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

Policy Brief | Project SG-CEH-12

Community Engagement Strategy for the Prevention and Management of Risk Factors in Dengue Transmission, with a Focus on Climate, Environment, Society, and Culture

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The challenge

Dengue has intensified in Latin America as a result of climate change, rapid urbanization, and deep-seated social inequalities. In cities such as Córdoba, Argentina, and Santa Marta, Colombia, traditional vector control strategies have proven insufficient because they fail to address household practices, structural conditions, and the lack of sustained community participation. This creates a perception of institutional neglect and limits the effectiveness of prevention efforts, especially in warmer and more variable climates.

What was done

- Development of statistical models linking climate variables (temperature, precipitation, urban vegetation) to the risk of dengue.
- Conducting interviews, participatory workshops, and ethnographic studies with affected communities and local authorities.
- Identification of barriers and facilitators to the adoption of preventive practices in households.
- Forums for the co-creation of strategies between citizens and decision-makers.
- Design of community education and communication initiatives, with an emphasis on youth as agents of change.

Main findings

- Climate variables make it possible to predict the risk of dengue several weeks in advance, opening up opportunities for early warnings.
- There is general awareness of preventive measures, but their implementation is limited by socioeconomic conditions, access to water, and fragmented information.
- Young people play a key role as advocates for preventive practices in their homes and neighborhoods.
- Solutions co-designed with the community are more legitimate, appropriate, and sustainable.

The approach

The project adopted a transdisciplinary and co-creation approach, integrating climate science, epidemiology, social sciences, and community knowledge. It focused on the climate–environment–health nexus, prioritizing the active participation of local communities, young people, authorities, and key sectors to design culturally relevant and sustainable strategies.

Impact and application

- Input for the design of early warning systems that combine climate data and community action.
- Input for strengthening local dengue prevention policies through a participatory and intersectoral approach.
- Practical recommendations for communication campaigns tailored to local contexts.
- A foundation for institutionalizing intersectoral working groups on dengue that coordinate health, environment, education, and public services.

Key lessons

- Preventing dengue requires going beyond vector control to address social and cultural determinants.
- Sustained community participation is essential for effective responses to climate change.
- Co-creation strengthens shared responsibility between the government and citizens.
- Integrating climate science with local action improves the foresight and effectiveness of public policies.

Key message

Integrating climate data with active community participation makes it possible to anticipate dengue outbreaks, strengthen social accountability, and design more effective, equitable, and sustainable preventive policies to address climate change in vulnerable urban settings.

Learn more about this research program and access more briefs at: http://bit.ly/4u2qxhY

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