



No.F.1-22/Adv/CDC/2026

Center for Disease Control (CDC)

National Institute of Health, Islamabad

Ministry of National Health Services, Regulations & Coordination

Phone: (92-051) 9255237 Fax: (92-051) 9255099

National Focal Point for International Health Regulations

16th March 2026

Subject: **Advisory for the Prevention and Control of Dengue Fever (DF)**

Background:

Dengue remains a critical public health challenge in Pakistan, caused by the *Aedes aegypti* and *Aedes albopictus* mosquitoes. These vectors thrive in clean, stagnant water within urban and semi-urban environments. The co-circulation of multiple serotypes (DENV 1-4) in Pakistan increases the risk of severe disease and recurrent outbreaks. The disease transmission peaks during the monsoon and post-monsoon seasons, though sporadic cases occur year-round. Although rapid urbanization, poor waste management, and climate variability specifically increased humidity and rainfall are primary drivers of transmission.

According to surveillance data reported to the National Institute of Health (NIH), dengue fever burden increases every year with 21,016 cases recorded in 2023 while 24,182 cases in 2024 and 33,394 laboratory-confirmed cases in 2025 nationwide.

Purpose of Advisory

To mitigate the 2026 seasonal surge, all provincial and federal health departments are suggested to prioritize; Enhanced Surveillance through early detection and cluster identification, Case Management by adopting Standardized clinical protocols to keep fatality rates below 1%. And improving Vector Control via Integrated management and community mobilization.

Clinical Presentation

Dengue is caused by four virus serotypes (DENV-1, DENV-2, DENV-3, and DENV-4). Infection with one serotype provides lifelong immunity to that type, but infection with another serotype may increase the risk of severe disease. The incubation period is usually 4–7 days (range 3–14 days). Clinical presentation ranges from asymptomatic infection to classic dengue fever characterized by sudden high fever, headache, retro-orbital pain, body and joint aches, nausea, vomiting, and rash. Severe dengue may occur, particularly in previously infected individuals, but early diagnosis and proper management can reduce the case fatality rate to below 1%.

Warning signs requiring urgent medical attention include severe abdominal pain, persistent vomiting, bleeding manifestations, sudden drop in temperature, lethargy or irritability, altered mental status, and thrombocytopenia (platelet count $<100,000/\text{mm}^3$). Early features of shock include restlessness, cold clammy skin, rapid weak pulse, and narrowing pulse pressure. Patients exhibiting any of these signs should be referred immediately to a hospital for prompt evaluation and management.

Specimen Collection, Transportation and Laboratory confirmation:

Samples (3-5 ml venous blood) must be transported via cold chain with a complete history.

- **1–7 Days Post-Onset (DPO):** NS1 Antigen detection and Molecular detection (Real-time PCR).

- **After 5 Days:** Serological detection (IgM ELISA).
- **Secondary Infection:** Characterized by a rapid, dramatic rise in IgG titers during the acute phase.

Transport the sample to the provincial labs for dengue ELISA and PCR testing (if available) or send representative sample to the Virology Department of Public Health Laboratories Division at the National Institute of Health, Islamabad for serotype detection. All health and laboratory personnel should ensure strict adherence to the Standard Precautions for handling any suspected DF/DHF cases and samples.

Treatment/ Clinical Management:

There is no specific antiviral treatment available for dengue fever; management is supportive.

- **First-line Treatment:** Acetaminophen for fever/pain. **Avoid** Aspirin or NSAIDs.
- **Hydration:** Maintain high oral fluid intake to prevent dehydration.
- **Caution:** Corticosteroids have no benefit and may be harmful.
- **Transfusions:** Platelet transfusion is only for severe thrombocytopenia ($<10,000/\text{mm}^3$) with active bleeding; whole blood may be required for significant hemorrhage.
- **Monitoring:** Interpret Hematocrit (HCT) alongside vital signs; IV fluids will naturally decrease HCT levels.

Public Health Actions

a. Strengthening Disease Surveillance

Early detection of suspected cases, identification of clusters, and timely recognition of hotspots are essential to initiate prompt response measures and prevent further transmission. All healthcare facilities are directed to ensure strict adherence to standardized case definitions and immediate reporting through established surveillance channels.

Case Definitions:

- **Clinically compatible case of Dengue like illness:** Any person with acute febrile illness of > 2 days and <10 days with two or more manifestations from severe headache, myalgia/arthralgia, retro-bulbar pain, severe muscular pain, severe backache or joint pain, platelets $<150,000$ and hemorrhagic signs.
- **Suspected Case:** An acute febrile illness of 2 - 7 days duration with 2 or more of the following: Headache, retro-orbital pain, myalgia (muscle pain), arthralgia (joint pain) or hemorrhagic rash.
- **Probable Case:** A clinically compatible case of dengue-like illness, dengue, or severe dengue with other laboratory results indicative of probable infection.
- **Confirmed case:** Suspected/Probable case confirmed by lab tests.
- **Dengue Hemorrhagic Fever:** Defined as dengue with any one or more of warning signs i.e. severe abdominal pain or persistent vomiting, red spots or patches on the skin, bleeding from the nose or gums, vomiting blood, black tarry stools (feces or excrement), drowsiness or irritability, pale, cold or clammy skin, difficulty breathing and blood picture showing a total white blood cell count of $<50,000/\text{mm}^3$ and platelets of $<100,000$.

b. Vector Surveillance and Integrated Vector Management

Effective vector surveillance and control remain essential to prevent and reduce dengue transmission. All Provincial and District Authorities are advised to implement the following measures:

- **Source Reduction:** Weekly emptying and cleaning of domestic water storage, coolers, and tanks.

- **Hotspot Focus:** Intensive inspections in schools, hospitals, construction sites, tire shops, and junkyards.
- **Control Strategies:** Prioritize mechanical elimination of breeding sites. Use WHO-approved larvicides only where mechanical removal is unfeasible.
- **Emergency Response:** Fogging and Indoor Residual Spraying (IRS) should be limited to confirmed case perimeters and conducted only after entomological assessment.

c. Risk Communication & Community Engagement (RCCE)

- **Awareness:** Conduct health sessions and utilize print, electronic, and social media to sensitize the community. Disseminate brochures and pamphlets on mosquito control and danger signs.
- **Personal Protection:** Promote the use of long-sleeved clothes, repellents, window screens, and bed nets.
- **Improving community participation** and mobilization for mosquito control activities at community level.

d. Multi-Sectoral Coordination and Stakeholder Engagement

Prevention and control of Dengue Fever require a coordinated and collective effort across multiple sectors. While the health sector leads surveillance, case management, and technical guidance, sustained impact can only be achieved through active collaboration with allied departments and partners.

All relevant line departments are advised to ensure close coordination and joint implementation of preventive and response measures. Key stakeholders include Local Government Authorities, Public Health Institutes, Directorate of Malaria Control, Environment Protection Agency, Solid Waste Management Departments, Water and Sanitation Agencies (WASA), Education Department, Agriculture Department, Parks and Horticulture Authorities, Forest, Wildlife & Fisheries Departments, Communication and Works Department, Tourism Department, and other concerned entities.

e. Personal protection:

- Adopting personal protection measures like wearing long-sleeved clothes, use of mosquito repellent lotions/sprays, and use of mosquito repellent coils.
- Use of bed nets while sleeping outside in open environment.
- Use of mesh screens on windows.
- Home isolation of patients with mild illness
- Visit to hospital in case of development of danger signs

f. Hospital preparedness:

- All the designated hospitals need to prepare/spare special isolation ward/beds for dengue patients especially during the peak season to timely cater the patients and minimize the potential damage due to dengue.
- All designated hospitals need to ensure adequate supplies for dengue patient management.
- Use insecticide treated bed nets to prevent mosquito bite and transmission of dengue fever from patient to other persons.
- Vector surveillance and indoor residual spray or fogging in the premises of the hospitals
- Refresher training of all concerned healthcare can help in efficiently managing the dengue patients thereby reducing the workload and mortality.

g. Monitoring and Evaluation

Regular review of data, field performance, and intervention outcomes should be undertaken to identify gaps, guide corrective actions, and ensure timely improvement in dengue prevention and control efforts.

Reporting:

Prepare a line-list for all the suspected cases with information (demographic, clinical & risk factor), enter data in DHIS-2 and share with DDSRU, provincial DGHS Office and NIH. FETP fellows and alumni may be engaged for outbreak investigation and response measures. Findings of outbreak investigation may be shared with provincial DGHS and NIH. The Center for Disease Control (CDC), NIH may be contacted for technical assistance on Tel: 051-9255237 and Fax No. 051-9255575.



(Dr. Mumtaz Ali Khan)
Chief, CDC-NIH