

## Editorial

# The Current Dengue Crisis in Bangladesh — Causes, Challenges and Pathways to Prevention Dengue in Bangladesh: An Urgent Call for Strengthened Action

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The 2025 dengue season in Bangladesh has escalated into a severe public-health emergency. By October 2025, the country had recorded nearly 69,862 confirmed dengue cases and 278 deaths.<sup>1</sup> October alone accounted for 2,250 cases and 80 deaths — the deadliest month of the year.<sup>2</sup> This pattern highlights how dengue has shifted from a seasonal problem to an enduring national threat.

### Causes Behind the Escalating Crisis

Several interconnected factors explain the rapid rise in dengue cases:

#### a. Urbanization and poor city planning:

Unplanned urban growth, particularly in Dhaka, has contributed significantly to the crisis. Overflowing drainage systems, waterlogging, irregular water supply (leading to household water storage), and waste accumulation create ideal breeding grounds for *Aedes aegypti* mosquitoes.<sup>3</sup> Overcrowded neighbourhoods further intensify risk.<sup>4</sup>

#### b. Climate change:

Dengue, once a monsoon-centric disease, is now occurring almost year-round. Warmer temperatures, increased humidity, and erratic rainfall are enabling longer mosquito-breeding periods and extended transmission seasons.<sup>5</sup>

#### c. Weak vector-control management:

Traditional interventions such as fogging have proven insufficient in dense urban landscapes. Lack of integrated vector-management systems and inconsistent municipal actions have reduced the effectiveness of mosquito-control programmes.<sup>3,4</sup>

#### d. High population density and social vulnerability:

Poor housing, sanitation problems, and limited awareness in densely populated areas have increased the population's exposure to mosquitoes.<sup>4</sup>

#### e. Increased population mobility

Continuous movement of people between cities amplify the spread of the virus. Infected individuals can carry the virus to new areas, where local mosquito populations continue transmission.<sup>4</sup>

#### f. Circulation of multiple dengue serotypes:

WHO reports the presence of all four dengue serotypes in Bangladesh, with DENV-2 dominant

in recent years.<sup>6</sup> Circulation of multiple serotypes increases the risk of severe dengue.

### Control Efforts and Persistent Challenges

The government has formulated a National Dengue Prevention and Control Strategy (2024–2030), aiming to reduce dengue incidence and mortality nationwide.<sup>7</sup> Measures include establishing dedicated dengue wards at hospitals, ensuring adequate medical supplies, and expanding risk-communication campaigns.<sup>8</sup>

However, several obstacles remain:

- Bangladesh currently lacks a widely approved dengue vaccine. Authorities have opted against vaccination programmes, citing the absence of a vaccine suitable for all age groups.<sup>9</sup>
- Clinical management remains the primary tool for reducing mortality, with delayed healthcare-seeking behaviour contributing to preventable deaths.<sup>10</sup>
- Without stronger environmental and vector-control strategies, preventive efforts risk remaining reactive rather than sustained.

Experts warn that the outbreak may persist beyond the monsoon due to climatic and infrastructural conditions, marking dengue as a long-term endemic challenge.<sup>4</sup>

### Preventive Measures: The Way Forward

Given the absence of an approved vaccine rollout, prevention must rely on environmental, community, and systemic measures:

1. **Integrated Vector Management (IVM):** Sustained larval source reduction, waste removal, water management, and community-based control strategies.
2. **Insecticide Rotation and Monitoring:** Given the rise of resistance, insecticides should be rotated based on resistance profiles. Regular testing of vector susceptibility helps ensure that vector control operations remain effective.
3. **Urban infrastructure reform:** Improved drainage, waste disposal, and reliable water supply to eliminate stagnant water.
4. **Enhanced surveillance:** Accessible diagnostic testing and early case detection to prevent complications.

5. **Community awareness:** Promotion of personal protective measures, elimination of household breeding sites, and early medical consultation.
6. **Strengthened health systems:** Adequate hospital preparedness and decentralized care capacity.
7. **Long-term policy commitment:** Research investment, intersectoral collaboration, and effective urban governance.

## Conclusion

Bangladesh stands at a crucial turning point. The ongoing dengue crisis is the result of climate pressures, urban mismanagement, and gaps in public-health governance. Addressing dengue requires more than emergency responses — it demands long-term structural reforms, coordinated action, and a holistic environmental approach. Only through sustained, integrated efforts can Bangladesh prevent future outbreaks and protect public health.

## References

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