

## PROJECT PROPOSAL

**1. Project name: Helping North American Communities Respond to Extreme Heat Events (Phase II) – Scaling up Syndromic Surveillance Systems**

**2. Two-year budget: C\$600,000**

**3. Short statement of the need identified (including current status), the project objective and outcomes (achievable by June 2019) to address it:**

Climate projections indicate that extreme heat events (EHEs) will increase in frequency and severity in the coming years in North America. These events already result in a large number of deaths and illnesses, especially among vulnerable populations, and will continue to increase environmental health risks. Only few health agencies incorporate real-time health data to adequately prepare for and respond to EHEs. This project aims to fill this gap by supporting additional at-risk communities in North America in implementing syndromic surveillance (SyS) systems to monitor heat-related health outcomes and by developing evidence-based tools for the identification, prevention and treatment of most-vulnerable populations. This second phase of the project will build upon the results successfully achieved in Phase I (establishment of real-time SyS systems in three pilot communities and development of a guidance document *on SyS systems for heat*) and will strengthen existing collaboration between health and environmental agencies.

**4. Select the strategic priority(ies) that the project addresses:**

2015–2020 Strategic Priorities	Priority Areas
<input checked="" type="checkbox"/> Climate Change Mitigation and Adaptation	<input type="checkbox"/> Trade and the Environment (e.g., environment and innovations; movement of environmental goods and services)
<input type="checkbox"/> Green Growth	<input type="checkbox"/> Methane emissions reduction
<input checked="" type="checkbox"/> Sustainable Communities and Ecosystems	<input type="checkbox"/> Reduce and recover food waste
	<input type="checkbox"/> Black carbon inventory
	<input type="checkbox"/> Priority species and ecosystems (e.g., transboundary invasive alien species)
	<input type="checkbox"/> Health of oceans (e.g., marine litter; ocean acidification; marine protected areas)
	<input checked="" type="checkbox"/> Syndromic surveillance systems
	<input type="checkbox"/> Mexican Emissions Control Area (ECA)
	<input type="checkbox"/> TEK case studies

**5. Explain how the project can achieve more impact by working trinationally and why the CEC is the most effective vehicle to undertake this work:**

While public health risks from extreme heat events are a transboundary issue, the capacity to prepare, prevent, and respond to these events vary across health agencies. This CEC project is unique in scope as it fosters sharing of information, expertise and resources across the three countries to enhance public health agencies' efforts to address the impact of extreme heat events, protecting particularly vulnerable populations in North America. Collaboration between health and environmental agencies in North America would result in a better use and integration of weather and climate data in SyS systems and would help to achieve efficiencies and enhanced health and environmental outcomes. The expansion of syndromic surveillance to other communities will leverage existing efforts undertaken by public health authorities and will maximize the benefits from lessons learned in Phase I of the project. It is also an opportunity to disseminate and continue to promote the use of the guidance document on SyS systems.

**6. Describe how the project may capitalize on, or advance, the relationship between ecosystems, job creation, gender impacts, and income generation:**

Extreme heat can have debilitating health impacts, ranging from illnesses that require hospitalization, to mortality, in particular for vulnerable populations. These adverse outcomes have significant economic implications, including absenteeism in school and work, loss of employment, and lower family income from the hospitalization or death of a family member. Response to heat stress is also influenced by gender. SyS systems can detect the risk from extreme heat early enough to protect the lives and livelihood of vulnerable populations. They can also be a valuable source of information for conducting gender-based analysis to assess the impacts of heat on women and men, while factoring in their socio-economic and occupational statuses.

**7. List the objectives and activities to be conducted to achieve measurable results:**

<b>Objectives (must be SMART<sup>1</sup>)</b>	<b>Main activities to achieve objectives (by 30 June 2019)</b>	<b>Measurable results</b>
By 30 June 2019, real-time SyS systems for heat are implemented or enhanced in additional regions / communities in North America.	<ul style="list-style-type: none"> <li>- Identify the new at-risk communities and/or regions in North America;</li> <li>- Develop, design and implement real-time SyS systems for heat using lessons learned from Phase I.</li> </ul>	Real-time SyS systems for heat are used by additional regions/ communities in North America to support response during EHEs.
By 30 June 2019, an evaluation framework is developed to assess the performance of SyS	<ul style="list-style-type: none"> <li>- Develop an evaluation framework template for SyS;</li> </ul>	An evaluation framework is available for public health

<sup>1</sup> SMART: Specific, measurable, achievable, realistic and time-bound.

systems, including the pilot systems undertaken in Phase- I of the project.	<ul style="list-style-type: none"> <li>- Collect, measure and analyze relevant health and population data from the pilot communities;</li> <li>- Collect and analyze information from the system users.</li> </ul>	<p>authorities;</p> <p>Pilot communities (Phase I) have assessed their SyS systems, using the evaluation framework.</p>
By 30 June 2019, an online interactive training course on SyS is developed for public health professionals and clinical practitioners.	<ul style="list-style-type: none"> <li>- Develop the content of the online course;</li> <li>- Design the structure of the online course;</li> <li>- Host the online course by a third party (e.g., university or NGO)</li> <li>- Promote the online course among the public health community (e.g., e-mail blast using the federal health agencies networks, social media, conferences, etc.).</li> </ul>	Public health professionals and clinical practitioners in North America have access to an online training course on SyS for heat.

**8. Describe how the project complements or avoids duplication with other national or international work:**

This project is a continuation and expansion of efforts made in Phase I where a literature review on the use of SyS has shown a strong need to either develop real-time SyS for heat or adapt the existing systems to appropriately detect heat-related illness and deaths. The outcomes from this project will fill this gap and will complement the work being done by North American health authorities and other national and international organizations such as the Council for State and Territorial Epidemiologists (CSTE) and the International Society for Disease Surveillance (ISDS); This project complements the activities of the North American Working Group on Climate Change and Human Health, established under an agreement between Health Canada, the US' Centers for Disease Control and Prevention, and Mexico's Federal Commission for the Protection Against Sanitary Risk.

**9. Describe opportunities for inclusion of traditional ecological knowledge (TEK), if applicable, and how these opportunities are incorporated into the project:**

The project will seek the collaboration of indigenous health authorities or health authorities serving indigenous communities to establish or enhance a pilot SyS. This will provide the opportunity to include TEK in adapting heat-health messaging and raising awareness among indigenous populations, considering their local knowledge about climate and culture.

**10. Describe opportunities for youth engagement, if applicable, and how these opportunities are incorporated into the project:**

In Phase I of this project, health sciences and medical students in Hermosillo, Mexico, were directly involved in data collection activities at local hospitals, to support the State of Sonora's pilot syndromic surveillance system. This second phase of the project will also offer similar opportunities, as well as direct involvement in analyses of relevant health and environment data. The online course will be a unique opportunity to raise awareness of health-care workers including medical residents and public health professionals, of the health risks from heat and to provide technical guidance on how heat-related illnesses could be well diagnosed, coded, treated and prevented.

**11. List significant involvement of other levels of government, Indigenous groups, local communities, experts, private sector, civil society and others, as applicable:**

- Michigan Department of Public Health
- The ministry of health in Sonora State
- The State Commission against sanitary risks (COESPRISON)
- The ministry of health in Baja California
- Ottawa Public Health
- KFL&A Public Health
- Public Health Ontario
- *Institut national de santé publique du Québec*
- Arizona Department of Health
- Council for State and Territorial Epidemiologist
- International Society for Disease surveillance

**12. Identify relevant committee members and their federal agencies in each country committed to developing this project and implementing it, if approved:**

**Canada:** Abderrahmane Yagouti, Health Canada.

**Mexico:** Matiana Ramírez and José Herrera, Cofepris—Ministry of Health Mexico).

**United States:** Shubhayu Saha, US CDC.