



DECISION MAKING TOOL FOR PUBLIC HEALTH EMERGENCIES IN KENYA



Standardized Reporting and Response
Escalation Protocols

October 2025

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LIST OF ABBREVIATIONS

AAR	After Action Review
AFP	Acute Flaccid Paralysis
AJS	Acute Jaundice Syndrome
AWD	Acute Watery Diarrhoea
CCHF	Crimean Congo Hemorrhagic Fever
CDC	Centers for Disease Control and Prevention
CFR	Case Fatality Rate
CGP	Center for Global Health and Pandemic Intelligence
CHMT	County Health Management Team
CHP	Community Health Promoter
COHU	County One Health Unit
CTC/CTU	Cholera Treatment Centre/Unit
DG	Director General
DMT-PHE	Decision-Making Tool for Public Health Emergencies
EAR	Early Action Review
EBS	Event Based Surveillance
EOC	Emergency Operations Centre
ERF	Emergency Response Framework
ETC	Ebola Treatment Center
EVD	Ebola Virus Disease
HEV	Hepatitis E Virus
IAR	Intra Action Review
IDSR	Integrated Disease Surveillance and Response
IDU	Infectious Diseases Unit
IHR	International Health Regulations
IMS	Incident Management System
JEE	Joint External Evaluation
KNPHI	Kenya National Public Health Institute
KRCS	Kenya RedCross Society
MCDA	Ministries, Counties, Departments and Agencies
MCV	Measles-Containing Vaccine
MEAL	Monitoring, Evaluation, Accountability and Learning
MoH	Ministry of Health
MVD	Marburg Virus Disease
MSDS	Materials Safety Data Sheets

LIST OF ABBREVIATIONS

NAPHS	National Action Plan for Health Security
NDOC	National Disaster Operations Center
NDMU	National Disaster Management Unit
NEMA	National Environment Management Authority
NGAO	National Government Administration Officers
NHEROP	National Health Emergency Response Operations Plan
NPI	Non- Pharmaceutical Interventions
OCV	Oral Cholera Vaccine
PHECS	Public Health Emergency of Continental Security
PHEIC	Public Health Emergency of International Concern
PHEIUE	Public Health Events of Initially Unknown Etiology
RACI	Responsible- Accountable -Consulted-Informed
POE	Points of Entry
RCCE	Risk Communication and Community Engagement
RRT	Rapid Response Team
SARI	Severe Acute Respiratory Infection
SIA	Supplementary Immunization Activity
SITREP	Situation Report
SPAR	State Parties Self-Assessment Annual Reporting
SPOTREP	Spot Reporting
STAR	Strategic Toolkit for Assessing Risks
TDDAP2	Tackling Deadly Diseases in Africa 2
TWG	Technical Working Group
VDPV	Vaccine Derived Polio Virus
VL	Visceral Leishmaniasis
VHFs	Viral Haemorrhagic Fevers
WHO	World Health Organization
WPV	Wild Polio Virus

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Glossary of Terms

7-1-7: A global performance benchmark for outbreak response, requiring detection within 7 days of emergence, notification within 1 day, and response initiated within 7 days.

After-Action Review (AAR): A structured review conducted three months after a public health emergency to evaluate response performance, identify gaps, and recommend improvements.

Early Action Review (EAR): A rapid assessment conducted during or immediately (two weeks) after the early stages of a public health event to capture lessons for the ongoing response.

Event-Based Surveillance (EBS): Organized collection, monitoring, and interpretation of unstructured information (e.g., media, community reports) to detect potential acute health risks

Incident Management System (IMS): A standardized system for managing public health emergencies through defined structures, roles, and processes, often coordinated by the PHEOC.

Integrated Disease Surveillance and Response (IDSR): A strategy for strengthening national surveillance and response systems in Africa through standardized case definitions, reporting, and response protocols.

International Health Regulations (IHR 2005): A legally binding international agreement requiring countries to prevent, detect, assess, report, and respond to public health events of international concern.

Intra-Action Review (IAR): A structured review conducted during an ongoing (within 3 months) public health response to identify challenges and apply corrective measures in real time.

Joint External Evaluation (JEE): A voluntary, collaborative assessment of a country's IHR core capacities, conducted by national and international experts.

Joint Risk Assessment (JRA): A multisectoral process involving human, animal, and environmental health actors to identify and prioritize shared risks using the Tripartite JRA Tool.

Kenya National Public Health Institute (KNPHI): A semi-autonomous public health institution under the Ministry of Health, mandated to coordinate surveillance, preparedness, and response. It serves as host of the IMS and national lead for DMT-PHE implementation.

Public Health Emergency Operations Centre (PHEOC): A central hub in KNPHI for coordinating response to public health emergencies, often applying IMS principles.

Public Health Emergency of Continental Security (PHECS): A declaration by Africa CDC for a public health event that poses serious risk to multiple AU Member States and requires a coordinated continental response.

Public Health Emergency of International Concern (PHEIC): A formal declaration by WHO under IHR (2005) for an extraordinary event that may require a coordinated international response.

Public Health Events of Initially Unknown Etiology (PHEIUE): Events characterized by clusters of illness, deaths, or unusual syndromes with no immediately known cause

RACI Matrix: A responsibility assignment framework clarifying who is Responsible, Accountable, Consulted, and Informed for each step of the emergency response.

Rapid Response Team (RRT): A multidisciplinary group of experts deployed to investigate and respond to public health events at county or national levels.

Situation Report (SitRep): A standardized report produced during emergency response that provides updates on cases, interventions, resources, and gaps.

Spot Report (SpotRep): A rapid notification of a new or unusual event, submitted by frontline surveillance officers to higher levels within 0–24 hours.

Technical Working Group (TWG): A group of experts convened to guide the development and validation of the DMT-PHE tool, including national and county representatives and development partners.

FOREWORD

Public health emergencies continue to pose a significant threat to Kenya's health security, economic stability, and social well-being. The increasing frequency and complexity of outbreaks ranging from cholera, measles, Mpox, Chikungunya, and visceral leishmaniasis (Kala-azar) to climate-sensitive zoonotic threats such as Rift Valley fever and anthrax have underscored the urgent need for timely, coordinated, and evidence-based decision-making. These events not only strain health systems but also disrupt livelihoods, trade, and national development gains.

Building on lessons from past responses, including After-Action Reviews, Intra-Action Reviews, and evaluations of the Integrated Disease Surveillance and Response (IDSR) system, the Kenya National Public Health Institute (KNPHI), in collaboration with the Ministry of Health and partners, has spearheaded the development of the Decision-Making Tool for Public Health Emergencies (DMT-PHE). This tool provides a structured, transparent, and standardized process to guide outbreak detection, escalation, and response, thereby minimizing delays and ensuring accountability across all levels of government.

The DMT-PHE is firmly anchored in global and regional frameworks, drawing from the International Health Regulations (2005), the WHO Emergency Response Framework, and Africa CDC's Event-Based Surveillance approach, while adapting these to Kenya's devolved governance system. It operationalizes the 7-1-7 target for outbreak management detect within 7 days, notify and investigate within 1 day, and respond within 7 days ensuring that response actions are both measurable and time-bound.

This document provides practical guidance for counties, national agencies, and partners, with clear escalation triggers, decision pathways, and support mechanisms. More importantly, it embodies Kenya's commitment to advancing health security, safeguarding communities, and contributing to regional harmonization efforts under the One Health and global pandemic preparedness agenda.

The DMT-PHE is not only a milestone in strengthening Kenya's preparedness and response capacity but also a blueprint that can inspire adaptation and adoption across the region.



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The development of the Decision-Making Tool for Public Health Emergencies (DMT-PHE) is the result of a collaborative effort and a shared commitment to strengthening Kenya's public health emergency preparedness and response capacity.

The Kenya National Public Health Institute (KNPHI), in collaboration with the Ministry of Health, extends sincere appreciation to the technical working group that guided the conceptualization, drafting, and validation of this tool. Special recognition goes to the county health teams, national disease surveillance officers, emergency operations center staff, and representatives from line ministries whose practical insights and experiences greatly enriched the design of the tool.

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We also appreciate the invaluable contributions of our partners, including WHO-Kenya, Africa CDC, FAO, UNICEF, UNEP, IOM, Amref, Kenya Red Cross, Palladium, and other development partners who provided technical guidance and peer review during this process.

Our gratitude further goes to academic and research institutions, professional associations, and members of the One Health community who offered critical perspectives to ensure that the DMT-PHE is robust, contextually relevant, and aligned with global standards.

Finally, we recognize the dedication of the drafting and editorial team, whose tireless efforts ensured the production of this document. Their commitment reflects Kenya's collective resolve, strengthened by KNPHI's technical leadership and multi-stakeholder collaboration, to build a resilient health system capable of timely, coordinated, and evidence-based responses to public health emergencies.

This work was made possible with the financial and technical support of Palladium through the Tackling Deadly Diseases in Africa (TDDAP2) programme.

EXECUTIVE SUMMARY

Kenya continues to face recurrent public health emergencies that threaten lives, disrupt livelihoods, and strain health systems. Outbreaks of cholera, measles, Mpox, Chikungunya, visceral leishmaniasis, and climate-sensitive zoonoses such as Rift Valley fever and anthrax underscore the urgent need for a systematic approach to outbreak detection, escalation, and response. Evaluations including Early Action, After-Action, Intra-Action Reviews, and assessments of the Integrated Disease Surveillance and Response (IDSR) system consistently reveal gaps in timely decision-making, coordination, and accountability.

In response, the Kenya National Public Health Institute (KNPHI), in collaboration with the Ministry of Health and partners, has led the development of the Decision-Making Tool for Public Health Emergencies (DMT-PHE). This tool provides a structured, standardized, and transparent framework to guide decisions at both national and county levels. It builds on Kenya's IDSR framework, the International Health Regulations (IHR 2005), the WHO Emergency Response Framework, and the Africa CDC Event-Based Surveillance approach, while adapting them to the country's devolved governance system.

The DMT-PHE operationalizes the 7-1-7 performance target for outbreak management: detecting events within 7 days, initiating notification and investigation within 1 day, and mounting an effective response within 7 days. It establishes clear escalation triggers, decision pathways, support mechanisms, and response timelines to strengthen accountability and consistency across all levels of government and among stakeholders.

The tool is designed to:

- Strengthen early detection, rapid escalation, and timely response to priority public health threats.
- Provide counties, national agencies, and partners with practical guidance to streamline outbreak management.
- Enhance coordination between national and county levels, ensuring clarity on roles, responsibilities, and resource mobilization.
- Align Kenya's outbreak response capacity with regional and global health security frameworks, contributing to harmonization and peer learning.

By standardizing decision-making, the DMT-PHE represents a major milestone in advancing Kenya's preparedness and response capacities. Under KNPHI's leadership, the tool positions the country to act decisively during emergencies, safeguard health security, and serve as a model for adaptation and scale-up within the region.



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CHAPTER 1: BACKGROUND

Kenya continues to face an increasingly complex landscape of public health emergencies (PHEs) driven by recurring infectious disease outbreaks, climate variability, and transboundary health threats. Over the last decade, the country has recorded frequent outbreaks of cholera, measles, dengue, chikungunya, visceral leishmaniasis (Kala-azar), Rift Valley fever, anthrax, and more recently Mpox, each with significant implications for morbidity, mortality, and socio-economic stability [1–4]. These outbreaks underscore the urgency of establishing timely, evidence-based, and coordinated decision-making processes to protect health security and national development gains.

Surveillance and Response Gaps

Kenya has made notable progress in implementing the Integrated Disease Surveillance and Response (IDSR) strategy, introduced in 2000 to strengthen case detection, reporting, analysis, and response[5]. However, evaluations and independent reviews have consistently highlighted critical weaknesses, including:

- Inconsistent application of escalation criteria, resulting in delayed outbreak recognition and response[6].
- Fragmentation of responsibilities between national and county governments under devolution, creating variability in how public health events are managed [7].
- Limited integration of One Health threats such as zoonoses and climate-sensitive diseases into existing decision protocols[8].
- Weak linkages to international obligations under the International Health Regulations (IHR 2005), particularly in applying the Annex 2 decision instrument [9]

Joint External Evaluations (JEE) conducted in (2017, 2024) and subsequent State Party Annual Reports (SPAR) emphasized the need to strengthen decision-making processes, coordination, and accountability to improve Kenya's IHR core capacities [10,11]

Institutional Developments

In recognition of these challenges, the Government of Kenya has taken steps to reinforce its public health emergency architecture:

- Establishment of the Kenya National Public Health Institute (KNPHI) as a central technical entity for surveillance, preparedness, and response [12].
- Operationalization of the National Public Health Emergency Operations Centre (PHEOC) and county-level EOCs to enhance coordination during emergencies [13]
- Development of the National Health Emergency Operations Response Plan (NHEROP), which outlines command structures and resource mobilization pathways [14]

Despite these advances, the absence of a standardized decision-making tool has limited Kenya's ability to mount timely, coordinated, and predictable responses across levels of government. Outbreaks such as cholera (2015–2023) and Mpox (2022–2024) revealed delays in event detection, escalation, and mobilization of multisectoral support [2,4]. After-Action Reviews (AARs) and Intra-Action Reviews (IARs) repeatedly recommended developing clear decision triggers and escalation protocols as a priority intervention[6,15]

Surveillance and Response Gaps

Globally, the WHO Emergency Response Framework (ERF) provides guidance on response activation levels and escalation triggers [16], while the Africa CDC's Event-Based Surveillance (EBS) and epidemic intelligence frameworks emphasize community-level signal detection and verification [17]. Both stress the importance of structured, transparent decision-making to reduce delays and enhance accountability.

At the global level, the 7-1-7 target for outbreak management, detect within 7 days, notify and investigate within 1 day, and mount an effective response within 7 days — has become a benchmark for performance improvement [18]. Kenya has committed to aligning national outbreak management processes with this target as part of its contribution to global health security and pandemic preparedness.

Rationale for the DMT-PHE

The Decision-Making Tool for Public Health Emergencies (DMT-PHE) was developed to respond directly to these needs. It:

- Provides a standardized escalation and decision framework across county and national levels.
- Defines clear thresholds, triggers, and support mechanisms for outbreak detection, escalation, and response.
- Operationalizes the 7-1-7 target, ensuring measurable and time-bound performance.
- Aligns with Kenya's IDSR, IHR (2005), WHO ERF, and Africa CDC frameworks, while reflecting the devolved governance context.
- Strengthens accountability, coordination, and efficiency, thereby positioning Kenya as a regional leader in public health emergency decision-making.

By bridging existing gaps and institutionalizing best practices, the DMT-PHE represents a milestone in Kenya's journey toward resilient, evidence-driven, and harmonized outbreak management.

1. Objectives

The overall objective of the Decision-Making Tool for Public Health Emergencies (DMT-PHE) is to provide a standardized framework for escalation and decision-making in detecting and responding to public health emergencies in Kenya.

Specific Objectives

1. To establish clear escalation triggers for priority diseases and events, linked to IDSR/IHR thresholds.
2. To standardize response timelines in alignment with the global 7-1-7 framework (7 days for detection, 1 day for notification, 7 days for response).
3. To define support package that counties and national agencies can mobilize for timely response (technical, HR, financial, logistics, RCCE).
4. To strengthen coordination between county, national, and regional structures, including IMS, KNPHI, MoH, and partners.
5. To provide monitoring and exit criteria for timely de-escalation and accountability.
6. To align Kenya's decision-making processes with global and regional frameworks (WHO ERF, Africa CDC Event-Based Surveillance, Pandemic Fund PSRF).

2. Scope

The DMT-PHE is intended as a practical, nationally owned decision-support tool that applies across the spectrum of public health emergencies in Kenya.

- **Geographic coverage:** All 47 counties and national-level institutions, with potential adaptation for cross-border coordination.
- **Priority epidemic-prone diseases and events** as defined by IDSR (20 Events/Diseases including cholera, measles, meningitis, VHFs, RVF, anthrax, polio, Mpox, kala-azar, chikungunya, SARI, AJS, chemical/radiological events, and zoonotic spillovers) and PHEIUE
- **Public Health Emergencies of International Concern (PHEICs)** declared under IHR (2005).
- **Users:** County health management teams, national public health programs, the KNPHI, the Ministry of Health, the PHEOC, and relevant line ministries and partners.
- **All-hazard events** requiring rapid decision-making (infectious diseases, zoonoses, chemical/radiological hazards, climate-sensitive events).
- **Levels of response** including county, inter-county, national, and regional (cross-border) escalation.
- **Events covered:** Priority epidemic-prone diseases (e.g., cholera, measles, Mpox, chikungunya, Rift Valley fever, anthrax, kala-azar), public health events of international concern, and emerging or re-emerging health threats with potential for widespread impact.
- **Functions addressed:** Outbreak detection, assessment, escalation, notification, response activation, and coordination, with decision triggers and support mechanisms at each step.
- **Integration:** Complements and strengthens existing frameworks (IDSR Technical Guidelines, NHEROP, KPHEOC Handbook, county contingency plans), ensuring coherence with Kenya's devolved governance and compliance with IHR obligations.

3. Methodology

The development of the DMT-PHE followed a consultative and evidence-based approach:

A. Desk review of existing frameworks and Tools

1. Architecture & operations

- Architecture and Roadmap for Electronic Public Health Surveillance in Kenya (e IDSR Architecture, 2024). Core PHEOC functions, staffing and IMS linkage.
- Kenya Public Health Emergency Operations Center (KPHEOC) Handbook, 2021. Activation authority, IMS use, activation checklist, de/escalation.
- Kenya National Health Emergency Response Operations Plan (NHEROP), 2024 National framework for activation→maintenance→deactivation→recovery

2. Standards & performance

- WHO Emergency Response Framework (ERF), 2nd ed., 2017. Grading (G1–G3) & emergency architecture.
- Emergency Response Framework: Internal WHO Procedures, 2024. Practical procedures & performance standards across the emergency cycle.

3. IHR Core Capacity baselines & Risks

- Kenya e SPAR 2024. Achievements (C.7.2 IMS/PHEOC strong), challenges (financing, RCCE, lab referral, surge).
- Kenya JEE 2024. PHEOC/IMS strengths and gaps; surge rosters; activation history.
- Strategic Tool for Risk Assessment, 2023. Ranked hazards (e.g., EVD, cholera, chemical agents: very high, etc.).

4. Surveillance policy & Disease guidance

- IDSR Technical Guidelines for Kenya (3rd Edition). "Case definitions/outbreak definitions" & priority disease annexes.
- Cholera Management Guidelines (Kenya, revised). National clinical/operational guidance
- Disease specific Guidelines and Strategies.

5. Event reviews & plans

- Cholera AAR (Nov 2023). System lessons for timeliness & coordination.
- RVF AAR (2024). One Health coordination lessons.
- Mpox Preparedness & Response Plan (Aug 2024) and Mpox IAR (Jan 2025). National plan pillars and early lessons.

6. Foundational "7 1 7" Reports

- 7 1 7 baseline assessment (Kenya). Defines the 7 days detect, 1 day notify, 7 days early action framing for timeliness (SONAR supported)
Early Action Review of Cholera Outbreak in Migori County; Implementation of the 7-1-7 targets

Table 1: Synthesis matrix of guidelines, frameworks and Reviews

Source	What it covers	High value insights for DMT PHE	Gaps	Integrate into DMT (Triggers / Timelines / Support)
e IDSR Architecture (2024)	How PHEOCs operate & interface with IMS	Defines PHEOC functions; 24/7 call centre concept; situational analysis backbone	Less explicit on digital signal triage thresholds	Anchor signal → Triage → IMS workflow; route “alert” triggers into PHEOC watch/alert modes
KPHEOC Handbook (2021)	Activation authority, IMS, activation checklist	Clear who/when/how to activate; job action sheets; request for assistance flow	County variability in adoption	Map Level 2–3 escalations to formal PHEOC activation; embed activation checklist in tool
NHEROP (2024)	End to end activation→ deactivation	Defines deactivation & AAR expectations	New; sub national roll out ongoing	Add deactivation criteria & “AAR within 3 months” to DMT exit/logging
ERF 2017	Grading (G1–G3)	Simple, portable grading lexicon	Internal WHO lens; adapt to devolved Kenya	Use Grade like tiers to standardize escalation narrative
ERF Internal 2024	Internal procedures & standards	Reinforces all hazards cycle; performance standards	Not Kenya specific	Translate key standards into DMT SOPs (e.g., timeliness checks)
e SPAR 2024	Self assessed capacities	IMS/PHEOC strong; county cascade pending; gaps in financing, surge, lab referral	Self report; needs triangulation	Prioritize DMT support packages for counties (surge, lab referral, RCCE)
JEE Draft 2024	External view of capacities	18 IMS activations in 3 yrs; surge rosters; SOPs exist	Draft status	Validate DMT activation frequency norms; bake in surge roster prompts
STAR 2023	Ranked hazards for Kenya	Confirms priority hazards incl. cholera, chemical, EVD	Time bound to 2023 workshop	Drive prioritization of 20 trigger cards; seasonal risk calendar

Source	What it covers	High value insights for DMT PHE	Gaps	Integrate into DMT (Triggers / Timelines / Support)
IDSR Guidelines (Kenya)	Case & outbreak definitions	Legal/technical base for disease cards	Dense; needs extraction	Populate case/outbreak columns for each disease card
Cholera Guidelines (revised)	Clinical & operational	Kenya tailored operational levers	Disease specific	Use as the template card (already done)
Cholera AAR 2023	Lessons	Timeliness, coordination, supplies	Event specific	Inject 7 1 7 time checks & logistics stock indicators
RVF AAR 2024	Lessons	One Health linkage in escalation	Limited operational specifics	Add animal health triggers & joint RRT
Mpox Plan 2024 / IAR 2025	Preparedness pillars & early lessons	Clarifies surveillance, diagnostics & RCCE	IAR preliminary	Mirror mpox triggers and specimen network steps in tool

B. Stakeholders Mapping

The development of the DMT-PHE began with a comprehensive stakeholder mapping exercise to identify institutions, agencies, and actors with roles in outbreak detection, escalation, and response. This process assessed their influence, decision authority, and communication pathways, and informed the design of consultation and validation mechanisms.

Key stakeholder categories included:

- **National leadership and coordination:** The Ministry of Health provided policy direction, oversight, and integration with national systems, while the Kenya National Public Health Institute (KNPHI) acted as the technical lead and primary convener. The Public Health Surveillance Division and the Biomedical Testing and Analytical Services Directorate contributed core IDSR coordination and confirmatory testing functions.
- **County and sub-county governments:** County Departments of Health and Sub-County Health Teams, County departments of veterinary services, environmental services were mapped as critical frontline actors for outbreak detection, reporting, and response activation under Kenya's devolved governance.
- **Emergency and disaster management structures:** The National Public Health Emergency Operations Centre (PHEOC), Port Health Services, and the National Disaster Operations Centre (NDOC) were identified as essential for escalation, cross-border health security, and inter-agency coordination.
- **Technical and laboratory networks:** KEMRI and national reference laboratories were engaged for their roles in outbreak diagnostics and surveillance data, ensuring laboratory confirmation was integrated into decision pathways.
- **One Health stakeholders:** Veterinary services under the Ministry of Agriculture, Kenya Wildlife Service, FAO, and WOAHA were mapped as critical for zoonotic event detection, while NEMA was included for environmental hazards. This expanded the tool beyond human health, aligning with the One Health approach.
- **Operational response partners:** The Kenya Red Cross Society, Amref Health Africa, and private health sector providers were identified for their surge response and service delivery roles.
- **International and regional partners:** WHO, Africa CDC, FAO, IOM and CDC Kenya were recognized for their technical guidance, alignment with global frameworks (IHR 2005, WHO ERF, Africa CDC EBS), and support for evaluation. UNICEF was mapped for risk communication and community engagement triggers.
- **Donor and development partners:** Organizations such as Palladium, FCDO, and the World Bank were included for funding alignment, progress oversight, and sustainability considerations.
- **Academic and professional bodies:** Universities and professional associations were engaged to provide evidence, capacity-building, and advocacy for adoption of the tool.

Table 2: Stakeholder Mapping of influence, decision authority, and communication pathways

Stakeholder	Role in Project	Influence Level	Engagement Approach
Kenya National Public Health Institute (KNPHI)	Technical lead, tool adoption, EOC operations	High	Co-design sessions, validation workshops
Ministry of Health (MOH)	Policy direction, oversight, integration with national systems	High	Strategic briefings, formal MoUs, regular progress reports
National Disaster Operations Centre (NDOC)	National emergency coordination	Medium	Briefings, coordination drills
Pharmacy and Poisons Board	Medical countermeasures regulation	Low	Consultation on relevant triggers
KEMRI & Reference Labs	Outbreak diagnostics and data provision	High	Technical integration, data pathway design
County Departments of Health	Local response activation, surveillance reporting	High	County-level validation workshops
Sub-County Health Teams	Field-level outbreak detection & reporting	Medium	Scenario testing, feedback loops
National Public Health Laboratories	Confirmatory testing and surveillance data	High	Lab workflow integration
Kenya Red Cross Society	Emergency medical and humanitarian response	Medium	Scenario testing and field validation
Kenya Defense Forces Medical Corps	Military health response capacity	Medium	Consultative engagement
Ministry of Livestock (DVS)	Zoonotic disease detection & reporting	High	One Health engagement & tool integration
Kenya Wildlife Service	Wildlife disease detection	Medium	Targeted consultation
NEMA	Environmental hazard monitoring	Medium	Consultation
WHO Kenya	Technical guidance, alignment with IHR	High	Regular coordination meetings
IOM	Technical guidance on Port Health	High	Targeted technical meetings
Africa CDC	Regional technical alignment	High	Coordination briefings
US CDC Kenya	Technical support and evaluation	High	Targeted technical meetings
FAO	Animal health surveillance	Medium	One Health workshops
UNICEF	Risk communication & community engagement	Medium	Integration of RCCE triggers
Palladium	Donor oversight and funding alignment	High	Progress briefings
Universities (Public Health)	Academic input and training	Medium	Peer review and capacity building
Professional Associations	Sectoral advocacy and adoption	Low	Information sharing
Private Health Sector	Surveillance data sharing	Medium	Consultations

C. Technical consultations:

A series of structured consultations were conducted to ensure that the Decision-Making Tool for Public Health Emergencies (DMT-PHE) was grounded in evidence, aligned with national priorities, and informed by diverse stakeholder perspectives.

- **Workshops and Meetings:** Multiple technical workshops and bilateral meetings were convened in August to September 2025, bringing together representatives from the Kenya National Public Health Institute (KNPHI), the Ministry of Health (MoH), and county health departments. These sessions focused on reviewing existing outbreak response protocols, identifying operational bottlenecks, and validating escalation pathways.
- **National and County Representation:** County disease surveillance coordinators (including the veterinary and environmental surveillance) under County One Health Units, emergency operations centre (EOC) staff, and public health officers provided practical insights from frontline outbreak response. Their contributions helped ensure that the tool was adaptable to Kenya's devolved governance structure.
- **Partner Engagement:** Development and technical partners including the World Health Organization (WHO), Africa Centres for Disease Control and Prevention (Africa CDC), and CDC Kenya provided expert guidance to align the tool with international best practices, including the IHR (2005) Annex 2 decision instrument (adapted) Figure 1, the WHO Emergency Response Framework (ERF), and the Africa CDC Event-Based Surveillance (EBS) framework.
- **One Health and Multisectoral Input:** In recognition of the zoonotic and environmental drivers of outbreaks, inputs were sought from line ministries (livestock, environment, wildlife) and One Health networks. This enriched the tool with provisions for intersectoral triggers and responses.
- **Iterative Validation:** Draft versions of the tool were shared with stakeholders through consultative workshops, and feedback was systematically integrated. This iterative approach enhanced ownership, technical rigor, and usability across different levels of the health system.

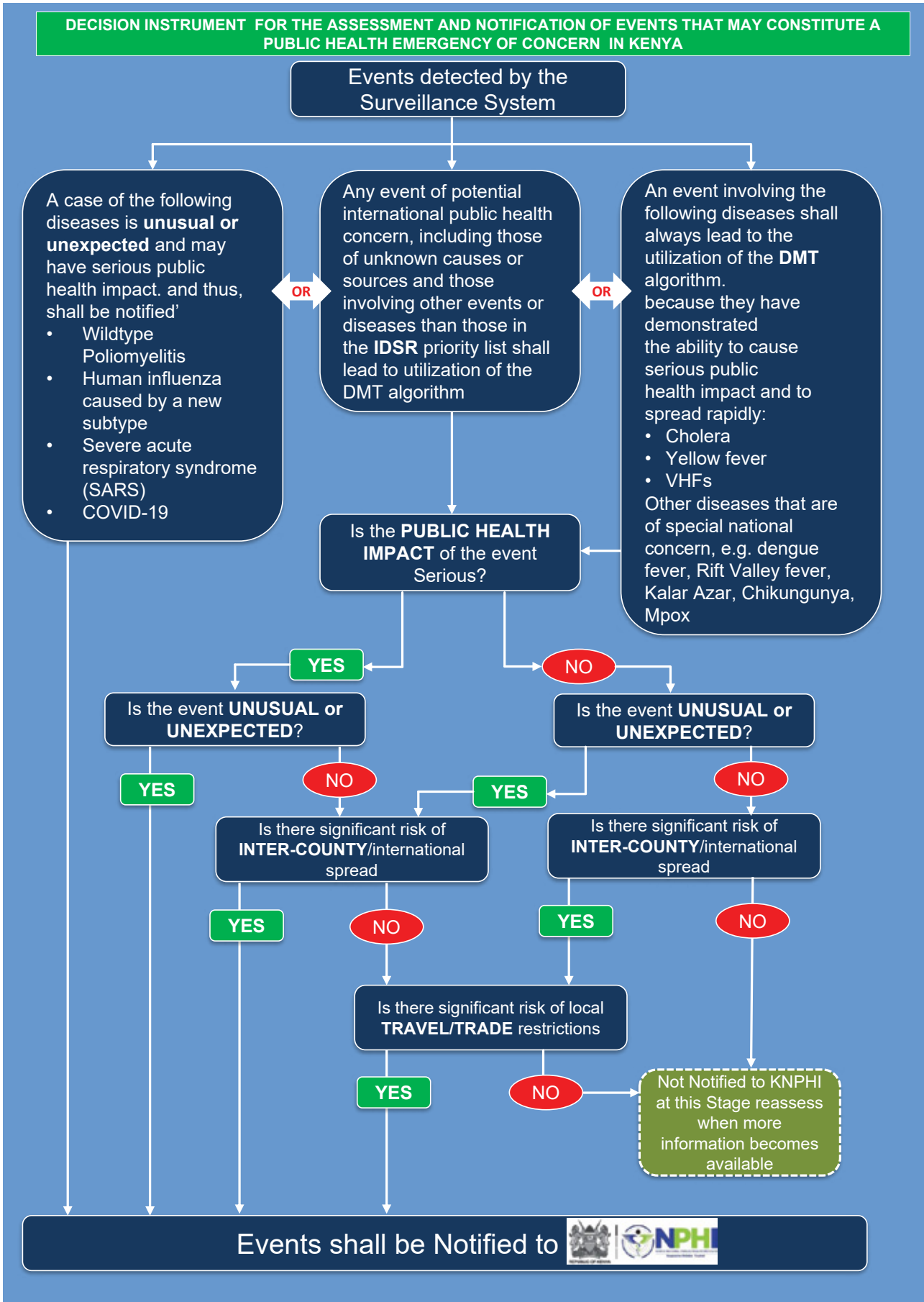


Figure 1: KNPHI Decision Making Tool adaptation of IHR Annex 2

4. Tool Structure

The Decision-Making Tool for Public Health Emergencies (DMT-PHE) is designed as a practical, user-friendly package that integrates surveillance, escalation, support, and accountability into a single framework. The structure comprises four interlinked components, each addressing a specific aspect of outbreak detection, escalation, and response.

▶ Trigger Cards

Trigger Cards are the operational entry point of the DMT-PHE. They provide frontline health workers, county teams, and national responders with concise, actionable information for each priority event. Each card includes:

- Case definitions and alert thresholds, enabling rapid recognition of suspected cases and unusual events.
- Escalation triggers that specify when an event must be reported or elevated from local to higher levels of authority.
- Required actions and timelines, ensuring alignment with the 7-1-7 target for outbreak management.
- Support packages that define what assistance can be requested once a trigger is met.
- Monitoring and exit criteria, guiding responders on when and how to scale down response.

The current DMT-PHE includes Trigger Cards for 15 priority diseases and events and PHEIUE, ranging from epidemic-prone diseases (cholera, measles, Mpox) to zoonoses (Rift Valley fever, anthrax, rabies), climate-sensitive hazards, and potential public health events of international concern (PHEICs).

▶ Escalation Framework

The Escalation Framework in Figure 2 provides the decision-making backbone of the tool. It defines a three-tiered escalation system:

- Level 1 (County): Outbreaks detected and managed at county level by the County Health Management Team (CHMT), with support from county surveillance officers and sub-county health teams.
- Level 2 (Inter-county/National): Events that cross county boundaries or exceed local capacity are escalated to the KNPHI Incident Management System (IMS), triggering national-level coordination and resource mobilization.
- Level 3 (National/Regional/International): Large-scale, severe, or cross-border events trigger full national mobilization and may involve intergovernmental coordination, activation of the National Public Health Emergency Operations Centre (PHEOC), and engagement with regional and international partners (WHO, Africa CDC, EAC, IGAD).

This structured framework ensures that escalation is predictable, authority-based, and linked to thresholds, preventing delays and confusion often observed in past outbreak responses.

ESCALATION STEPS FOR DECISION MAKING TOOL FOR PUBLIC HEALTH EMERGENCIES IN KENYA

ALERT NOTIFICATION

- Submit Spot Report (**SpotRep**) immediately once a threshold event is detected.
- Notify county level within **0–2 hrs** and **KNPHI** within **24 hrs**.
- Include: disease/event, location, suspected cases, deaths, unusual signs.
- **Output:** *SpotRep*
- **Reference:** *Kenya PHEOC Handbook (2021), NHEROP (2024), Section 3.2, IDSR Technical Guidelines (2023), Annex 7B*

JOINT COORDINATION MEETING

- Convene **within 48 hrs** (virtual or physical).
- Participants: County surveillance, KNPHI (IMS), labs, One Health actors.
- Objective: Share early data, review resources, plan immediate actions.
- **Output:** *Meeting Notes/Action Points that capture agreed immediate next steps.*
- **Reference:** *Kenya PHEOC Handbook (2021)- Annex 8*

JOINT RISK ASSESSMENT

- Use **DMT-PHE** Trigger Cards to confirm thresholds, assess case definitions, severity(CFR), geographic spread, animal origin, local support capacity.
- Use JRA to identify hazards, likelihood+ impact, risks pathways (One Health)
- **Output:** *Risk classification (local/inter-county/national), mitigation action plans*
- **Ref:** *Tripartite JRA Tool (2019), DMT PHE Trigger cards, PHEOC Handbook Annex 2*

SHARED RESPONSE PLAN

- Develop a **7-1-7** aligned plan:
- **24h:** Notify, acknowledge, collect specimens.
- **72h:** Deploy RRT, mobilize support packages.
- **7d:** Contain outbreak, reduce transmission.
- Assign clear roles & resources as per RACI.
- **Output:** *a Written Response Plan (aligned to 7-1-7, with roles/resources assigned)*
- **Reference:** *Kenya PHEOC Handbook (2021), Annex 2 – Action Plan Template, DMT PHE RACI Framework*

ESCALATE TO KNPHI

- If local capacity is overwhelmed, submit formal request to **PHEOC**
- National support may include: surge RRTs, labs, funds, logistics, RCCE.
- KNPHI validates escalation and mobilizes multisectoral support.
- **Output:** *Formal Escalation request from county to KNPHI*
- **Reference:** *NHEROP (2024), Section 3.2 – Alert Management + Escalation Procedures*



MONITOR AND REPORT

- Document all actions and resources used.
- Submit **daily SitReps** during active response.
- Conduct Early Action Review (**EAR**) within 2 weeks.
- Feed lessons into next cycle of preparedness and response.
- **Output:** *Daily SitRep, EAR report*
- **Reference:** *PHEOC Handbook (2021), Annex 21 & IDSR Technical Guidelines (2023), Annex 7C- SitRep Template, WHO Guidance for EAR (2022)*

Figure 2: Surveillance Officers job aid- Escalation flow for DMT-PHE

▶ Support Package

The Support Package ensures that escalation triggers are linked to predictable and timely resources. It provides a standardized set of technical, operational, and logistical support that can be activated depending on the level of escalation. Packages include:

- **Technical support:** deployment of subject matter experts, epidemiologists, laboratory scientists, and rapid response teams.
- **Human resources (HR):** surge staffing for surveillance, case management, risk communication, and coordination.
- **Financial and logistics support:** rapid disbursement mechanisms, procurement pathways, transport, and supply chain support.
- **Laboratory support:** confirmatory testing capacity, sample transport networks, and surge diagnostics.
- **Risk Communication and Community Engagement (RCCE):** tailored messages, social mobilization, and community engagement packages.

By standardizing this support, the DMT-PHE reduces uncertainty, speeds up mobilization, and ensures that both county and national actors know what support is available, when, and how it can be accessed.

▶ Monitoring & Accountability Framework

The Monitoring and Accountability Framework ensures that outbreak response is not only rapid but also measurable and accountable. It aligns with the 7-1-7 benchmark and tracks key performance indicators such as:

- **Timeliness of detection:** interval between onset and case detection.
- **Timeliness of notification and reporting:** speed of escalation from county to national level.
- **Timeliness of deployment:** how quickly response assets (RRTs, labs, supplies) are mobilized.
- **Case fatality rate (CFR) and other disease outcome measures.**
- **Surveillance sensitivity:** completeness and accuracy of reporting.

The framework also defines exit criteria, specifying conditions under which response activities can be scaled down, transitioned back to routine surveillance, and recovery actions initiated. This avoids premature disengagement and ensures smooth transition to resilience-building.

▶ Guiding Principles

The DMT-PHE is anchored in a set of guiding principles that reflect lessons learned from past outbreaks, Kenya's devolved governance system, and global health security frameworks. These principles ensure that outbreak detection, escalation, and response are timely, standardized, and inclusive.

Timeliness

- Outbreaks must be detected, reported, and acted upon quickly to minimize morbidity and mortality.
- The tool aligns directly with the 7-1-7 performance benchmark: detect within 7 days, notify and investigate within 1 day, and mount an effective response within 7 days.
- Lessons from the 2023 Cholera AAR in Kenya, 2025 Cholera EAR in Migori, the 2024 Mpox IAR, 2022 and 2024 RVF AAR and 2024 Anthrax outbreak reviews showed that delays in escalation and decision-making resulted in avoidable spread and fatalities. The DMT-PHE institutionalizes clear timelines to prevent recurrence.
- Monitoring will track timeliness indicators consistent with NHEROP's and STAR's requirements.

Standardization

- A uniform decision-making framework ensures that all 47 counties apply consistent escalation triggers and decision pathways.
- This reduces variability observed in previous outbreak responses, where some counties acted early while others delayed escalation.
- Standardization supports comparability, cross-county learning, and national-level situational awareness.

Equity

- The tool explicitly recognizes disparities in health system capacity between counties.
- Escalation triggers and support packages prioritize marginalized and high-risk populations, including those in arid/semi-arid regions, border zones, informal settlements, and refugee-hosting counties.
- This ensures that no county is left behind and that vulnerable populations are protected.

One Health

- Recognizing that over 65% of emerging infectious diseases are zoonotic, the tool integrates human, animal, and environmental health data and decision triggers.
- Veterinary services, wildlife health, and environmental agencies are embedded in the escalation framework to support early detection of zoonotic and climate-sensitive hazards such as RVF, anthrax, and rabies.
- This aligns with Kenya's One Health Strategy and regional frameworks under AU-IBAR and Africa CDC.

Multisectoral Collaboration

- Effective outbreak response requires coordinated action by government, development partners, civil society, and communities.
- The DMT-PHE promotes collaboration through Inter-Ministerial Committees, IMS structures, and Community-Based Surveillance networks, ensuring that decisions are not taken in isolation.
- Partners such as WHO, Africa CDC, FAO, WOAHA, UNICEF, and NGOs (e.g., Kenya Red Cross, Amref) are integrated into escalation and support mechanisms.

Accountability

- Clear roles and responsibilities are embedded using the RACI framework (Responsible, Accountable, Consulted, Informed).
- Decision-making authority is explicitly assigned at county, national, and intergovernmental levels through the Incident Management System (IMS) and KNPHI coordination.
- Regular monitoring against the 7-1-7 benchmark and documentation through AAR/IAR processes ensure transparency and continuous learning.

Adaptability

- The tool is designed to be dynamic and forward-looking, allowing for integration of:
 - New diseases (e.g., COVID-19, novel influenza, Marburg, Mpox).
 - Emerging hazards (e.g., climate-driven floods/droughts, antimicrobial resistance).
 - Evolving evidence and revised WHO/Africa CDC guidance.
- This ensures the DMT-PHE remains relevant and responsive in a changing risk landscape.

6. Operational Framework

i. Escalation Triggers & Thresholds

The DMT-PHE establishes a standardized escalation pathway based on disease-specific Trigger Cards that integrate case definitions, alert thresholds, and action thresholds. These are derived from Kenya's IDSR technical guidelines, the International Health Regulations (IHR 2005) Annex 2 decision instrument, and Early/Intra/After-Action Review findings from recent outbreaks. The purpose is to ensure that counties and KNPHI use consistent criteria to trigger alerts, mobilize support, and escalate events in a timely and predictable manner (Table 3, Figure 4)

Levels of Escalation:

Level 1 – County Response

- Outbreaks remain localized and manageable with available county resources.
- Response led by County Health Management Teams (CHMT) and supported by sub-county surveillance officers and health facilities. The County One Health Units are activated for Zoonoses
- Examples:
 - ≤ 4 suspected cholera cases within 7 days in a single ward, with no deaths.
 - 1–2 suspected measles cases without clustering.
 - Sporadic suspected Mpox or anthrax cases under investigation.

Level 2 – Inter-county/National Support

- Outbreak exceeds county capacity or spreads across sub-county boundaries.
- Escalation triggers national coordination through KNPHI and activation of the Incident Management System (IMS).
- Examples:
 - ≥ 1 confirmed measles case with evidence of clustering in schools or health facilities.
 - Meningitis attack rate ≥ 5 per 100,000 population within one week in a defined area.
 - Cholera cases reported across two or more sub-counties, with rising attack rates.

Level 3 – National/Regional Surge

- Outbreak poses high-level threat due to severity, cross-border implications, or high case fatality.
- Requires full activation of the National Public Health Emergency Operations Centre (PHEOC), inter-ministerial coordination, and potential regional/international notification.
- Examples:
 - Confirmed viral haemorrhagic fever (Ebola, Marburg, CCHF).
 - Cholera outbreak spreading across multiple counties with CFR $\geq 2\%$.
 - Rift Valley fever outbreak with concurrent animal epizootics and human spillover.
 - Mpox outbreak with sustained human-to-human transmission across counties.

Application of Triggers and Thresholds:

- **Trigger Cards:** Each of the 20 priority diseases/events/ PHEIUE has an explicit Trigger Card (Annex 1) defining thresholds, actions, and escalation pathways.
- **Baseline Thresholds:** For conditions such as cholera, typhoid, and severe acute respiratory infections (SARI) where no fixed numeric trigger exists, counties are required to calculate a five-year median threshold to guide outbreak declaration and escalation.
- **Validation:** The KNPHI IMS provide technical validation to ensure consistent application of thresholds across counties.
- **Integration with IHR:** Events meeting IHR Annex 2 criteria are immediately notified to WHO through KNPHI, ensuring compliance with international obligations.
- **Dynamic Triggers:** Thresholds are periodically reviewed and updated based on outbreak data, seasonal variations, and lessons from AARs/IARs.

Rationale and Lessons Learned

- **Cholera:** AARs (2022-2023) showed inconsistent application of thresholds, with some counties delaying outbreak declaration until case fatality rose above 2%. The Migori EAR (2025) met all the 7-1-7 metrics
- **Mpox:** The 2024 IAR revealed delays in escalation because sporadic cases were not linked to clear thresholds.
- **Rift Valley fever:** 2022 and 2024 AARs of previous outbreaks demonstrated the importance of integrating animal health data (livestock abortions, epizootics) into human health escalation pathways.
- **Marburg:** Regional experience (Uganda, Tanzania) highlighted the importance of rapid escalation upon first confirmed case.

Table 3: Multilevel RCCE specific Escalation Triggers

Disease / Event	County Level Triggers	Escalation to National IMS/EOC	National / Multisectoral Coordination	International Notification (IHR / Africa CDC)
Public Health Events of Initially Unknown Etiology (PHEIUE)	≥ 1 cluster of unexplained illness; rumours or panic locally	Spread to > 1 sub-county; misinformation escalating on social media	≥2 counties affected; strong community fear and uncertainty; demand for national spokespersons	Cross-border spread or international media panic (infodemics); IHR notification
Cholera	≥1 suspected case; cluster of AWD; IEC materials not contextualized; local rumours on chlorination	≥1 confirmed case; ≥2 epidemiologically linked cases; misinformation spreading across counties; low WASH (hygiene) uptake	Outbreak ≥2 counties; OCV hesitancy; national rumour amplification	Cross-border cases; trade/travel disruption; international misinformation
Mpox	≥1 suspected rash illness; stigma-driven underreporting; rumours locally	≥1 confirmed case; cluster >1 sub-county; stigma & misinformation on vaccines	Outbreak ≥2 counties; national media panic; resistance to contact tracing	Cross-border cases; trade/travel disruption; international misinformation
Marburg / VHFs	≥1 suspected haemorrhagic case; burial resistance; local myths	≥1 confirmed case; spread to multiple sub-counties; rumours on witchcraft/bioterrorism	Spread ≥2 counties; CFR > baseline; refusal of safe burials; multisectoral panic	Cross-border spread; WHO PHEIC and Africa CDC PHECS declaration; trade & travel restrictions
Anthrax	≥1 suspected human case; denial of zoonotic link; resistance to carcass disposal	≥1 confirmed case; clusters beyond one sub-county; misinformation on livestock vaccines	Multicounty outbreak; livelihoods at risk; national RCCE surge needed	Cross-border livestock trade affected; international notification required
Rift Valley fever (RVF)	≥1 suspected human or animal case; rumours on meat and milk safety	≥1 confirmed case; multiple sub-counties; farmers refusing vaccination	Multicounty outbreak: livestock trade bans resisted; multisectoral surge needed	Cross-border spread in livestock and humans; regional RCCE harmonization
Avian Influenza (HPAI)	≥1 suspected outbreak in poultry; farmers resisting culling	≥1 confirmed human case; spread beyond one county; misinformation on poultry and human vaccination	Multicounty poultry outbreak; national panic; need for harmonized media response	Cross-border poultry trade ban; WHO notification
COVID-19 / Influenza-like Illness	≥1 suspected cluster; resistance to mask use; vaccine rumours	≥1 confirmed case; spread to multiple sub-counties; vaccine hesitancy escalates	Outbreak ≥2 counties; conflicting media narratives; NPIs non-adherence	Cross-border spread, WHO PHEIC and Africa CDC PHECS alignment

Disease / Event	County Level Triggers	Escalation to National IMS/EOC	National / Multisectoral Coordination	International Notification (IHR / Africa CDC)
8. Yellow Fever	≥1 suspected haemorrhagic fever; IEC gaps; vaccine rumours	≥1 confirmed case; multiple sub-counties affected; rumours on vaccination	≥2 counties affected; vaccine resistance; misinformation on vector control	Cross-border cases; international vaccination requirements triggered
Polio (AFP/NDPV)	≥1 suspected AFP case; rumours on OPV safety locally	≥1 confirmed polio case; clusters in >1 sub-county; widespread vaccine hesitancy	≥2 counties with cases; resistance to SIAs; national coordination needed	Cross-border spread; WHO notification under IHR
Measles / Rubella	≥1 suspected case; rumours on MMR vaccine safety	≥1 confirmed case; spread in multiple sub-counties; RCCE overwhelmed	≥2 counties affected; large vaccine refusal clusters	Cross-border spread; WHO/Africa CDC notified
Foodborne Outbreaks	≥2 suspected cases linked to same food; resistance to closure of food premises	≥1 confirmed outbreak; cross-sub-county spread; misinformation on food safety	≥2 counties affected; national media panic on food safety	Cross-border trade impact; WHO notification if international products involved
Meningitis	≥1 suspected case; local myths about cause	≥1 confirmed case; cluster in >1 sub-county; rumours about vaccines	≥2 counties affected; vaccine hesitancy; multisectoral panic	Cross-border spread; international notification
Arboviruses - Chikungunya / Dengue /	≥1 suspected case; rumours about mosquito spraying	≥1 confirmed case; outbreak >1 sub-county; RCCE overwhelmed	≥2 counties; resistance to vector control campaigns	Cross-border spread; WHO/Africa CDC notification
Zoonotic Bacterial Outbreaks/ Brucellosis	≥1 suspected case; denial of zoonotic link	≥1 confirmed case; multiple sub-counties affected; misinformation on livestock vaccines	≥2 counties affected; national media panic; resistance to animal vaccination	Cross-border spread in livestock trade; regional coordination

Source: Kenya IDSR Technical Guidelines (3rd Ed., 2022), Cholera Management Guidelines (2023) + DMT-PHE methodology; Aligned to 7-1-7 targets.

ii. Response Timelines (7-1-7 Integration)

The DMT-PHE operationalizes the 7-1-7 global performance benchmark as a national standard for outbreak management. By aligning Kenya's outbreak response timelines with the 7-1-7 global benchmark, the DMT-PHE ensures that escalation is both time-bound and evidence-driven, enabling faster containment, reduced transmission, and lives saved. This benchmark ensures that every suspected outbreak is acted upon within defined and measurable timelines:

- 7 days → Detect and report suspected outbreak signals from the community, facility, or laboratory.
- 1 day → Notify, acknowledge, and initiate action at the national level.
- 7 days → Deploy support packages and achieve initial containment of the outbreak.

These timelines address gaps identified in multiple After-Action Reviews (AARs) and Intra-Action Reviews (IARs), where delayed escalation led to increased case fatality rates and prolonged outbreak duration (e.g., cholera, Mpox, and Rift Valley fever).

Standard Timelines and Key Actions

Within 0–2 hours (high consequence pathogens)

- Threshold event detected and verified at county level.
- SpotRep submitted to county surveillance/EOC.
- Immediate notification sent to neighboring county focal points.
- County RRTs and logistics placed on standby.
- Initial risk communication shared with local health facilities and CHPs

Within 24 hours (Day 0–1)

- County notifies KNPHI IMS upon meeting threshold criteria.
- National IMS acknowledges receipt and triggers internal coordination.
- Rapid Response Teams (RRTs) are alerted or mobilized.
- Sample referral initiated to national reference laboratories.
- Risk communication alerts disseminated through county and national channels.

Within 72 hours (Day 1–3)

- Support package activated and deployed: technical staff, logistics, and initial funding released.
- Enhanced surveillance instituted, with daily situation reports (SITREPs) submitted.
- Laboratory confirmation prioritized with expedited specimen transport and testing.
- Engagement of One Health stakeholders if zoonotic or environmental signals are involved (e.g., livestock surveillance for RVF).

Within 7 days (Day 3–7)

- Containment measures operationalized, including:
 - Case management facilities (Cholera Treatment Centres/Units).
 - Vaccination campaigns or prophylaxis where applicable (e.g., Measles, cholera OCV, RVF).
 - Vector control or WASH interventions for vector- and waterborne diseases.
- Case fatality ratio (CFR) maintained within acceptable thresholds as per WHO/IDSR standards.
- Inter-county and regional coordination activated if outbreak extends beyond one jurisdiction.
- Initial epidemiological analysis completed to guide further response.

Monitoring Indicators

To ensure accountability, the following indicators are tracked:

- Proportion of outbreaks detected and reported within 7 days of first case onset.
- Proportion of suspected outbreaks acknowledged at national level within 24 hours.
- Proportion of responses where initial containment was achieved within 7 days.
- Secondary measures: time to laboratory confirmation, timeliness of SITREPs, and CFR trends.

Rationale and Lessons Learned

- Cholera AARs (2023) showed that late deployment of RRTs and delays in setting up CTCs contributed to CFRs >2% in some counties.
- Mpox IAR (2024) highlighted gaps in the “1-day notification” benchmark, with some counties taking up to 5 days to notify KNPPI.
- Rift Valley fever outbreaks (2022 and 2024 AAR) demonstrated the need for joint human-animal health timelines, as delays in animal surveillance reporting slowed human response.

iii. Support Packages

The DMT-PHE introduces standardized support packages to ensure that escalation triggers translate into timely and predictable mobilization of assistance. These packages are structured across five domains, addressing technical, operational, and community needs. By linking support directly to escalation triggers in the Trigger Cards, the tool reduces delays, uncertainty, and ad hoc decision-making that have hampered past outbreak responses. The Support Package framework ensures that counties know what support to expect, when, and from whom, and that resources are delivered consistently and predictably across all outbreak levels.

1. Technical Support

- Deployment of Rapid Response Teams (RRTs) including field epidemiologists, clinicians, infection prevention and control (IPC) specialists, entomologists, and data managers.
- Provision of technical guidelines and decision-support tools for frontline responders.
- Integration of subject matter experts (e.g., veterinary officers for zoonoses, environmental health officers for WASH-related outbreaks).

2. Human Resources (HR) Surge

- Mobilization of surge health personnel, including nurses, laboratory technologists, public health officers, and contact tracers.
- Activation of Community Health Promoters (CHPs) for case finding, household follow-up, and health education.
- Deployment of specialized teams such as safe burial teams during haemorrhagic fever outbreaks.

3. Logistics & Laboratory Support

- Rapid provision of essential commodities including personal protective equipment (PPE), medicines, and outbreak investigation kits.
- Sample collection and transport networks, ensuring specimens reach reference laboratories within defined timelines.
- Deployment of mobile laboratories or surge diagnostic capacity when needed.
- Vehicles, fuel, and transport support for field operations.
- Water, sanitation, and hygiene (WASH) supplies for outbreak containment.

4. Financial Support

- Disbursement of emergency operational funds to counties for outbreak investigation, field deployment, and rapid procurement of supplies.
- Support for transport reimbursements, per diems, and logistical costs of RRTs.
- Streamlined financial mechanisms linked to the national Public Health Emergency Operations Centre (PHEOC) to minimize bureaucratic delays.

5. Risk Communication and Community Engagement (RCCE)

- Activation of county and national communication teams to issue community alerts and advisories.
- Rumor management systems to counter misinformation and enhance trust.
- Provision of risk communication materials (IEC, radio spots, social media templates).
- Engagement with media, religious leaders, and community gatekeepers to sustain community trust and participation.

Application and Linkage

- Support packages are mapped to escalation triggers defined in the Trigger Cards. For example:
 - A Level 1 cholera alert may trigger technical deployment of county RRTs and lab support.
 - A Level 2 measles outbreak cluster would activate surge HR, vaccines, and RCCE support.
 - A Level 3 Rift Valley Fever outbreak would mobilize multi-sectoral surge support, financial resources, and national/regional coordination.
- Accountability for deployment lies with the KNPH IMS, with tracking through the Monitoring and Accountability Framework.

Rationale and Lessons Learned

- Cholera outbreaks have repeatedly shown delays in setting up CTCs due to unclear support pathways.
- Mpox IARs (2024) highlighted challenges in mobilizing PPE, lab supplies, and RCCE in the early phases.
- RVF responses underscored the need for integrated human-animal support packages, including veterinary surge staff and livestock vaccination.

Escalation Triggers and National Support Dashboard

The dashboard provides a consolidated visual reference that links specific outbreak thresholds to the corresponding national support packages. Each escalation trigger represents a defined threshold such as a confirmed case, a cluster of suspected cases, or unusual patterns that signals when county capacity may be exceeded and national support should be activated (Figure 3).

By standardizing these decision points across all 47 counties, the dashboard ensures predictable, timely, and coordinated responses to epidemic-prone diseases. It operationalizes the 7-1-7 performance benchmark by clarifying both the timeframe for action and the specific resources to be mobilized. For example, detection of a confirmed polio case automatically triggers national surge vaccination teams and AFP surveillance strengthening, while cholera thresholds activate case management kits, WASH support, and cholera beds.

The dashboard is best interpreted as a two-sided accountability tool:

- For counties, it provides clarity on what constitutes a threshold event that must be escalated.
- For the national KNPHI IMS, it specifies the expected support package that must be mobilized once escalation occurs.

This tool therefore reduces delays, minimizes ambiguity, and strengthens multisectoral coordination for zoonotic, vaccine-preventable, climate-sensitive, and unknown-origin events. It also provides a reference framework for partners, ensuring that national and subnational responses are harmonized and aligned with international standards such as IHR (2005) and Africa CDC’s Event-Based Surveillance framework.

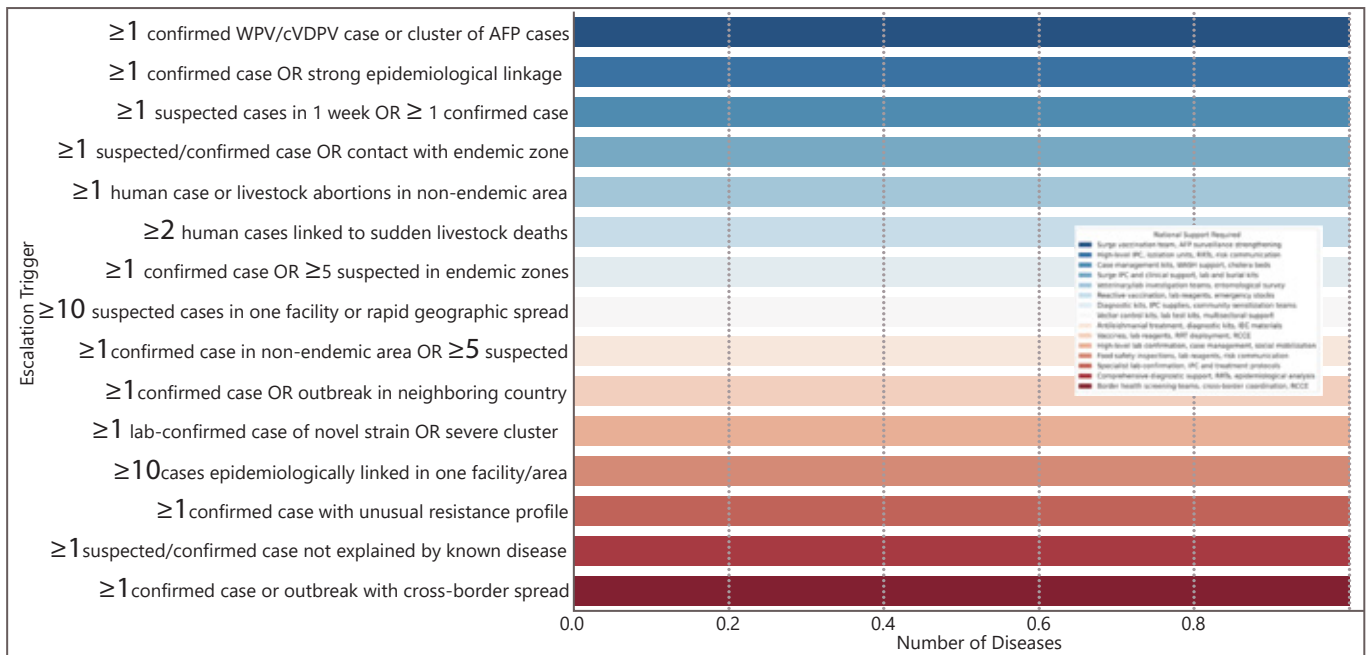


Figure 3: Escalation Triggers and National Support types for Epidemic Prone Diseases

iv. Roles & Responsibilities (RACI Framework)

To ensure clarity, accountability, and efficiency during outbreak management, the DMT-PHE applies the Responsible, Accountable, Consulted, Informed (RACI) framework. This matrix assigns specific roles to key institutions across the outbreak management cycle, ensuring that no critical function is left ambiguous and that decision-making is both transparent and enforceable (Table 4: Roles & Responsibilities (RACI Framework))

RACI Definitions

- **Responsible (R):** The actor who carries out the task or action.
- **Accountable (A):** The actor ultimately answerable for decisions and outcomes; authority cannot be delegated.
- **Consulted (C):** Actors engaged to provide technical input or advice.
- **Informed (I):** Actors kept updated on decisions, progress, and outcomes.

Application across core actors

1. Subcounty and County Health Management Teams (S & CHMTs)

- Serve as the first line of responsibility for case detection, initial reporting, and immediate local response.
- Responsible for verifying suspected cases, initiating escalation once thresholds are met, and ensuring community engagement.
- Informed by national and regional decisions but remain the execution arm at subnational level.

2. Kenya National Public Health Institute (KNPHI)

- The technical lead and custodian of the DMT-PHE.
- Accountable for validation of thresholds, coordination of verification, and mobilization of resources once escalation moves beyond county capacity.
- Responsible for coordinating inter-county and regional outbreak responses, ensuring national IMS structures are engaged.

3. National Incident Management System (IMS)

- Holds ultimate accountability for national outbreak management.
- Accountable for deployment of RRTs, surge support, and resource mobilization.
- Ensures alignment of county, KNPHI, and partner actions under a unified command.
- Leads inter-ministerial and intergovernmental coordination when outbreaks reach Level 2 or Level 3 escalation.

4. Technical Working Groups (TWG) and Partners

- Consulted for technical expertise, operational surge support, and provision of specialized resources (e.g., logistics, laboratory capacity, vaccination campaigns).
- Responsible in specific domains when delegated (e.g., Kenya Red Cross for humanitarian surge, FAO/WOAH for animal health support).
- Provide critical peer review and ensure integration of One Health perspectives.

5. WHO and Africa CDC

- Provide international and regional technical guidance.
- Consulted for alignment with IHR (2005), Africa CDC frameworks, and for activation of international surge mechanisms.
- Informed of national decisions but may also mobilize external support if outbreaks risk regional or international spread.

Value of the RACI Framework

- Prevents duplication by clarifying who leads each activity.
- Speeds up response by reducing delays caused by uncertainty in roles.
- Strengthens accountability by ensuring that escalation failures can be traced to responsible and accountable actors.
- Facilitates monitoring by linking activities directly to the Monitoring & Accountability Framework, ensuring progress can be measured against 7-1-7 indicators.

Example in Action (Mpox IAR, 2024)

- Counties detected cases but delayed escalation because verification roles were unclear.
- Under the DMT-PHE RACI: counties are Responsible, KNPHI is Accountable, WHO/Africa CDC are Consulted.
- This ensures that escalation is not optional or subjective, but follows a predefined accountability chain.

Table 4: Roles & Responsibilities (RACI Framework)

Activity	County Health Management Teams (S&CHMTs)	KNPHI	National IMS / PHEOC	TWG / Partners	WHO / Africa CDC
Case detection & initial reporting	R – frontline detection, facility & CHP reports	I	I	I	I
Verification & escalation decision	R – local verification	A – technical validation, escalation	C	C	C
Deployment of RRTs	C	R – technical lead	A – authorizes deployment	C	I
Resource mobilization (logistics, funds, surge staff)	I	R – request consolidation	A – releases and oversees resources	C	C
Laboratory confirmation & sample referral	R – collection & referral	R – request consolidation	A – releases and oversees resources	C	C
Inter-county / regional coordination	C	R – convenes & coordinates	A – escalates to intergovernmental bodies	C	C
Partner surge support (technical/operational)	I	C	A – approves & integrates	R – delivers specialized support	C
Risk communication & community engagement (RCCE)	R – community alerts, rumor tracking	A – national message validation	C	C	C
Monitoring & reporting (7-1-7 indicators, SITREPs)	R – daily SITREPs	A – consolidate & validate	C	C	I
Early Action/After-Action / Intra-Action Reviews (AAR/IAR)	R – county lessons	A – national synthesis	C	C	C
Exit criteria & response de-escalation	R – implement locally	A – confirm thresholds for exit	C	C	I

Legend : R – Responsible (executes the task), A – Accountable (owns the outcome, final decision authority), C – Consulted (provides input and expertise), I – Informed (kept updated on progress and outcomes)

v. Monitoring and Accountability

Monitoring and accountability are central to the DMT-PHE, ensuring that outbreak responses are not only rapid but also measurable, transparent, and continuously improved. This framework aligns with the 7-1-7 performance target, Kenya's National Health Emergency Operations Response Plan (**NHEROP**), and global obligations under the IHR (2005).

Key Indicators (minimum set)

1. Timeliness

- Interval from first case detection → county notification → national acknowledgement → RRT deployment.
- Benchmarked against the 7-1-7 target

2. Coverage

- Proportion of confirmed cases investigated within 48 hours.
- Percentage of contacts traced and followed up daily.
- Proportion of counties submitting complete SITREPs.

3. Effectiveness

- Case Fatality Ratio (CFR) maintained within acceptable limits (e.g., <1% for cholera).
- Epidemic curve trends showing reduced transmission within two incubation periods.
- Secondary attack rate within households or schools.

4. Readiness

- Availability and timeliness of core outbreak supplies: ORS, IV fluids, PPE, diagnostics, vaccines, reagents, and transport.
- Proportion of counties with functional RRTs and emergency stockpiles

5. Exit/Recovery

- Sustained decline of cases below outbreak thresholds for ≥ 2 incubation periods.
- Formal de-escalation from active response to routine surveillance.
- Documentation of recovery and transition activities.

Reporting Mechanism

Subcounty and County level:

- Submit daily Situation Reports (SITREPs) during active outbreaks to KNPHI.
- Include data on cases, deaths, response activities, supplies, and RCCE.

National level (KNPHI IMS):

- Consolidate county data into weekly national outbreak bulletins.
- JEE/SPAR indicators, and 7-1-7 benchmarks.
- Validate outbreak exit criteria before de-escalation.

Review and Learning:

- Early Action Reviews (EAR) for outbreaks within 2 weeks, After-Action Reviews (AARs) for completed outbreaks and Intra-Action Reviews (IARs) for protracted or complex responses.
- Quarterly reviews with counties and partners to track performance against indicators.
- Findings fed back into training, planning, and guideline revision.

Accountability Mechanism

- **Sub-Counties/Counties** are responsible for frontline detection, initial reporting, and timely SITREPs.
- **KNPHI** is accountable for consolidating data, validating escalation thresholds, and ensuring national reporting.
- **PHEOC/ IMS** is accountable for overall outbreak management, resource allocation, and reporting to government and parliament.
- **Partners** (WHO, Africa CDC, FAO, UNICEF, NGOs) are consulted for technical support and informed of national performance.
- Performance is reviewed against agreed benchmarks (7-1-7, IHR), ensuring accountability both nationally and internationally.

Continuous Improvement

- Monitoring is designed as a learning loop, encouraging counties to identify bottlenecks and solutions and enabling peer learning.
- Performance dashboards can be used to visualize 7-1-7 compliance by county,
- EAR/AAR/IAR findings are systematically fed into annual preparedness reviews, strengthening resilience over time.

vi. Decision Points for Escalation

The Decision Points for Escalation framework provides a structured process for determining when a public health event should be escalated from county-level management to national or regional coordination. It is designed to standardize decision-making, reduce delays, and ensure that escalation is based on objective, measurable criteria rather than subjective judgment (Table 5).

The framework uses four cumulative decision points:

1. High Public Health Impact

- This assesses the immediate health consequences of an event. Triggers include ≥ 10 suspected/confirmed cases, a Case Fatality Rate (CFR) $> 5\%$, or evidence of significant impact on vulnerable populations and disruption of essential services.
- **Action:** Escalate to the national level (KNPHI).
- **Example:** Cholera outbreaks in Turkana (2019) where CFR exceeded 2% prompted national surge support.

2. Unusual or Unexpected Event/PHEIUE

- Identifies deviations from normal epidemiological patterns. This includes new or emerging syndromes, outbreaks in non-endemic areas, or untraceable transmission chains (e.g., cross-border importations).
- **Action:** Escalate to the national level for advanced investigation.
- **Example:** The first Mpox cluster reported in Nakuru in 2024, a non-endemic setting, triggered national-level investigation

3. Risk of Geographic Spread

- Evaluates the likelihood of wider transmission, such as when outbreaks are detected across multiple sub-counties, or where high population mobility and border proximity raise the risk of cross-county or cross-border spread.
- **Action:** Initiate inter-county coordination or escalate nationally.
- **Example:** The 2018 Rift Valley fever outbreak spread across Garissa, Wajir, and Marsabit counties due to livestock movement, requiring regional coordination.

4. Capacity Assessment

- Reviews the ability of the affected county to manage or contain the event. Key factors include availability of adequate workforce, diagnostic capacity, PPE, and functional EOCs with emergency funds.
- **Action:** If capacity is inadequate, the county must request technical or financial support from the national level.
- **Example:** Isiolo County's 2021 request for national RRT surge support when local resources were overwhelmed due to RVF

Table 5: Algorithm for Escalation Decision Points

Escalation Step	Description and Action	Action Required	Responsible Actor	Example (Kenya Outbreaks)
1. High Public Health Impact	Assesses immediate health consequences: - ≥ 10 suspected/confirmed cases - Case Fatality Rate (CFR) $> 5\%$ - Impact on vulnerable populations or disruption of services	Escalate to national level (PHEOC)	S&CHMT (detection), KNPHI (validation), IMS (escalation)	Cholera outbreaks with CFR $> 2\%$ in Turkana, 2019
2. Unusual or Unexpected Event/ (PHEIUE)	Identifies deviations from normal patterns: - New/emerging syndromes - Outbreaks in non-endemic areas - Untraceable transmission chains or cross-border cases	Escalate to national level for advanced investigation	Subcounty-County Surveillance (detection), KNPHI/TWG (validation)	First Mpox cluster in Nairobi, 2024
3. Risk of Geographic Spread	Evaluates transmission potential: - Detected in multiple sub-counties - High mobility of population or proximity to borders	Initiate inter-county coordination or escalate nationally	KNPHI (coordination), IMS (activation), CHMTs (reporting)	RVF spreading across Garissa, Wajir, Marsabit, 2018
4. Capacity Assessment	Assesses local response capability: - Adequate workforce, diagnostics, and PPE - Functional EOC and emergency funds	Request technical or financial support from national level	S&CHMT (self-assessment), KNPHI (review), IMS (approval)	Isiolo County request for national RRT support, 2021

Decision Logic:

- If any one criterion is affirmative → escalate to the national level.
- If risk of spread is high but county capacity exists → initiate inter-county coordination using SOPs.
- If capacity is inadequate → submit a formal request for national surge support.
- If none are met → continue local response and closely monitor for deterioration or new triggers

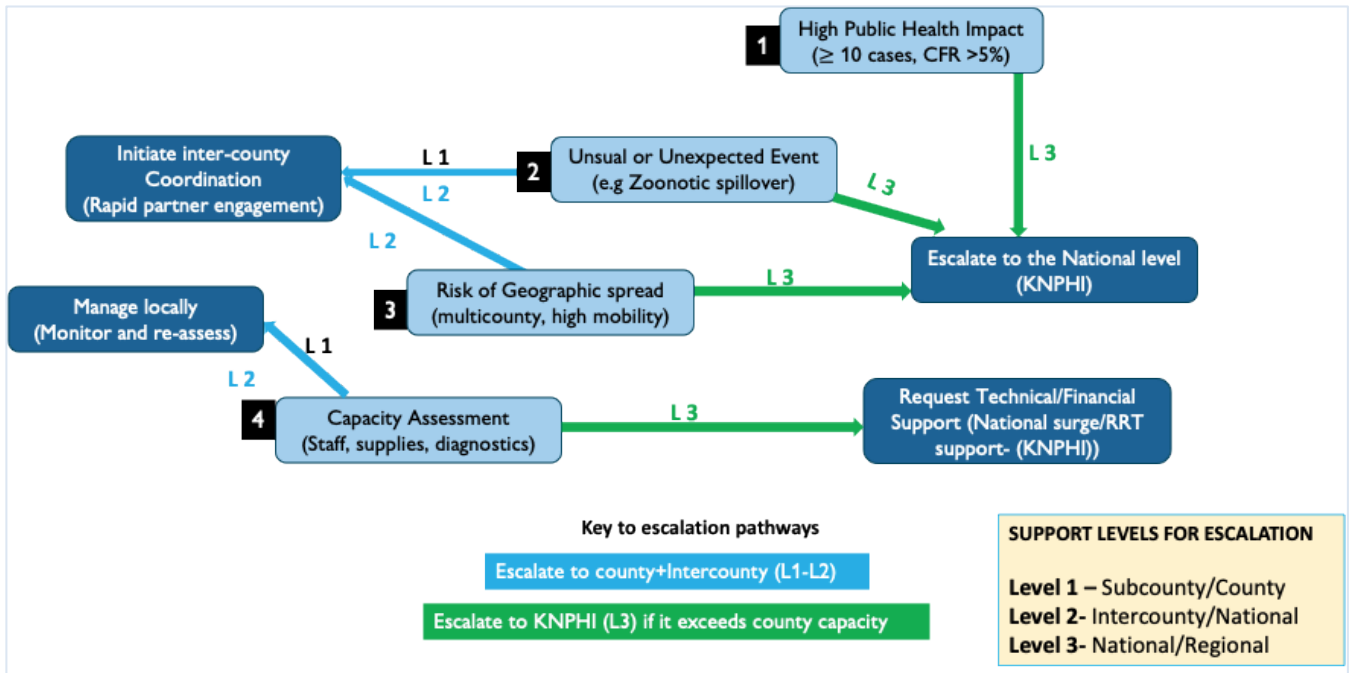


Figure 4: Escalation flow chart - Decision Tree for Response

CHAPTER 2: TRIGGER CARDS FOR PRIORITY DISEASES AND EVENTS

2.1 Introduction

The Decision-Making Tool for Public Health Emergencies (DMT-PHE) operationalizes outbreak escalation through the use of disease-specific Trigger Cards. These cards provide frontline responders and decision-makers with a standardized, rapid reference tool to guide outbreak detection, notification, escalation, and response.

Each Trigger Card consolidates:

- **Case definitions** (suspected, probable, confirmed), adapted from the IDSR technical guidelines and WHO standards.
- **Alert thresholds** that highlight early signals such as sudden case clusters, unusual deaths, or abnormal epidemiological patterns.
- **Escalation triggers (Levels 1–3)**, aligned to Kenya’s devolved health system and IMS command structures.
- **Required actions and timelines**, explicitly mapped to the 7-1-7 global performance benchmark.
- **Standard support package menus** covering technical, HR, logistics, laboratory, financial, and RCCE domains.
- **Monitoring and exit criteria**, ensuring timely performance measurement and structured de-escalation.

2.2 Scope of Application

This version of the DMT-PHE includes 15 priority diseases and events and Public Health Emergencies of Unknown Origin (PHEIUE), selected based on Kenya’s IDSR priority conditions, outbreak frequency, epidemic potential, and public health impact. They include:

1. Cholera
2. Measles
3. Meningococcal meningitis
4. Viral haemorrhagic fevers (Ebola, Marburg, Yellow fever, CCHF, Lassa, Dengue)
5. Rift Valley fever (RVF)
6. Anthrax
7. Polio / Acute Flaccid Paralysis (AFP)
8. Severe Acute Respiratory Infections (SARI, Influenza subtypes, COVID-19, SARS/MERS)
9. Kala-azar (Visceral Leishmaniasis)
10. Chikungunya
11. Mpox (Monkeypox)
12. Typhoid fever (enteric fever outbreaks)
13. Acute jaundice syndrome (e.g., hepatitis A/E)
14. Chemical/radiological incidents of public health concern
15. Zoonotic events of concern (e.g., brucellosis, novel spillover pathogens)
16. Public Health Events of Initially Unknown Etiology (PHEIUE)

Prioritization was based on:

- Frequency and impact of outbreaks in Kenya in the last decade.
- Epidemic-prone, climate-sensitive, or zoonotic potential
- Pose cross-border threats (regional trade, migration, livestock movement).
- Case fatality rate requiring rapid escalation (e.g., VHF, anthrax).

2.3 Structure of the Trigger Cards

Each Trigger Card follows a six-component template:

1. Case Definitions & Outbreak Definition

- Derived from IDSR standard definitions.
- Provide clear criteria for suspected, probable, and confirmed cases.
- Define outbreak declaration thresholds (e.g., ≥ 1 confirmed cholera case in a non-endemic county).

2. Alert Thresholds (Early Signals)

- Capture unusual signals such as a single unexplained death, sudden doubling of cases, rumors, or animal/environmental events.
- For conditions without fixed triggers (e.g., typhoid, SARI, AJS), counties calculate local baselines (five-year median, seasonal trend).

3. Escalation Triggers (Tiered Levels)

- **Level 1 (Subcounty/County-managed)** – outbreak remains localized, manageable within county resources.
- **Level 2 (Inter-county/National support)** – outbreak crosses county/sub-county borders or exceeds local capacity.
- **Level 3 (National/Regional surge)** – large-scale outbreaks with high CFR, multi-county spread, or cross-border threat.

4. Required Actions & Timelines (7-1-7 aligned)

- ≤ 24 hours – notification, acknowledgement, specimen collection, risk communication.
- ≤ 72 hours – RRT deployment, support package mobilization, SITREP initiation.
- ≤ 7 days – containment measures in place (CTCs, vector control, vaccination, safe burials).

5. Support Package

- Standardized options for **technical teams, surge HR, lab/logistics, funding, and RCCE**.
- Mapped directly to escalation triggers.

6. Monitoring & Exit Criteria

- Minimum indicators: timeliness of escalation, % cases investigated, CFR, % contacts traced, lab turnaround.
- Exit thresholds: sustained decline below alert levels for ≥ 2 incubation periods.

2.4 Operational Use

County Level

- o County surveillance officers, S&CHMTs, and Community Health Promoters (CHPs) apply Trigger Cards as part of weekly IDSR monitoring and outbreak investigation.
- o Outbreak signals are cross-checked against county baselines to determine escalation thresholds.

National Level

- o KNPHI validate escalations, authorize RRT deployment, and coordinate cross-county support.
- o The RACI framework ensures clarity on responsibility and accountability at each step.

Regional/International Level

- o For cross-border or large-scale outbreaks, Africa CDC Regional Coordinating Centres (RCCs) and WHO IHR contact points are engaged.
- o Trigger Cards provide harmonized data inputs for (IHR 2005 Annex 2) IHR notifications and regional situation reports.

2.5 Linkages with global and regional frameworks

The Trigger Card system is embedded within existing frameworks to ensure coherence and compliance:

- WHO Emergency Response Framework (ERF) – escalation levels adapted from WHO’s grading system.
- Africa CDC Event-Based Surveillance Framework – community/rumor-based signals incorporated as alert thresholds.
- International Health Regulations (2005) – Annex 2 decision instrument fully integrated into trigger logic.
- Kenya NHEROP – escalation pathways aligned with national IMS and disaster coordination structures.
- JEE, SPAR, STAR reviews – key recommendations on timeliness and standardization operationalized through the Trigger Cards

2.6 Annexes (Reference to Detailed Cards)

This provides a narrative overview. The full disease-specific Trigger Cards are presented in [Annex 1](#), with detailed tables for each of the 15 diseases/events and PHEIUE, including:

- Specific case definitions.
- Alert and action thresholds.
- Required actions/timelines.
- Support packages.
- Monitoring and exit indicators.

Table 6: DMT Disease Trigger Card Template

Section	Content
Disease/Event	-----
Case Definitions	<ul style="list-style-type: none"> • Suspected:----- • Probable: ----- • Confirmed: -----
Alert Thresholds	<ul style="list-style-type: none"> • Early signals (e.g., unusual death, sudden cluster, doubling of cases, rumor/event-based)
Escalation Triggers	<ul style="list-style-type: none"> • Level 1 (Subcounty/County): ----- • Level 2 (National support):----- • Level 3 (Regional/International): -----
Required Actions & Timelines (7-1-7)	<ul style="list-style-type: none"> • ≤24h: Notification, acknowledgement, initial investigation, specimen collection, risk communication • ≤72h: RRT deployment, resource mobilization, SITREPs • ≤7d: Containment measures (CTCs, vaccination, vector control, etc.)
Support Package Menu	<ul style="list-style-type: none"> • Technical: ----- • HR:----- • Logistics/Lab: ----- • Financial: ----- • RCCE: -----
Support Package Menu	<ul style="list-style-type: none"> • Key indicators (timeliness, CFR, % contacts traced, lab turnaround) • Exit criteria: sustained decline below threshold ≥2 incubation periods

CHAPTER 3:

IMPLEMENTATION FRAMEWORK

3.1 Governance and Coordination

The implementation of the Decision-Making Tool for Public Health Emergencies (DMT-PHE) is anchored within Kenya's existing health security governance architecture, ensuring complementarity with IDSR, NHEROP, and IMS, rather than duplication.

- **National Level:** Oversight is provided by the Kenya National Public Health Institute (KNPHI). KNPHI serves as the custodian of the DMT-PHE, responsible for periodic updates, national validation of thresholds, and convening Technical Working Groups (TWGs). It also provides guidance on integration with other preparedness and response frameworks.
- **Subcounty & County Level:** County Departments of Health, through Subcounty & County Health Management Teams (S&CHMTs), apply the Trigger Cards in surveillance, case investigation, and escalation. Counties calculate local baseline thresholds (e.g., 5-year medians for cholera, typhoid, SARI), ensure community-based surveillance reporting, and notify KNPHI through IDSR channels within 24 hours of meeting thresholds.
- **Inter-governmental Coordination:** Escalation between county and national levels follows Kenya's intergovernmental health coordination framework, ensuring joint decision-making, rapid mobilization of support packages, and accountability across jurisdictions.
- **Partners:** WHO, Africa CDC, CDC Kenya, UNICEF, FAO, IFRC, Amref, and other implementing partners align their surge support with the DMT-PHE, ensuring predictability and reducing duplication during response.

3.2 Technical Working Group (TWG)

A multi-sectoral Technical Working Group (TWG) provides oversight, technical advice, and peer review to ensure that the DMT-PHE remains scientifically sound, operationally relevant, and nationally owned.

Composition:

- KNPHI (Chair)
- KNPHI divisions: Public Health Surveillance Division, Emergency Response Division, National laboratory services, Data Management & Informatics Division, Planning, and Partnerships Division
- MOH- Directorate of Public Health, Health Sector coordination and Integovernmental relations
- Ministries of Livestock, Environment
- County surveillance coordinators (in liason with subcounties - rotating representation)
- WHO Kenya
- Africa CDC Eastern Africa RCC
- US CDC Kenya
- Implementing partners (UNICEF, KRCS, FAO, IOM, Amref, universities, research institutions)
- Civil Society and Community based organizations

Functions:

- Validate and update Trigger Cards, ensuring case definitions, thresholds, and actions reflect evolving evidence.
- Review outbreak escalations and advise KNPHI IMS on response levels.
- Support capacity building for county surveillance officers, CHMTs, and RRTs.
- Ensure integration with IDSR, IMS, and One Health surveillance platforms
- Provide technical reports and recommendations to DG KNPHI and MoH leadership.

3.3 Linkage with Incident Management System (IMS)

The DMT-PHE is embedded within Kenya's Incident Management System (IMS), ensuring seamless transition from surveillance → escalation → response.

- **County IMS:** Activated for Level 1 and 2 events; leads initial coordination, case management, risk communication, and resource mobilization.
- **National IMS:** Activated when Level 2 escalates or Level 3 is triggered; responsible for surge deployment, inter-county coordination, and international notification.
- **Emergency Operations Centre (EOC):** Trigger Card thresholds feed directly into IMS decision-making, activating EOC functional pillars (Operations, Planning, Logistics, Finance/Admin, RCCE). This ensures that escalation automatically triggers resource flow and coordination.

3.4 Roles and Responsibilities

National (KNPHI):

- Custodian of the DMT-PHE, responsible for periodic review and updates.
- Validate county alerts and confirm escalation thresholds.
- Coordinate surge deployment, logistics, and financial support.
- Ensure reporting to WHO/IHR and Africa CDC for PHEIC and regional events.
- Align monitoring with Pandemic Fund PSRF and national health security plans.

County:

- Detect, verify, and escalate outbreaks using Trigger Cards.
- Convene CHMT and activate County IMS once thresholds are crossed.
- Mobilize county surge resources and report to KNPHI within 24 hours.
- Maintain surveillance baselines and outbreak data for monitoring.
- **Note:** Numeric thresholds (IDSR-defined) are complemented by county-specific descriptive baselines for diseases like typhoid and SARI; validation is provided by TWG/KNPHI.

Partners:

- Provide surge support (technical, financial, operational) aligned to Support Package menus.
- Participate in TWG validation, AAR/IAR reviews, and simulation exercises.
- Support joint training, logistics, and communication activities.

3.5 Capacity Building and Dissemination

Successful implementation requires systematic capacity strengthening at both national and county levels:

- **Training of Trainers (ToT):** National and county focal points for surveillance and RRTs.
- **CHMT orientation:** Practical sessions on use of Trigger Cards, thresholds, and escalation protocols.
- **Integration into IDSR & One Health training modules:** To ensure alignment and avoid duplication of training efforts.
- **Simulation exercises:** Regular tabletop and field drills to test application of Trigger Cards, escalation logic, and support package deployment.

3.6 Sustainability and Updates

To ensure longevity and adaptability, the DMT-PHE will be sustained through:

- **Biennial review by KNPHI and TWG** to incorporate new diseases, hazards, and evidence.
- **Integration into budgets:** National and county health budgets will include dedicated funding lines for training, dissemination, and updating the tool, with partner co-financing.
- **Alignment with global and regional frameworks:** Updates synchronized with WHO ERF, Africa CDC EBS, IHR (2005), and AU frameworks.
- **Policy integration:** Embedding the DMT-PHE into Kenya's NHEROP and county contingency plans to institutionalize its use.

CHAPTER 4:

MONITORING, EVALUATION, ACCOUNTABILITY AND LEARNING (MEAL) FRAMEWORK

4.1 Purpose

The Monitoring, Evaluation, and Learning (MEAL) framework for the DMT-PHE ensures that the tool is applied consistently, generates evidence on its effectiveness, and supports continuous improvement. It serves as both a performance monitoring system and a learning platform, aligned with:

- International Health Regulations (IHR, 2005) core capacities.
- WHO Emergency Response Framework (ERF) performance metrics.
- Africa CDC Event-Based Surveillance (EBS) framework.
- Kenya's Event-Based Surveillance (EBS) framework.
- Kenya's 7-1-7 national performance benchmarks for epidemic response

4.2 Objectives of MEAL

- Measure the timeliness and effectiveness of decision-making and escalation during outbreaks.
- Assess the adequacy and impact of support packages deployed at county and national levels.
- Track performance against 7-1-7 benchmarks.
- Generate evidence and lessons for continuous refinement of the tool.
- Promote accountability at county, national, and partner levels.

4.3 Key Indicators

The Monitoring, Evaluation, and Learning (MEAL) framework for the DMT-PHE ensures that the tool is applied consistently, generates evidence on its effectiveness, and supports continuous improvement. It serves as both a performance monitoring system and a learning platform, aligned with:

- A. Timeliness (7-1-7 Benchmarks)
 - % of priority outbreaks detected and reported within 7 days of first case.
 - % of alerts acknowledged by KNPHI within 24 hours.
 - % of support packages deployed within 72 hours of escalation.
 - % of outbreaks with initial containment achieved within 7 days.
- B. Effectiveness of Response
 - Case Fatality Ratios (CFRs) compared to global standards (e.g., <1% for cholera).
 - % of cases investigated with specimens collected/tested.
 - % of contacts listed and followed up daily (measles, Mpox, VHF).
 - Proportion of counties applying baseline thresholds (for cholera, typhoid, SARI, AJS).
- C. Resource Mobilization & Support
 - % of outbreaks receiving full support packages (technical, HR, logistics, RCCE).
 - Stock-out rates for core supplies (ORS, PPE, diagnostics, vaccines).
 - Turnaround time for sample transport and lab confirmation.
- D. Coordination & Accountability
 - Frequency of IMS/EOC activations linked to Trigger Cards.
 - % of escalations reviewed/validated by the TWG.
 - Proportion of AARs and IARs completed after outbreaks

4.4 Data Sources and Reporting

- **MoH-505 IDSR reports:** Weekly epidemiological report (baseline/outbreak data)
- **County SITREPs:** Daily submissions during outbreaks.
- **KNPHI outbreak SITREPs and bulletins:** Weekly national compilations.
- **Laboratory systems:** Confirmation and turnaround times.
- **IMS/EOC records:** Resource deployment, activations, partner support.
- **EAR/AAR/IAR reports:** Qualitative lessons and recommendations.

4.5 Roles and Responsibilities in MEAL

- **Counties:** Apply Trigger Cards, collect/report data, generate SITREPs.
- **KNPHI:** Consolidate data nationally, validate thresholds, track 7-1-7, produce quarterly/annual MEL reports.
- **National IMS/PHEOC:** Accountable for outbreak management data, inter-ministerial coordination, and international reporting.
- **TWG:** Review MEL findings, validate indicators, and advise on updates to the tool.
- **Partners (WHO, Africa CDC, UNICEF, FAO, KRCS, Amref Health NGOs):** Support MEL capacity building, participate in AAR/IAR, and co-finance evaluations.

4.6 Learning and Feedback Loops

- **EARs:** Conducted within 2 weeks of outbreak onset
- **AARs:** Conducted within 3 months after outbreak control.
- **IARs:** Used for protracted/complex outbreaks (cholera, COVID-19).
- **Annual lessons workshop:** KNPHI convenes counties and partners to review findings, share best practices, and recommend updates.
- **Digital platforms:** Integration with DHIS2, EBS dashboards, and IMS tools for real-time tracking.

4.7 Integration with Global and Regional Monitoring

- Reports mapped to IHR State Parties Self annual reporting (SPAR) and JEE follow-up.
- Contributions to Africa CDC cross-border surveillance and regional coordination metrics.

4.8 Sustainability of MEAL

- MEL integrated into county and national health budgets, reducing reliance on ad hoc donor funds.
- Partner co-financing supports training, joint reviews, and digital data systems.
- KNPHI mandated to maintain national MEAL dashboards and publish an annual DMT-PHE performance report.
- Regular updates ensure MEAL reflects emerging hazards, evolving evidence, and international best practice.

Table 7: MEAL Indicators (7-1-7 aligned)

Domain	Indicator	Target/Benchmark	Source/Reference
Detection	% of priority outbreaks detected and reported within 7 days of index case onset	≥90%	Kenya 7-1-7 baseline (Dec 2024)
	Median time (days) from symptom onset of first case to detection/notification	≤7 days	7-1-7, IDSR Evaluation
Notification	% of outbreaks acknowledged by KNPHI IMS within 24h of county report	≥95%	7-1-7 baseline
	Proportion of verified events notified to WHO/IHR within 24h of confirmation	100%	IHR (2005)
Early Response Action	% of outbreaks where RRT/support package deployed within 72h of national acknowledgement	≥90%	NHEROP/KPHEOC
	% of outbreaks with initial containment achieved within 7 days of first report	≥80%	7-1-7, Cholera AAR
Effectiveness	Case Fatality Rate (CFR) by disease compared to international benchmarks (e.g. Cholera <1%)	CFR < threshold	Cholera Guidelines
	% of contacts listed and followed daily (VHF, Mpox, Measles)	≥95%	Mpox Plan & IAR
System Readiness	% of counties applying baseline thresholds (cholera, typhoid, SARI, AJS)	≥80%	IDSR Guidelines
	Average lab turnaround time for specimen confirmation	≤72h	IDSR Eval, Mpox IAR
Learning & EAR/AAR/IAR	% of outbreaks with AAR conducted within 3 months	100%	NHEROP
	Number of Intra-Action Reviews (IARs) conducted for prolonged/complex outbreaks	At least 1 per long outbreak	RVF AAR

CHAPTER 5: ANNEXES

5.1 Introduction

The Annexes to this guideline provide the practical tools, templates, and reference materials needed to operationalize the DMT-PHE at all levels of the health system. They complement the main text by presenting detailed, user-friendly instruments for outbreak detection, escalation, response, and learning. The annexes are tailored for use by county health managers, surveillance officers, Incident Management System (IMS) teams, Rapid Response Teams (RRTs), and partners, ensuring uniform interpretation and application of the tool across Kenya's devolved system.

5.2 Disease Trigger Cards

The Trigger Card Annex is the core operational component of the DMT-PHE. It presents each of the 15 priority diseases/events/PHEIUE (see Chapter 2) in a standardized one-page format, allowing quick reference during outbreak response.

Each card includes:

- Case definitions: Suspected, probable, confirmed.
- Outbreak definition : e.g., ≥ 1 confirmed cholera case in a non-endemic county).
- Alert thresholds and escalation triggers: Levels 1–3
- Required actions aligned to 7-1-7 timelines: ($\leq 24h$, $\leq 72h$, $\leq 7d$).
- Support package : Technical, HR, logistics, lab, financial, RCCE).
- Monitoring and exit criteria: Timeliness, CFR, % contacts traced, 2 incubation periods).
- Footnotes citing IDSR guideline sections for technical accuracy.

The tables also distinguish between:

- Numeric thresholds: IDSR-defined, e.g., meningitis attack rate $\geq 5/100,000$
- Descriptive thresholds: county-calculated baselines, e.g., cholera, typhoid, SARI, AJS.

Color-coded cues (Green = **Level 1**, Amber = **Level 2**, Red = **Level 3**) enhance clarity.

5.3 RACI Matrix (Roles and Responsibilities)

The RACI annex summarizes who is Responsible, Accountable, Consulted, and Informed across the outbreak cycle.

- Counties and subcounties (S& CHMTs): Responsible for frontline detection, notification, initial containment.
- KNPHI IMS: Accountable for verification, escalation, and national-level mobilization.
- Partners (WHO, Africa CDC, FAO, CDC Kenya, UNICEF, IFRC, Amref, KRCS etc.): Consulted for technical advice; mobilized for surge support.
- TWG: Informed/consulted for validation, performance review, and tool updates.

This matrix provides managers with a quick reference during crises, reducing confusion and delays.

5.4 Escalation Flowcharts

The annex includes visual flowcharts that map escalation pathways:

- **County-level:** Case detection S&CHMT verification county IMS activation.
- **National-level:** KNPHI validation IMS/PHEOC activation partner mobilization.
- **Cross-border/regional:** Triggered if >2 counties affected or if risk of international spread; aligned with IHR Annex 2 and Africa CDC coordination protocols.

These flowcharts provide visual clarity to complement the text in Chapter 1, ensuring frontline responders can follow escalation logic at a glance.

5.5 Standard Reporting Templates

The annex provides harmonized templates to standardize outbreak documentation across counties and national systems:

- **Weekly Surveillance & Threshold Monitoring (MoH-505 extension):** For counties to track suspected/confirmed cases against baselines.
- **Outbreak Notification Template:** Captures details of index case(s), epidemiological linkage, and initial actions.
- **Escalation & Support Request Form:** Used by counties to formally request technical, HR, logistics, or financial support packages.
- **Daily SITREP Template:** A structured situation report format for use during active outbreaks.
- **EAR/AAR/IAR Template:** Standard format for documenting lessons, feeding into the MEAL framework (Chapter 4)

5.6 Capacity Building & Reference Materials

To support training and field use, the annex provides:

- Summary case definition sheets for IDSR priority diseases.
- Pocket reference cards for RRTs and field staff.
- Sample agenda for tabletop/simulation exercises to practice using Trigger Cards and escalation flowcharts.
- Key reference documents, including:
 - o Kenya IDSR Technical Guidelines (2022, 3rd edition).
 - o WHO Emergency Response Framework (2017).

5.7 Updating and Validation of Annexes

- Annexes will be reviewed biennially by KNPHI and the TWG
- Updates will reflect new pathogens (e.g. novel influenza subtypes), revised IDSR/IHR guidance, and lessons from AARs/IARs.
- Digital versions of the annex tables will be hosted on the KNPHI website and linked to DHIS2/EBS dashboards for real-time updates.

Annex 1: DMT-PHE Consolidated Escalation Trigger Cards for high-risk epidemic-prone IDSR priority diseases

Table 8: Public Health Event of Initially Unknown Etiology (PHEIUE) – Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Public Health Events of Initially Unknown Etiology (PHEIUE)	<p>Suspected: Any acute cluster of severe illness, deaths, or unusual clinical presentations not explained by known endemic diseases after initial testing.</p> <p>Probable: Cluster of epidemiologically linked unexplained illness/deaths with common exposure but no confirmed etiology.</p> <p>Confirmed: Laboratory confirmation of a novel/unknown pathogen OR sustained unexplained transmission despite exhaustive testing.</p> <p>Outbreak definition: ≥2 epidemiologically linked unexplained illnesses/deaths, especially if severe, rapidly progressive, or spreading</p>	<p>Unusual cluster of unexplained illness or deaths in a community/facility.</p> <p>Severe illness not fitting existing case definitions.</p> <p>Failure of standard diagnostics to identify cause. Signals from media/social media/rumors of “mystery disease or Disease X.”</p>	<p>Level 1 – Subcounty/County managed: Small localized cluster (<3 cases) under investigation with local lab capacity and services coping.</p> <p>Level 2 – Inter-county/National support: ≥3 cases with rapid spread, severe illness/deaths, or cross-subcounty cluster; local labs unable to confirm etiology within 72 h.</p> <p>Level 3 – National/Regional surge: Multi-county or cross-border spread; high CFR; health-system stress; or suspicion of deliberate/unusual event requiring advanced reference labs or international support.</p>	<p>≤ 24 h – Notify immediately (≤ 2 h if necessary); initiate rapid verification; isolate/separate cases; collect and store appropriate specimens; alert national/EAC/Africa CDC/WHO if needed.</p> <p>≤ 72 h – Deploy multidisciplinary RRT (clinical, epidemiology, lab, IPC, vets); expand surveillance; activate risk communication; initiate safe sample referral to national/regional reference labs.</p> <p>≤ 7 d – Preliminary etiology ruled in/out; control measures adapted to findings; ongoing SITREP to national/international partners.</p>	<p>Technical: Epidemiologists, clinicians (syndromic mgmt), lab scientists, IPC, veterinarians, risk communication.</p> <p>HR: Surge RRT, contact tracers, community health workers, community disease reporters.</p> <p>Logistics: PPE, broad-spectrum diagnostics (PCR panels, viral culture, metagenomics referral), specimen collection/transport kits, isolation space.</p> <p>Finance: Emergency funds for investigation, specimen referral, isolation.</p> <p>RCCE: Transparent messaging to reduce rumors, promote early reporting, emphasize unknown cause under investigation.</p>	<p>Sub-County HMT/CHMT-Detection, verification, and rapid notification. COHU + CHPs/CDRs-Community awareness, early alerts, rumor tracking, and joint human-animal linkage. KNPHI/PHIOC- Incident coordination and information management. KNPHIEPR- Technical oversight, analytics, and escalation to national and regional networks. KEMRI/NPHL- Reference diagnostics and testing. DVS/CVL- Animal sampling and zoonotic surveillance. NEMA- Environmental sampling and waste management. NDOC/DRM- Logistics and multisector coordination. Security agencies- quarantine enforcement, and crowd control. Partners- (WHO, Amref, KRCS, AFENET, etc.) – Surge support, technical assistance, RCCE, and field logistics.</p>	<p>Indicators: Time from detection → notification → RRT deployment; % specimens tested within 7 days; CFR; # secondary cases.</p> <p>De-escalation / Exit: Cause identified OR no new unexplained cases for 2 incubation periods; epidemiologic curve stabilized and system capacity restored.</p>

Table 9: Filoviruses (Ebola Virus Disease / Marburg Virus Disease) – Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Filoviruses (Ebola Virus Disease / Marburg Virus Disease)	<p>Suspected: Any person with acute fever $\geq 38^{\circ}\text{C}$ and any of the following: severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained bleeding.</p> <p>Probable: A suspected case with an epidemiological link to a confirmed case or death consistent with EVD/MVD, or any unexplained community death with bleeding.</p> <p>Confirmed: Laboratory confirmation of Ebola or Marburg virus infection by RT-PCR or serology.</p> <p>Outbreak Definition: One laboratory-confirmed case of Ebola or Marburg Virus Disease.</p>	<ul style="list-style-type: none"> Any single case meeting the suspected case definition. Unexplained death with hemorrhagic signs. Clusters of febrile illness with bleeding or sudden deaths among health workers or household contacts. 	<p>Level 1- Subcounty/County Response: Single suspected case or death with bleeding symptoms, managed locally with isolation and basic IPC capacity.</p> <p>Level 2 - County/National Response: Two or more epidemiologically linked suspected cases, or cluster among health workers, requiring County RRT deployment and testing at KEMRI/NPHL.</p> <p>Level 3 - National/Regional Surge: Laboratory-confirmed case(s), multi-county spread, or cross-border risk, triggering national activation and international notification.</p>	<p>≤ 24 h – Isolate suspected case, notify KNPHI PHEOC and County IMS, initiate contact listing, and collect blood for RT-PCR.</p> <p>≤ 72 h – Deploy County RRT (Clinical, Epi, Lab, IPC, RCCE); enhance IPC; initiate safe burial arrangements; begin community risk communication.</p> <p>≤ 7 d- Confirm diagnosis; expand contact tracing, monitoring, and follow-up; conduct situation analysis and daily SITREP updates; coordinate partner response.</p>	<p>Technical: Epidemiologists, clinicians, laboratory scientists, IPC officers, burial teams, RCCE staff.</p> <p>HR: County RRT, sub-county teams, community health promoters, and contact tracers.</p> <p>Logistics: PPE, body bags, disinfectants, ambulances, specimen transport kits, isolation space.</p> <p>Finance: Rapid emergency funds for RRT deployment, training, and supplies.</p> <p>RCCE: Continuous engagement with communities on safe burials, IPC, and stigma reduction.</p>	<p>Sub-County HMT / CHM T- Case detection, isolation, notification, and initial contact tracing. COHU + CHPs- Community sensitization, rumor tracking, and early alerts. KNPHI PHEOC- National coordination, activation of national RRT, and situation reporting. KNPHI EPR- Technical oversight, analytics, and international liaison. KEMRI / NPHL- RT-PCR testing and result confirmation. NEMA- Waste management and decontamination oversight in affected facilities. NDOC / DRM- Multisector or logistics coordination and partner engagement. Security Agencies- Security, movement control, and support to safe burial teams. Partners (WHO, AFENET, KRCS, Amref, etc.) – Surge staffing, technical support, RCCE, and training.</p>	<p>Indicators: Case fatality rate, % contacts traced within 48 h, # HCWs infected, time to isolation and notification. De-escalation / Exit: No new confirmed cases for 42 days (two incubation periods) after last case tests negative and all contacts complete follow-up.</p>

Table 10: Yellow fever- Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Yellow Fever (YF)	<p>Suspected: Any person with acute onset of fever and jaundice appearing within 14 days of onset of first symptoms.</p> <p>Probable: A suspected case with an epidemiologic link to a confirmed case or occurrence in a known risk area.</p> <p>Confirmed: Detection of yellow fever virus nucleic acid or antigen in blood or tissue by PCR/ELISA, or IgM antibody confirmed by neutralization test.</p> <p>Outbreak Definition: A single laboratory-confirmed case of yellow fever in a non-endemic area or evidence of local transmission in an endemic area.</p>	<ul style="list-style-type: none"> Any suspected case reported from a health facility or community. Two or more suspected cases with epidemiologic links in a sub-county. Deaths with jaundice and bleeding symptoms. Reports of monkey die-offs or unusual mosquito density 	<p>Level 1- Sub-county Response: Single suspected case under investigation with no secondary cases; local lab testing available.</p> <p>Level 2- County / National Support: Two or more linked suspected cases or cluster of fever and jaundice cases; lab confirmation pending; requires County RRT deployment.</p> <p>Level 3 – National / Regional Surge: Confirmed case or multi-sub-county spread triggering national vaccine response and international notification.</p>	<p>≤ 24 h: Notify KNPHI PHEOC; collect samples for IgM/PCR; start contact listing and line-listing.</p> <p>≤ 72 h: Deploy County RRT for field investigation and entomological assessment; launch vector control measures and risk communication.</p> <p>≤ 7 d: Confirm diagnosis and mobilize vaccine response; implement targeted immunization and community awareness campaigns; provide daily SITREP updates.</p>	<p>Technical: Epidemiologists, clinicians, entomologists, EPI officers, lab scientists, PHOs.</p> <p>HR: County RRT, vector control staff, community mobilizers.</p> <p>Logistics: Sample kits, transport, cold chain equipment, vaccines, PPE, insecticides.</p> <p>Finance: Rapid funding for RRT deployment, vector control, vaccine delivery.</p> <p>RCCE: Community education on mosquito control and immunization importance.</p>	<p>Sub-County HMT / CHMT- Detection, notification, and coordination of RRT activities.</p> <p>COHU + CHPs-Community mobilization for vaccination, vector control, and rumor management.</p> <p>KNPHI PHEOC- National coordination and situation analysis.</p> <p>KNPHI EPR – Technical oversight and vaccine guidance.</p> <p>KEMRI / NPHL-PCR and IgM testing for confirmation.</p> <p>DVS – Surveillance of non-human primates for epizootic activity.</p> <p>NEMA – Environmental control of vector breeding sites and waste management.</p> <p>Partners (WHO, UNICEF, Amref, KRCS) – Vaccine supply, cold chain support, and RCCE.</p>	<p>Indicators: % suspected cases investigated within 24 h; % samples tested within 72 h; vector indices (Aedes density); vaccine coverage.</p> <p>De-escalation / Exit: No new cases for 28 days after last confirmed case; vector indices below threshold; ≥ 95 % target population vaccinated.</p>

Table 11: Dengue / Dengue Hemorrhagic Fever (DHF)– Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Dengue / Dengue Hemorrhagic Fever (DHF)	<p>Suspected: Any person with acute febrile illness (2–7 days) with two or more of: headache, retro-orbital pain, myalgia, arthralgia, rash, or hemorrhagic manifestations, and residence/travel in Aedes-infested area.</p> <p>Probable: A suspected case with positive NS1 antigen or IgM serology. Confirmed: Laboratory confirmation of dengue virus infection by RT-PCR or seroconversion in paired samples.</p> <p>Outbreak Definition: Two or more laboratory-confirmed cases in the same area within 14 days or evidence of local transmission.</p>	<ul style="list-style-type: none"> Single suspected case reported from a health facility or community Cluster (≥3 cases) of acute febrile illness with rash and bleeding tendency within 7 days. Laboratory confirmation of dengue virus infection or detection of Aedes breeding increase in risk areas. 	<p>Level 1- Sub-county Response: Single suspected or probable case detected and managed locally with routine surveillance and vector control.</p> <p>Level 2- County / National Support: Cluster of cases or confirmed dengue in a sub-county requiring County RRT deployment and enhanced surveillance.</p> <p>Level 3- National / Regional Surge: Multi-county spread or rising CFR prompting KNPHI PHEOC activation and partner coordination.</p>	<p>≤ 24 h: Notify County IMS and KNPHI PHEOC; verify case; collect samples for NS1/IgM/PCR testing; start line-listing and case mapping.</p> <p>≤ 72 h: Deploy RRT; conduct vector survey and control; enhance clinical management; issue public risk communication messages.</p> <p>≤ 7 d: Confirm diagnosis; implement integrated vector management (source reduction, larviciding, community clean-ups); release SITREPs.</p>	<p>Technical: Clinicians, entomologists, lab technologists, public health officers.</p> <p>HR: RRTs, vector control teams, CHPs.</p> <p>Logistics: Diagnostic kits (NS1, IgM/IgG), sprayers, insecticides, PPE, transport.</p> <p>Finance: Rapid disbursement for vector control and RCCE.</p> <p>RCCE: Awareness on mosquito breeding prevention and early care-seeking</p>	<p>Sub-County HMT / CHMT – Detection, notification, and coordination of RRT response.</p> <p>COHU + CHPs-Community sensitization and household source reduction campaigns.</p> <p>KNPHI PHEOC – National coordination, data analysis, and partner updates.</p> <p>KNPHI EPR – Technical oversight, analytics, and policy guidance.</p> <p>KEMRI / NPHL – Lab confirmation by PCR or serology. NEMA – Oversight on waste management and vector habitat control.</p> <p>NDOC / DRM – Coordination of logistics and inter-agency support. Partners (WHO, Amref, KRCS) – Technical assistance, RCCE, and entomology support.</p>	<p>Indicators: % suspected cases confirmed; vector indices (Breteau Index, Container Index); CFR; timeliness of response.</p> <p>De-escalation / Exit: No new confirmed cases for 14 days (two incubation periods); vector indices below threshold; community surveillance active.</p>

Table 12: Crimean-Congo Hemorrhagic Fever (CCHF) - Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-17)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Crimean-Congo Hemorrhagic Fever (CCHF)	<p>Suspected: Acute febrile illness with severe myalgia /headache ± GI symptoms progressing to bleeding manifestations (petechiae, hematuria, hematemesis) in a person with tick exposure or contact with livestock/abattoir /animal products from an endemic area.</p> <p>Probable: Suspected case with epidemiologic link to a confirmed case or animal/tick exposure plus thrombocytopenia and elevated liver enzymes.</p> <p>Confirmed: Detection of CCHF RNA by RT-PCR or seroconversion (IgM/IgG) in a suspected/probable case.</p> <p>Outbreak Definition: ≥1 laboratory -confirmed human case or a cluster of epidemiologically linked probable cases.</p>	<ul style="list-style-type: none"> Any single suspected human case with tick/livestock exposure. Clusters of febrile illness with bleeding among abattoir workers, herders, or healthcare workers. Reports of increased Hyalomma tick activity or animal illness/deaths in endemic zones. 	<p>Level 1- Sub-county Response: Single suspected case; local isolation and IPC feasible; limited contacts.</p> <p>Level 2- County / National Support: ≥2 epi-linked suspected cases; cases among abattoir/health-care workers; need for County RRT and national lab confirmation (KEMRI/NPHL).</p> <p>Level 3- National / Regional Surge: Laboratory-confirmed case(s); rising CFR; multi-sub-county spread or cross-border risk; healthcare-associated transmission; require KNPHI PHEOC activation and multi-agency support.</p>	<p>≤ 24 h: Notify SCHMT/CHMT and KNPHI PHEOC; isolate suspect; collect blood for RT-PCR; begin line-listing and contact tracing; institute strict IPC (droplet/contact) and safe phlebotomy.</p> <p>≤ 72 h: Deploy joint One Health RRT (clinical/epi/lab/IPC/vet/entomology); conduct exposure/source assessment (ticks, abattoir, markets); initiate tick-control measures; provide PPE and post-exposure guidance for HCWs/abattoir workers; targeted RCCE to at-risk groups.</p> <p>≤ 7 d: Confirm diagnosis; expand contact follow-up (14 days); reinforce occupational safety at abattoirs and livestock markets; review quarantine/animal movement controls where indicated; daily SITREPs and risk communication.</p>	<p>Technical: Clinicians, epidemiologists, laboratorians (BSL-2/3 workflows), IPC officers, veterinary officers, entomologists, PHOs.</p> <p>HR: County & sub-county RRTs; CHPs and CDRs for community/animal alerts; contact tracers.</p> <p>Logistics: PPE (incl. face shields), tick-control supplies (acaricides), specimen/transport kits, ambulances, disinfection supplies.</p> <p>Finance: Emergency funds for RRT deployment, lab referral, tick-control campaigns, abattoir IPC upgrades.</p> <p>RCCE: Risk messaging to herders, traders, abattoir workers, and HCWs on tick avoidance, safe animal handling, and early care-seeking.</p>	<p>Sub-County HMT / CHMT: Detection, notification, isolation, initial investigation, and contact tracing.</p> <p>COHU + CHPs/CDRs: Community alerts in pastoral/market settings; linkage of human and animal reports; support for behavior change (tick avoidance, PPE use).</p> <p>KNPHI PHEOC: National incident coordination, information management, daily SITREPs, partner tasking.</p> <p>KNPHI EPR: Technical oversight, analytics, deployment support, and international liaison.</p> <p>KEMRI / NPHL: RT-PCR/serology confirmation, biosafety guidance, packaging/transport.</p> <p>DVS / County Veterinary Dept / CVL: Animal/tick surveillance and testing; quarantine/movement control; abattoir inspections; guidance on acaricide use.</p> <p>NEMA: Environmental waste management and decontamination oversight for contaminated materials.</p> <p>NDOC / DRM: Multisector logistics and resource mobilization to hotspots (e.g., markets, abattoirs).</p> <p>Partners (FAO, WHO, Amref, KRCS, AFENET): Joint investigation, surge staffing, RCCE, and logistics.</p>	<p>Indicators: Time to isolation and lab confirmation; % contacts traced within 48 h; CFR; # HCW/abattoir-linked infections; tick indices in affected foci. De-escalation / Exit: No new confirmed/probable cases for 28 days after last case; all contacts complete follow-up; occupational risks mitigated (abattoir IPC verified) and tick indices below threshold.</p>

Table 13: Rift Valley fever Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Rift Valley Fever (RVF)	<p>Suspected (Human): Acute febrile illness with headache, myalgia, arthralgia, photophobia, or visual disturbances with history of contact with livestock, animal tissues, or mosquito exposure from affected areas.</p> <p>Probable: A suspected case with unexplained hemorrhagic manifestations, hepatitis, or encephalitis in an endemic area.</p> <p>Confirmed: Detection of RVF virus RNA by RT-PCR or IgM/IgG seroconversion in serum.</p> <p>Animal Case: Unexplained abortion storms, neonatal mortality, or hemorrhagic signs in livestock.</p> <p>Outbreak Definition: ≥ 1 laboratory-confirmed human or animal case, or linked cluster of unexplained livestock abortions/deaths in a high-risk area following heavy rains.</p>	<ul style="list-style-type: none"> • Reports of abortion storms, livestock deaths, or hemorrhagic symptoms in animals. • Human febrile illness clusters following animal exposure/slaughter. • Unusual mosquito density or flooding in high-risk counties (e.g., Garissa, Tana River, Baringo, Kajiado). • Sentinel surveillance showing seroconversion (IgG) in livestock. 	<p>Level 1- Sub-county / County Response: Localized livestock abortions or a single suspected human case detected; adequate local RRT and lab referral possible.</p> <p>Level 2- County / National Support: Multiple human and animal cases or deaths across sub-counties; requires joint RRT activation and national lab confirmation.</p> <p>Level 3- National / Regional Surge: Confirmed human-animal transmission with cross-county spread or risk of export to neighboring countries; requires full One Health activation and international notification.</p>	<p>≤ 24 h: Notify COHU, KNPHI PHEOC, and DVS; verify signal; collect blood samples (animal and human); implement animal movement restrictions; enhance mosquito surveillance.</p> <p>≤ 72 h: Deploy joint human-animal RRT; coordinate One Health risk assessment; initiate vector control; provide PPE and training to animal handlers and HCWs; launch RCCE on safe slaughtering and mosquito protection.</p> <p>≤ 7 d: Confirm laboratory results; continue joint surveillance; initiate vaccination of livestock where feasible; ensure daily SITREP to partners and authorities.</p>	<p>Technical: Epidemiologists, clinicians, veterinarians, entomologists, lab technologists, RCCE officers.</p> <p>HR: Joint RRTs (human + animal health), entomology teams, CHPs/CDRs.</p> <p>Logistics: PPE, sampling kits, mosquito traps, transport vehicles, cold chain for sera, insecticides, vaccination supplies.</p> <p>Finance: Emergency funding for RRT deployment, lab referral, vector control, and livestock vaccination.</p> <p>RCCE: Risk messaging to farmers, butchers, herders on safe slaughter, milk boiling, vector avoidance, and early health-seeking.</p>	<p>Sub-County HMT / CHMT-Detect, report, and support local RRT investigation.</p> <p>COHU + CHPs/CDRs-Coordinate One Health surveillance, community alerts, and vector control mobilization.</p> <p>KNPHI PHEOC-Lead national incident coordination and partner engagement.</p> <p>KNPHI EPR -Technical oversight, data analytics, and regional liaison.</p> <p>KEMRI / NPHL - RT-PCR testing for human specimens and support to CVL for animal samples.</p> <p>DVS / County Vet Dept / CVL- Livestock sampling, quarantine, vector control, and vaccination.</p> <p>NEMA – Environmental risk monitoring (flooding, vector breeding sites).</p> <p>NDOC / DRM- Logistics and resource mobilization for joint RRTs and vector control.</p> <p>Security Agencies – Enforcement of animal movement control and market closures where applicable.</p> <p>Partners (FAO, WHO, Amref, KRCS, AFENET) – Joint investigation, vector surveillance, RCCE, and training support.</p>	<p>Indicators: # of human and animal cases; CFR; vector indices; timeliness of notification; % animal vaccination coverage.</p> <p>De-escalation / Exit: No new human or animal cases for 28 days post-last confirmation; vector indices below threshold; animal movement restrictions lifted and surveillance resumed to routine.</p>

Table 14: Anthrax Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Anthrax	<p>Suspected Human Case: Any person with a skin lesion (papule, vesicle, or eschar) after handling animals or animal products (skin, wool, meat) from an affected area (cutaneous form); OR acute respiratory illness with dyspnea and chest pain after exposure to animal by-products (inhalational); OR acute GI illness after eating undercooked contaminated meat (intestinal).</p> <p>Probable: Suspected case epidemiologically linked to confirmed animal case/outbreak or lab evidence of Bacillus anthracis without isolation.</p> <p>Confirmed: Laboratory confirmation by culture or PCR of B. anthracis in human or animal specimen.</p> <p>Animal Case: Sudden death of animal with unclotted dark blood from natural openings and failure to rigor mortis.</p> <p>Outbreak Definition: ≥ 1 laboratory confirmed human case linked to animal exposure or ≥ 2 linked suspected human/animal cases in a defined area within 14 days.</p>	<ul style="list-style-type: none"> Unexplained sudden livestock deaths with bloody discharges. Clusters of skin lesions (eschar) or GI illness after slaughter/consumption of sick animal. Media/rumors of “dead animals being eaten” or illegal meat trade. Positive animal carcass smear/PCR at field lab. 	<p>Level 1- Sub-county Response: Single suspected animal or human case identified and contained locally; specimens collected and submitted to CVL / NPHL for testing.</p> <p>Level 2- County / National Support: ≥ 2 epidemiologically linked human cases and/or multiple animal cases across wards requiring County RRT deployment and joint One Health investigation.</p> <p>Level 3- National / Regional Surge: Confirmed human and animal cases across counties or cross-border trade routes requiring KNPPI PHEOC activation and international notification.</p>	<p>≤ 24 h: Notify SCHMT/CHMT, COHU, and KNPPI PHEOC; collect human and animal samples; isolate cases; stop slaughter/sale of suspect animals; enforce carcass safety measures.</p> <p>≤ 72 h: Deploy joint human-animal RRT; initiate ring vaccination of livestock; conduct household/community sensitization on safe handling and meat disposal; implement RCCE to curb panic and misinformation.</p> <p>≤ 7 d: Confirm lab results; continue surveillance and animal vaccination; coordinate safe carcass burial/burning under supervision; issue daily SITREP.</p>	<p>Technical: Clinicians, veterinarians, epidemiologists, public health officers, lab scientists, RCCE teams.</p> <p>HR: County RRT, sub-county health/vet officers, CHPs, CDRs.</p> <p>Logistics: PPE, sampling kits, formalin and chlorine, vaccines for livestock, incineration supplies, transport support.</p> <p>Finance: Emergency funds for RRT response and livestock vaccination.</p> <p>RCCE: Messages on safe handling of carcasses, avoidance of meat from dead animals, and seeking medical care early.</p>	<p>Sub-County HMT / CHMT- Detect and report suspected cases; coordinate RRT activation and local risk assessment.</p> <p>COHU + CHPs/CDRs-Community awareness and early alerts on animal deaths or human cases; support RCCE and safe disposal messaging.</p> <p>KNPPI PHEOC-Incident coordination and partner engagement.</p> <p>KNPPI EPR-Technical oversight and analytics.</p> <p>KEMRI / NPHL-Confirmation of B. anthracis in human specimens.</p> <p>DVS / CVL / County Vet Dept - Animal sampling, field diagnosis, ring vaccination, and safe carcass disposal.</p> <p>NEMA- Supervision of environmental decontamination and safe burial/burning sites.</p> <p>NDOC / DRM-Support with transport, security, and resource mobilization.</p> <p>Security agencies -Enforcement of movement restrictions and meat inspection regulations.</p> <p>Partners (FAO, WHO, Amref, KRCS, AFENET)-Technical support, RCCE, and livestock vaccine supply.</p>	<p>Indicators: # human and animal cases; time to notification; % ring vaccination coverage; carcasses disposed safely; CFR.</p> <p>De-escalation / Exit: No new cases for 21 days after last case; ring vaccination completed; community sensitization verified; livestock movement ban lifted by DVS/County.</p>

Table 15: Cholera/AWD- Escalation Trigger Card (ETC)

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Cholera / AWD	<p>Suspected:</p> <ul style="list-style-type: none"> Area without known cholera: ≥ 5 yrs with AWD & severe dehydration OR death from acute watery diarrhea. Area with known cholera: ≥ 2 yrs with AWD <p>Probable: Suspected case with epidemiologic link to a confirmed case/outbreak area.</p> <p>Confirmed: Isolation of <i>Vibrio cholerae</i> O1/O139 from stool.</p> <p>Outbreak definition: Non-endemic area: ≥ 1 confirmed case. Endemic area: increase above baseline/seasonal threshold or epi-linked cluster.</p>	<p>Early signals:</p> <ul style="list-style-type: none"> Single suspected cholera death. ≥ 2 suspected cases with epidemiologic link (household/school/camp) within 48–72h. Doubling of suspected cases within 48h in a facility/ward. Abrupt increase in AWD with severe dehydration, or RDT positivity where used. County baseline (source: MoH-505 weekly data): 5-year median = ___; seasonal high weeks = ___; alert if weekly count > ___. IDSR thresholds: Alert: A single suspected cholera case or death. Action: ≥ 1 confirmed case in a non-endemic area OR increase above baseline in endemic area. 	<p>Level 1</p> <p>Subcounty/County managed:</p> <ul style="list-style-type: none"> 1–4 suspected in 7 days, no deaths, services coping (beds <80%; ORS/IV $\geq 7d$). <p>Level 2</p> <p>Inter-county/National support:</p> <ul style="list-style-type: none"> ≥ 1 confirmed in new area; ≥ 5 suspected/7d in one sub-county; any cholera death; spread to second sub-county; contamination of a water system; stockouts/HR gaps impeding response. <p>Level 3</p> <p>National/Regional surge:</p> <ul style="list-style-type: none"> Multi-county spread or cross-border threat; rapid rise with CFR $\geq 2\%$; camps/IDP settings; concerning lab signals (e.g., resistance). 	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC, triage and set up oral rehydration points (ORPs) and isolation bays; collect/transport stool for culture/PCR; map water sources; start IPC and chlorination at point-of-use.</p> <p>≤ 72 h: Deploy County RRT (Clinical/Epi/Lab/IPC/WASH/RCCE); establish Cholera Treatment Units (CTUs) where needed; ensure continuous ORS/IV supplies; coordinate water trucking/chlorination; initiate household disinfection and safe burial SOPs; targeted RCCE.</p> <p>≤ 7 d: Confirm etiology; expand case area-mapping and line-listing; strengthen WASH interventions (source repair, pipe flushing, latrine hygiene); consider reactive OCV per national guidance; daily SITREPs with epi curves and WASH indicators.</p>	<p>Technical: Clinicians, IPC nurses, epidemiologists, lab techs, environmental health/WASH officers, RCCE officers.</p> <p>HR: RRT surge staff, CHPs, volunteers for ORPs, logisticians.</p> <p>Logistics: Cholera kits (ORS, IV fluids, antibiotics per protocol), PPE, specimen containers/Cary-Blair media, chlorine (HTH/NaDCC), hand-washing stations, tents/beds.</p> <p>Finance: Emergency funds for CTUs, WASH fixes, water trucking, transport.</p> <p>RCCE: Clear messages on early rehydration, safe water, food hygiene, hand-washing, safe burial.</p>	<p>Sub-County HMT /CHMT: Detection, notification, CTU/ORP setup support, initial case investigation, local logistics.</p> <p>CHPs: Household visits for ORS use, water treatment, hygiene promotion, rapid rumor management.</p> <p>KNPHI PHEOC: National coordination, partner tasking, SITREP consolidation, threshold monitoring.</p> <p>KNPHI EPR: Technical oversight, analytic support, OCV recommendation coordination.</p> <p>KEMRI / NPHL: Culture/PCR confirmation, antimicrobial sensitivity, test-and-transport guidance.</p> <p>NEMA: Environmental oversight of waste disposal, decontamination, and safe chlorination practices.</p> <p>NDOC / DRM: Inter-agency logistics (water trucking, tents, stocks), cross-county coordination.</p> <p>Water Service Providers / County Water Dept: Source repair, chlorination, residual testing. Partners (UNICEF, WHO, KRCS, Amref, NGOs): WASH supplies, CTU staffing support, RCCE, potential OCV logistics.</p>	<p>Indicators: CFR <1%; % cases with stool collected/transported within 24–48h; % patients receiving ORS at triage; stock-out days (ORS/IV/antibiotics); water residual chlorine levels; # functional ORPs/CTUs; OCV coverage (if used).</p> <p>De-escalation / Exit: No new confirmed cases for 14 days and attack rates declining; safe water indicators sustained (residual chlorine within target); CTUs decongested; WASH corrective actions completed and verified.</p>

Table 16: Measles/Rubella Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Measles /Rubella	<p>Measles suspected: Any person with fever and maculopapular rash and cough, coryza, or conjunctivitis.</p> <p>Rubella suspected: Any person with fever and maculopapular rash and cervical/occipital lymphadenopathy or arthralgia/arthritis (esp. women); or suspected CRS in infants.</p> <p>Probable: Epidemiologic link to confirmed case/outbreak.</p> <p>Confirmed: Measles- or rubella-specific IgM positive or PCR/virus detection/genotyping; or epidemiologic linkage to a lab-confirmed case.</p> <p>Outbreak Definition: ≥ 2 lab-confirmed cases of measles or rubella (or epi-linked) in the same sub-county within 30 days; OR one lab-confirmed case in a congregate/high-risk setting.</p>	<ul style="list-style-type: none"> Two or more suspected rash-fever cases presenting within 7–14 days from the same village/school/camp/health facility. Zero-dose or under-immunized clusters; long periods without SIAs; low routine MCV1/MCV2 coverage. Admission spikes for severe measles/pneumonia or reports of CRS 	<p>Level 1 Sub-county Response: Single suspected case or a small cluster manageable locally; samples collected and shipped; routine EPI and surveillance functioning.</p> <p>Level 2 County / National Support: ≥ 2 epi-linked suspected/confirmed cases across wards, health-facility or school cluster; requires County RRT, enhanced surveillance, and targeted reactive immunization.</p> <p>Level 3 National / Regional Surge: Multi-sub-county or multi-county spread; high CFR/severe cases; vaccine stockouts/cold chain constraints; requires KNPHI PHEOC activation and large-scale reactive SIAs with partner support.</p>	<p>≤ 24 h: Notify SCHMT/CHMT and KNPHI PHEOC; isolate suspect at triage; collect serum/throat swab/urine as per guideline; line-list and map cases/contacts; verify vaccination status; alert schools/camps as needed.</p> <p>≤ 72 h: Deploy County RRT (EPI/Epi/Lab/IPC/RCCE); enhance contact tracing and ring vaccination where appropriate; verify cold chain; conduct facility and community sensitization; issue initial SITREP.</p> <p>≤ 7 d: Confirm diagnosis; implement targeted reactive immunization or SIA per risk assessment; expand active case search; differentiate measles vs rubella and investigate CRS signals; daily SITREPs with epi curves and coverage updates.</p>	<p>Technical: EPI officers, epidemiologists, clinicians/paediatricians, IPC nurses, lab technologists, RCCE officers, data managers.</p> <p>HR: RRT nurses/vaccinators, CHPs/community mobilizers, logisticians, supervisors.</p> <p>Logistics: Vaccines (MCV/Rubella), syringes/safety boxes, cold chain (ICE packs, carriers, fridges), transport, PPE.</p> <p>Finance: Emergency funds for reactive vaccination, per diems, fuel, microplanning.</p> <p>RCCE: Social mobilization, zero-dose tracking, school/faitih/community engagement, rumor management.</p>	<p>Sub-County HMT / CHMT: Detection, notification, sample collection/shipment, RRT activation, microplanning for reactive vaccination.</p> <p>COHU + CHPs: Community mobilization, zero-dose identification, defaulter tracing, school outreach. KNPHI PHEOC: National coordination, situation analysis, SITREP consolidation, partner tasking. KNPHI EPR: Technical oversight, analytics, SIA guidance, monitoring/coverage validation.</p> <p>KEMRI / NPHI: IgM/PCR confirmation, genotyping where feasible, sample referral QA.</p> <p>NDOC / DRM: Inter-agency logistics and transport support for vaccination teams.</p> <p>Security agencies: Security and crowd management during mass vaccination in high-density settings. Partners (WHO, UNICEF, Amref, KRCS, AFENET): Vaccine/ice pack support, social mobilization, independent monitoring, training/supervision.</p>	<p>Indicators: Suspected cases investigated within 48 h; % samples with results within 7 d; routine coverage (MCV1/MCV2) and SIA coverage; % zero-dose children reached; CFR; timeliness of response.</p> <p>De-escalation / Exit: No new lab-confirmed/epi-linked cases for 42 days (two measles incubation periods) after last case onset; reactive vaccination/SIA achieves $\geq 95\%$ target coverage; sustained facility/community surveillance with zero-dose mop-up completed.</p>

Table 17: SARI/ILI Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-17)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Severe Acute Respiratory Infection (SARI) / Influenza-like illness (ILI) (including COVID-19 & seasonal/novel influenza)	ILI (clinical): Acute respiratory illness with measured fever $\geq 38^{\circ}\text{C}$ and cough with onset within the last 10 days. SARI (clinical): ILI requiring hospitalization or presenting with dyspnea/hypoxia/pneumonia. COVID-19 suspected/probable: Compatible symptoms with epidemiologic link/exposure or imaging suggestive of COVID-19. Confirmed (COVID-19 / Influenza): Pathogen detection by RT-PCR/Ag (COVID-19) or RT-PCR/rapid molecular assay (influenza). Outbreak definition: (i) Facility or community cluster of ≥ 3 epi-linked cases within 7 days or (ii) SARI/ILI rates exceeding seasonal/baseline thresholds or (iii) detection of a novel/variant strain with transmission potential.	<ul style="list-style-type: none"> • Abrupt rise in ILI consultations above baseline in facilities/sentinels. • Increase in SARI admissions, oxygen use, or unexplained pneumonia deaths. • Facility/closed-setting clusters (schools, prisons, camps, workplaces). • Detection of unusual/novel strain or antigenic drift/shift signal from lab. 	<p>Level 1</p> <p>Sub-county Response: Localized facility or school/ward cluster; manageable bed/oxygen demand; routine lab referral possible.</p> <p>Level 2</p> <p>County / National Support: Multi-ward/sub-county clusters; rising SARI admissions/oxygen demand; HCW infections; need County RRT and surge supplies; variant under investigation.</p> <p>Level 3</p> <p>National / Regional Surge: Multi-county spread, rapid $R_t > 1$ with health-system stress (ICU/oxygen stockouts), or confirmation of variant/novel strain; KNPHI PHEOC activation, expanded lab and oxygen surge.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; initiate IPC (masking, triage, cohorting); collect specimens (NP/OP swabs) for RT-PCR/Ag (COVID-19) and flu PCR; start line-list, exposure mapping; review bed/oxygen status.</p> <p>≤ 72 h: Deploy County RRT(Clinical/Epi/Lab/IPC /RCCE/Logistics); enhance sentinel sampling; verify oxygen & pulse oximetry capacity; initiate clinical guidance (triage, steroids/antivirals per protocol, oxygen therapy); targeted RCCE for testing/isolation; protect HCWs (fit-testing where applicable).</p> <p>≤ 7 d: Confirm etiology/strain; expand contact tracing or targeted testing where indicated; implement surge (beds/oxygen) and referral pathways; update treatment & IPC guidance; daily SITREPs incl. admissions, ICU/oxygen metrics, and test positivity; coordinate vaccination/antivirals if indicated.</p>	<p>Technical: Physicians/paediatricians, emergency & ICU nurses, epidemiologists, lab scientists (PCR/Ag), IPC officers, biomedical engineers (oxygen). HR: RRT, triage staff, data managers, CHPs for community follow-up. Logistics: Sample kits/transport media, Ag/PCR supplies, PPE (surgical/N95), oxygen cylinders/concentrators, pulse oximeters, ventilators/CPAP as available. Finance: Emergency funds for oxygen, PPE, diagnostics, surge staffing/transport. RCCE: Risk communication on masking when indicated, ventilation, vaccination (COVID-19/flu), early care-seeking for danger signs.</p>	<p>Sub-County HMT / CHMT: Detection, notification, facility triage re-organization, initial cluster investigation. CHPs: Community alerts, support for isolation guidance, home-based care follow-up where policy allows, referral triggers. KNPHI PHEOC: National incident coordination, oxygen/bed situational analysis, partner tasking, SITREP consolidation. KNPHI EPR: Technical oversight, analytics (Rt, test positivity), guidance on vaccination/antivirals and variant investigations. KEMRI / NPHI: PCR/Ag confirmation, genomic surveillance/variant analysis, QA for sentinel labs. NDOC / DRM: Logistics for oxygen/bed surge, inter-county transfers as needed. NEMA: Healthcare waste mgt & ventilation/air-quality guidance for facilities Security agencies: Crowd/queue management at high-demand sites if required (Quarantine). Partners (WHO, Africa CDC, UNICEF, Amref, KRCS, AFENET): Technical support, diagnostics/oxygen donations, RCCE, vaccination ops support.</p>	<p>Indicators: ILI & SARI rates vs baseline; test positivity; admissions/ICU occupancy; oxygen consumption days; HCW infections; turnaround time for results; vaccination coverage (if applicable). De-escalation / Exit: Sustained decline to/below seasonal baseline for ≥ 14 days; ICU/oxygen demand normalized; no new clusters or variant under investigation impacting severity; sentinel surveillance stable and routine IPC resumed.</p>

Table 18: Mpox - Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-17)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Mpox	<p>Suspected: Acute, unexplained rash (vesicular/pustular) with one or more prodromal symptoms (fever, lymphadenopathy, myalgia, headache) OR epidemiologic link to a probable/confirmed case in the 21 days before symptom onset.</p> <p>Probable: Suspected case with epidemiologic link (household/sexual/social contact, healthcare exposure), characteristic lesions, and no alternative diagnosis.</p> <p>Confirmed: Laboratory detection of mpox virus DNA by RT-PCR from skin lesion material or appropriate specimen; sequencing if indicated.</p> <p>Outbreak Definition: ≥ 2 lab-confirmed or epi-linked probable cases in a defined setting within 21 days or a single lab-confirmed case with onward local transmission.</p>	<ul style="list-style-type: none"> Any single suspected case with characteristic vesiculo-pustular rash/lymphadenopathy. Cluster of rash illness among close contacts, households, congregations, or settings, or healthcare workers. Reports of animal exposure (wild/kept mammals) or imported case/contact. 	<p>Level 1</p> <p>Sub-county Response: Single suspected/confirmed case; facility can isolate; contacts limited and traceable; routine lab referral feasible.</p> <p>Level 2</p> <p>County / National Support: ≥ 2 epi-linked confirmed/probable cases, HCW infection, or transmission in congregate settings; County RRT required; need for enhanced diagnostics and IPC.</p> <p>Level 3</p> <p>National / Regional Surge: Multi-sub-county transmission, rising CFR/severe complications, or importation with cross-county spread; KNPHI PHEOC activation and multi-agency coordination.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; isolate patient (contact/droplet + lesion precautions); collect lesion swabs for RT-PCR at KEMRI/NPHI; begin line-listing and contact identification (21-day follow-up).</p> <p>≤ 72 h: Deploy County RRT(Clinical/Epi/Lab/IPC /RCCE); assess exposure settings (household, workplace, school, facility); reinforce IPC (PPE, cleaning of fomites); provide clinical guidance (pain control); treat secondary infections; special populations' care).</p> <p>≤ 7 d: Confirm diagnosis; expand contact tracing and monitoring; evaluate need for ring-fencing measures per national guidance; release daily SITREPs; targeted RCCE to reduce stigma and promote early care-seeking.</p>	<p>Technical: Clinicians/dermatology /paediatrics, epidemiologists, lab technologists (PCR), IPC officers, PHOs, RCCE officers.</p> <p>HR: County/sub-county RRTs, contact tracers, CHPs for community follow-up.</p> <p>Logistics: PPE (gloves, gowns, eye protection), specimen/transport kits, disinfectants for environment/fomites, dedicated isolation area, transport support.</p> <p>Finance: Emergency funds for diagnostics, IPC supplies, surge staffing.</p> <p>RCCE: Focused messaging on symptom recognition, reduced contact during rash phase, household cleaning of linens/fomites, and non-stigmatizing communication with at-risk networks.</p>	<p>Sub-County HMT / CHMT: Detection, notification, isolation support, initial case investigation and contact listing. COHU + CHPs: Community education, contact follow-up support, rumor management, linkage to services.</p> <p>KNPHI PHEOC: National incident coordination, SITREP consolidation, partner tasking.</p> <p>KNPHI EPR: Technical oversight, analytics, guidance on clinical/IPC and exposure settings; assessment of vaccination/antivirals if policy allows.</p> <p>KEMRI / NPHI: RT-PCR confirmation, sequencing support, QA for specimen handling. NDOC / DRM: Logistics and inter-agency support if multiple sites affected. NEMA: Healthcare waste oversight and environmental cleaning guidance.</p> <p>Security agencies: Security/crowd management if required in high-traffic clinics or during contact tracing operations.</p> <p>Partners (WHO, Africa CDC, UNICEF, Amref, KRCS, AFENET): Technical assistance, training, RCCE materials, surge support.</p>	<p>Indicators: Time from detection \rightarrow isolation; % contacts traced and completing 21-day follow-up; proportion of HCW exposures with appropriate PPE; lab turnaround time; # severe cases/complications. De-escalation / Exit: No new confirmed/epi-linked cases for 21 days after last case isolation; all contacts complete follow-up; facility/community IPC adherence verified and sustained.</p>

Table 19: Polio/AFP-Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Polio (WPV/ VDPV)/ Acute Flaccid Paralysis (AFP)	AFP Suspected Case: Any child <15 years with acute flaccid paralysis (AFP) or any person with paralytic illness where polio is suspected. Probable: AFP case epidemiologically linked to a lab-confirmed poliovirus. Confirmed: Isolation of WPV/VDPV/Sabin-like virus in two adequate stool specimens 24–48 h apart within 14 days of paralysis onset, or from an environmental sample linked by sequencing.	<ul style="list-style-type: none"> Any AFP case reported (especially zero-dose or undervaccinated). Detection of poliovirus (WPV/VDPV) in environmental samples. Cluster of AFP cases in a ward/sub-county within 2 weeks. Declining AFP performance indicators (non-polio AFP rate, stool adequacy). 	<p>Level 1</p> <p>Sub-county Response: Single AFP case under investigation; two stools collected within 14 days; local search for additional AFP; facility and community sensitization.</p> <p>Level 2</p> <p>County / National Support: Lab detection of poliovirus (Sabin-like/VDPV under investigation) or ≥2 AFP cases in a ward/sub-county, requires County RRT, expanded active case search, and environmental sampling review.</p> <p>Level 3</p> <p>National / Regional Surge: Sequence-confirmed WPV/VDPV circulation, multi-sub-county spread, or exportation risk; KNPHI PHEOC activation, large-scale SIAs, cross-county coordination, and international notification.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; line-list AFP case(s); ensure two adequate stools (≥8 g, 24–48 h apart) collected within 14 days; ship to NPHL/KEMRI with cold chain; start active case search in facilities/communities and review ES sites.</p> <p>≤ 72 h: Deploy County RRT (EPI/Epi/Lab/RCCE/Logistics); verify AFP surveillance quality (NPAFP rate, stool adequacy); enhance environmental surveillance where feasible; prepare microplans for targeted SIAs; commence risk communication to caregivers and communities.</p> <p>≤ 7 d: Confirm virus type and sequencing; finalize response strategy (mOPV2/bOPV/Sabin vaccine as guided); implement targeted SIA rounds; intensify zero-dose tracking and defaulter tracing; daily SITREPs (AFP detection, lab results, SIA readiness).</p>	<p>Technical: EPI officers, epidemiologists, clinicians/physiotherapists (for AFP exam), lab scientists (virology), data managers, RCCE teams.</p> <p>HR: County/sub-county RRT, vaccinators, supervisors, CHPs for household mobilization and defaulter tracing.</p> <p>Logistics: Stool collection kits/cool boxes/ice packs, vaccine supply (as guided), cold chain, transport (motorbikes/vehicles), tally tools, PPE.</p> <p>Finance: Emergency funds for rapid investigation, ES sampling, SIA rounds, and transport/per diems.</p> <p>RCCE: Demand generation for vaccination, caregiver messaging on AFP reporting within 24 h, zero-dose/underimmunized mapping.</p>	<p>Sub-County HMT / CHMT: Immediate AFP notification, stool collection logistics, facility/community active search, SIA microplanning.</p> <p>CHPs: Community mobilization, zero-dose identification, follow-up for AFP reporting, support for SIA implementation.</p> <p>KNPHI PHEOC: National incident coordination, sequencing updates, partner tasking, SITREP consolidation. KNPHI EPR: Technical oversight, analytics (NPAFP rate, stool adequacy, ES positivity), SIA strategy guidance. KEMRI / NPHL: Virus isolation, intratypic differentiation, sequencing, and ES QA. NDOC / DRM: Logistics for SIA supplies and cross-county support. Security agencies Security/crowd management for mass vaccination where needed. Partners (WHO, UNICEF, KRCS, AFENET, Amref): Technical assistance, SIA operations, independent monitoring, social mobilization.</p>	<p>Indicators: NPAFP rate ≥2/100,000 <15 yrs; ≥80% stool adequacy; ES sampling timeliness; SIA coverage ≥95% in target areas; turnaround time for sequencing; # zero-dose children reached.</p> <p>De-escalation / Exit: No new WPV/VDPV detections for ≥90 days, AFP/ES indicators sustained, SIA post-campaign monitoring (LQAS/independent monitoring) at target levels, and routine EPI strengthened with documented defaulter mop-up.</p>

Table 20: Chemical Events - Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Chemical Event (Toxic Release / Exposure / Contamination)	Suspected Incident: Any report of hazardous chemical release, spill, fire/explosion with potential toxic exposure (industrial, transport, household, agricultural, deliberate) OR unusual cluster of acute symptoms (respiratory distress, ocular irritation, seizures, unconsciousness) near a facility/transport route. Probable: Multiple symptomatic persons with a plausible exposure link or environmental detection (air/water/soil) of hazardous substance Confirmed: Lab verified toxic release/exposure with laboratory/environmental confirmation and clinical correlation (above permissible levels).	<ul style="list-style-type: none"> Unusual odors/fumes, mass symptoms in a locality/facility/school. Reports of spills, tanker accidents, warehouse fires, pesticide misuse. Plant alarms, environmental sensor alerts, dead fish/birds/livestock near water bodies. 	<p>Level 1 Sub-county Response: Localized event; source identified; few casualties manageable locally; containment possible by facility/Fire/EMS; initial tox data available.</p> <p>Level 2 County / National Support: Multi-casualty incident; unknown agent; offsite impact (schools/market); requires County RRT + specialized HAZMAT support; public advisories needed.</p> <p>Level 3 National / Regional Surge: Large-scale release, cross-county plume,</p>	<p>≤ 24 h: Ensure scene safety; establish incident command; isolate area, initiate evacuation/shelter-in-place per plume modelling; triage and decontamination (hot/warm/cold zones); collect exposure histories and environmental samples; notify KNPHI PHEOC/NEMA/NDOC.</p> <p>≤ 72 h: Deploy County RRT (Clinical/Tox/PH/Epi/Environmental/IPC/RCC) and specialized HAZMAT; complete hazard identification (SDS/MSDS), medical management protocols (airway support, oxygen, bronchodilators, antidotes as indicated), and facility decon; risk communication to public; water/air/soil monitoring with</p>	<p>Technical: Emergency physicians, toxicologists (where available), epidemiologists, environmental/public health officers, lab scientists (toxicology), HAZMAT/Fire/EMS, IPC officers, RCCE specialists. HR: RRT surge staff, decon teams, call centre hotlines, CHPs for community follow-up and risk messaging reinforcement. Logistics: HAZMAT PPE (respirators/SCBA where indicated), decon tents/showers, absorbents/neutralizers, antidotes (e.g., cyanide kits, organophosphate oximes/atropine as guided), air/water monitors, specimen/chain-of-custody materials.</p>	<p>Sub-County HMT / CHMT: Immediate notification, facility triage surge, initial casualty tracking, local coordination with Fire/EMS. COHU + CHPs: Community risk messaging, vulnerable-population checks (animals), household-level guidance (ventilation, water/food safety), rumor management. KNPHI PHEOC: National incident coordination, technical consolidation, SITREP management. KNPHI EPR: Technical guidance on clinical protocols, exposure assessment, surveillance analytics. KEMRI / NPHL: Toxicology/chemical analysis; sample handling protocols; QA/QC.</p>	<p>Indicators: Time to incident command establishment; # exposed/treated; hospital surge capacity; environmental metrics (air/water levels) returning to permissible standards; antidote stock utilization; community compliance with advisories. De-escalation / Exit: Source contained, environmental levels < thresholds, no new exposure-related cases for 14 days, decon complete and certified by NEMA, clear handover to routine monitoring with post-incident review completed.</p>

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Chemical Event (Toxic Release / Exposure / Contamination)	Outbreak Definition: Notifiable incident with affected population requiring public health/medical countermeasures or evacuation/shelter-in-place.		Level 3 National / Regional Surge: Large-scale release, cross-county plume, critical infrastructure affected, or suspected deliberate/criminal act; requires KNPHI PHEOC activation, multi-agency command, and international notification where applicable.	≤ 7 d: Confirm agent(s) and exposure pathways; conduct health surveillance of exposed populations; finalize cleanup and waste disposal plans; review occupational/comm unity protection measures; daily SITREPs incl. exposure/clinical outcomes and environmental metrics.	RCCE: Clear, actionable, non-alarmist instructions (shelter-in-place, evacuation routes, water safety, food advisories).	NEMA: Lead environmental assessment, monitoring, cleanup standards, hazardous waste oversight. NDOC / DRM: Multi-agency logistics, evacuation support, inter-county coordination. Security agencies : Scene security, perimeters, crowd/traffic control; criminal investigation liaison if applicable. County Fire & HAZMAT / EMS: First response, containment, decon, rescue. Partners (UNEP, WHO, Amref, KRCS, industry operators): Technical support, equipment/antidote donations, specialist advice, and community liaison.	

Table 21: Foodborne Disease Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Foodborne Disease Outbreak (e.g., Typhoid / Salmonella)	Suspected: ≥2 persons with acute GI illness (fever, abdominal pain, nausea/vomiting, diarrhea) after sharing a common meal/source within 72 h. Probable: Suspected case(s) epi-linked to a common food/water source with compatible clinical picture. Confirmed: Isolation/detection of pathogen (e.g., Salmonella, Shigella, E. coli, S. Typhi/Paratyphi, V. parahaemolyticus) from stool/food/water or serology (for typhoid) supporting epi link.	<ul style="list-style-type: none"> • ≥3 compatible GI cases from same event (wedding, school, prison, food premises) within 24–72 h. • Facility spike in acute gastroenteritis. • Reports of contaminated water, food handler illness, or cold-chain failure. 	<p>Level 1</p> <p>Sub-county Response: Localized cluster in a household/small event; facility can manage rehydration; samples collected; immediate food stop orders feasible.</p> <p>Level 2</p> <p>County/National Support: Multi-site cluster (school/prison/market), rising admissions or severe dehydration; requires County RRT (Epi/Clinical/Lab/EHS/RCCE) and closure of implicated premises; lab confirmation pending.</p> <p>Level 3</p> <p>National/Regional Surge: Cross-sub-county spread, wide distribution chain (wholesaler/brand) or high CFR; KNPHI PHEOC activation with multi-agency trace-back and public advisories/recall.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC, verify signal; line-list cases; collect stool/food/water; cease sale/service of implicated product; initiate clinical management (rehydration/antibiotics per guideline); inspect premises (temperature logs, hygiene, water supply).</p> <p>≤ 72 h: Deploy County RRT; implement control measures (premises closure/cleaning, water chlorination/boiling advisories); start traceback/trace-forward; strengthen ORP/CTU capacity if severe dehydration spikes; targeted RCCE to affected community.</p> <p>≤ 7 d: Confirm pathogen and source; finalize recall and corrective actions; monitor food handlers (exclude symptomatic until cleared per policy); daily SITREPs (epi curve, attack rates, lab results, corrective actions).</p>	<p>Technical: Epidemiologists, clinicians, environmental health officers/inspectors, lab technologists (microbiology), RCCE officers, data managers.</p> <p>HR: County & sub-county RRTs, CHPs for household follow-up, inspectors, sampling teams.</p> <p>Logistics: Stool/food/water sampling kits, Cary-Blair/transport medium, cold boxes, ORS/IV fluids, disinfectants, closures/notice materials.</p> <p>Finance: Emergency funds for inspections, sampling, transport, and CTU surge.</p> <p>RCCE: Clear advice on stop-consumption, safe water/food hygiene, hand-washing, and when to seek care.</p>	<p>Sub-County HMT / CHMT: Immediate notification, inspection orders, sample collection/transport, local enforcement.</p> <p>COHU + CHPs: Household follow-up, risk messaging, early referral, rumor management.</p> <p>KNPHI PHEOC: National coordination, SITREP consolidation, partner tasking.</p> <p>KNPHI EPR: Technical oversight, analytics, recall/traceback guidance. KEMRI / NPHL: Culture/PCR confirmation, AST (as indicated), source testing support.</p> <p>NEMA: Oversight on waste/water contamination remediation.</p> <p>County Trade / Public Works / Water Services: Enforcement of closures, repairs, chlorination.</p> <p>NDOC / DRM: Logistics for multi-site investigations.</p> <p>Security agencies: Enforcement of closure/recall where needed.</p> <p>Partners (WHO, UNICEF, KRCS, Amref, NGOs): WASH/ORS support, RCCE materials, surge staffing.</p>	<p>Indicators: Attack rate; median onset-to-notification; lab confirmation rate; premises compliance with corrective actions; ORS/IV stock-out days; secondary case occurrence.</p> <p>De-escalation / Exit: No new cases for 14 days after control measures; corrective actions verified; implicated source controlled/closed; water quality within standards.</p>

Table 22: Zoonotic Spillover/Animal Mass Mortality- Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-17)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Zoonotic Spillover / Animal Mass Mortality	<p>Suspected: Unusual animal illness/deaths (domestic/wildlife) or human illness with strong animal exposure (handling carcasses, slaughtering, wildlife contact), not explained by routine causes.</p> <p>Probable: Epidemiologic link between human cases and affected animals/locations with compatible clinical signs (e.g., hemorrhagic signs, abortions, neuro/respiratory syndromes).</p> <p>Confirmed: Laboratory confirmation of zoonotic pathogen (human and/or animal specimens) by PCR/serology/culture as appropriate.</p> <p>Event Definition: Any cluster of unexplained animal deaths or mass die-off (fish/birds/mammals) OR detection of a priority zoonotic pathogen with risk to humans.</p>	<ul style="list-style-type: none"> • Reports of multiple sudden animal deaths (livestock/wildlife/poultry/dogs/cats); • Unusual morbidity in animals with abortions/hemorrhage/neurologic signs. • Community rumors of “mysterious animal deaths,” dead wildlife near water sources, or bird/fish die-offs. • Concurrent human illness in those handling animals or consuming meat from dead animals. 	<p>Level 1 Sub-county / County Response: Localized die-off or single-site animal event; limited human exposure; local sampling & safe disposal possible.</p> <p>Level 2 County / National Support: Multi-site animal mortality or human cases epi-linked to animals; requires joint One Health RRT, regional lab support, and movement/quarantine orders.</p> <p>Level 3 National / Regional Surge: Large-scale wildlife/livestock mortality, cross-county spread, or high-risk zoonotic agent; KNPHI PHEOC activation, multi-agency command, and international notification as required.</p>	<p>≤ 24 h: Notify DVS/COHU/KNPHI PHEOC; secure site(s); map carcass locations; collect priority specimens (per pathogen risk) using PPE; implement safe carcass disposal (burial/incineration); restrict animal movement/markets; issue community cautions (no handling/consumption)</p> <p>≤ 72 h: Deploy joint human-animal RRT (Vet/Clinical/Epi/Lab/IP/C/Environment/RCCE); expand active search; environmental sampling (water/soil); apply quarantine and vaccination (where available) per DVS guidance; strengthen facility IPC for exposed persons; targeted RCCE for at-risk groups.</p> <p>≤ 7 d: Confirm etiology (animal/human); review and adjust control measures; maintain carcass management and market restrictions; daily SITREPs (animal/human case trends, sites addressed, lab status).</p>	<p>Technical: Veterinarians, wildlife authorities, epidemiologists, clinicians, lab technologists, PHOs, entomologists (as relevant), RCCE officers, environmental officers. HR: Joint One Health RRTs; animal health auxiliaries; CHPs and CDRs for community/animal alerts.</p> <p>Logistics: PPE, sampling & transport kits (animal/human), disinfectants, excavation/cremation supplies, signage/fencing, transport.</p> <p>Finance: Emergency funds for carcass management, lab referral, quarantine enforcement, and vaccination campaigns if indicated.</p> <p>RCCE: Community warnings on avoiding dead animals, reporting unusual events, safe slaughtering, and early health-seeking after exposure.</p>	<p>Sub-County HMT / CHMT: Support human surveillance and exposed-person follow-up; notify & coordinate with vet services. COHU + CHPs/CDRs: Community animal/human event reporting, rumor mgt, household risk messaging; linkage to services. DVS / County Vet Dept / CVL: Lead animal investigation, sampling/testing, quarantine & movement control, vaccination (if available). KNPHI PHEOC: National incident coordination, SITREP consolidation KNPHI EPR: Technical coordination analytics, and cross-sector policy guidance. KEMRI / NPHL: Lab confirmation (human) and coordination with CVL (animal); biosafety guidance. NEMA: EIA, safe disposal oversight, water/soil quality monitoring. NDOC/DRM: Logistics, inter-county coordination. Security agencies: Perimeter security, enforcement of quarantine/market closure KWS: Wildlife sampling, site control in parks/reserves, visitor advisories. WOAHE, Amref, KRCS, AFENET): Joint One Health support, RCCE, supplies, training.</p>	<p>Indicators: # animal carcasses managed safely; # human exposures identified and followed; lab confirmation turnaround; quarantine compliance; community reporting rate.</p> <p>De-escalation / Exit: No new animal die-offs/human cases for 28 days; carcass management complete; quarantine lifted per DVS; environmental metrics within standards; routine surveillance resumes.</p>

Table 23: Acute Jaundice Syndrome - Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Acute Jaundice Syndrome (AJS)	<p>Suspected: Any person with acute jaundice (yellow eyes/skin) ± fever, dark urine, pale stool, abdominal pain, anorexia, nausea.</p> <p>Probable: Suspected case epi-linked to a confirmed outbreak/community cluster.</p> <p>Confirmed: Lab evidence (e.g., HAV/HEV IgM, or ALT/AST $\geq 2 \times$ ULN with compatible epi picture) or other pathogen per guideline; exclude malaria/sepsis/hemolysis biliary obstruction/toxin.</p> <p>Outbreak Definition: ≥ 2 epi-linked AJS cases from same village/facility/school/camp within 14–28 days or sustained facility cluster over baseline.</p>	<ul style="list-style-type: none"> ≥ 2 AJS cases from one village/school in 14 days. Spike in jaundice presentations at a facility. WASH breakdowns, contaminated water reports, flooding/latrine overflow. 	<p>Level 1 Sub-county Response: Localized cluster manageable with routine care; samples collected; water point identified.</p> <p>Level 2 County/National Support: Multi-ward cluster or severe cases (pregnant women at risk for HEV); requires County RRT, expanded labs/WASH action.</p> <p>Level 3 National/Regional Surge: Multi-county spread, camps/urban settlements affected, rising CFR; KNPHI PHEOC activation, partner surge, cross-sector WASH response.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; verify cases; collect blood for LFTs and viral hepatitis panels (A/E \pm B/C); map water/latrines; initiate risk communication on safe water and hygiene.</p> <p>≤ 72 h: Deploy County RRT (Clinical/Epi/Lab/WASH /RCCE); assure safe water (chlorination/boil advisories), latrine sanitation; triage (pregnancy/high-risk flags); start case mapping/line-list.</p> <p>≤ 7 d: Confirm etiology; intensify WASH remediation; set up ORPs where needed; antenatal screening in affected sites; daily SITREPs with epi curve, LFT/IgM results, WASH indicators.</p>	<p>Technical: Clinicians, hepatology consults (as available), epidemiologists, lab techs (LFTs/IgM), environmental health/WASH officers, RCCE staff.</p> <p>HR: County/sub-county RRT, CHPs, data clerks, sampling teams.</p> <p>Logistics: Sample kits, LFT reagents, IgM tests (A/E), chlorine/HTH, water bladders, handwashing stations, PPE, transport.</p> <p>Finance: Emergency funds for WASH fixes, diagnostics, outreach. RCCE: Messaging on safe water, hand-washing, food hygiene, pregnancy risk (HEV), and early care-seeking for danger signs.</p>	<p>Sub-County HMT / CHMT: Detection, notification, facility readiness; initial investigation.</p> <p>COHU + CHPs: Household hygiene promotion, identification of high-risk (pregnant), rumor management, referral.</p> <p>KNPHI PHEOC: National coordination, SITREPs, partner tasking.</p> <p>KNPHI EPR: Technical oversight, analytics, lab/WASH prioritization. KEMRI / NPHL: Hepatitis panels (A/E\pmB/C), LFT QA, confirmatory testing, differential diagnostics.</p> <p>Water Service Provider / County Water Dept: Source testing/repair, chlorination, residual testing.</p> <p>NEMA: Environmental oversight (latrine overflow, sludge disposal).</p> <p>NDOC / DRM: Logistics (water trucking/latrine rehab).</p> <p>Security agencies: Security at water points if crowding.</p> <p>Partners (UNICEF, WHO, Amref, KRCS, NGOs): WASH/RCCE support, supplies, surge staffing.</p>	<p>Indicators: % samples tested within 72 h; LFT/IgM positivity; attack rate; pregnant cases tracked; water residual chlorine; ORP utilization.</p> <p>De-escalation / Exit: No new AJS cases for 28 days; water quality within standards; sanitation fixes verified; clinical caseload back to baseline.</p>

Table 24: Kalar-azar - Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance/RCCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Kala-azar (VL)	<p>Suspected: Prolonged fever > 2 weeks; weight loss, splenomegaly (\pm hepatomegaly), anemia, from/with travel to endemic foci.</p> <p>Probable: Suspected case with positive rK39/DAT and compatible clinical picture.</p> <p>Confirmed: Parasitological confirmation (tissue aspirate) or strong serologic evidence (per national guideline).</p> <p>Outbreak Definition: ≥ 3 epi-linked suspected/probable/confirmed VL within 4 weeks in same village/ward or above expected baseline in an endemic focus.</p>	<ul style="list-style-type: none"> Cluster of prolonged fever/splenomegaly in an endemic village. Stock-outs of rK39/antileishmanial drugs with rising suspect cases. Reports of sandfly proliferation near settlements. 	<p>Level 1 Sub-county Response: Single suspected/probable case manageable locally with rK39; referral pathway available.</p> <p>Level 2 County/National Support: Cluster of suspects/probable; drug/test stock constraints; County RRT and enhanced vector control needed.</p> <p>Level 3 National/Regional Surge: Multi-ward transmission, severe malnutrition/coinfections raising CFR, or treatment failure signals; KNPHI PHEOC activation and partner surge.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; test suspected with rK39; collect labs (CBC/LFT) where feasible; map cases; initiate clinical referral for therapy per national protocol; trigger RCCCE on care-seeking and vector avoidance.</p> <p>≤ 72 h: Deploy County RRT (Clinical/Epi/Lab/Entomology/RCCCE); secure antileishmanials; commence integrated vector management (IRS/LLINs/environmental cleanup); active case search in foci; nutrition screening and TB/HIV co-screen per guideline.</p> <p>≤ 7 d: Confirm outbreak status; ensure uninterrupted diagnostics/drugs; expand vector control; daily SITREPs with admissions, treatment outcomes, and stock status.</p>	<p>Technical: Clinicians (tropical medicine/paediatrics), lab techs (rK39/DAT), epidemiologists, entomologists, PHOs, RCCCE teams.</p> <p>HR: County/sub-county RRT, CHPs for community case finding/defaulting tracing, data clerks.</p> <p>Logistics: rK39/DAT kits, antileishmanial drugs (per national policy), LLINs/IRS supplies, PPE, transport.</p> <p>Finance: Emergency funds for diagnostics, drugs, vector control, outreach.</p> <p>RCCCE: Targeted messaging in endemic villages on early care-seeking, adherence, and vector avoidance (evening outdoor exposure).</p>	<p>Sub-County HMT / CHMT: Detection, notification, rK39 testing, referral coordination, local stock management. COHU + CHPs; Community case finding, adherence support, defaulter tracing, vector awareness.</p> <p>KNPHI PHEOC: National coordination, partner tasking, SITREP consolidation. KNPHI EPR: Technical oversight, analytics, and guidance on vector control and case management.</p> <p>KEMRI / NPHL: QA for rK39/DAT, confirmatory testing where indicated, training/mentorship.</p> <p>NEMA: Environmental oversight for vector habitat management (waste/vegetation) NDOC / DRM: Logistics support for vector operations and outreach. Kenya Partners (WHO, Amref, MSF, KRCS, AFENET): Technical assistance, commodities, surge staffing, training, independent monitoring.</p>	<p>Indicators: Time to diagnosis; treatment initiation within 24–72 h; defaulter rate; CFR; LLIN/IRS coverage; stock-out days for rK39/drugs.</p> <p>De-escalation / Exit: No new confirmed/probable cases for 28 days; treatment completion $\geq 95\%$; vector indices reduced; supply chain stabilized; routine surveillance resumed.</p>

Table 25: Chikungunya Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance/RCCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Chikungunya	<p>Suspected: Acute fever ($\geq 38^\circ\text{C}$) with severe arthralgia/arthritits not explained by other conditions, in a person living in/traveling to an area with competent Aedes vectors.</p> <p>Probable: Suspected case with epidemiologic link to a confirmed case/cluster.</p> <p>Confirmed: RT-PCR positive or seroconversion/IgM in paired sera.</p> <p>Outbreak Definition: ≥ 2 laboratory-confirmed cases or epi-linked probable cases in same locality within 14 days with evidence of local transmission.</p>	<ul style="list-style-type: none"> Sudden increase of febrile arthralgia cases at facility/community. Cluster (≥ 3) of fever + joint pains in neighborhood/school/camp. Reports of abundant Aedes breeding sites after rains. 	<p>Level 1 Sub-county Response: Single suspected/probable case; local vector control feasible; routine lab referral.</p> <p>Level 2 County/National Support: Cluster/confirmed cases; rising absenteeism or health-facility load; County RRT and enhanced vector control required.</p> <p>Level 3 National/Regional Surge: Multi-sub-county spread, severe disease burden or co-circulation with dengue; KNPHI PHEOC activation, partner surge, and regional alerts.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; verify case(s); collect samples for RT-PCR/serology; initiate line-list and case mapping; start source reduction around cases.</p> <p>≤ 72 h: Deploy RRT (Clinical/Epi/Entomology/Lab/RCCCE); implement integrated vector management (source reduction, larviciding/adulticiding as guided); clinical guidance for analgesia/hydration; targeted RCCCE to reduce mosquito breeding and protect during peak biting times.</p> <p>≤ 7 d: Confirm etiology; expand household/community clean-ups; monitor health-facility burden; daily SITREPs with vector indices and clinical trends.</p>	<p>Technical: Clinicians, entomologists, lab technologists, PHOs, epidemiologists, RCCE staff.</p> <p>HR: County/sub-county RRT, vector control teams, CHPs, data clerks.</p> <p>Logistics: PCR/serology kits, sprayers, insecticides, PPE, transport, community clean-up tools.</p> <p>Finance: Rapid funds for vector control, diagnostics, and RCCCE.</p> <p>RCCCE: Messaging on Aedes breeding (containers/tires/gutters), personal protection (repellents/LLINs/long sleeves), recognition of warning signs.</p>	<p>Sub-County HMT / CHMT: Detection, notification, vector control coordination, initial investigation.</p> <p>COHU + CHPs: Household source-reduction campaigns, rumor management, referral.</p> <p>KNPHI PHEOC: National coordination, partner tasking, SITREP consolidation.</p> <p>KNPHI EPR: Technical oversight, analytics, integrated vector management guidance.</p> <p>KEMRI / NPHL: PCR/serology confirmation, QA and referral.</p> <p>NEMA: Environmental oversight for waste removal & drainage.</p> <p>NDOC / DRM/DVB: Logistics for large-scale clean-ups and vector ops.</p> <p>Security agencies: Security/crowd management if mass community actions.</p> <p>Partners (WHO, Amref, KRCS, AFENET): Technical support, RCCCE, entomology surge.</p>	<p>Indicators: % suspected cases sampled; test positivity; vector indices (Breteau/Container indices); facility load; timeliness of response.</p> <p>De-escalation / Exit: No new confirmed cases for 14 days; vector indices below threshold; community clean-up actions sustained; routine surveillance resumed.</p>

Table 26: Meningococcal Meningitis- Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-17)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Meningococcal Meningitis	<p>Suspected: Sudden onset of fever AND neck stiffness OR altered consciousness/meningismus; in infants, bulging fontanelle or irritability.</p> <p>Probable: Suspected case with turbid CSF, positive latex agglutination for Neisseria meningitidis (Nm), or Gram-negative diplococci on smear.</p> <p>Confirmed: Isolation/detection of Nm by culture or PCR in CSF/blood; serogrouping where available (A, C, W, Y, X, B).</p> <p>Outbreak Definition: Two or more lab-confirmed or epi-linked probable cases in the same locality within 7 days or sustained excess incidence above seasonal baseline in a sub-county/district.</p>	<ul style="list-style-type: none"> Cluster of suspected meningitis (≥2-3 cases) in a village/school/camp within 7 days. Weekly meningitis incidence rising above baseline (sentinel/hospital reports). 	<p>Level 1 Sub-county Response: Single suspected/confirmed case or small cluster manageable locally; CSF collection and empiric therapy available.</p> <p>Level 2 County / National Support: ≥5 suspected cases in 7 days in a ward/school/camp OR ≥2 confirmed Nm cases; requires County RRT, surge supplies, and enhanced surveillance.</p> <p>Level 3 National / Regional Surge: Rapidly rising incidence crossing epidemic thresholds, multi-sub-county spread, or strain/serogroup with known epidemic potential; KNPHI PHEOC activation and consideration of reactive vaccination.</p>	<p>≤ 24 h: Notify SCHMT/CHMT & KNPHI PHEOC; isolate with droplet precautions; perform lumbar puncture and collect CSF for Gram stain/latex/PCR/culture; initiate empiric ceftriaxone per national protocol; list/notify close contacts for chemoprophylaxis as indicated.</p> <p>≤ 72 h: Deploy County RRT (Clinical/Epi/Lab/IPC/RC CE/Logistics); intensify surveillance (daily line lists, ward mapping); secure antibiotics, LP kits, IV fluids/consumables; apply chemoprophylaxis to eligible close contacts per guideline; targeted RCCE (danger signs, early care-seeking).</p> <p>≤ 7 d: Confirm etiology/serogroup; assess thresholds and, if indicated, plan reactive vaccination (appropriate conjugate/polysaccharide vaccine per policy and availability); strengthen facility triage/IPC and referral; produce daily SITREPs (incidence, CFR, bed occupancy, supplies).</p>	<p>Technical: Physicians/paediatricians, emergency nurses, epidemiologists, lab technologists (CSF microscopy/culture/PCR), IPC officers, pharmacists, RCCE.</p> <p>HR: RRT clinicians/nurses, data managers, CHPs for household follow-up, logisticians. Logistics: Lumbar puncture kits, CSF tubes/transport media, ceftriaxone and adjunct meds, PPE (surgical masks for droplet), IV fluids, transport; cold chain if vaccination required.</p> <p>Finance: Emergency funds for antibiotics, diagnostics, surge staffing, and potential reactive vaccination.</p> <p>RCCE: Messaging on early presentation for fever/neck stiffness, chemoprophylaxis guidance for contacts, and vaccination information when used.</p>	<p>Sub-County HMT / CHMT: Detection, notification, LP/CSF collection, initial cluster investigation, and local antibiotic/consumable stock management.</p> <p>COHU + CHPs: Household education, contact follow-up, support for chemoprophylaxis adherence and referral of new suspects.</p> <p>KNPHI PHEOC: National coordination, threshold tracking, partner tasking, SITREP consolidation.</p> <p>KNPHI EPR: Technical oversight, analytics (weekly incidence), guidance on reactive vaccination and chemoprophylaxis policies.</p> <p>KEMRI / NPHL: CSF Gram/latex/culture/PCR confirmation, serogrouping, QA and referral testing.</p> <p>Partners (WHO, UNICEF, Amref, KRCS, AFENET): Technical assistance, surge staff, vaccination ops independent monitoring.</p>	<p>Indicators: Weekly suspected/confirmed incidence; % suspects with CSF collected; lab turnaround time; CFR; % close contacts receiving chemoprophylaxis; bed occupancy; (if used) vaccination coverage and AEFI reporting.</p> <p>De-escalation / Exit: Weekly incidence returns to/below alert threshold for ≥2 consecutive weeks; CFR stabilized below target; no new epi-linked clusters; (if implemented) reactive vaccination achieves coverage target and surveillance returns to routine sensitivity.</p>

Table 27: Rabies Escalation Trigger Card

Priority Disease / Event	Case Definitions & Outbreak Definition	Alert Thresholds (Early Signals)	Escalation Triggers (Tiered – 3 levels)	Required Actions & Timelines (7-1-7)	Support Package (Technical/HR/Logistics/Finance /RCCE)	Responsible Actors	Monitoring & De-escalation / Exit Criteria
Rabies (Human & Animal)	<p>Suspected Human Case: Any person with a history of animal bite/scratch from a suspected rabid animal presenting with hydrophobia, aerophobia, hyper-salivation, agitation, or paralysis.</p> <p>Probable: A suspected case with epidemiologic link to a confirmed animal case or untested biting animal that died/disappeared within 10 days.</p> <p>Confirmed: Laboratory confirmation of Rabies lyssavirus by DFA/RT-PCR/antigen detection in brain tissue, saliva, or CSF.</p> <p>Animal Case: Any animal exhibiting neurological/aggressive behaviour, biting multiple animals/people, dying within 10 days of symptom onset, or confirmed in lab.</p> <p>Outbreak Definition: ≥1 laboratory-confirmed animal or human case, or ≥2 epi-linked probable human/animal cases in a defined locality within 30 days.</p>	<ul style="list-style-type: none"> • Reports of dog bites (≥2 in one village/school/we ek). • Unusual animal aggression or multiple animal deaths. • Lapse in community dog vaccination or animal movement from endemic area. • Death of biting animal before 10-day observation or disappearance. 	<p>Level</p> <p>Sub-county Response: Single animal bite incident; local health/vet teams can trace biting animal and administer post-exposure prophylaxis (PEP); animal observation ongoing.</p> <p>Level 2</p> <p>County/National Support: Multiple bite incidents, unvaccinated biting animals, or suspected rabid animal deaths; requires joint One Health RRT activation, quarantine, vaccination of contacts and dogs, and enhanced surveillance.</p> <p>Level 3</p> <p>National / Regional Surge: Confirmed human rabies case(s), cross-county spread, mass animal deaths, or PEP shortages; triggers KNPHI PHEOC activation, inter-county coordination, and partner support.</p>	<p>≤ 24 h: Notify SCHAT/CHMT, DVS, and KNPHI PHEOC; verify bite(s); provide first-aid wound care and start PEP; quarantine/observe biting animal for 10 days; collect animal head sample if dead.</p> <p>≤ 72 h: Deploy joint RRT (Vet + Human Health + RCCE); line-list victims and exposed animals; trace unvaccinated dogs; initiate ring vaccination of dogs in affected area; community sensitization on dog behaviour and safe handling; coordinate specimen submission to CVL/KEMRI for confirmation.</p> <p>≤ 7 d: Confirm lab results; expand mass dog vaccination if indicated; strengthen PEP supply chain and cold chain; ensure daily SITREPs with human/animal bite data and PEP coverage.</p>	<p>Technical: Clinicians, veterinary officers, public health officers, epidemiologists, lab scientists (CVL/KEMRI), RCCE teams.</p> <p>HR: County RRT (joint vet-human health), CHPs/CDRs for community follow-up and awareness, animal control staff. Logistics: PEP (vaccine + HRIG as available), animal vaccines, sampling kits, PPE, cold chain, transport, incineration for specimens.</p> <p>Finance: Emergency funds for PEP procurement, animal vaccination campaigns, surveillance and transport.</p> <p>RCCE: Focus on immediate wound washing, seeking PEP within 24 h, avoiding handling sick animals, and community dog vaccination compliance.</p>	<p>Sub-County HMT / CHMT: Human case detection, notification, PEP management, bite line-listing, referral.</p> <p>COHU + CHPs/CDRs: Bite incident reporting, community awareness, defaulter follow-up for PEP completion, rumor management.</p> <p>KNPHI PHEOC: National coordination, information sharing, SITREP consolidation, partner mobilization.</p> <p>KNPHI EPR: Technical oversight, surveillance analytics, guidance on One Health responses and vaccine distribution.</p> <p>DVS / CVL / County Vet Dept: Animal case investigation, quarantine, ring vaccination, sample collection and lab diagnosis</p> <p>KEMRI / NPHL: Rabies confirmation, lab QA/QC, training and specimen transport support.</p> <p>NEMA: Safe disposal of animal carcasses and biohazardous waste.</p> <p>KVA/MOH-DVI: Mass dog vaccination or PEP procurement during outbreaks.</p> <p>Security agencies: Support for quarantine, dog movement control.</p> <p>County Govt / Vet Services: Animal vaccination campaigns, stray dog control, coordination of vet-public health actions.</p> <p>Partners (FAO, WHO, OIE/WOAH, Amref, KRCS, AFENET): Technical assistance, commodities, training, and joint One Health support.</p>	<p>Indicators: # bites reported and investigated; % bite victims initiating PEP within 24 h; PEP completion rate; # animals vaccinated per campaign; # confirmed rabid animals; # human rabies deaths.</p> <p>De-escalation / Exit: No new human or animal cases for 2 incubation periods (60 days); 100 % PEP completion for all exposed persons; > 70 % dog vaccination coverage achieved; community surveillance sustained for ≥ 3 months.</p>

Annex 2: Standard Reporting Templates

1. Weekly Surveillance & Threshold Monitoring (MoH-505 extension)

County/Sub-county	Health Facility	Disease/Event	Suspected Cases	Confirmed Cases	Threshold Crossed (Y/N); Action Taken

2. Outbreak Notification Template

County/Sub-county	Index Case Details (Age, Sex, Location, Date of Onset)	Case Definition Used	Epidemiological Linkage (Y/N; specify)	Laboratory Status	Initial Actions Taken

3. Escalation & Support Request Form

County/Sub-county, Contact Person	Event/Disease & Trigger Reached	Type of Support Required (Technical, HR, Logistics, RCCE)	Justification	Urgency (High/Moderate/Low)

4. Daily SITREP Template

Date, County /Sub-county, Reporting Officer	Epidemiological Summary (new/total cases, deaths, CFR)	Response Actions Taken (last 24h)	Challenges/Gaps	Planned Actions (next 24–48h)	Support Required /Coordination Notes

5. EAR/AAR/IAR Template

Event/Disease, County, Date of Review	Objectives of the Review	What Worked Well	What Did Not Work	Recommendations	Responsible Party & Timeline

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