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No: F.1-22/Advisory/CDC/2025 *September 2025*

Advisory for prevention and control of vaccine preventable diseases during floods

Background:

The catastrophic floods of 2025 may severely disrupt public health services and displaced millions of people, creating an elevated risk for outbreaks of vaccine-preventable diseases. The possible destruction of health infrastructure and the breakdown of routine immunization programs may leave a large portion of the population, particularly children, highly vulnerable to contract vaccine preventable diseases. In overcrowded temporary shelters, diseases such as measles, polio, diphtheria, and tetanus can spread rapidly, threatening the lives of the most susceptible individuals.

This humanitarian crisis and its impact on the nation's health system demand immediate and coordinated action to safeguard the population against these preventable threats.

Purpose

In light of the mass displacement and disruption of public health services caused by the 2025 floods, it is critical to prioritize the prevention of vaccine-preventable disease outbreaks. This advisory is intended to guide all provincial and federal health departments and hospitals to establish necessary arrangements for surveillance, case management, and immunization activities to effectively manage the situation and avert a major public health crisis.

Risk Factors:

The floods may exacerbate various factors contributing to the transmission of vaccine-preventable diseases. These include:

- **Disrupted Immunization Services:** Damage to health facilities and supply chains may halt routine immunization programs, leaving children unprotected.
- **Mass Displacement and Overcrowding:** The high density of populations in temporary shelters provides a conducive environment for the rapid transmission of airborne and contact-based diseases.
- **Compromised Cold Chain:** Power outages and logistical challenges have damaged the cold chain necessary for storing vaccines, rendering them ineffective.
- **Limited Access to Healthcare:** Displaced populations face significant barriers to accessing medical care, delaying diagnosis and treatment of suspected cases.

Clinical Presentation

- **Measles:** A highly contagious viral disease with symptoms including high fever, cough, runny nose, red eyes, and a characteristic rash. It can lead to severe complications, including pneumonia and encephalitis.
- **Polio:** A viral disease that can cause paralysis, often presenting with fever, fatigue, headache, and muscle pain before the onset of paralysis.
- **Diphtheria:** A bacterial infection that typically causes a sore throat, fever, and a thick coating on the nose, throat, or tongue, which can lead to breathing difficulties.
- **Tetanus:** Caused by a bacterium that enters the body through wounds. Symptoms include muscle spasms, particularly in the jaw and neck (lockjaw), which can interfere with breathing and be fatal.

Cont. on page-02

Early identification and proper clinical management of these diseases are vital for reducing morbidity and mortality.

Specimen Collection, Transportation and Laboratory Confirmation:

- Collect and transport specimens for suspected cases of all relevant vaccine-preventable diseases (e.g., throat swabs for diphtheria, stool samples for polio, and blood samples for measles serology).
- Label and pack properly in triple packing, maintaining a cold chain.
- Transport samples to provincial labs for testing or send representative samples to the National Institute of Health (NIH), Islamabad for confirmation.
- Ensure strict adherence to Standard Precautions for handling all suspected cases and samples.

Treatment/Clinical Management

Case management at the primary and secondary care levels is critical:

- **Measles:** Treatment is supportive, focusing on managing symptoms, providing nutritional support (especially Vitamin A), and treating complications like pneumonia.
- **Polio:** There is no cure for polio. Treatment focuses on supportive care, including physical therapy to manage symptoms and prevent deformities.
- **Diphtheria:** Requires immediate administration of diphtheria antitoxin and antibiotics.
- **Tetanus:** Treatment involves wound care, muscle relaxants, and a tetanus vaccine booster shot.
- Hospitals must have adequate supplies of all necessary medications and supplies for patient management, including antitoxins and antibiotics.

Public Health Actions:

a. **Strengthening of Disease Surveillance:**

- Strengthen disease surveillance for all relevant vaccine-preventable illnesses, including measles, polio, and diphtheria.
- Timely detection of new cases, clusters, and identification of hotspots is imperative for carrying out case response activities.
- Engage FETP fellows and alumni for outbreak investigation and response measures in flood-affected districts.

b. **Vaccination Campaigns:**

- Immediately launch and scale up emergency vaccination campaigns, especially for measles and polio, targeting children in relief camps and flood-affected areas.
- Prioritize reaching vulnerable populations that have been cut off from routine immunization services.
- Ensure the integrity of the cold chain and proper vaccine administration.

c. **Multi-stakeholder engagement:**

- Involve all relevant stakeholders including local government, public health institutes, the Expanded Programme on Immunization (EPI), and international partners/organizations. This is crucial for a coordinated and effective response in the post-flood environment.

d. **Personal protection:**

- Encourage the use of face masks for individuals with respiratory symptoms to prevent the spread of diseases like measles.
- Ensure all open wounds are properly cleaned and dressed to prevent tetanus.

Cont. on page-03

e. **Risk Communication & Community Engagement:**

- Arrange health awareness sessions to sensitize communities about the risks of vaccine-preventable diseases and the importance of vaccination.
- Disseminate brochures and pamphlets.
- Raise awareness through print, electronic, and social media, emphasizing the need for vaccination and timely reporting of symptoms.

f. **Hospital Preparedness:**

- All designated hospitals must prepare/spare special isolation wards/beds for vaccine-preventable disease patients.
- Ensure adequate supplies for the management of these illnesses, including Vitamin A for measles cases.
- Conduct regular hygiene and sanitation audits within the hospital premises.

g. **Monitoring & Evaluation:**

- Active monitoring of all surveillance and control activities must be carried out to determine the effectiveness of interventions.

Reporting:

- Prepare a line-list for all suspected cases of vaccine-preventable illnesses with comprehensive information.
- Enter data in DHIS-2 and share with DSRU at the provincial DGHS Office and NIH.

For any further assistance in this context, the center for Disease control (CDC), NIH (051 – 9255566 and Fax No. 051-9255099) may be contacted.

This advisory may please be widely distributed among all concerned and NIH may please bekept informed of the measures undertaken in respective areas of jurisdiction.