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ADVANCING ACCESS & STRENGTHENING DENGUE RESPONSE:

LESSONS FROM TAMIL NADU & KARNATAKA

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EXECUTIVE SUMMARY

This report brings together insights from five convenings held in Tamil Nadu and Karnataka, aimed at advancing equitable healthcare access and strengthening India's response to **climate-sensitive infectious diseases**, with dengue as a focal point.

The discussions, convened under the EquiHealth Alliance, united government representatives, policymakers, healthcare practitioners, community voices, researchers, and funders to explore actionable pathways across three critical areas:
A) Prevention, Timely Management, and Behaviour Change;
B) Data and Surveillance; and
C) Financing; the report distils cross-sector perspectives into a forward-looking roadmap for national and sub-national action.

On **prevention and behaviour change**, stakeholders emphasised the importance of embedding health education within everyday spaces—schools, workplaces, and community networks—while leveraging frontline workers like ASHAs to lead hyperlocal awareness and care referral systems. Shifting public perception of dengue as a year-round risk, rather than a seasonal outbreak, emerged as essential to lasting behaviour change.

The **data and surveillance** track called for building an integrated, climate-sensitive surveillance architecture—one that decentralises data collection to local health committees while enabling real-time insights through AI-driven tools and citizen reporting platforms. Creating systems that capture nuanced, patient-level data while facilitating coordination between public and private providers was seen as key to early detection and targeted response.

Finally, the **financing** discussions stressed the urgency of moving beyond emergency-driven funding toward long-term, sustainable investment. Recommendations included leveraging blended finance, establishing benchmark costs for dengue treatment, and reducing out-of-pocket expenses through insurance and digital vouchers. Strategic use of dormant infrastructure and catalytic funding for innovation pilots were also identified as high-impact enablers.

Throughout, the report centres **lived experience**—of patients, caregivers, frontline health workers, and marginalised communities—as essential to designing accessible, inclusive, and resilient public health responses. The formation of the **EquiHealth Alliance** is a direct response to this need: a tactical platform bridging policy and practice, rooted in equity and systems change.

By bridging diverse perspectives, the report highlights actionable recommendations that align with broader national and regional health strategies, emphasising the importance of multi-sectoral collaboration, policy integration, and sustainable financing models. These insights aim to inform decision-makers, catalyse partnerships, and drive long-term investments in equitable and effective healthcare responses.

ABOUT THE REPORT

This report is grounded in the urgent need to address climate-sensitive infectious diseases, with **dengue** as a critical and timely lens. As rising temperatures, altered rainfall patterns, and unplanned urban expansion increase the vulnerability of populations to **vector-borne diseases**, there is growing recognition that health systems must adapt—not just clinically, but structurally and socially. This report reflects that understanding, focusing on the intersection of access, equity, and systemic resilience in public health.

The insights captured here are the outcome of five strategic convenings hosted across **Tamil Nadu and Karnataka** between December 2024 and April 2025. These convenings were intentionally designed as collaborative, cross-sectoral engagements, bringing together government representatives, policymakers, healthcare practitioners, community voices, researchers, and funders to co-create a roadmap for strengthening healthcare systems.

The process began on 10th December 2024 in Chennai with an introductory roundtable that served as a contextual mapping exercise. This open-format discussion helped surface varied perspectives on gaps in infectious disease response—particularly around fragmentation, data limitations, and under-recognition of frontline challenges. This convening directly led to the identification of a need for a multi-stakeholder coalition, and set in motion the formation of the EquiHealth Alliance. It also shaped the report's **three central thematic tracks**:

PREVENTION, TIMELY MANAGEMENT & BEHAVIOUR CHANGE

DATA & SURVEILLANCE

FINANCING

Building on this foundation, subsequent convenings deepened the exploration across these themes. On 28th February in Tamil Nadu and 7th March in Karnataka, the dialogues focused on the broader landscape of infectious diseases, mapping common barriers and opportunities across regions and actors. These engagements reinforced the need for structural shifts in **health financing, decentralised surveillance, and community-rooted preventive strategies.**

The final two convenings—26th March in Chennai and 2nd April in Bangalore—were more focused, concentrating specifically on dengue. These sessions brought together government representatives, policymakers, healthcare practitioners, community voices, researchers, and funders to share their domain expertise and discuss solutions that are data-driven, climate-aware, and designed for scale. The lived experiences shared in these forums further emphasised the importance of embedding equity and accessibility in every aspect of the response.

This report is structured thematically, rather than chronologically—reflecting the threads that emerged organically through dialogue. It integrates insights, recommendations, and frontline realities into a collective vision for strengthening dengue response and public health resilience more broadly. The result is not just a documentation of events, but a strategic synthesis—a working roadmap shaped by the very actors who will carry it forward.

ABOUT THE EQUIHEALTH ALLIANCE

The EquiHealth Alliance is a multi-stakeholder advisory platform committed to advancing equitable access to healthcare for infectious diseases, with an immediate focus on dengue. Born out of a contextual mapping convening in December 2024, the Alliance brings together experts from public health, epidemiology, community engagement, financing, and behavioural science to co-create evidence-based, scalable solutions. To address the critical needs in healthcare, EquiHealth Alliance was initiated as an eco-system building effort committed to bridging the gaps in public health responses.

With a focus on equitable healthcare access, data-driven decision-making, sustainable financing and sustained policy engagement, EquiHealth Alliance stands as a catalyst for change—ensuring that solutions are not just formulated but also effectively implemented at scale. Structured around three core workstreams—Prevention, Timely Management and Behaviour Change; Data and Surveillance; and Financing—the Alliance plays a catalytic role in shaping inclusive, climate-aware healthcare strategies. With Tamil Nadu and Karnataka as initial focus states, the Alliance aims to inform national policy, support implementation, and mobilise sustainable resources through cross-sector partnerships.

Its diverse membership includes government representatives, policymakers, healthcare practitioners, community voices, researchers, and funders. The members bring their diverse strengths to tackle multiple aspects of this challenge, from research and surveillance to funding and on-the-ground implementation. The Alliance is housed at AVPN, with ETI serving as technical partner, ensuring both independence and rigor in its approach.

KEY TERMS

Vector-Borne Diseases
Illnesses caused by pathogens transmitted through vectors such as mosquitoes.

Community Engagement
Strategies that involve local populations in designing and implementing health interventions.

Surveillance Systems
Data collection mechanisms to track disease incidence and inform public health responses.

Outcome-Based Financing
Financial models that link funding to measurable health outcomes.

Public-Private Partnerships (PPPs)
Collaborations between government entities and private sector organisations to enhance healthcare delivery.

ADDRESSING DENGUE: A CRITICAL PUBLIC HEALTH CHALLENGE

Dengue remains one of the most pressing public health challenges, with its incidence rising sharply over the years due to rapid urbanisation, climate change, and gaps in vector control measures. India alone witnesses thousands of cases annually, placing a heavy burden on healthcare systems and communities. Despite significant efforts, dengue prevention and management continue to be hindered by **fragmented responses, limited cross-sector collaboration, and inadequate community engagement**.

Dengue is rapidly emerging as one of the most significant public health threats in India, demanding urgent and coordinated action. India alone accounts for nearly one-third of the global dengue burden, out of an estimated **100–400 million infections** annually worldwide [1]. The trajectory is sharply escalating—from 28,066 cases in 2010 to 289,235 reported cases in 2023—marking a tenfold increase within just over a decade [2]. This alarming rise is compounded by the impact of climate change, which has intensified the breeding cycle and infectiousness of dengue vectors. Research shows that rising temperatures accelerate mosquito reproduction, reduce larval development time, and increase bite frequency, while also allowing the dengue virus to replicate faster within mosquitoes, thereby enhancing transmission rates. Further, the IPCC's Sixth Assessment Report warns of a geographic and altitudinal shift in the dengue burden, with changing rainfall patterns and rising temperatures facilitating the spread of the disease to newer regions, including higher altitudes previously unaffected [3].

Together, these dynamics underscore the need for a paradigm shift in India's dengue response—from reactive containment to **prevention-focused, community-rooted, and climate-resilient strategies.**

Recognising the urgency of this challenge, Tamil Nadu and Karnataka were selected as the starting points for this initiative based on both the scale of their dengue burden and the opportunity for impactful, state-level action. In Karnataka, **15,565 cases** of dengue fever were reported in Bengaluru alone in **2024**, with an additional **16,156 cases** across other districts—highlighting the particular vulnerability of urban populations [4]. Meanwhile, Tamil Nadu reported **26,740 cases** and **13 dengue-related deaths** as of December 26, 2024, marking the highest number of recorded cases since 2012, according to the Directorate of Public Health and Preventive Medicine [5].

These numbers are not only alarming in scale but signal deeper systemic challenges in disease surveillance, preventive infrastructure, sustainable funding, and public health communication—making both states critical learning grounds for shaping a scalable, multi-stakeholder response.

Both Tamil Nadu and Karnataka also offer enabling policy environments, strong public health institutions, and vibrant community networks. These strengths provide fertile ground for piloting integrated strategies across prevention, surveillance, and financing—strategies that can ultimately be replicated and adapted across other Indian states and regions facing similar risks.

We hope that the initiatives and roadmaps developed through these efforts will not only enhance dengue response in Tamil Nadu and Karnataka but also serve as scalable models for replication in other states and at the national level. By fostering collaboration across sectors and empowering communities with the right tools and knowledge, we aim to drive systemic change in how dengue and other public health threats are addressed across India.

FOCUS THEMATIC AREAS

1

PREVENTION, TIMELY MANAGEMENT & BEHAVIOUR CHANGE

2

DATA & SURVEILLANCE

3

FINANCING

PREVENTION, TIMELY MANAGEMENT, & BEHAVIOUR CHANGE

Prevention remains the most **cost-effective** and **scalable strategy** for controlling dengue outbreaks. Discussions under this track emphasised the urgent need to integrate **behaviour change strategies** into public health interventions, ensuring communities adopt preventative measures in a sustainable manner.

KEY INSIGHTS

Community Engagement

Empowering **ASHA workers** and **local community health leaders** to drive prevention efforts was widely acknowledged as a successful strategy. Lessons from **Gorakhpur** demonstrated that frontline health workers can serve as key influencers in promoting the use of mosquito nets, eliminating breeding sites, and facilitating early symptom recognition.

Early Detection & Timely Management

Many discussions underscored the importance of equipping primary healthcare facilities with **rapid diagnostic tools**. Timely diagnosis not only improves patient outcomes but also **prevents unnecessary hospitalisations**, reducing the burden on tertiary care centres.

Behaviour Change Communication (BCC)

Shifting community perception of dengue from a seasonal outbreak to a year-round threat is critical. Integrating **BCC strategies** into school curriculums, workplace policies, and local governance mechanisms was identified as an effective approach to drive sustained behavioural shifts.

Proper Source Identification

Shifting community perception of dengue from a seasonal outbreak to a year-round threat is critical. Integrating **BCC strategies** into school curriculums, workplace policies, and local governance mechanisms was identified as an effective approach to drive sustained behavioural shifts.

Need for Awareness

Public awareness campaigns should be strengthened to educate communities on dengue prevention, early symptoms, and available healthcare services. These initiatives should be **multilingual** and tailored to different **socio-economic groups**.

Involvement of Key Community Groups

Students, Resident Welfare Associations (RWAs), and Self-Help Groups (SHGs) should be actively involved in dengue prevention efforts. Schools and colleges can conduct **awareness drives**, RWAs can mobilise local action for vector control, and SHGs can support community-based surveillance.

Stricter Enforcement Practices

Effective dengue prevention requires a combination of enforcement and incentives. **Municipal authorities** should ensure strict compliance with vector control measures through **fines**, while also encouraging participation through **incentive programs** such as community competitions rewarding dengue-free localities.

Workplace & Institutional Responsibility

Employers, universities, and public institutions should integrate **dengue prevention protocols** within their facilities. This includes **regular inspections, provision of mosquito repellents,** and **active participation in awareness initiatives**.

Cross-Sectoral Collaboration

Effective dengue control demands **coordination between health departments, urban planning authorities, sanitation workers, and community organisation**. Strengthening **multi-sectoral partnerships** will ensure a holistic approach to prevention.

SUGGESTED ACTIONABLE OUTCOMES

INCENTIVISED ENGAGEMENT

Replace punitive enforcement strategies with positive motivators, such as school-level competitions and community challenges to foster awareness and compliance.

SOURCE REDUCTION & ECO-INNOVATIONS

Promote **ASHA**-led initiatives like **"Dry Day" campaigns** for eliminating stagnant water and support the adoption of community-friendly innovations such as the **self-degrading Eco Bio Trap** (presented in the Bangalore Convening) in collaboration with local authorities.

STRENGTHENING THE CARE CASCADE

Develop referral systems that ensure continuity of care after initial screening and diagnosis, particularly at the community and primary care levels. In this system, it is important to connect **local representatives, SHGs, RWAs** etc.

Ms. Mallika Bidappa Tharakan, speaking from her experience working with communities through **Karnataka Health Promotion Trust (KHPT)** added, *"We talk about saturating the number of screenings. But the real success of having an initiative that is community-driven and community-led is in closing the loop of care. If we start increasingly focusing on the multiple roles different stakeholders can play at the grassroots level in not just screening, but also referring to and having a system in place where functionaries at the grassroots continue to work with communities to close the loop of care - that shift in thinking is important to break the cycle".*

FAMILY-CENTRED COMMUNICATION MODELS

Shift from **individual-centric to family-based health messaging**, recognising the limitations of solely targeting women in households where they may not be the final health decision-makers.

INCLUSIVE LEADERSHIP IN CAMPAIGNS

Amplify the role of caregivers—particularly women like **ASHAs**—as visible leaders of prevention campaigns to build credibility and increase uptake.

COMMUNITY CO-OWNERSHIP OF AWARENESS

Embed local traditional knowledge in awareness efforts to prevent **top-down imposition of external narratives** and ensure cultural resonance.

PRACTICAL CLINICAL GUIDELINES

Provide **easy-to-navigate** pocketbook-style reference guides for clinicians, particularly those in PHCs, to improve risk assessment and case management.

EMBEDDING HEALTH IN LOCAL SOCIAL STRUCTURES

Utilise **self-help groups** and other **grassroots collectives** to build a culture of **routine health-seeking behaviour**, **making care accessible** and **stigma-free for marginalised groups**, including persons with disabilities and **LGBTQ+ communities**.

DATA & SURVEILLANCE

Effective surveillance mechanisms are foundational to **controlling dengue outbreaks** and ensuring timely responses. The discussions in this track centred on leveraging technology, strengthening data-sharing frameworks, and ensuring transparency in **disease monitoring**.

KEY INSIGHTS

Digital Health Innovations

The integration of **AI-driven surveillance tools** and **real-time data** tracking was highlighted as a game-changer. Pilots in select urban areas have demonstrated that predictive modelling based on climate conditions, vector breeding patterns, and reported cases can significantly enhance early warning systems.

Interdepartmental Coordination

The need for seamless coordination between **municipal bodies, public health agencies, and private sector players** was strongly emphasised. **Data standardisation** and interoperability between different surveillance platforms remain key priorities for future action.

Role of Local Governments

Decentralised data collection and reporting at the district level were noted as crucial for **effective dengue response planning**. Many experts advocated for strengthening municipal capacity to analyse and act upon localised disease trends.

Cost Transparency & Standardised Treatment

A key gap identified in data collection efforts is the **lack of standardised cost data** for dengue treatment across different healthcare facilities. Establishing a **uniform cost framework** can improve affordability and reduce disparities in care.

Public Reporting Mechanisms

Community engagement in disease surveillance can be enhanced through **mobile reporting applications** and **citizen-driven data collection**. Encouraging the public to report potential breeding sites and symptoms can help refine outbreak response strategies.

Triangulation of Data

Strengthening surveillance requires triangulating data from multiple sources, including **hospital admissions, laboratory reports,** and **community-reported cases**. This approach enhances accuracy and allows for better-targeted interventions.

Creation of a House Index

To improve household-level surveillance, a structured **'House Index'** can be developed to assess risk levels based on **environmental conditions, previous case history, and sanitation practices**. This can guide targeted vector control measures and community engagement efforts.

SUGGESTED ACTIONABLE OUTCOMES

ENHANCED DATA SPECIFICITY

Move beyond aggregate case numbers to incorporate patient-wise variables that allow for better **epidemiological insights** and case tracking.

REACTIVATE LOCAL COMMITTEES

Leverage existing mechanisms like **Village Health Sanitation Committees** and **Ward Health Committees** for decentralised data collection and monsoon-season inspections.

Dr. Hemant Shewade from **ICMR- National Institute of Epidemiology** talked about the need to have contextual, patient-based variables, along with systems-level understanding of surveillance to make meaningful changes. He opined, ***"Physicians are overburdened. Without health systems intervention, especially for surveillance mechanisms in place, there can be no meaningful use of numbers and data. Under the NHM, we have village health nutrition and sanitation committees, and ward committees on health. Only when these committees are empowered, can we make a sustainable change instead of creating parallel systems."***

INTEGRATED SURVEILLANCE ARCHITECTURE

Harmonise data systems [(Integrated Disease Surveillance Programme (IDSP), Integrated Health Information Platform (IHIP), National Center for Vector Borne Diseases Control (NCVBDC)] and build **district-level analytical capacity** to clean, verify, and triangulate surveillance data before escalation.

PRIVATE SECTOR NOTIFICATION MECHANISMS

Establish **user-friendly platforms** such as hotlines or WhatsApp-based notifications to engage private healthcare providers and encourage active reporting. Build in models like the **Rapid Response Team (RRT)** for follow-up around identified households, as suggested by the PATH team's work in Uttar Pradesh.

DISINCENTIVISING UNDERREPORTING

Promote **data transparency** by eliminating punitive attitudes among bureaucrats and enabling free access to accurate health data.

TASK SHIFTING FOR EMERGENCY DATA COLLECTION

Create a **trained pool of data collectors** from across disease programs. This learning was particularly influenced by India's serosurveillance success during **COVID-19**, which was achieved by utilising the TB surveyors.

FINANCING

Sustaining dengue prevention and management efforts requires innovative **financing models** that go beyond short-term, emergency-driven funding. This track focused on identifying avenues for **long-term investment** in public health infrastructure and disease control measures.

KEY INSIGHTS

Blended Finance Approaches

Leveraging public-private partnerships to mobilise resources for dengue response was identified as a critical strategy. The role of catalytic capital in scaling up effective interventions was particularly emphasised.

Insurance & Risk Pooling

Exploring **microinsurance schemes** and integrating **dengue coverage** into broader health insurance frameworks emerged as a potential pathway to improve financial resilience against the disease.

Sustainable Investments in Vector Control

Many discussions underscored the importance of shifting from reactive, outbreak-driven funding to **proactive, long-term investments** in vector control measures, such as improved **urban planning, wastewater management,** and **innovative mosquito control technologies**.

Reducing Out-of-Pocket Expenditure

Participants raised concerns about **high out-of-pocket costs** incurred by families, especially in private health facilities. Strengthening public provisioning, regulating pricing in private settings, and ensuring coverage for diagnostics and treatment in government schemes were suggested to mitigate this burden.

Need for a Standard Treatment Cost Framework

A significant gap highlighted was the **absence of a standardised cost structure for dengue treatment** across healthcare systems. Establishing such benchmarks would not only promote price transparency but also help define fair reimbursement rates under insurance and public health programs.

Maulik Chokshi from **Access Health International** remarked as he was summarising the discussion of the financing group, *"Let us get into a standard costing based on the standard treatment guidelines to determine what the cost of an episode of Dengue is. The morbidity pattern may vary from individual to individual, so let us create a risk adjustment formula which can help in mitigating these differentials. We need to design a package that is not only input-based, but also morbidity-based, as at the moment, it is only infrastructure-based input costing and not morbidity-based costing. This will require doctors, hospitals and patient advocacy groups to reach a standard costing outcome that could help in meeting the funding requirement; if we want to involve the private sector, this can become a financing instrument."*

Unequal Distribution of Public Health Financing

Stakeholders pointed out the mismatch between disease burden and public health investment across states. States with high dengue incidence often receive disproportionately low allocations. There is an **urgent need to align public financing with epidemiological data** to ensure equitable resource distribution.

Financing Health Workforce & Capacity Building

Long-term dengue control requires **sustained investments** in training and retaining healthcare workers, particularly at the community level. Dedicated funds for capacity building, incentives for field-level engagement, and upskilling in disease management were emphasised as critical enablers.

SUGGESTED ACTIONABLE OUTCOMES

TAILORED FUNDRAISING APPROACHES

Align intervention needs with appropriate funders—utilise government schemes for **large-scale programs** and explore flexible sources like family offices for non-restrictive initiatives, as these funders may not be curtailed by reporting timing and overheads like that of CSR funding.

INCENTIVISING COMMUNITY PARTICIPATION

Develop **training and fellowship programs** for community volunteers, offering small user fees to foster ownership and build a pipeline of future health leaders.

STANDARDISED TREATMENT COSTS

Define and disseminate **benchmark costs** for dengue treatment across public, private, and NGO-run healthcare systems to increase transparency and affordability.

DIGITAL VOUCHERS FOR IMMEDIATE SUPPORT

Implement **digital voucher systems** that reduce out-of-pocket expenditure while simultaneously incentivising private sector participation, which helped in the case of tuberculosis.

MAXIMISE USE OF DORMANT INFRASTRUCTURE

Repurpose underutilised assets, such as **COVID-era diagnostic machines**, for use in dengue testing and surveillance.

PILOT & SCALE INNOVATION

Leverage **catalytic philanthropy capital funding** for early-stage innovation pilots, with an aim for eventual government scale-up. Another example given was that of Pharma industry acting as a seed funder to generate evidence to be further fuel government schemes.

INCLUSION OF LIVED EXPERIENCES

The dengue response cannot be complete without centring the **lived realities** of those most affected by the disease—**patients, caregivers, frontline workers, and community leaders.** Integrating these voices not only enhances the relevance and acceptability of interventions but also sheds light on **systemic gaps** often overlooked in top-down policy design.

PATIENT VOICES

Patients and caregivers repeatedly emphasised the challenges of **accessing timely diagnosis** and **affordable treatment**. Stories from urban and peri-urban communities highlighted the **impact of delayed testing, misinformation, and reliance on informal health providers**. Several patients shared that dengue was **under-recognised** in the initial stages, leading to complications and higher treatment costs.

In many cases, families had to travel across districts to reach better-equipped hospitals, resulting in **lost wages** and **compounding financial stress**. Another common point of enquiry was the **absence of vaccine**, wherein multiple patients remarked that the availability of a vaccine would have eased their treatment journey.

Another subtle implication was that of the **underlying emotional and mental costs of the disease**. Some patients reported that addressing the **anxiety** attached to the disease itself was a part of their journey to recovery whereas others remarked that **prolonged exposure** to the disease has significantly affected their mental state.

GENDERED IMPACT

Women, especially mothers and female caregivers, bore a **disproportionate burden** during dengue outbreaks. They often acted as **primary caregivers** for affected family members while simultaneously managing household responsibilities and dealing with inadequate access to formal healthcare.

In rural settings, women reported being the last to seek treatment for themselves, often prioritising children and male family members. **Menstrual hygiene** during hospital stays and vector control activities around water storage (traditionally managed by women) were cited as overlooked aspects of dengue management.

Despite their critical role in prevention—**managing cleanliness, overseeing water use, and recognising early symptoms**—women in leadership roles were often absent from planning and feedback mechanisms.

The alliance has unanimously suggested that there is a **need for a gendered analysis of data** to see the difference in disease trends as well as responsibilities in prevention.

The transgender community, who is also represented in the alliance, stressed the importance of addressing stigma as the starting point for widening access to healthcare. The realities of vulnerable communities that do not encourage routine health-seeking behaviour was emphasised, suggesting the need for targeted prevention and awareness strategies for different marginalised communities.

FRONTLINE HEALTH WORKERS

Accredited Social Health Activists (ASHAs), **Auxiliary Nurse Midwives (ANMs)**, and **community volunteers** played a pivotal role in dengue prevention and surveillance. However, they expressed feeling overburdened, and under-compensated to handle vector-borne diseases. Many described the emotional toll of working particularly during outbreaks, and highlighted the challenge of convincing households to participate in source reduction activities. Despite these challenges, their deep-rooted community presence made them trusted agents of behaviour change. While recognising the incredible work done by ASHAs, the alliance also pointed out the need for task-shifting to include student and community volunteers.

YOUTH & COMMUNITY LEADERS AND CIVIL SOCIETY ORGANISATIONS (CSO)

Local youth volunteers were cited as powerful allies in community **clean-up drives and awareness campaigns**. The CSOs working at the grassroots expressed the need for structured platforms to contribute more meaningfully to public health efforts. Special focus was laid on understanding and incorporating traditional and culturally-sensitive information and methods in creating awareness campaigns, rather than imposing a one-size-fits-all solution. **Engaging with local influencers** emerged as a crucial factor in designing culturally responsive interventions.

PERSONS WITH DISABILITIES

The members of the alliance emphasised on the need to ensure inclusion at every step of the way. **The Information, Education, and Communication (IEC)** materials created will have to be in **Braille** and there needs to be the inclusion of **sign language interpreters** in these awareness campaigns. In addition, it is imperative to ensure accessible infrastructure, especially in cases like a **vaccination drive**, as illustrated through the experience with COVID-19.

Dr. Deepa, who has lived experience of disability and has done extensive work on extending access to people with disabilities strongly asserted the need to consider tools and mechanisms for disability inclusion as an integral part of any effort on healthcare access enhancement. She remarked, ***"As a practitioner, most of the hospitals I have seen - Primary Health Centres, Community Health Centres and even district hospitals - most of them are inaccessible. If we are considering universal accessibility, sign language interpretation is one important aspect, because otherwise people with hearing impairment cannot convey the message to the doctor; a braille facility and physically accessible infrastructure is another such example. Even if you have vaccination facilities, if it is on the second floor with no arrangements for people with motor disabilities, the access is effectively curtailed."***

TAKEAWAYS FOR SYSTEM DESIGN

Mr. Piyush Kothari, father of Harshil Kothari, a **10-year old boy who battled multiple organ failure following dengue** remarked that his first thought was to secure a vaccine, which upon enquiry, he understood was not available. Following up on the need to have health systems prepared for vaccines, he added, ***"I want the government to improve infrastructure in all the hospitals so that all the necessary facilities are available in-house. It is a disturbing process to keep shifting from place to place amidst such a difficult time."***

These lived experiences underscore the need to design dengue response mechanisms that are not only technically sound but also socially embedded. Incorporating patient feedback loops, gender audits of interventions, and frontline worker consultations in program design will enhance both uptake and outcomes. Building a **responsive system** means listening to those who live at the intersection of health, poverty, and vulnerability—and allowing their realities to shape how we prepare for and respond to public health crises.

RECOMMENDATIONS

PREVENTION, TIMELY MANAGEMENT, & BEHAVIOUR CHANGE

Institutionalise Behaviour Change Communication (BCC): Integrate BCC strategies across schools, workplaces, and community spaces to promote year-round dengue prevention.

Support Innovation and Research: Invest in scalable technologies, and locally adaptable solutions for vector control, behaviour change tools, and vaccine development.

Embed Inclusivity in Prevention Efforts: Ensure that prevention strategies are inclusive and accessible to all communities. This includes promoting inclusive leadership by amplifying the role of women, especially frontline workers like ASHAs; creating braille materials and sign language support to make IEC efforts accessible for persons with disabilities; and integrating the needs and voices of sexual and gender minorities, who often face stigma and limited healthcare access.

Document and Share Best Practices: Facilitate inter-state learning by disseminating successful case studies and community-driven models, especially those from Tamil Nadu and Karnataka, as knowledge sharing was identified as one of the key objectives for Equi Health Alliance.

DATA & SURVEILLANCE

Promote Multi-Stakeholder Coordination (cross-cutting but grounded in surveillance): Foster sustained partnerships between government departments, civil society, and private sector actors to ensure a coordinated dengue response.

Expand Community-Driven Surveillance: Leverage mobile apps and citizen-reporting mechanisms to enhance early warning systems and encourage public participation.

Strengthen Local Surveillance Systems: Empower municipal bodies with technology and analytical tools to collect, triangulate, and act on localised data. A call has also been made to integrate the varying data systems available to ensure that there is a centralised knowledge repository that combines data from multiple sources supported by verifiers.

FINANCING

Standardise Dengue Treatment Costs: Establish and publish benchmark costs for dengue care to ensure transparency and affordability, particularly in private healthcare settings.	**Prioritise High-Burden Areas:** Allocate resources and interventions strategically, focusing on districts and urban clusters with recurrent high incidence.
Enhance Financing Mechanisms: Adopt blended finance models, expand health insurance coverage for dengue, and ensure equitable public financing linked to incidence rates.	**Invest in Health Workforce Capacity:** Allocate dedicated funding for training and incentivising community health workers to sustain frontline engagement in dengue control.

CONCLUSION

The convenings in Tamil Nadu and Karnataka have served as critical learning grounds for developing a more effective, inclusive, and sustainable dengue response. They highlighted not only the urgency of addressing systemic gaps across financing, data, and behaviour change, but also the importance of community engagement and the lived realities of those most affected. These discussions underscored the value of coordinated, multi-stakeholder action—bringing together government bodies, health experts, private sector actors, and grassroots organisations—to co-create scalable and contextually relevant solutions.

The formation of the EquiHealth Alliance marks a pivotal step in this journey. As a tactical advocacy movement, the Alliance was created to stand in the gaps that often exist between policy and practice. It aims to bridge siloed efforts, amplify ground-level voices, and ensure that public health solutions are driven by principles of equity, resilience, and systemic transformation.

Looking ahead, we hope that the insights, partnerships, and momentum generated through these convenings will catalyse broader national engagement. Our aspiration is for the EquiHealth Alliance to evolve into a national-level tactical advisory body—informing policy, enabling innovation, and supporting state and central governments in building a robust, adaptive response to dengue and other public health challenges.

PARLIAMENTARIANS

WHY IS THIS ROLE IMPORTANT ?

The unprecedented surge in dengue epidemics across the globe in recent decades prompted WHO at the start of 2019 to include the virus in its list of the world's top 10 public health threats- India needs to focus on the same

EXPECTED RESULTS

Prioritise Dengue: learning from TB Harega Desh Jeetega and the Global Coalition Against TB with more than 50 MPs- prioritise dengue as a challenge for India.

Parliament-led discussions: Organise seminars and workshops between MPs, technical experts and communities

Monitoring and reporting: Essential that the respective MPA or MNA closely monitored the implementation of dengue prevention measures in their respective union councils, regularly visit the designated areas to assess the progress, identify any gap or issue and ensure that the required actions were promptly taken.

Commitment to solutions like vaccines: The Honourable PM has often reiterated commitment to vaccines for all (COVID 19). There is also prioritisation for vaccines to counter cervical cancer. The parliamentarians can play a crucial role to encourage last mile delivery through local governments and prioritisation of dengue response at the highest political decision-making levels.

Integrate with disaster management strategies: India's disaster management plans should include specific protocols for disease prevention, particularly in post-disaster situations where stagnant water and debris create ideal conditions for mosquito breeding. This protocol could include pre-disaster actions like mapping high-risk areas for potential mosquito breeding and stocking emergency supplies.

Establishing early warning systems: Another crucial component of mitigating risk is the implementation of early warning systems based on climate models. These systems could use rainfall patterns, temperature changes, and humidity levels to predict potential dengue outbreaks. Thus, they will be able to allow public health officials to take proactive measures, such as increasing public awareness or initiating mosquito control programmes, and guiding resource allocation. These systems are also useful for other climate-sensitive diseases [7].

WHY IS THIS ROLE IMPORTANT ?

Funding will help enhance research, advocacy and help to design and implement future interventions to reduce dengue's growing burden and impact on health.

DONORS

(Ministry of Health and Family Welfare, Ministry of Jal Shakti and research bodies like ICMR)

As climate change intensifies, it is reshaping the epidemiology of vector-borne diseases like dengue, necessitating a proactive adaptation in India's public health response.

EXPECTED RESULTS

PPP: Public-private partnerships can be effectively used to control the high incidence of dengue. Build and launch a pilot and government authorities collaborating with private businesses in the biocontrol sector to combat mosquito populations in rural and urban water bodies.

Clean Up Campaigns: Fund clean up campaigns in selected areas. Also fund mobile health centres could provide rapid diagnostic testing for dengue, distribute insecticide-treated bed nets and water container covers, and educate communities about disease prevention.

EXPECTED RESULTS

Funding for Dengue Control Solutions: Support the development and deployment of cutting-edge solutions across the entire dengue response spectrum. This includes vector-level innovations such as the use of Wolbachia bacteria to block virus transmission in mosquitoes; infrastructure improvements to reduce breeding grounds (e.g., stormwater drainage and solid waste management); and human-level interventions such as improved diagnostics, drugs, therapeutics, and broader health system strengthening, including workforce capacity and last-mile delivery models [8].

CIVIL SOCIETY ORGANISATIONS

WHY IS THIS ROLE IMPORTANT ?

Community engagement is critical to the success and sustainability of **dengue response**- prevention, treatment and control

EXPECTED RESULTS

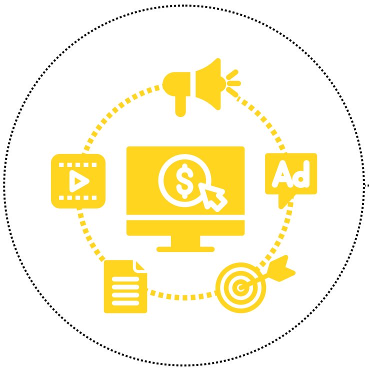
Frontline heroes: ASHA workers can lead community-based research initiatives, engaging local women and youth groups in data collection, environmental monitoring, and mapping mosquito breeding sites.

Technology integration: Telemedicine must be better integrated with local health systems in rural areas to support rural health workers and patients. ASHA workers can be tasked with using mobile health applications given the close connection with the community.

Research: ASHA workers can lead community-based research initiatives, engaging local women and youth groups in data collection, environmental monitoring, and mapping mosquito breeding sites.

Championing solutions: Learning from COVID help build a conducive environment for demand for new solutions including therapeutics and vaccines

Lived experiences: Build a cohort of champion voices of survivors from all spaces, including most marginalised and help the platform reach decision makers and general public



MEDIA

WHY IS THIS ROLE IMPORTANT ?

Sustained and informed reporting by the fourth pillar of India's democracy has enabled issues to be prioritised with public and decision makers alike. The dengue response story needs the same impetus.

EXPECTED RESULTS

	Climate change impact: Climate, specifically temperature, affects the vectors' ability to cause and sustain outbreaks, and how the infectiousness of dengue is influenced by climatic change. India is a hot bed for this and must be prioritised as an issue
	Storytelling: Bringing to forefront the stories of suffering, pain and helplessness must be presented to the nation and beyond
	Previous learnings: Media should become champions of change as was in the time of polio eradication and other instances- where communication based on science highlighted key issues

END NOTES

[1] https://www.nature.com/articles/s41598-025-85437-w

[2] https://www.orfonline.org/expert-speak/climate-change-and-the-rising-incidence-of-dengue-in-india

[3] https://www.nature.com/articles/s41598-025-85437-w

[4] https://sansad.in/getFile/loksabhaquestions/annex/183/AU831_Prehwr.pdf?source=pqals

[5] https://www.thehindu.com/sci-tech/health/in-tn-where-dengue-cases-hit-26000-this-year-tracking-every-case-forecasting-outbreaks-is-helping-prevent-deaths/article69034837.ece

[6] https://www.who.int/news-room/feature-stories/detail/who-scales-up-response-to-worldwide-surge-in-dengue

[7] https://www.orfonline.org/english/expert-speak/climate-change-and-the-rising-incidence-of-dengue-in-india

[8] https://www.orfonline.org/english/expert-speak/climate-change-and-the-rising-incidence-of-dengue-in-india

ANNEXURE
EQUIHEALTH ALLIANCE MEMBERS

TAMIL NADU

NAME	DESIGNATION	ORGANISATION
Dr P Sampath	Additional Director-cum-State Program Officer	Tamil Nadu Program, National Center for Vector Borne Diseases
Dr. Dalbir Singh	President	Global Coalition Against TB
Dr. Rajni Kant Srivastava	ICMR Chair - Disease Elimination	ICMR, New Delhi
Dr. Girija Vaidyanathan	IAS (Retd) & Former Chief Secretary	
Dr. Nalini Krishnan	Founder	REACH
Dr. Usha Sriram	Founder	DIWAS
Sudha S	Founder	Thozhi
Dr. Hemant Shewande	Scientist	ICMR - National Institute of Epidemiology
Mallika Biddappa-Tharakan	Core Team Member and Lead	KHPT
Achintya Srivatsa	Sr. Program Officer – Vector Borne Disease	PATH
Chirag Dutta	Lead-Public Affairs and Policy	Takeda
Vasanth Kumar	Senior MSL, Vaccines	Takeda
Sujatha Narasimhan	Lead - Resource Mobilisation	Catalyst Group
Jeyaganesh K	State Director	Swasti, Catalyst Group

NAME	DESIGNATION	ORGANISATION
Rajeswari Dhar	Vice President - Program and Impact	Sambhav Foundation
Dr. Ramasubramaniam	Infectious diseases specialist	Apollo Hospitals
Maulik Chokshi	Global Director, Health Systems Research and Policy	Access Health International
Dr Mohan Kumar	Senior Technical Officer	South Asia Field Epidemiology and Technology Network, Inc. (MSSRF)
Dr. Alex Eapen	Officer in Charge	ICMR-National Institute of Malaria Research (NIMR) - Chennai
Dr Ramya Ananthakrishnan	Director	REACH
Dr. Mohideen Abdul Kader	Formerly Chief Entomologist	
Dr. S Raghunanthanan	Professor of Medicine Madras Medical College (Retd)	
Dr. C Rajendiran	Infectious Diseases Specialist	Billroth Hospitals
Prachi Sharma	Senior Program Manager	Women Lift Health
Radhika Ramesh	COO	Villgro Foundation
Sharun A	Manager	Villgro Foundation
Dr. Vidya Krishna	Infectious diseases specialist	Apollo Hospitals
Dr Suma Shivakumar	Consultant	NTEP
Dr Chethana Thirthahalli	Technical Lead, Health	HCL Foundation

NAME	DESIGNATION	ORGANISATION
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Sejal Maheshwari	Manager, South Asia	AVPN

KARNATAKA

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Dr. Shrinivasa BM	Scientist C	ICMR-NIMR
Dr. Dalbir Singh	President	Global Coalition Against TB
Dr Lokesh Nagaraj	Health Officer, Mahadevapura Zone	Bruhat Bengaluru Mahanagara Palike (BBMP), Bengaluru
Vishwanath Reddy	Portfolio Manager - Strategic Partnership & Management	Ashraya Hastha Trust
Praveen B.	Senior Program Officer	Wipro Foundation
Gayana Lakshmipathy	Investment Associate	Yunus Social Business
Manohar Elavarthi	Founder	Sangama Trust
Rajesh Srinivas	Executive Director	Sangama Trust
Veena	Community Representative	Sangama Trust
Nitish Kumar	Team Lead - Data Science (Evidence for change)	Catalyst Management Services

NAME	DESIGNATION	ORGANISATION
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Dr. Tanmaye Rameneni	Programme Associate	Swasti
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Anshu Raina	Manager : Healthcare Vertical	Villgro Innovations Foundation
Dr Swaroop N	Lead for comprehensive primary healthcare	KHPT
Dr. Susanta Kumar Ghosh	Resource Person (External Support) [Advisor]	Government of Karnataka
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Choo Beng	Head of Medical Affairs	Takeda
Anjana Narain	Head, Takeda Vaccines	Takeda
Komal Gupta	Senior Manager	Sambhav Foundation

NAME	DESIGNATION	ORGANISATION
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Abhijeet Waghmare	Director	Piramal Swasthya
Dr Lokesh V	Head of Unit, Radiation Oncology	Kidwai Memorial Institute
Krithika Sambasivan	Lead, Disability Research	PACTA
Sukriti Chauhan	CEO	ETI Consulting Pvt Ltd
Stephy Stephen	Senior Research Analyst	ETI Consulting Pvt Ltd
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