# GHHIN Synthesis Report

1. **Scope and Purpose of the Report**

The GHHIN Global Heat Health Synthesis report will be published on a bi-annual basis, every 2 years to synthesize the state of science and practice to monitor, predict, and address extreme heat risks to human health.

The report will help to establish baseline conditions confronting the heat-health community (on exposure/information systems for decision making/response etc.) and help track progress in our learning and responses over time; highlight knowledge, action, and research gaps; and provide an authoritative voice upon which members can advocate more effectively. It will be presented in an accessible format with key figures, focused case studies, and visualization to engage a broad readership.

The GHHIN synthesis is different from a scientific review. It will draw on the scientific literature and align with standing and special reports of IPCC, WMO State of Climate, Lancet Tracking Change, etc. However, its unique nature will highlight local initiatives and learning from the GHHIN Member base, which may not be published in the peer-reviewed literature. In order to do this, the GHHIN synthesis will draw heavily on member inputs to the web portal and what is reported and learned during the bi-annual forums about new research, initiatives, events, outcomes, indicators, and other items. These three activities will need to work in tandem – and its for this reason a common framework is desirable to help synchronize information flow.

The first synthesis report will draw upon a stocktaking exercise completed by the steering committee. In the future the member driven portal and annual forums will serve as a content/data collection opportunities to inform the synthesis report.

Overall goals:

1. To help harmonize the characterisation and track the magnitude and heterogeneity of hazards, exposure, vulnerability, impacts, and global response capacity.
2. To draw out and articulate evidence based key messages, emerging and pressing issues needing advocacy, investment, and attention.
3. To accelerate global learning about risk reduction, which is not waiting on the scientific literature process – but can provide a credible high profile venue to showcase and draw upon member information – bringing to light in success stories, national progress which may otherwise go unnoticed.

1. To identify and document scientific progress - observational and surveillance, process study, biomedical, climate and multidisciplinary research, and information needs to improve decision making for more effective action.
2. **Proposed Structure**

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| **Sections** | **Content Description** | **Key indicators** |
| **Part 1 – Key Messages and Emerging Issues** | Drawn from summation of contents below. Bias toward showcasing headline figures, key successes and remaining gaps. We need key figures (as Hannah suggested) that draw on contents from other chapters but are easy to update and display as a sort of dashboard upfront. | Regional dimensions  Country dimensions |
| **Part 2 – Hazard Synthesis**  *Basically, what is the magnitude of the problem and what have we learned about how it might evolve over the past 2 years?* | Provides global overview of observed status and latest projections of global heat hazards.   * Describing any relevant/major climate drivers such as ENSO, or notable regional and country dimensions. Should reference key standing scientific reports and processes. * Describe state of forecasting and predicting EHE |  |
| **Part 3 – Synthesis of Global Heat Exposure trends**  *Basically, what was the exposure over the past 2 years, and what have we learned about exposure over the past 2 years?* | Initial report provides baseline, and future reports a summary of any changes in global exposure trends and indicators over the past 2 year reporting period.   * Highlights new key findings from the global literature published in the intervening years of the report that examine changing exposures to extreme heat. * *Need to decide on specific parameters/features e.g:* * exposure to annual mean temperature change (positioning extremes in the trend) * exposure to heatwaves (proposed: >95% T-Avg relative to 1981-2010 for 2+ days) * heat index relevant for labour productivity * key global thresholds and related indicators for extreme heat * Maps of populations at risk, urban heat islands * Case Study Boxes: Country/local snapshot characterizing exposure. | Alignment with Lancet Indicators |
| **Part 4– Synthesis of Vulnerability**  *Basically pointing to what we know about who is vulnerable, where?* | Initial report provides baseline understanding of global vulnerability to negative health impacts, and future reports a summary of changing vulnerability trends and indicators over the past 2 year reporting period.   * Discuss how vulnerability is changing, what indicators of vulnerability are available at national, sub-national levels? * Maps of how are drivers of vulnerability changing (e.g. Urbanization. Aging. Migration. Energy Access). * What we can expect from acclimatization. * Reports may want to rotate featured vulnerable populations with more in-depth coverage of workers, elderly etc. * Case Study Boxes: Country/local snapshot characterizing vulnerability | Key Indicators Regional dimensions  Country dimensions |
| **Part 5– Synthesis of Impacts**  *Basically, what do we know about how is it affecting people? key indicators to track* | Summarizes global literature as baseline, and published in intervening years.   * Reflect impacts of Key figures to be cited in part 1. * Describe types of (mostly direct) but reference to indirect impacts - mortality and morbidity statistics (identify key sources to build on e.g. emdat.be) * Country/local snapshot characterizing impacts |  |
| **Part 6 – Synthesis of Preparedness and Protective Actions** | *Responses should be the heart of the report*  Initial report provides baseline understanding of known status of key categories of actions for risk reduction being taken (derived from stocktaking e.g – HHAPs, changing legislation, media engagement, GHHIN).  Future reports will track changing implementation and investments being reported by members over the past 2 year reporting period.   * Synthesis commentary on what is being reported as effective, what is not, what is needed. * Feature on advances in science - new approaches to forecasting, surveillance, notable new interventions, new collaborations, etc. * Storytelling Case Study Boxes - snapshot characterizing local action | Contributes to SDG Indicators |
| **Part 7- Synthesis of needs gaps and outline of next two year directions** | Synthesis and focus on knowledge/information needs to make better decisions, as well as political and action.   * critical data and observations used and needed, * research and communication * needs for action * advocacy;   *Need to decide if this is making recommendations or spotlighting needs. Do we need a summary for policy makers, practitioners, media?* |  |

1. **Bi-annual Production Process**

While acknowledging that the production of any report requires significant dedicated effort, with enough ongoing investment in monitoring and reporting to the web portal and forum, hopefully a bulk of the data collection will be automated/organized before authors even begin discussing the synthesis. For this reason the common framework is very desirable.

**Target Publication Date**: September 2018 and every two years thereafter (2020, 2022, etc)

* **Dec-Feb**: collection and synthesis of data for the preceding period (calendar years 2016 & 2017) This long lead time is because we may draw on many sources that do their own compilation and need a few months after the close of the previous year to publish their data.
* **Feb-March**: preparation of the report
* **April-May**: review and revision
* **June – September** : publication production

Publication Target to Align with other Policy and Reporting Processes: Notably, Lancet Tracking Climate and Health (annual Oct/Nov), WMO State of the Climate (Impacts section)(annual Oct/Nov release pre-COP), IPCC AR6. Outreach to research funding agencies and institutions, to the earth observation community, and to key international organizations (IPCC, WMO, WHO)