

Overview and Statute

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# OVERVIEW

Every year, tens of thousands of people die as a result of avoidable extreme ambient heat induced health consequences such as heat stroke, cardiovascular and respiratory disease, dehydration, and other complications of heat stress. Countless others experience physiological stress and ill health, and lose productivity and wages as a result of exposure to prolonged excessive ambient temperatures. Over the last couple of decades rising concerns of extreme heat and its management has emerged as a major societal problem. The Intergovernmental Panel on Climate Change projects the observed trends of heat waves lasting longer, occurring more frequently, occurring earlier in the year, and at increasingly higher than normal temperatures in many parts of the world will continue with high confidence into the future. Recognizing this hazard will only intensify, without additional interventions, these heat waves will increase morbidity and mortality, particularly as the population of vulnerable individuals increases. Fortunately, nearly all adverse health outcomes are preventable through measures that reduce human exposure to dangerous heat in the near and long term.

Exposure to rising temperatures is a globally occurring phenomenon, however, the impacts are hyper-local due to socioeconomic, political, place-based and physiological vulnerability. This underlies the need for greater collaboration and sharing of information about how local extreme heat risks are being managed, and points to many benefits which can be gained from harmonized information and sharing of experiences. For example, confusion can arise about the seriousness of a heat wave and when action is needed, and what action should be taken -- simply because a political boundary results in vastly different approaches being taken to respond to the same event, as a result of different information being used and different thresholds for action set. Efforts to simply enhance information and experience sharing, linking the local into a global discourse, we believe can result in improved public health interventions and societal benefits.

Many professionals from diverse domains worldwide realize the severity of this issue and are taking important steps to conduct studies, develop local responses, or develop tools to predict heat exposures – yet there is no convergence on the key scientific questions that need to be answered, no unified voice within the health community of what heat exposure risks consist of, no consensus on the standard variables and measurements which are most important, little translation of local good practices to new audiences, and no mechanism to audit and track progress in terms of science, technology, and practice. Without an organized mechanism to assist these efforts to learn from each other, collective progress to-date has been uneven around the world. We believe the Global Heat Health Information Network (GHHIN) can help members in their own work by facilitating shared learning and accelerating improvements in the global capacity to prepare for and respond to extreme heat.

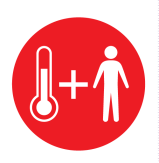
GHHIN addresses a two-fold problem – first **the need to rapidly scale up efforts** to manage the complex human health risks introduced by extreme and increasing ambient heat; and secondly the need **to harmonize and improve information and opportunity sharing** across the burgeoning local communities of health professionals, decision makers and scientists motivated to address this issue.

This document describes the history and justification for establishing the Global Heat Health Information Network, and outlines its proposed strategic priorities and institutional arrangements. The First Meeting of the GHHIN planned for mid-2017 will seek to validate and set in motion key activities to achieve GHHIN’s common agenda.

## About GHHIN

The GHHIN (pronounced GIN) is an independent, voluntary, member driven forum of scientists, professionals, and policymakers focused on enhancing and multiplying the global and local learning and resilience-building for heat health that is already occurring. GHHIN seeks to serve as a catalyst, knowledge broker, disseminator of good practices, and a forum for facilitating exchange and identifying needs. The GHHIN aims to create a global common space to promote evidence-driven interventions, shared-learning, co-production of information, synthesis of priorities and capacity building that can empower multi-disciplinary actors[[1]](#footnote-1) to take more effective and informed life-saving preparedness and planning measures. In summary, it will help *link local solutions to address the global challenge of extreme heat.* In order to synchronize learning across global to local heat-health related activities, GHHIN will propose a generic framework that can be used as appropriate by members in their own work, as a common thread to help connect local efforts and learning into the global dialogue.

The concept of the GHHIN was launched in June 2016 by the WMO/WHO joint office for Climate and Health and NOAA Climate Program Office who act as stewards to initiate this effort and propose to build on the US-NOAA NIHHIS Framework[[2]](#footnote-2) as a guiding backbone to the common framework. It is envisioned that network interactions will occur predominantly through virtual connectivity using online, video- and teleconference communications. Annual and periodic technical meetings will be focused on clear objectives, be action-oriented, and produce results-based decisions. Individuals and organizations are invited to participate according to open and agreed upon criteria. Voluntary members are expected to include representatives of academia, governments at all levels, professional associations, international organizations, donor organizations, private sector and non-governmental organizations.



**“Heat Health”** is the term used to express the concept of the multiple dimensions which characterize the *“direct human health risks of ambient heat exposure”.*

This includes conditions contributing to: *vulnerability* (e.g. physiological and social vulnerability, place based exposure); *acclimatization rates and adaptive capacity*; and *environmental conditions* which determine the exposure (e.g. extremes, humidity, daytime vs. nighttime exposures, long term change, urban heat islands, indoor vs. outdoor exposures; as well as compounding factors such as air quality). This risk is recognized to function across *multiple timescales* (from days, to seasonal, to annual and beyond).

# STRATEGIC PRIORITIES AND MANDATE

## Vision

The Global Heat Health Information Network (GHHIN) will improve the capacity of governments, organizations, and professionals to protect populations from the avoidable health risks of extreme ambient heat.

## GHHIN Goals

The GHHIN is designed to accelerate the assembly and transmission of knowledge for taking action through four goals:

1. Identify, synthesize, and communicate evidence and lessons learned, and propagate good practices across the network and with other scientists, policy-, and decision-makers.
2. Mobilize and improve access to expert resources and opportunities for learning, exchange, and engagement.
3. Facilitate the generation of actionable evidence and information vis-à-vis activities to develop, share, and promote standardized technical guidance, research, data, and decision-tools.
4. Help members use available evidence to promote critical action for the global network, its partners, and activities.

## GHHIN Approach

The GHHIN will bring together the work and progress of its members to create a more holistic picture of the needs, science, and strengths across the network, by implementing core activities such as:

* To produce an bi-annual report that synthesizes evidence and needs to inform policy and science
* To convene an annual or bi-annual global forum
* To communicate policy needs and recommendations to key decision-makers
* A website and online platform for resource sharing and networking
* To support technical activities of working groups which may form
* To support gap filling activities that add value to members work, such as a Learning and Mentoring program, a global Heat Health Action database, and potentially a global Heat Alert and Support Desk.

Details on proposed activities are derived from consultations in 2015-2016 and available in [Annex 3](#_ANNEX_3:_).

## Benefits to Members The GHHIN will respond to identified needs and gaps by enabling:

* Access to opportunities for mentorship, expert guidance, and training
* Enhanced quality and use of information for health promotion through collaboration and co-learning to jointly define the problem and develop solutions across a range of time horizons
* Improved access to information, tools, and events
* Access to ‘tried and true’ methods/interventions tied to robust evidence
* Guidance on the translation of research to practice
* Opportunities to inform policy and research agendas and speak to observed priorities for research, assessment, information products, and action.
* Opportunities for members’ to share and engage others in their work
* Draw upon and connect to advocacy for action and the opportunity to shape the common voice of the community

# NETWORK DESCRIPTION

## Membership

*Type of Members: Professional members are expected to self-select their participation in the Network to enhance inclusion of a broad range of professionals from around the world.* It is expected professionals from government agencies, academic institutions, international organizations, professional associations, NGOs and private-sector boundary institutions, with expertise in public health, medicine, meteorology, climate resilience, urban planning, communications, social work, emergency management, and other relevant fields will be interested to participate and join the GHHIN. Individual scientists, consultants, and decision makers with relevant expertise are encouraged to participate and collaborate with the GHHIN.

*Compatible Motivation:* It is expected that the mission and values of our members will be compatible with the GHHIN vision to protect public health and utilize the principles of good public health practice. To facilitate shared learning, alignment and comparability, members are encouraged to the extent possible, align their own work with a common heat health framework.

*Scientific integrity and shared principles:* Members will be encouraged to uphold scientific integrity in their work and respect the shared principles listed in Annex 3.

## Membership Process

Parties interested in joining GHHIN will be asked to register by submitting a simple online form describing their interests to join the network, principle areas of contribution, etc. which will serve as the members public GHHIN profile. The Steering Committee will periodically review membership status, to see that current and prospective members meet expected standards for participation.

# INSTITUTIONAL ARRANGEMENTS

## Network Structure

The nature of GHHIN is primarily global in scale, but due to intensive ongoing local and regional level activities, regional nodes are envisioned to possibly be the most effective way to create communities of practice and exchange. Preliminary Regional nodes are expected to include South Asia, Europe, and North America. Future nodes may autonomously emerge in other regions such as Latin America, Middle East, and the Asia Pacific depending on demand. Each regional node will respond to regional scale needs, and seek to have an institutional partner lead(s) who takes on responsibilities such as coordination, communication, or specific activities such as leading assessments or resource mobilization in the region. This leadership is expected to be voluntary, autonomous from any global coordination mechanism, and may be on a rotational basis depending on decisions made by the members of the regional node.

The GHHIN Coordination team will support communication between the regional nodes, as is needed. GHHIN will encourage its members to foster bilateral or multilateral relationships to work together on common activities across regions that share common attributes such as climate, geography, or shared challenges/vulnerabilities. A goal of GHHIN is to identify such commonalities and to foster sharing and replication of sound evidenced based approaches or products.

## Stewardship and Leadership

It is intended there will be “light touch” governance structure. An ad-hoc steering committee of experts has guided and developed the establishment phases of the network, and have served to identify and nominate potential members of the Steering Committee. Additional formalization of advisory bodies to provide leadership, such as a Steering Committee will be further discussed at the first GHHIN meeting.

## Coordination Functions

The WMO/WHO joint office for Climate and Health and NOAA Climate Program Office volunteered initial coordination support until other arrangements can be identified or formalized. Voluntary leads from members will be welcomed to develop activities identified as GHHIN priorities. Funds are sought to support a full-time GHHIN coordination function, to be hosted within founding partner institutions to organize meetings, support communications and other activities undertaken on behalf of the network .

## Funding Modalities

The GHHIN will not be a funding or grant making mechanism.

Members should be responsible for raising and managing funds for activities that contribute to the GGHIN. The GHHIN Coordination team will seek funding for core functions of the network, such as staff for coordination, common publications and communications, and organization of annual and periodic meetings. Funds for these purposes will be sought and managed by the institution designated as responsible for these activities. In the event common funds become available to support activities or member participation in meetings, a transparent process will be employed in accordance with the criteria of the donor.

# ANNEX 1

Since 2015, five milestone events have helped to shape the agenda of the GHHIN.

|  |  |
| --- | --- |
| ⚫ | First, on July 28 of 2015, the US National Oceanic and Atmospheric Administration (NOAA), German Deutscher Wetterdienst (DWD), the US Centers for Disease Control and Prevention (CDC), the World Meteorological Organization (WMO) and the Global Framework For Climate Services (GFCS) and many other research and operational health partners from India, the UK, Australia, Canada, and Sweden convened to discuss current practices to address the growing global problem of extreme heat events. The workshop produced an action plan wherein parties agreed to work together on an integrated approach to extreme heat – and health building partnerships, sharing information, and establishing a common point to access information (such as a web portal). The parties agreed to reconvene within 2 years to discuss progress and the way forward in an international context, as well as national developments toward the international goal. |
| ⚫ | Second, in executing the action plan, in the United States NOAA and CDC launched the National Integrated Heat Health Information System (NIHHIS) framework[[3]](#footnote-3). The NIHHIS framework consists of a set of key questions that must be resolved in order to provide specific, impactful, and adaptive climate and health information to a diverse set of decision-makers on time scales from short-term early warning to long-term climate resilience. These questions include consideration of institutional capacity and partnerships, heat-health parameters and monitoring, data and forecast product needs, and engagement & communication strategies. |
| ⚫ | Third, a series of US domestic pilots were launched to test the framework, to understand the regional commonalities and differences in the experience of and vulnerability to extreme heat across the US, as well as to develop tailored local-to-regional climate information for these areas. |
| ⚫ | Fourth, in response to the high impacts of extreme heat in 2015 and 2016 in South Asia, WMO, through its joint office with the World Health Organization, convened a Climate Service Forum for Health focused on heat health in Colombo, Sri Lanka April 27-28 2016. The regional meeting brought together over 25 experts in public health, climate and meteorology to identify national needs in high risk countries and discuss a regional agenda multi-sectoral collaboration. This meeting produced an action plan to create a South Asia regional node of the GHHIN. <http://www.wmo.int/pages/prog/wcp/wcsp/rcofs/sascof/health/csf-health.php> |
| ⚫ | Fifth, as a follow up to the key meetings in 2015-2016, key actors involved in this process met on the sidelines of the International Climate and Health Colloquium June 9th, in New York. A decision was made that there is a clear and pressing need to move forward to create an international structure to accomplish the goals of the Chicago workshop, and particularly help to accelerate action in high risk regions such as South Asia.  During the course of 2016 the present concept note was elaborated, an ad-hoc committee formed, bi-lateral and group discussions have shaped this concept, and the GHHIN was publically presented at the American Meteorological Society in January 2017. |

# ANNEX 2: Principles of Partnership

As part of GHHINs commitment to quality science and services, we have developed Principles of Partnership to motivate members to improve the quality and effectiveness of what they do.

* **Strategic and results oriented** partners have a shared vision for heat health action, and results based approach to long-term aims and measurable plans for achieving objectives and work within a jointly-agreed framework of priorities and direction.
* **Harmonized and Aligned** partners work is consistent with local and national plans and complements the activities of other development partners. Seek to complement and integrate with existing international partnerships and mechanisms.
* **Open Access and Transparent** partners promote open access to data and information for all partners on an equal basis.
* **Responsible and evidence-based** partners conduct activities with integrity, pursue evidence based approaches and cultivate trust in their interactions with stakeholders.
* **Effective and sustainable** partners operate in ways that deliver high-quality projects that meet targets and seek to achieve long term results.
* **Respectful and Reciprocal** partners respect the autonomy of local authorities and decision-makers, and listen to one another and plan, implement and learn together. Recognize vulnerability to extreme heat is complex and locally determined, with differential effects.[[4]](#footnote-4)
* **Accountable** partners have clear and transparent decision making processes and see out commitments to the network.
* **Flexible, Resourceful, and Innovative** partners proactively adapt and respond to altered circumstances and embrace change.
* **Committed to joint learning** partners monitor, evaluate and reflect on their activities and results, articulate lessons learned and share knowledge with others.
* **Promoting GHHIN** partners agree to co-brand their approved heat efforts with the GHHIN logo and to fairly and accurately represent and cite the work of other partners. In turn, information and relationships presented as part of GHHIN will clearly indicate partner country contributions and give proper credit.

# ANNEX 3: GHHIN Goals and Objectives

The GHHIN is designed to **accelerate the assembly of knowledge about heat risks and vulnerabilities to better implement health protection measures,** through the following four objectives and activities. The proposed activities are recommendations from technical meetings held in 2015-2016, that have been informed throughout the development of the GHHIN. This is proposed as the starting point for defining a more holistic agenda for GHHIN.

**Coordination Objectives**

* To convene the 1st GHHIN Meeting and define priorities;
* Identify members, create web portal and database of partner profiles including case studies;
* Create a structure and mechanism for coordination with staffing and 2years of support funding;
* To expand the network in other world regions (Asia Pacific, Latin America, etc.)

**Objective 1: Identify, synthesize, and communicate evidence and lessons learned, and propagate good practices across the network and with other scientists, policy- and decision-makers.**

***Example activities to be considered:***

* + Create and maintain active communication channels that allow partners to share and engage purposeful knowledge sharing across the network about the physical, biological and human, social, political and communication aspects of building, sustaining and using heat-health information as part of comprehensive Heat Health Action Plans.
  + Convene an annual technical conferences, and promote GHHIN events alongside other key meetings
  + To create an online information sharing platform
  + Develop and document effective strategies for communication and engagement far in advance of, during, and after a heat event.

**Objective 2: Mobilise and improve access to expert resources and opportunities for learning, exchange, and engagement.**

***Example activities to be considered:***

* + Activate partners through effective communication of opportunities to participate in events and training, and take advantage of new science, and policy and funding opportunities.
  + Generate a database of partner profiles to easily identify expertise
  + Generate national heat health action profiles: Map national institutional capacities (including characterization of history of heat waves (phenomenon and health outcomes), available projections (with assistance in some cases), existing practitioner networks and contacts, existing heat action plans, and interventions to date)
  + Create and facilitate virtual technical working groups on specific topics
  + Facilitate twinning opportunities such as:
  + *Professional and Research Mentoring:* facilitate pairing expert mentors who can support and serve as a professional point of contact to review and answer operational questions.
  + *Student exchanges*: facilitate knowledge and capacity building, strengthen international partnerships, and develop a pipeline of heat-health practitioners.
  + *City pairings:* with similar heat vulnerability (geography/climate, socio-political, capacity similarities) to share methods, lessons learned, and support each other.
  + *Partner markets*: encourage connections to find engineering and urban planning solutions

**Objective 3: Facilitate the generation of actionable evidence and information vis-à-vis activities to develop, share, and promote standardized technical guidance, research, data, and decision-tools.**

* + Identify, communicate, and coordinate activities to fill critical common knowledge gaps.
  + Inform and promote quality standards for research, information products, and applications.
  + Stimulate the improved development and provision of data and information exchange for heat-health across disciplines and geographic boundaries.

***Example activities to be considered:***

* + Research and Evidence: develop standards and needs in research, exposure, vulnerability and impact assessment, e.g. develop consensus document on heat-health parameters important to high risk regions and populations.
  + Heat forecast products and decision tools: Develop international standards for meteorological information on extreme heat & health that can be shared across all partners. Establish and support sustainable, open, and skillful prediction products for heat-health as well as robust and open data in the form of observations and monitoring of outcomes.
  + A global inventory of (a) definitions for heat waves (b) a crosswalk for integrating the definitions into a consistent framework; (c) establish a global heat wave analysis (geospatial map product), analogous to the Koppen-Geiger Climate Classification scheme, that draws parallels between regions of the world that present with the same heat wave characteristics (may not be directly correlated with Koppen climate classification alone); (d) develop new climate projections with such heat wave classifications.
  + **Monitoring and Evaluation Tools**: Establish accepted methods for impact evaluation, and feedback and evaluation of actions and interventions that effectively reduce morbidity and mortality.
  + **Good Practice:** Guidance, standards, and good practice in Heat health action planning, as well as medical and public health interventions and approaches. Including examples of advanced and good practices in policy and regulation.
  + Risk communication: good practices, existing tools, language considerations, provide ad hoc global heat wave briefings and community support for partners during active heat events.

**Objective 4: Help members use available evidence to promote critical action for the global network, its partners, and activities**.

***Example activities to be considered:***

* + Advocate for appropriate action through translation of research and evidence to good practice.
  + Advocate and share information with donors about bankable solid investment opportunities.
  + Share information about funding opportunities
  + Foster collaboration and enhanced synergies across partners that can leverage existing knowledge and resources.

1. e.g. health practitioners, government authorities, community service organizations, urban planners, and the meteorological community [↑](#footnote-ref-1)
2. <http://cpo.noaa.gov/AboutCPO/IntegratedInformationSystems/NIHHIS/AboutNIHHIS.aspx> [↑](#footnote-ref-2)
3. *http://toolkit.climate.gov/nihhis/* [↑](#footnote-ref-3)
4. There are populations of concern with inherent heightened vulnerability to extreme heat - including older adults, children, lower income persons and communities, persons with existing health conditions (including mental health) - as well as other social determinants of vulnerability including occupation, income disparities, the urban heat island effect, reduced access to health services in remote areas, environmental justice issues, and others. [↑](#footnote-ref-4)