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Advisory for prevention and control of food & water borne diseases during floods

Background

The unprecedented floods of 2025 have created a perilous environment for public health, with a heightened risk of food and waterborne disease outbreaks. The extensive contamination of water sources and food supplies by floodwater poses a critical threat, potentially leading to a rapid surge in illnesses such as cholera, typhoid, and other diarrheal diseases. This widespread contamination, combined with the displacement of populations and the destruction of sanitation systems, sets the stage for a complex and significant health crisis.

The humanitarian crisis caused by the floods, with its widespread displacement and disruption of public health infrastructure, poses a heightened and complex risk for multiple disease outbreaks. The destruction of water and sanitation systems allows pathogens from sewage and other sources to contaminate floodwater, which can then be ingested by the affected population, leading to severe health consequences.

Purpose

Keeping in view the heightened risk of multiple food and waterborne diseases due to the 2025 floods, it is imperative to work on prevention while staying vigilant for the detection of cases and ensuring preparedness to launch response activities for curtailing the transmission of these diseases. This advisory is therefore, intended to alert all provincial and federal health departments and hospitals to make all necessary arrangements and measures for effectively managing the situation.

Risk Factors

The floods have exacerbated various factors contributing to the transmission of food and waterborne diseases. These include:

- **Contaminated Water:** Widespread flooding leads to the mixing of floodwater with sewage and other contaminants, compromising the safety of drinking water sources.
- **Disrupted Infrastructure**: Damaged water supply and sanitation systems leave communities without access to clean drinking water and proper waste disposal, leading to the rapid spread of pathogens.
- **Displacement and Overcrowding:** The high mobility and density of populations in temporary shelters increase the risk of disease transmission through poor sanitation and hygiene.
- **Contaminated Food:** Food items exposed to floodwater or prepared with contaminated water are unsafe for consumption, increasing the risk of food poisoning and other illnesses.

Clinical Presentation

- **Cholera:** Marked by severe watery diarrhea, vomiting, and rapid dehydration. It can be fatal if not treated promptly.
- **Typhoid Fever:** Symptoms typically include a high, sustained fever, headache, fatigue, and abdominal discomfort.
- **Acute Watery Diarrhea (AWD):** A common symptom of various infections, characterized by frequent, loose, or watery stools.
- **Hepatitis A and E:** Can cause fever, fatigue, loss of appetite, nausea, abdominal pain, dark urine, and jaundice.

Early identification and proper clinical management of all these diseases are critical to reducing morbidity and mortality.

Specimen Collection, Transportation and Laboratory Confirmation

Collect and transport specimens for suspected cases of all relevant diseases (e.g., stool samples for cholera, blood cultures for typhoid, and serological tests for hepatitis). 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. Time period for testing is critical. For cholera, stool samples should be taken upon symptom onset. For typhoid, blood cultures are most effective in the first week of illness. 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:

- **Cholera & AWD:** Treatment is primarily supportive through oral rehydration salts (ORS) to replace lost fluids. Severe cases may require intravenous fluids. Antibiotics can be used in some cases but are not the primary treatment.
- **Typhoid Fever:** Treatment protocols should follow national guidelines and involve appropriate antibiotics.
- **Hepatitis A and E:** Treatment is supportive, focusing on managing symptoms and ensuring adequate rest and hydration.

Hospitals must have adequate supplies of all necessary medications and rehydration fluids for patient management.

Public Health Actions

a. Strengthening of Disease Surveillance:

- Strengthen disease surveillance for all relevant food and waterborne illnesses, including cholera, typhoid, and diarrheal diseases.
- 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. Water, Sanitation, and Hygiene (WASH):

- Ensure the availability of safe drinking water by repairing and disinfecting damaged water supply systems.
- Promote boiling or chlorination of all water for consumption.
- Establish proper sanitation facilities in temporary shelters and flood-affected areas.
- Ensure proper disposal of solid waste and human excreta.

c. Multi-stakeholder engagement:

- Involve all relevant stakeholders including local government, public health institutes, WASA, Solid Waste Management, and international partners/organizations. This is crucial for a coordinated and effective response in the post-flood environment.

d. Personal protection:

- Advocate for strict personal hygiene practices, including frequent handwashing with soap and clean water.
- Educate communities on the risks of consuming food or water that has been in contact with floodwater.

e. Risk Communication & Community Engagement:

- Arrange health awareness sessions to sensitize communities about the prevention of various food and waterborne diseases.
- Ensure community awareness and education on safe food handling, proper storage, and hygienic consumption practices, with particular focus on displaced populations.
- Disseminate brochures and pamphlets.
- Raise awareness through print, electronic, and social media, emphasizing the need for comprehensive protection from contaminated food and water.

f. Hospital Preparedness:

- All designated hospitals must prepare/spare special isolation wards/beds for food and waterborne disease patients.
- Ensure adequate supplies for the management of these illnesses, including ORS and IV fluids.
- 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 food and waterborne illnesses with comprehensive information. Enter data in DHIS-2 and share with DSRU at the provincial DGHS Office and NIH.

The Center for Disease Control (CDC), NIH may be contacted for technical assistance on Tel: 051-9255237 and Fax No. 051-9255575.