transparency and accountability. By enabling shared access and fostering coordination, the repository will contribute to higher data quality and more coherent humanitarian action.

**Potential Method or Process:** Using various techniques, which may include machine learning, data mining, and statistical analysis, valuable outputs will be generated using both retrospective and predictive methods to prepare for and/or respond to crises, including in real time. Potential activities could include:

- Establishing or enhancing an operational, secure mortality data repository, accessible to approved users.
- A functioning data-sharing model with potential to scale in the setting and other crisis contexts.
- Collaborative analyses and reports shared in variety of formats tailored to a range of audiences, primarily humanitarian decision-makers.
- Quality indicators and meta-data standards for mortality data collection integrated into the system.
- Leverage and enhance use of publicly available analytical tools e.g. SMART-based analytical tools.

**Outputs:**

- Secure repository to store and analyse large amounts of data to reveal patterns, trends, correlations, and insights to inform humanitarian decision-making.
- Data outputs available rapidly and in accessible formats to humanitarian decision-makers to inform crisis response.

**Priority Synergies:** WP 1 Strategic Framework Working Group; WP 2 Capacity Strengthening

## WP 4: Innovative Methods

**Aim:** Identify, evaluate and refine innovative approaches to mortality estimation – including data collection, data analysis, communications, uptake and socialisation methods - with potential to scale and apply in humanitarian settings

**Value:** Strengthen technical rigor of mortality estimation, enhancing the ability of humanitarian actors to make timely, evidence-based decisions. Contribute to the global knowledge-base on crisis-related mortality and support the development of scalable, context-appropriate tools and practices in humanitarian settings.

**Possible Methods or Processes:** Design, test and strengthen a range of metrics, tools, data collection, data analysis (retrospective and predictive), communication, uptake and socialisation approaches, for example:

- *Technical*: generate mortality estimates by harnessing modelling, machine learning, data mining, AI, satellite imagery etc.;
- *Methods:* community-led and -based approaches to mortality data collection, including low-tech and offline tools accessible to marginalised populations;
- *Communications & Uptake:* strengthen strategies to communicate mortality insights ensuring they are timely, accessible and actionable, including socialisation among local and humanitarian stakeholders and decision-makers.

**Outputs:**

- Validated and scalable tools, methodologies, and communication and uptake strategies for mortality estimation in humanitarian settings.
- A suite of case studies or technical briefs demonstrating innovative approaches, lessons learned and implications for other crises.
- Contributions to sector-wide standards and guidance on mortality data generation and use.

**Priority Synergies:** WP 1 Strategic Framework Working Group; WP 2 Capacity Strengthening

## WP 5: Methods Compendium (a technical reference guide for fit-for-purpose methods to estimate mortality)

**Aim:** Curate a compendium of methods to estimate mortality which would include information on the feasibility, context appropriateness, data availability and type of crisis (rapid- versus slow-onset) needed for each given method.

**Value:** This could act as a sector-agreed toolbox which can inform fit-for-purpose selection of mortality estimation methods tailored to a given context.

**Possible methods or process:** Consultations with stakeholders or the aforementioned community of practice, development of a standard set of characteristics to describe each method and their applicability, contributions from a range of academics or humanitarian experts to write and compile the compendium. The methods would include both primary data approaches (e.g. surveys, surveillance, remote sensing, geographical information systems etc.) and secondary data approaches (e.g. ensemble surveys, retrospective and predictive mathematical modelling etc.). Novel and experimental methods would be encouraged, particularly harnessing emerging technology opportunities, where relevant. Availability of data and methods will foster transparency and reproducibility of results, strengthening rigor and credibility.

The methods compendium would have synergies with the relevant Working Groups and Communities of Practice committed to multi-stakeholder collaboration, peer-review, consensus-building and learning.

**Output:** Co-created methods compendium that could be regularly updated.

**Priority Synergies:** WP 1 Strategic Framework Working Group; WP 2 Capacity Strengthening; WP 3 Data Repository; WP 4 Innovative Methods

# 4. Expressions of Interest

## 4.1 Partner Profile

UKHIH is seeking to form a diverse partnership of collaborators to take forward a combination of work packages listed and/or additional proposed workstreams. This should include a lead partner.

**Consortia may also propose new workstreams, provided they clearly align with the aims and objectives of the SIP and demonstrate strong technical relevance. Proposals that are speculative or not well-aligned with the SIP focus areas are unlikely to be considered.**

Expressions of interest in forming or joining a collaboration can be made by returning the template proposed. We welcome interest from a **fully formed consortium of actors, with a lead partner**. Proposed consortia can express an interest in the delivery of multiple work packages. Individual actors have the option to express interest in one or more work packages and can be named on one or more consortium applications. **We are not inviting interest from a consortium to solely deliver all work packages.**

## 4.2 Involvement of Partners from LMICs

A consortium led by or including partner(s) based in low- and middle-income countries (LMIC) in the work is a **minimum requirement**. UKHIH views this as essential for achieving sustainable, contextually relevant, and impactful solutions to complex humanitarian challenges.

This could include, for example, (1) partnering with a LMIC-based institution and/or (2) direct engagement of LMIC-based research e.g., to contribute towards delivering the scoping review or stakeholder consultations and/or (3) a LMIC-based institution leading the consortium. Researchers may be from an academic, public, or private sector background.

## 4.3 Indicative Timetable

| | Steps | Date |
|---|---|---|
| **1** | Launch – Invitation of Expressions of Interest | **21st July 2025** |
| **2** | Deadline for submission of clarification questions | **5pm UTC 25th July 2025** |
| **3** | Deadline for return of EOIs | **5pm UTC 11th August 2025** |

| | | |
|---|---|---|
| **4** | Technical review and evaluation of EOI | **Completed by 18th August 2025** |
| **5** | Grant award (anticipated) | **By 22nd August 2025** |
| **6** | SIP start (anticipated) | **At the earliest opportunity, subject to completion of due diligence and grant agreement** |

## 5. Total Resource Available

Funding for this call is contingent on additional support being awarded to UKHIH by the UK FCDO. At the time of publication, UKHIH has secured £100,000 to support activities under the Mortality Estimation SIP. A further uplift - bringing the total available funding to £650,000 - is anticipated, pending confirmation of an additional FCDO grant expected by the end of July. Applicants are encouraged to apply but should note that final funding decisions will depend on confirmation of the full allocation.

The total available envelope of £650,000 will be allocated across the selected consortia. UKHIH does not expect any single consortium to receive the full amount. Applicants should therefore focus on realistic, costed proposals that contribute to one or more work packages within this shared funding envelope. Please note that overheads are capped at 10%.

## 6. Selection Process

Awards will be based on an objective technical review process. The selection of prospective partners to explore and drive action on mortality estimation in humanitarian settings will be based on the following considerations:

1. **Eligibility Requirements**
   - Proposals must be submitted by consortia, with the lead and/or at least one sub-applicant based in a LMIC – no sole applications will be considered.
   - Proposals demonstrating the following will be viewed favourably:
     - A demonstrable track record of mortality estimation work, or a closely allied area with a clear explanation of how skills and expertise are transferable to the proposed work.
     - Clear localisation and capacity strengthening components integrated into the proposed work.
     - A strong commitment to decolonised practices in the design, implementation, and dissemination of project activities.
   - Applications with missing documentation will not be considered.

2. **Relevant Experience:**
   - Demonstrated experience designing and conducting research or projects related to mortality estimation and uptake, humanitarian settings, or similar areas.
   - Proven track record collaborating with diverse stakeholders, including partners, NGOs, INGOs, UN agencies, and local communities, particularly those in crisis settings or LMICs.

3. **Expertise and Capacity:**
   - Expertise in networks and partnerships, epidemiology, statistical modelling, qualitative research, public health, humanitarian policy and systems, design thinking, trusted research environments, ethics, or a related field.
   - Capacity to contribute to one or more of the proposed work packages, outlining key expertise.

4. **Collaboration Approach:**
   - Experience in participating in and facilitating collaborative initiatives or partnerships.
   - Ability to work effectively in a multidisciplinary and multicultural environment.

5. **Inclusion of LMIC Researchers:**
   - Approach for inclusion of partner(s) based in LMICs, if not lead partner.

6. **Alignment with Objectives:**
   - Clearly articulated strategic alignment with the objectives of the Mortality Estimation Systems Innovation Partnership, as outlined by UKHIH.
   - Evidence of understanding the challenges, imperatives and opportunities related to mortality estimation in humanitarian settings.

7. **Methodological Rigor:**
   - Demonstrated design and/or methodological rigor in proposed research or projects.

8. **Global Stakeholder Engagement:**
   - Ability to engage with global stakeholders, including government bodies, NGOs, INGOs, academic institutions, and humanitarian agencies.
   - Prior experience in convening events or dialogues to drive coordinated action in the humanitarian sector.

9. **Costs and Capacity**
   - Ability to deliver work packages within the proposed funding envelope.
   - Capacity to start and complete the work within the timeline indicated.

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[i] Gang KBA, O'Keefe J, Anonymous, Roberts L. 2023. Cross-sectional survey in Central African Republic finds mortality 4-times higher than UN statistics: how can we not know the Central African Republic is in such an acute humanitarian crisis? Conflict & Health, 17(1)

[ii] Huynh BQ, Chin ET, Spiegel PB. 2023. No evidence of inflated mortality reporting from the Gaza Ministry of Health. The Lancet, Dec 6 2023

[iii] Bern C, Sniezek J, Mathbor GM, Siddiqi MS, et al. 1993. Risk factors for mortality in the Bangladesh cyclones of 1991. Bull World Health Organ. 71(1):73-78