OUTBREAK INVESTIGATION (Trigger and Response Mechanisms)

Level 1 (ANM/ MPW)

Serial no	Syndrome	Trigger event	Action taken
1	Acute watery stools	More than 5 cases in 1000 population	1. Treat with appropiate antibiotics. 2. Treat with ORS 3. Refer to PHC if dehydration is severe. 4. Inform MO PHC 5. Collect water samples and send to PHC for analysis. 6. OT testing 7. Check TCL stock (bleeching powder) 8. Train the local person about chlorination of water. 9. IEC for Community awareness about safe water and personal hygene.
2	A) Fever < 7 days duration		
	a) Only fever	5 cases in 1000 population.	1.Slides for MP with presumptive /RT for malaria 2. Inform MOPHC. 3. IEC for community awareness.
	b) With rash	Even single in the village	1. Collect slide for MP. 2. Refer the case to PHC 3. Inform MOPHC 4. Give vitamin A 5. Give paracetamol. 6. Check immunisation 7. Surveillance for Aedes Egypti Larvae in the house. a. Containers b. Coolers, etc
	c) Altered consciousness	Even single case in the village	1. Collect slide for MP. 2. Refer the case to CHC/DH 3. Antipyretics 4. Inform to PHC 5. Vector surveillance 6. IEC
	d) Fever with bleeding	Even single case in the village	1. Refer the case to CHC/DH 2. Inform to PHC 3. Vector surveillance 4. IEC

	e) Fever with convulsions B) Fever more than 7 days	Even single case in the village above 5 years of age group More than 2 cases in 1000 population	1. Refer the case to CHC/DH 2. Inform to PHC 3. Vector surveillance 4. IEC 1. Give paracetamol. 2. Collect slide for MP. 3. Give anti malarial treatment. 4. Inform to PHC. 5. OT testing of drinking water. 6. Collect water sample and send it to PHC for analysis. 7. Check TCL stock. 8. Train local person about water Chlorination. 9. Community awareness about safe water and Personal hygene.
3	Jaundice	More than 2 cases in 1000 population.	1. Refer to PHC 2. Inform MOPHC 3. Search for antenetal cases with jaundice in $2^{nd}/3^{rd}$ trimester. 4. Collect water samples for analysis and send it to PHC 5. OT testing.
4	Unusual event	More than 2 deaths or hospitalization	1. Inform MOPHC 2. Community awareness

Level 2 Medical Officer Level (PHC/CHC)

Serial no	Probable Diagonosis	Trigger event	Action taken
1	Acute watery diarrhoea/cholera	>5 cases in 1000 population for some geographical area	• Verify the information from ANM. • Confirmation of the outbreak. • Active search of cases with standard case definition. • Standard case management. • Stool sample collection for Cholera. • Ensure safe water supply. • Inform district authority and ask for help SOS. • IEC. • Documentation. • Ensure buffer stock.
2	Typhoid	More than 2 cases for some geographical area	• Verify the information from ANM • Confirmation of the outbreak • Active search of cases with standard core definition • Stool sample collection • Standard case management • Ensure safe water supply • Inform district authority and ask for help SOS • IEC • Documentation • Ensure buffer stock • ***Blood culture for S typhi.***

3	Viral hepatitis	2 cases or more of jaundice from one geographical area.	• Clinical verification. • Standard case management. • Active search of cases. • Ensure Safe Water supply. • Stool samples for virus isolation. • Serological investigation. • Active search for $2^{nd}/3^{rd}$ trimester cases with jaundice and keep them under observation with referral to district hospital SOS. • Investigation of water Treatment Plant/ pipeline Leakages.
4	Measles	Even a single suspected case	• Verify the case through clinical manifestation. • Send samples for laboratory testing. • Standard case management. • Active search of cases. • Ring vaccination. • IEC • Vitamin A.
5	Japanese Encephelitis	Even a single suspected case.	• Verify the information. • Clinical confirmation. • Standard case management. • Active search of cases with standard case definition. • Vector surveillance and control. • IEC • Vaccination as a preventive measure. • Subsequently inform to higher authority. • Isolation of virus. • Sero-diagnosis • Referral of serious cases to district hospital.
7	DF/DHF	Even a single case of suspected DF/DHF from a community of 1000 population.	• Verify the information. • Suspect if clustering of fever cases with M.P. negative slides are found. • Confirmation of outbreak. • Standard case management. • Active search of cases with standard case definition. • House-to-house vector surveillance for *A.. Egypti Larvae.* • Fogging/spraying if necessary. • Inform the DHO. • IEC • Empty the coolers, vessels and keep them dry for 24 hours at least once in a week. • Remove garbage.(containers etc.) • Laboratory confirmation.

8	Malaria	• Even single case is found malaria + ve in an area where malaria was not present for minimum three months. • SPR rise more than double over last three months. • Single death from malaria (clinical /microscopically). • Single PF case of indigenous origin.	• Mass survey for fever cases. • Microscopic examination within 24 hours • Start CRT to all fever cases/all contacts of + ve cases and all migratory population. (in case of single PF case of indigenous origin is found) • Focal spraying with synthetic pyrethyroid • Fogging daily X 3 days followed by biweekly for 3 weeks. • Larvicidal application • Elimination of mosquitogenic places by tempting of water tables, land filling, chanalizing the drains. • Activate DDC/FTD • Involve local bodies and community by IEC. • Daily surveillance for 3 to 4 weeks.
9	Unusual syndromes causing death or hospital admission	Hospitalization or death of minimum two cases of similar illness from same geographical area.	• Verification of the rumor. • Clinical verification of cases. • Basic Life Support and emergency medical care. • Refer to appropriate hospital if necessary. • Active search of cases. • Autopsy and preservation of body fluid and tissues of vital organs for laboratory diagnosis. • IEC to avoid panic. • Reporting to the higher authority.

Level 3 District Level/Medical College

Serial no	Confirmed Diagnosis	Trigger event	Action taken
1	Acute watery diarrhea/ cholera.	>5 cases in 1000 population from same geographical area.	1 District Nodal Officer Verifies the information from Medical Officer PHC/CHC 2 Confirmation of the outbreak with the help of data analysis 3 Analysis of laboratory sample if any. 4 Rapid Response team Visit to the site • Confirm the outbreak • Std. Case management • Active search of cases with standard case definition • Stool sample collection • Ensure availability of essential drugs and establish Depot center. • Ensure safe water supply. • Inform State authority and ask for help SOS. • IEC. • Documentation. • Feedback
2	Typhoid	More than 2 cases for some geographical area	1 District Nodal Officer Verifies the information from Medical Officer PHC/CHC 2 Confirmation of the outbreak by data analysis 3 Analysis of laboratory sample if any. 4 Rapid Response team Visit to the site. • Confirm the outbreak • Std. Case management • Active search of cases with standard case definition • Ensure safe water supply • Inform State authority and ask for help SOS • IEC • Documentation • Feedback

3	Viral hepatitis	2 cases or more of jaundice from one geographical area.	• District Nodal Officer Verifies the information from Medical Officer PHC/CHC • Confirmation of the outbreak by data analysis • Analysis of laboratory sample if any. • RRT investigation to confirm epidemic. • Standard Case Management. • Find out source of infection . • Active search of cases. • Ensure safe water supply. • Stool samples for virus isolation. • Serological investigation. • Active search for $2^{nd}/3^{rd}$ trimester cases with jaundice and keep them under observation with referral to Medical college hospital SOS. • Investigation of water Treatment Plant/ pipeline Leakages. • Inform State authority and ask for help SOS • IEC • Documentation • Feedback
4	Measles	Even a single suspected case	• District Nodal Officer Verifies the information from Medical Officer PHC/CHC • Confirmation of the outbreak by data analysis • Analysis of laboratory sample if any. • RRT investigation to confirm epidemic. • Ring immunization and effective containment. • Send samples to reference laboratory. • Standard management of complicated cases. • IEC • Vitamin A prophylaxis • Feedback

6	Japanese Encephalitis	Even a single suspected case.	• District Nodal Officer Verifies the information from Medical Officer PHC/CHC • Confirmation of the outbreak by data analysis • Analysis of laboratory sample if any. • RRT investigation to confirm epidemic. • Clinical confirmation. • Standard case management. • Active search of cases with standard case definition. • Vector surveillance and control. • IEC • Vaccination as a preventive measure. • Subsequently inform to higher authority and ask for help sos. • Laboratory specimen to reference laboratory for Virus Isolation. • Sero-diagnosis • IEC • Documentation • Feedback
7	DF/DHF	Even a single case of suspected DF/DHF from a community of 1000 population.	• District Nodal Officer Verifies the information from Medical Officer PHC/CHC • Confirmation of the outbreak by data analysis • Analysis of laboratory sample if any. • RRT investigation to confirm epidemic. • Standard management of complicated cases. • Active search of cases with standard case definition. • Intensified Vector surveillance house-to-house • Foggy/spraying if needed. • IEC • Empty the coolers, vessels and keep them dry for 24 hours at least once in a week. • Sero-diagnosis • IEC • Documentation • Feedback.

8	Malaria	• Even single case is found malaria + ve in an area where malaria was not present for minimum three months. • SPR rise more than double over last three months. • Single death from malaria (clinical/microscopically). • Single PF case of indigenous origin.	• District Nodal Officer Verifies the information from Medical Officer PHC/CHC • Confirmation of the outbreak by data analysis • Analysis of laboratory sample if any. • RRT investigation to confirm epidemic • Mass survey for fever cases. • Microscopic examination within 24 hours • Start CRT to all fever cases/all contacts of + ve cases and all migratory population. (in case of single PF case of indigenous origin is found) • Focal spraying with synthetic pyrethyroid • Fogging daily X 3 days followed by biweekly for 3 weeks. • Larvicidal application • Elimination of mosquitogenic places by tempting of water tables, land filling, chanalizing the drains. • Activate DDC/FTD • Involve local bodies and community by IEC. • Daily surveillance for 3 to 4 weeks.
9	Unusual syndromes causing death or hospital admission	Hospitalization or death of minimum two cases of similar illness for same geographical area.	• District Nodal Officer Verifies the information from Medical Officer PHC/CHC • Confirmation of the outbreak by data analysis • Analysis of laboratory sample if any. • RRT investigation to confirm epidemic • Basic Life Support and emergency medical care. • Refer to appropriate hospital. • Active search of case. • Autopsy and preservation of body fluid and tissues of vital organs for laboratory diagnosis. • IEC to avoid panic. • Reporting to the higher authority. • Documentation • Feedback.