



KWAZULU-NATAL PROVINCE

HEALTH
REPUBLIC OF SOUTH AFRICA



Preparedness Tools and Response Mechanisms for the Health Sector

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OBJECTIVE



To outline the preparedness and response mechanisms and tools at the disposal of health workers in South Africa



To enhance resilience and response capabilities of the health sector



Background

Public health emergencies require a robust preparedness and response framework.

Public Health Emergency (PHE) tools and preparedness are crucial for effective response to emergencies.

This presentation highlights key tools and mechanisms to enhance resilience and response capabilities.”



Key Components of Public Health Emergency Preparedness

Public Health Emergency Operations Center (PHEOC)*: A hub for coordinating preparation, response, and recovery efforts

Incident Management System (IMS)*: A framework for managing emergency responses

Risk Assessment*: Identifying potential risks and developing mitigation strategies

Planning and Procedures*: Developing plans and procedures for emergency response

Training and Exercising*: Building capacity through training and simulation exercises



Tools for PHE Preparedness:*



PHEOC Handbook*: A guide for PHEOC operations and management



Framework for PHEOC*: Outlining key concepts and essential requirements for developing and managing a PHEOC



Monitoring and Evaluation (M&E) Systems*: Tracking response efforts and identifying areas for improvement



Artificial Intelligence (AI)*: Enhancing PHEOC performance through data analysis and prioritization



Communication and Coordination*: Ensuring effective information sharing and collaboration among stakeholders



Benefits of PHE Preparedness



Improved Response-
enhanced coordination and
response efforts



Increased Efficiency - better
resource allocation and
utilization



Reduced Risk - mitigating the
impact of emergencies on
communities



Enhanced Collaboration-
strengthening partnerships
among stakeholders

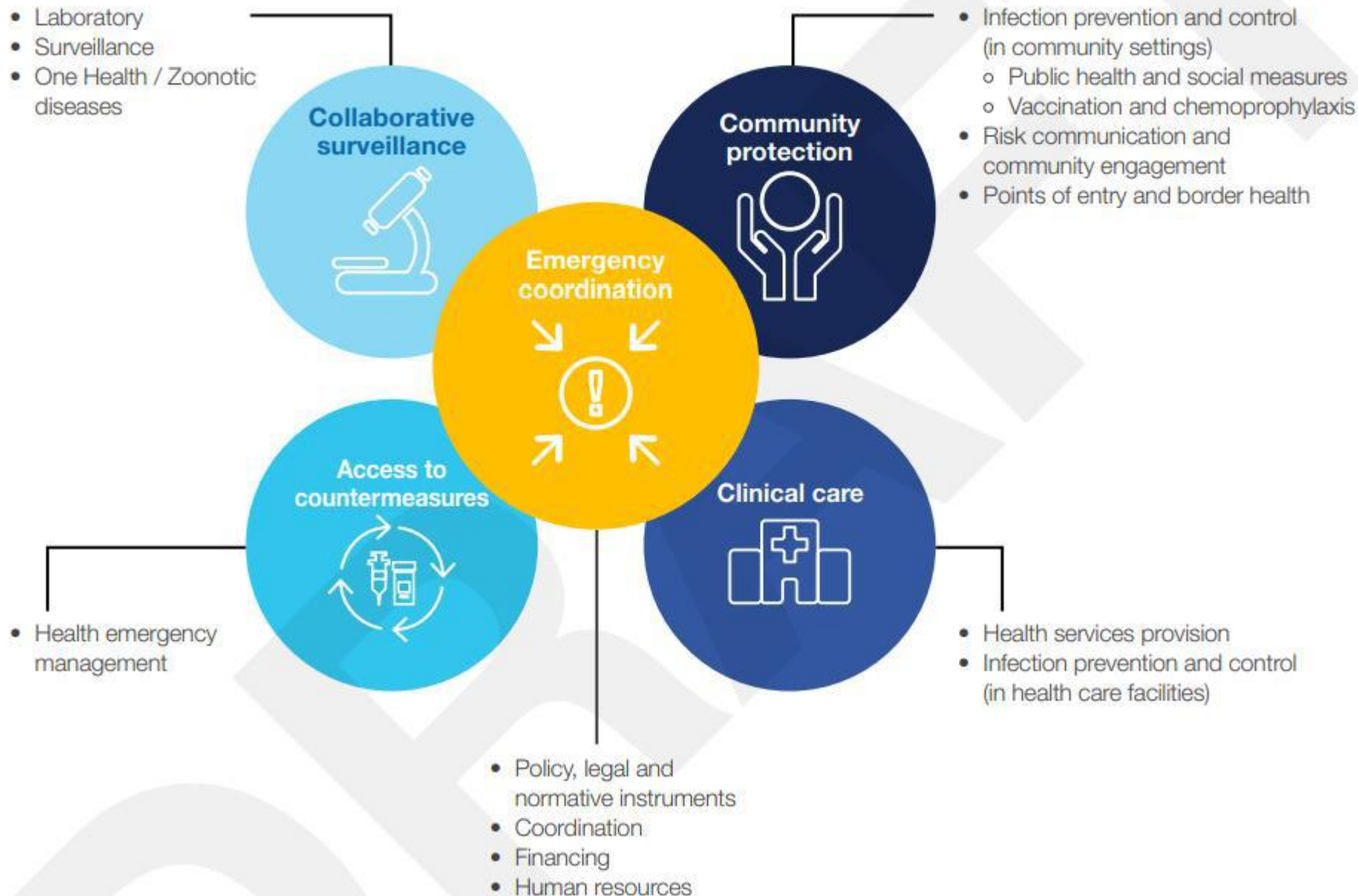


Better Decision-Making-
informing decision-making
through data analysis and
situational awareness

WHO Tools for Public Health Emergency Preparedness and Response

Subsystem / Tool	Description
Collaborative Surveillance	Strengthening early detection, risk assessment, and information sharing across sectors.
Community Protection	Enhancing community-level health services, risk communication, and public engagement.
Safe and Scalable Care	Ensuring access to essential health services during emergencies, including surge capacity.
Access to Countermeasures	Improving availability and distribution of diagnostics, medicines, and vaccines.
Emergency Coordination	Establishing clear leadership, coordination mechanisms, and response protocols.
Risk Assessment Tools	Tools for evaluating potential public health threats and vulnerabilities.
Contingency Planning Tools	Frameworks and templates for developing emergency response plans.

Five components for health emergency preparedness, response and resilience





Risk Assessment Tools

- Used to evaluate potential public health threats and guide response

Tool	Purpose
Strategic Toolkit for Assessing Risks (STAR)	All-hazards risk assessment for national/subnational planning.
WHO Rapid Risk Assessment Template	Standardized method for acute event evaluation.
Event-Based Surveillance Systems	Detects signals from informal sources for early warning.

Table 6.1: Risk Matrix

Impact	Critical					
	Severe	•Influenza A - emergence of novel strain •Nuclear agents		•Civil unrest	•Flood •Storms	
	Moderate	•Zika virus •Ebola virus, Marburg •Lassa fever •Lujo •Yellow fever	•Chemical agents •Cyber attack	•Cholera •Typhoid	•COVID-19 - emergence of •Transportation accidents	
	Minor		•Listeriosis •Rift Valley fever	•Heat wave; •Cold wave/Severe winter	•Infrastructure Disruption (power outages, water supply)	•Violence
	Negligible	•Anthrax (intentional i.e., biological warfare)		•Mudflow •Drought •Rabies •Monkeypox		
		Very unlikely	Unlikely	Probable	Very likely	Almost sure

Likelihood

Risk Profile - National

Table 6.2: Risk Matrix

Impact ↑	Critical					
	Severe		• Respiratory pathogens with pandemic potential (influenza, coronavirus, orthopox virus, etc.) • Gastroenteritis/food-borne diseases • Cholera/Acute Watery Diarrhoea • Water supply failure	• Measles • Flood	• Rabies • Transportation Accidents • Storm	
	Moderate		• Ebola (monkeypox) • Chemical agents • Cyber attack • Fire • Power outage/ or blackout • Violence • Conflicts		• Schistosomiasis • Cold wave/ severe winter • Forest/wildfires	
	Minor		• Diphtheria • Drought		• Tornado	
	Negligible		• Structural collapse (building collapse, dam/ bridge failure)			
		Very unlikely	Unlikely	Likely	Very likely	Almost certain
		Likelihood →				

Risk Profile - Eastern Cape Province

Impact ↑	Critical	Tsunami				- Water supply failure - Power outage/ or blackout - Transportation accidents - Violence - Critical damage to infrastructure - Healthcare staff safety and
	Severe	Earthquake	Viral haemorrhagic fevers	- Cyber attack - Radiation agents - Explosive agents - Respiratory pathogens with pandemic potential (influenza, coronavirus, orthopox virus, etc.)	- Flood - Wind storm	- Water supply failure - Power outage/ or blackout - Transportation accidents - Violence - Critical damage to infrastructure - Healthcare staff safety and
	Moderate					- Diphtheria - Measles - Gastroenteritis/food-borne diseases
	Minor		Polymyelitis	- Landslide - Meningococcal Disease - Mpox (formerly monkeypox)	- Structural collapse (building collapse, dam/bridge failures) - Heat wave - Air pollution	- Chemical agents- Agricultural - Forest/ Wildfires - Water pollution (biological)
	Negligible		Rabies	- Drought - Sea-level rise	Water pollution (chemical)	
		Very unlikely	Unlikely	Likely	Very likely	Almost certain
		Likelihood →				

Risk Profile - Western Cape Province

Impact ↑	Critical		• Cyclone			
	Severe	• Biological agents	• Respiratory pathogens with pandemic potential (influenza, coronavirus, orthopox virus etc.)	• Tornado • COVID-19 • Cholera/Acute Watery Diarrhoea • Mpox (formerly monkeypox)	• Flood • Storms: Lightning, hail & thunder • Forest/ wildfires • Civil unrest • Water supply failure	
	Moderate	• Malaria	• Mining hazards • Ebola	• Cholera/Acute Watery Diarrhoea • Influenza • Mumps • Rubella • Varicella • Hepatitis A • Antimicrobial resistant organisms	• Heat wave • Explosive agents • Fire • Power outage/ blackout • Transportation accidents	
	Minor	• Gas leak • Oil pollution • Zika virus • Anthrax	• Meningococcal disease • Schistosomiasis • Paratyphoid fever • Typhoid fever • Crimean Congo haemorrhagic fever • Lassa fever • Rift valley fever	• Diphtheria • Measles • Pertussis • Gastroenteritis/ food-borne diseases • Rabies • Hepatitis C	• Storm: Wind • Drought/ water shortages • Land degradation & desertification • Hepatitis B • Cyber attack	
	Negligible		• Listeriosis			
		Very unlikely	Unlikely	Likely	Very likely	Almost certain
		Likelihood →				

Risk Profile - KwaZulu Natal Province

Impact →	Critical					
	Severe	• Respiratory pathogens with pandemic potential (influenza, coronavirus, orthopox virus, etc.)		• COVID-19 • Mpox (formerly monkeypox)		• Cholera/ Acute Watery Diarrhoea
	Moderate	• Poliomyelitis • Anthrax		• Cyclone • Drought • Heat wave • Polluted air • Forest/Wildfires • Diphtheria • Respiratory pathogens	• Transportation accidents	• Flood • Measles
	Minor		• Listeriosis • Leptospirosis • Explosive agents • Fire • Gas leak • Mining hazards and structural collapse	• Landslide • Cold wave/Severe winter • Tanapox • Hepatitis C	• Water supply failure • Violence	
	Negligible					
		Very unlikely	Unlikely	Likely	Very likely	Almost certain
		Likelihood →				

Risk Profile - Mpumalanga Province



Contingency planning tools

Enable proactive planning for emergencies before they occur.

Tool	Purpose
WHO Contingency Planning Guidance	Framework for developing emergency preparedness plans.
IASC Emergency Response Preparedness (ERP)	Inter-agency planning for humanitarian emergencies.
Preparedness Package for Refugee Emergencies (PPRE)	Tailored planning for refugee-related crises.



International Health Regulations (IHR 2005)

A legally binding framework for countries to detect, assess, report, and respond to public health threats.

Tool	Purpose
Annex 2 Decision Instrument	Guides countries in determining if an event should be reported to WHO.
Joint External Evaluation (JEE)	Assesses national capacities for health security.
States Parties Annual Reporting (SPAR)	Self-assessment of IHR core capacities.
After Action Review (AAR)	Evaluates response effectiveness post-event.
Simulation Exercises (SimEx)	Tests preparedness through scenario-based drills.



Open WHO Learning Platform

- WHO's online hub for emergency training and capacity building.

Course/Tool	Purpose
Ready4Response	Tiered training for emergency response readiness.
Public Health Emergency Operations Centre (PHEOC)	Training on coordination and management of emergencies.
Health Cluster Coordination	Prepares responders for humanitarian coordination roles.
Cholera Case Management	Specialized training for cholera outbreak response.
Operational Planning Guidelines	Supports country-level preparedness and response planning.



• How These Tools Interconnect

These tools form a cohesive system that supports countries and WHO in managing public health emergencies:

- ERF provides the operational backbone for WHO's response, integrating tools like RRA, PHSA, and IMS.
- IHR ensures countries have the legal and procedural framework to detect and report threats, feeding into ERF's grading and response mechanisms.
- Open WHO builds capacity by training responders on ERF, IHR, and other emergency protocols.
- Risk Assessment Tools inform both ERF and IHR processes by identifying threats early and guiding response prioritization.
- Contingency Planning Tools ensure readiness by translating risk assessments into actionable plans, which are activated through ERF protocols.



Together, these tools create a cycle of preparedness, detection, response, and recovery, enabling WHO and Member States to act swiftly and effectively during health emergencies.

Conclusion

Call to Action- emphasis on the importance of leveraging these tools to enhance resilience and response capabilities



THANK YOU

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TOGETHER