RESEARCH PROGRAM:
Climate, environment and health (SG-CEH)

Policy Brief | Project SG-CEH-02

Assessment of Public Health Institutional Capacity to Respond to Dengue in the Context of Climate Change

Countries: Guatemala and Argentina
Principal investigator: Gustavo Estrada Galindo

The challenge

Climate change is expanding dengue transmission in Latin America, straining public health systems that face deep territorial inequalities, human resource gaps, and limitations in institutional coordination. The project demonstrates that having isolated technical capacities does not guarantee an effective response to arboviruses in climate-vulnerable contexts.

The approach

The project adopted a transdisciplinary and comparative approach, aligned with frameworks for climate-informed public health and systems-based adaptation, integrating:

- Assessment of systemic institutional capacity (human resources, knowledge, infrastructure, and networks).
- Contextual analysis in territories with varying levels of capacity.
- Engagement of health authorities, health workers, community health promoters, and local stakeholders.

What was done

- Comparative assessment of dengue response capacity in Argentina (Tucumán) and Guatemala (Zacapa and Quiché).
- Conducting surveys and interviews with health personnel and community actors.
- Analysis of information systems, collaboration networks, and care practices.
- Identification of best practices, critical gaps, and policy opportunities differentiated by context.

Main findings

- Capacity paradoxes exist: regions with greater technical training may experience high dengue incidence if the response is fragmented.
- In contexts with lower capacity, the shortage of specialized personnel and limited knowledge about severe dengue increase health risks.
- Standardized information systems are necessary but insufficient without inter-institutional coordination.
- The integration of traditional medicine, community health promoters, and local networks improves the effectiveness of the response.

Impact and application

- Local action plans for dengue and diarrhea are underway.
- Identification of differentiated strategies based on territorial context (limited resources vs. greater technical capacity).
- Concrete recommendations for:
- Staged and context-specific training.
- Use of telemedicine to bridge geographical gaps.
- Strengthening of municipal and community networks.
- Provision of evidence for the design of health adaptation policies in response to climate change in Latin America.

Key lessons

- Health adaptation to climate change requires systemic approaches, not isolated interventions.
- Effective institutional capacity depends on the coordination of technical expertise, networks, and context.
- Policies must be tailored to specific regions, balancing standardization with local adaptation.
- Community participation and the integration of knowledge strengthen the resilience of health systems.

Key message

Strengthening the response to dengue in a changing climate involves investing not only in technical capabilities but also in integrated, collaborative health systems adapted to each region.

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Edificio #104, Ciudad del Saber, Clayton, Panamá

iai@dir.iai.int

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Inter-American Institute for Global Change Research