



PERSPECTIVE ARTICLE

Risk Communication and Community Engagement in Health Emergencies: Lessons from Tonga's COVID-19 Response and Infodemic Management.

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ABSTRACT

The COVID-19 pandemic exposed critical weaknesses in risk communication and community engagement worldwide, particularly for small island developing states like Tonga, which face overlapping health emergencies, geographic isolation and escalating climate risks. In 2022, Tonga experienced an unprecedented sequence of crises – the Hunga Tonga–Hunga Ha'apai volcanic eruption, a subsequent tsunami, and its first COVID-19 outbreak – which strained its health system and highlighted the threat of rampant misinformation. In response, Tonga developed and implemented a pioneering multi-hazard risk communication and community engagement strategy that embeds infodemic management, social listening, and culturally responsive community partnerships into national emergency preparedness.

The aim of this article is to describe how Tonga's experience offers a valuable and adaptable model for other resource-limited countries to strengthen health risk communication systems and build resilient, trusted pathways for public engagement. Drawing on lessons from COVID-19 and other health campaigns such as the Human Papilloma Virus Vaccination rollout, the article outlines how Tonga's strategy leverages multi-sectoral collaboration, faith-based leadership, and community-driven communication to counter misinformation and increase public trust. This experience demonstrates the importance of integrating risk communication and community engagement into health security planning and highlights practical approaches for fostering community resilience in the face of complex and concurrent health and climate challenges. This Strategy goes beyond national preparedness; it represents a holistic and culturally rooted approach to risk communication. Through ongoing leadership and collaboration, it aims to empower Tonga and the wider Pacific to face future health challenges with strengthened unity, deepened trust, and lasting resilience.

Introduction

Tonga is a Polynesian island kingdom comprising approximately 170 islands, of which 36 are inhabited, with a population of just over 100,000 people and classified as an upper-middle-income country.¹⁻³ Tonga continues to face significant development challenges and in 2017 World Risk Report identified Tonga as the second most vulnerable country globally to natural disasters, a reflection of its frequent exposure to tropical cyclones, earthquakes, volcanic eruptions, tsunamis, and disease outbreaks.⁴

The country's health system is predominantly publicly funded, with services provided free of charge to all citizens. Centralized health services are delivered through one national referral hospital, supported by three district hospitals, 14 community health centres, and 34 nursing stations located across the outer islands.⁵ Tonga faces limited human resources capacity⁶ and health sector priorities include achieving universal health coverage through the transformation of primary healthcare; addressing the epidemic of noncommunicable diseases (NCDs), which account for approximately 85% of annual deaths,⁷ and strengthening health security to build resilience against the interlinked threats of natural disasters and emerging infectious diseases.

There is proven evidence that risk communication and community engagement (RCCE) form a key pillar in public health emergency response, helping ensure communities are informed, engaged, and able to take protective action.⁸⁻¹¹ Risk communication is therefore a critical component of public health preparedness and response efforts.¹²⁻¹³ Tonga's heightened vulnerability to overlapping health and environmental risks demands robust, coordinated approaches to public health communication and community engagement. Strengthening these systems is vital to ensure communities are well-informed, resilient, and able to respond effectively to crises. This article aims to describe how Tonga developed and implemented its multi-hazard RCCE strategy as a valuable model for other resource-limited countries to strengthen risk communication, community engagement, and infodemic management in contexts facing complex health and climate challenges.

A Crisis of Communication in an Age of Infodemics

Risk communication and community engagement are essential components of emergency preparedness and response. However, the COVID-19 pandemic exposed major gaps in Tonga's RCCE capacity. The rapid spread of misinformation, particularly through social media, severely affected the Ministry of Health's ability to deliver timely and accurate information to the public. This was most evident during the initial stages of the

COVID-19 vaccination rollout, where rumours and unverified claims overshadowed official messaging and undermined public confidence.

Several interrelated factors compounded this communication crisis. Human resource limitations meant that overstretched health workers had to juggle multiple responsibilities, leaving little capacity to manage misinformation effectively. Conflicting cultural and religious beliefs, combined with a lack of scientific explanations or culturally adapted health messages, fuelled public skepticism. Moreover, language barriers posed a challenge in translating complex medical terminology into accessible and accurate local-language content. Importantly, there was no established social listening or feedback system to detect misinformation in real time or engage stakeholders proactively in countering it. These challenges underscored the necessity for a coordinated, multisectoral approach to RCCE and infodemic management.

Co-Creating a Multi-Hazard Risk Communication and Community Engagement Strategy

Recognizing the urgent need for improvement, the Government of Tonga initiated the development of a comprehensive RCCE Strategy tailored to the country's unique risk landscape. The process began with a national stock take to identify critical gaps in communication capabilities and resource constraints that became apparent during the COVID-19 response. The Ministry of Health actively sought technical support from international partners, and Tonga participated in the 2023 regional RCCE workshop organized by the World Health Organization. One of the key recommendations from this workshop was for member states to develop national RCCE strategies.¹⁴

Tonga responded by launching a participatory process involving government agencies, civil society organizations, faith-based groups, and development partners. Stakeholder engagement was prioritized to ensure that roles, responsibilities, and available resources were clearly mapped and aligned. Importantly, the strategy embeds infodemic management as a core priority, recognizing that the effective handling of misinformation is not solely the domain of the Ministry of Health, but requires whole-of-society involvement.

Tonga's RCCE Strategy outlines a structured and coordinated national approach to risk communication, infodemic management, and public engagement across different phases of emergency management, before, during, and after public health threats. The document defines a multi-component framework that includes risk communication, community engagement, infodemic management, two-way communication

mechanisms, monitoring and evaluation, and coordination.

The resulting Multi-Hazard RCCE Strategy,¹⁵ finalized in March 2024 and endorsed by the Honourable Minister of Health, marked a significant milestone in national preparedness efforts. The timing of its launch coincided with Tonga's first Joint External Evaluation (JEE)¹⁶ under the International Health Regulations, where RCCE is a core technical area.

Building Trust, Systems, and Community Partnerships

The RCCE Strategy represents a paradigm shift in Tonga's approach to emergency communication. As the first Pacific Island nation to adopt a multi-hazard strategy integrating infodemic management, Tonga has taken a leadership role in transforming how information is disseminated and how community voices are integrated into emergency response. A central innovation in the strategy is the establishment of social listening mechanisms, both online and offline, to serve as early warning systems capable of identifying emerging rumours and misinformation before they escalate.

The strategy emphasizes the importance of listening to communities, understanding their concerns, doubts, and fears, and adapting messages to meet their information needs. This feedback-informed approach fosters trust and reinforces the legitimacy of health authorities. During implementation, the Ministry of Health leveraged existing platforms such as schools, churches, and workplaces to deliver accurate health messages. Faith leaders, recognized as influential community figures, played a crucial role in disseminating information and promoting health-seeking behaviour. Monitoring and evaluation were integrated into the strategy through knowledge, attitudes, and practices surveys conducted in partnership with development agencies to measure communication reach and effectiveness.

Infodemic Management in Action

The challenges of misinformation extended beyond COVID-19 to other health interventions, most notably the rollout of the human papillomavirus (HPV) vaccine. Introduced in November 2022, the HPV vaccine targeted girls aged 10 to 14. However, uptake remained low, hovering around 20 percent, largely due to misconceptions linking the vaccine to infertility and promiscuity.

Guided by the RCCE Strategy, the Ministry of Health implemented a national HPV campaign in late 2023. The campaign employed a comprehensive, multi-strategy approach involving high-level advocacy from the Royal Family, church leaders, and community influencers. It also featured a Vaccine Champion

Program in collaboration with the Murdoch Children's Research Institute in Australia, which trained respected community members to share vaccine information within their networks.

Focus group discussions were held to collect qualitative data on vaccine hesitancy, with preliminary findings indicating that a lack of trust in the Ministry of Health was among the top concerns. Complementary tactics such as house-to-house visits, community dialogues, and multimedia broadcasting were used to reach both urban and remote populations. The campaign achieved significant progress, with coverage increasing from 27 percent to 56 percent over a three-month period, underscoring the power of targeted communication and trusted messengers.

Toward a Culture of Preparedness and Participation

Tonga's experience illustrates how localized, community-driven strategies can address the complex intersection of health emergencies, climate threats, and misinformation. The Multi-Hazard RCCE Strategy not only provides a roadmap for prevention, preparedness, response, and recovery, but also fosters a culture of participatory governance in public health. Central to its success is the deliberate effort to break down silos within the health system and encourage multisectoral collaboration.

The strategy recognizes that effective risk communication extends beyond crisis periods. It must be an ongoing process that integrates public input, builds long-term trust, and empowers communities to act on reliable information. In Tonga, the convergence of cultural values, leadership structures, and technical innovation has created fertile ground for a sustainable, responsive RCCE system that can adapt to future shocks.

Conclusion

Tonga's Multi-Hazard RCCE Strategy represents a critical advancement in strengthening health emergency preparedness, enhancing public trust, and institutionalizing infodemic management. Rooted in cultural values and shaped by lessons from COVID-19, the Strategy delivers a structured, inclusive, and adaptable framework for risk communication and community engagement.

The Strategy aligns with the Tonga National Health Strategic Plan,¹⁷ supporting national goals of health system resilience, equity, and primary health care transformation. It operationalizes the Healthy Islands Vision¹⁸ by fostering people-centred communication, community empowerment, and culturally relevant engagement, key pillars for nurturing safe, informed, and resilient communities. Regionally, the Strategy

advances priorities under the 2050 Strategy for the Blue Pacific Continent,¹⁹ particularly around people-centred development and environmental resilience. By strengthening governance, social cohesion, and public participation, Tonga is contributing to a regional vision where Pacific peoples lead healthy and secure lives. In essence, this Strategy is not only a national preparedness tool but also a model of integrated, culturally grounded RCCE. With sustained leadership and partnership, it will support Tonga, and the wider Pacific, in responding to future health threats with unity, trust, and resilience.

Conflict of Interest:

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