ACT

AFRICA COALITION ON TUBERCULOSIS

COPPER

Communities in Pandemic
Preparedness & Response

Introduction to

Pandemic Preparedness and Response:

Strengthening Community Resilience

PANDEMIC PREPAREDNESS AND RESPONSE

The occurrence of disease cases over normal expectancy in a location or season is regarded as an outbreak. The emergence of a disease outbreak demands rapid action to determine the origin of the problem and ultimately to control the disease[1]. Pandemics occur when an infectious disease outbreak can cause a significant illness or death and affect a wider geographic area (globally)[2]. Pandemics can lead to disease or death that could overwhelm the healthcare systems and disrupt the economic, social, and political landscape[3]. For example, COVID-19 pandemic and Ebola crippled several global economies and left a lasting fear of the re-emergence as the risk of new variants or new pathogens could cause new surges of the disease [2]. This calls for all-inclusive steps to improve our capacity to withstand and respond to future pandemics.

Pandemic preparedness includes the planning and implementation of strategies before an outbreak to reduce the spread and the potential impact[5]. This includes improving knowledge of diseases, strengthening health systems, and ensuring the availability of necessary resources to ensure readiness to respond effectively when a pandemic strikes.

Pandemic responses are actions taken to control the disease spread, treat the infected, and support the community[1]. This includes implementing public health measures such as vaccination campaigns, creating community awareness, and supporting the continuity of essential services. Effective pandemic preparedness and response rest on coordinated effort across all levels of society, especially the community.

1. Basic Concepts of Pandemic Preparedness and Response

a. Definition and characteristics of a pandemic

i. **Outbreaks/Epidemics:** When the number of cases reported in an area exceeds the expected or usual level of a disease within a geographic area.

ii. **Endemic:** An endemic describes a disease that is constantly present in a certain geographic area or in a certain group of people.

iii. **Pandemic:** A pandemic is defined as an epidemic occurring worldwide, crossing international boundaries and usually affecting a large number of people. The process of declaring a pandemic typically involves assessments by global health organizations, particularly the World Health Organization (WHO) ie. the International Health Regulations (IHR) Emergency Committee, based on specific criteria such as global spread, severity, and emergence of new pathogens. If it meets the criteria of widespread global transmission, the WHO Director-General declares a pandemic and issues guidelines for coordinated international response.

iv. **Pandemic Preparedness:** Pandemic preparedness includes the planning and implementation of strategies before an outbreak to reduce the spread and the potential impact.

v. **Pandemic Response:** Refers to a set of strategies aimed towards reducing disease incidence during pandemics.

vi. **Quarantine:** Is the restriction of the movement of people, animals, or goods to prevent the spread of disease from infected areas to uninfected areas.

vii. **Isolation:** This refers to separating individuals who have been infected with a disease from others to prevent further transmission.

viii. **Community Engagement:** refers to the process of involving communities in decision-making, problem-solving, and action planning on matters that affect them. Community engagement is a crucial part of public health emergency response. Health interventions must be tailored toward a local context and address the specific needs of the area in the context of the health emergency.

b. Basic Concepts of how Infectious Diseases Spread

Depending on the type of disease, pandemics may spread through several medium. Example Ebola spreads through unprotected direct and indirect contact, as well as contact with infected animal.

c. Factors that Contribute to the Spread of Diseases.

Depending on the type of disease, pandemics may spread through several medium. Example Ebola spreads through unprotected direct and indirect contact, as well as contact with infected animal.

2. Pandemics and their impact on communities

During the Ebola epidemic in West Africa and COVID-19 pandemic, the following impacts were observed:

a. Pressure on healthcare systems worldwide, leading to shortages of hospital beds, ventilators, and medical staff.

b. Significantly affect ongoing efforts to prevent, diagnose, and treat other diseases, including HIV, tuberculosis (TB), and malaria.

    I. Lockdown measures can disrupt the distribution of drugs and other logistics for these diseases.

    ii. Reduction in services such as TB and HIV testing leading to late detection and high deaths.

iii. Resources for TB, malaria and HIV are diverted to support the pandemic.

c. Lockdowns, travel bans, and quarantine measures significantly disrupted daily life.

d. Mental health challenges increased due to isolation, anxiety, and uncertainty.

e. School closures led to disruption of academic activities.

f. Changing labour markets: That is, the closure of some workplaces, such as the markets and restaurants, led to job loss, increasing poverty.

G. The tragic loss of loved ones, including the breadwinner, deepened the amplification of existing structural inequalities among communities.

3. Community Response efforts from Past Pandemics

a. In Ghana and several countries, community health workers and volunteers were instrumental in educating rural populations about COVID-19 prevention measures. Key messages included mask-wearing, hand hygiene, and social distancing while helping to dispel myths and misinformation about the virus and vaccines.

b. Community health workers and volunteers supported the translation of COVID-19 information into indigenous languages to improve access to marginalized communities.

c. The use of community radio stations to broadcast accurate information about COVID-19 was seen in many countries.

Improving the flow of community information and intelligence on Gender-Based Violence (GBV) within the community.

d. Community health workers and volunteers provided groceries, medications, and other essential supplies to elderly individuals and people in isolation.

e. Local tailors and artisans came together to manufacture and distribute affordable face masks when global supply chains were disrupted. These community-driven efforts ensured that even low-income areas had access to personal protective equipment (PPE).

f. Local volunteers and community health workers were mobilized to assist with contact tracing efforts in townships and informal settlements.

g. Local community organizations and community health workers set up virtual and face-to-face counseling sessions and mental health support groups for people struggling with anxiety, depression, and isolation caused by the pandemic.

COPPER
Communities in Pandemic
Preparedness & Response

ACT
AFRICA COALITION ON
TUBERCULOSIS

4. **Key Challenges and Lessons if Community Engagement in Pandemic Preparedness and Response are not Prioritized.**

a. Increased vulnerability of marginalized groups:

Specific vulnerabilities faced by refugees, low-income populations, and gender diverse groups may be overlooked if community engagement is not prioritized.

b. Non-adherence to Public Health Measures:

For example, handling infected bodies during burial practices in the Ebola outbreak caused the disease to spread more. Also, if community engagement is not prioritized, measures that go against traditional values might be ignored.

c. Social disruption and unrest:

For instance, in South Africa, unrest broke out in 2021, partly due to economic struggles made worse by the pandemic. Similarly, during the Ebola outbreak in Sierra Leone, poverty and unemployment increased, sparking protests over food shortages and inadequate medical services.

d. Increased stigmatization of the affected:

Survivors of ebola in West African countries, such as Sierra Leone, Guinea, and Liberia, were stigmatised by their communities, often being seen as dangerous or contagious even after they had recovered. Also, in the early years of the HIV/AIDS pandemic, many gender diverse individuals were denied healthcare, employment, and housing due to the general perception of high incidence among them.

e. Potential increase in morbidity and mortality during pandemics:

In Ghana, for instance, mass movement from the lockdown areas to other regions increased the transmission.

f. Inequitable distribution of resources due to inability to address the unique needs of marginalized groups.

g. Socio-economic challenges accompanying restrictions by health emergencies.

5. **Opportunities for Engagement in PPR Strategies and Policies for Preparedness, Response, and Recovery.**

a. Community Engagement in Preparing for Pandemics

I. Develop and maintain pandemic preparedness plans, policies, and guidelines using local resource mapping (Detail see annex).

1. Pandemic Response Plan (PRP): is a strategic framework designed to manage and mitigate the impact of a pandemic.

2. Integrated Disease Surveillance and Response technical guidelines: is a strategy developed by the World Health Organization (WHO) to guide the detection, reporting, and response to infectious diseases and public health events across African countries.

3. International Health Regulation (IHR 2005): is a legally binding international agreement designed to help countries prevent, detect, report, and respond to public health risks that could spread across borders.

4. Joint External Evaluation (JEE): The JEE is a key component of the IHR 2005 Monitoring and Evaluation Framework and is used to assess countries' readiness to deal with infectious disease outbreaks, pandemics, and other public health threats.

ii. Surveillance and Early Detection Systems through several surveillance methods such as community-based surveillance, event-based surveillance, laboratory-based surveillance, and sentinel surveillance.

1. Disease surveillance- is the systematic and continuous monitoring of disease in a particular place. It can be active, whereby trained individuals go to communities to search for disease, or passive, through routine detection when an individual visits the health facility.

2. Community-based surveillance: is a surveillance system that collects community-based health information, on the entire community.

3. laboratory-based surveillance: is surveillance conducted at laboratories for detecting events or trends that may not be seen as a problem at other locations.

4. Sentinel surveillance: data is collected from a designated health facility or reporting sites for early warning and reporting of priority events.

iii.   Strengthening Health Systems such as healthcare infrastructure, laboratory and workforce capacity development.

iv.   Strengthening community networks for pandemic response.
1. Community engagement and risk communication to empower community members on how to take care of themselves.
2. Community-led interventions: Engaging local leaders and civil society organizations in planning and executing response efforts.

v.   Global and Regional Cooperation to share information on the pandemic (Ref. International Health Regulation IHR 2005, JEE).

vi.   Support Supply Chain Management (SCM) of essential pandemic commodities such as oxygen.

vii.   Support Research, Innovation, and Knowledge (RIK) sharing.

viii. Infection Prevention and Control (IPC): education and provision of commodities on IPC for pandemic response.

b. Community Engagement in Pandemic Response

i.   Leadership and Governance: Participation in pandemic response coordination at the community level, for example in Community Health Committee (CHC), which are made up of local government staff, health authorities, CSOs, and NGOs.

ii.   Community-led monitoring in pandemics: CLM ensures community members are actively participating in tracking and responding to health challenges, ensuring that responses are tailored to the local realities and needs. In many countries during the pandemic, community members supported tracking cases and monitoring healthcare service delivery. In Ghana, the community members led the reporting of noncompliance to quarantine measures by exposed individuals.

iii.   Risk Communication and Misinformation Management: key areas include education on public health guidelines eg vaccination, testing, handwashing

iv.   Monitoring of GBV and human rights abuses during pandemics: Mobilize local women's groups and community leaders to monitor and report instances of GBV and provide survivors with access to services such as shelters and counseling.

v.   Delivering essential services such as healthcare, food, and water.

vi.   Establish community support groups to address the psychological impacts of the pandemic.

COPPER
Communities in Pandemic
Preparedness & Response
ACT
AFRICA COALITION ON
TUBERCULOSIS

b. Post-Pandemic and Recovery

    i.   Community recovery efforts and support local initiatives.

    ii.   Keeping watch of public health emergencies and maintaining resilience.

6. PPR Structures and Decision-Making

a. National PPR Platforms

This is the highest level of pandemic response. It involves major health facilities such as teaching hospitals, national infectious disease treatment centers, national public health, and reference laboratories.

The key decision body at the national level includes:

    i.   Inter-ministerial Coordinating Committee (IMCC): Provide general oversight of Public Health Emergencies in the country and formulate policy guidelines on how to manage epidemics.

    ii.   National Technical Coordinating Committee (NTCC): an entity made up of technical experts who provide advice to the IMCC for the management of Public Health Emergencies.

    iii. National Public Health Emergency Rapid Response Team (PHERRT): They are made up of experts for immediate deployment during emergencies.
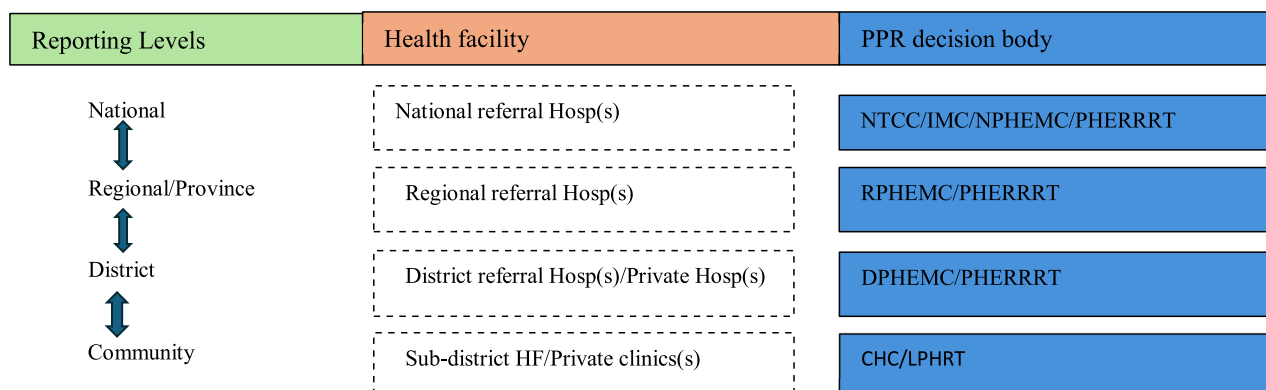
b. Province/Regional and District

    i.   Regional/District Public Health Emergency Management Committees: The team coordinates public health emergencies. Members include District/Regional Health director, Surveillance Officer (SO), Disaster Management Officer, Health Facility Representatives, Representative from Laboratory Services, Environmental Health Officer, Security Forces Representative, Education Sector Representative, Civil Society Organizations (CSOs) and NGO representatives, Traditional/Religious Leaders, Water and Sanitation Representative.

    ii.   Regional/District Public Health Emergency Rapid Response Team(PHERRT): They are made up of experts for immediate deployment during emergencies.

c. Community Level

i. **Community Health Committee(CHC):** The team coordinates public health emergencies. The team composition is similar to the region/district team members depending on the size of the community and the available groups.

b. Related resources (e.g., community-friendly guidance, webinars, open-source training).

Reporting Levels	Health facility	PPR decision body
National	National referral Hosp(s)	NTCC/IMC/NPHEMC/PHERRRT
Regional/Province	Regional referral Hosp(s)	RPHEMC/PHERRRT
District	District referral Hosp(s)/Private Hosp(s)	DPHEMC/PHERRRT
Community	Sub-district HF/Private clinics(s)	CHC/LPHRT

Fig 2: PPR communication flow and decision-making body

7. List of Organizations and Links Working.

This will include local and international organizations working in pandemic preparedness and response.

• Africa Centres for Disease Control and Prevention (Africa CDC) : [https://africacdc.org/]

• World Health Organization (WHO):

  o Regional Office for Africa (AFRO) [https://www.afro.who.int/]

  o Western Pacific Region (WPRO) [https://www.who.int/westernpacific]

  o South-East Asia Region (SEARO) [https://www.who.int/southeastasia]

• Coalition for Epidemic Preparedness Innovations (CEPI) [https://cepi.net/]

• Médecins Sans Frontières (MSF) – Doctors Without Borders [https://www.msf.org/]

• International Federation of Red Cross and Red Crescent Societies (IFRC) [https://www.ifrc.org/], IFRC Asia-Pacific

• Field Epidemiology Network (FENET): AFENET[https://afenet.net/]

• Amref Health Africa [https://amref.org/]

• The Global Fund [https://www.theglobalfund.org/en/]

• APCASO [https://apcaso.org/], [https://copper.apcaso.org/]

8. Annex with additional references

[1] WHO, "Techinical Guidelines for Integrated Disease Surveillance and Response in the WHO Africa Region," vol. 4–7, no. 3rd Edition, 2019.

[2] Ghana Health Service (GHS), "Case Management Manual for COVID-19," no. June, p. 126, 2020.

[3] P. Melin, J. C. Monica, D. Sanchez, and O. Castillo, "Analysis of Spatial Spread Relationships of Coronavirus (COVID-19) Pandemic in the World using Self Organizing Maps," Chaos, Solitons and Fractals, vol. 138, 2020, doi: 10.1016/j.chaos.2020.109917.

[4] W. Jacqui, "China coronavirus: WHO declares international emergency as death toll exceeds 200," BMJ, vol. 368, no. May, p. m408, 2023, doi: 10.1136/bmj.m408.

[5] GHS, "Technical Guidelines Integrated Disease Surveillance & Response Ghana , 2 nd Edition (Revised) STANDARD OPERATING PROCEDURES FOR SPECIFIC PRIORITY DISEASES , CONDITIONS AND EVENTS," no. March, 2017.

[6] K. H. Y. Chiu, S. Sridhar, and K. Y. Yuen, "Preparation for the next pandemic: challenges in strengthening surveillance," Emerg. Microbes Infect., vol. 12, no. 2, 2023, doi: 10.1080/22221751.2023.2240441.

[7] B. A. Williams, C. H. Jones, V. Welch, and J. M. True, "Outlook of pandemic preparedness in a post-COVID-19 world," npj Vaccines, vol. 8, no. 1, 2023, doi: 10.1038/s41541-023-00773-0.

[8] N. A. Pascawati, N. A. Pascawati, T. Baskoro, T. Satoto, and A. Rizqa, "Role of Community Leaders in Managing Covid-19 Pandemic in Indonesia," ASEAN J. Community Engagem., vol. 6, no. 1, pp. 126–151, 2022, doi: 10.7454/ajce.v6i1.1124.

[9] J. M. van Seventer and N. S. Hochberg, "Principles of Infectious Diseases: Transmission, Diagnosis, Prevention, and Control," Int. Encycl. Public Heal., no. January, pp. 22–39, 2016, doi: 10.1016/B978-0-12-803678-5.00516-6.

[10] IOM, "Community Engagement in Preventing and Responding to Gender-based Violence and Trafficking in Persons," 2020.

[11] C. R. McGowan et al., "Community-based surveillance of infectious diseases: A systematic review of drivers of success," BMJ Glob. Heal., vol. 7, no. 8, pp. 1–13, 2022, doi: 10.1136/bmjgh-2022-009934.

[12] S. S. Morse, "Factors in the emergence of infectious diseases," Emerg. Infect. Dis., vol. 1, no. 1, pp. 7–15, 1995, doi: 10.3201/eid0101.950102.

[13] G. L.N., "Factors Affecting the Spread of Disease in Human Populations," Proc. 19th Work. Assoc. Biol. Lab. Educ., pp. 255–270, 1998, [Online]. Available: http://www.ableweb.org/volumes/vol-19/16-goodyear/16-goodyear.htm.

[14] S. Rijal, "The Importance of Community Involvement in Public Management Planning and Decision-Making Processes," J. Contemp. Adm. Manag., vol. 1, no. 2, pp. 84–92, 2023, doi: 10.61100/adman.v1i2.27.

[15] C. Fan, J. C. Fann, and M. Yang, "Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- research that is available on the COVID-19 resource centre - including this ScienceDirect Estimating global bu," no. January, 2020.

[16] A. Vall, "Geoepidemiological perspective on COVID- pandemic review , an insight into the global impact."

[17] J. D. Sachs et al., "The Lancet Commissions The Lancet Commission on lessons for the future from the COVID-19 pandemic," vol. 400, 2022, doi: 10.1016/S0140-6736(22)01585-9.

[18] G. Demombynes, D. De Walque, P. Gubbins, P. Urdinola, and J. Veillard, "Are COVID- mortality curves for 2020 flatter in developing countries ? Evidence from a cross- sectional observational study of population- level official death counts and excess deaths estimates," pp. 1–9, 2022, doi: 10.1136/bmjopen-2022-061589.

AFRICA COALITION ON
TUBERCULOSIS

Africa Coalition on TB   actafrique.org