

REPUBLIC OF KENYA



MINISTRY OF HEALTH



**KENYA PUBLIC HEALTH EMERGENCY
OPERATIONS CENTRE**

**NATIONAL STRATEGIC PLAN
2021 - 2026**

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NATIONAL STRATEGIC PLAN 2021 - 2026

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List of Acronyms

AWP	Annual Work Plan
CDC	US Centers for Disease Prevention and Control
CDH	County Director of Health
CEC	County Executive Committee member
CIDP	County Investment and Development Plan
CoG	Council of Governors
COVID-19	Coronavirus 2019
CSO	Civil Society Organization
DAH	Development Assistance for Health
DDSR	Department of Disease Surveillance and Epidemic Response
DoPH	Directorate of Public Health
EARS	Emergency Alerts Reporting System
ECDC	European Centre for Disease Prevention and Control
EOC	Emergency Operations Centre
ESC	Emergency Supply Chain
EVD	Ebola Virus Disease
FY	Financial Year
GDP	Gross Domestic Product
GNI	Gross National Income
GRRT	Global Rapid Response Team
IBC	Input based costing
ICT	Information Communication and Technology
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulations 2005
IMS	Incident Management System
JEE	Joint External Evaluation
KEML	Kenya Essential Medicines List
KEMSA	Kenya Medical Supplies Agency
KEPH	Kenya Essential Package of Health
KES	Kenya Shilling
KHHFA	Kenya Harmonized Health Facility Assessment
KQMH	Kenya Quality Model for Health
LIMS	Laboratory Information Management System

LMIS	Logistics Management and Information System
MOH	Ministry of Health
MTEF	Medium Term Expenditure Framework
NDMU	National Disaster Management Unit
NDOC	National Disaster Operations Centre
NSP	National Strategic Plan
PHE	Public Health Event/ Emergency
PHEM	Public Health Emergency Management
PHEOC	Public Health Emergency Operations Centre
RCCE	Risk Communication and Community Engagement
SARS	Severe acute respiratory syndrome
SOP	Standard Operating Procedure
THE	Total Health Expenditure
TWG	Technical working group
UHC	Universal Health Coverage
USAID	United States Agency for International Development
USD	US Dollar

Foreword

The vision of the National Strategic Plan (NSP) for the Kenya Public Health Emergency Operations Centre 2021 – 2026 is excellence in management of public health emergency operations in Kenya and beyond. Currently, the country is amid the COVID-19 pandemic and faces diverse threats to public health including infectious disease outbreaks, natural hazards, the health consequences of climate change, wars, and contamination from chemical, biological and radiation agents. These threats have the potential to disrupt livelihoods, destroy infrastructure, interrupt economic activities, retard development and lead to diversion of resources to response activities.

The development of this NSP has been realized through the many dialogue meetings that brought together various stakeholders including the national and county governments, bilateral and multilateral development partners, non – governmental organizations (NGOs) and key affected population representatives, among others.

The Ministry of Health at the national and county levels has a responsibility to prepare for, prevent, detect, respond to, and mitigate public health threats from within and without the country's borders - constituting its emergency management plan. The Public Health Emergency Operations Center (PHEOC) coordinates emergency responses and is a component of this plan. As health is a devolved function, counties also have a primary responsibility to prevent, prepare for, detect, and respond to public health threats within their areas of jurisdiction. This NSP is an evidence-based document whose development has been weighted on the review of various epidemiological data, the Joint External Evaluation Report 2017, All Hazard Plan, among other key reports. It is fully costed and prioritized, based on the anticipated funding.

This NSP recognizes that all human beings have equal rights regardless of their nationality, ethnic origin, sex, race, religion, or any other status and are built around core human rights principles, as enshrined in the Constitution of Kenya (2010).

I thank all those who contributed to the development process of this NSP. Kenyans should be reminded of the commitments made, and the timely need for action to scale up research, funding, human rights, and accountability to streamline and strengthen public health emergency management. I therefore also call upon all the stakeholders and development partners to support the implementation of this NSP so that we can realize our set goals and targets.



Sen. Mutahi Kagwe, EGH

Cabinet Secretary, Ministry of Health



Sen. Mutahi Kagwe, EGH

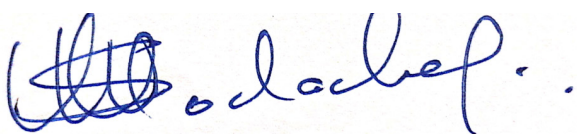
Overview

The Government has made significant progress towards streamlining public health emergency management in Kenya. To sustain these gains so far in public health emergency management (PHEM), we need to mobilize and sustain adequate financial and human resources over the next five years through the Kenya Public Health Emergency Operations Centre (KPHEOC) National Strategic Plan (NSP) 2021 – 2026.

The Government plays a key role in funding PHEM activities in Kenya. Following the establishment of the KPHEOC, several its activities have been supported through development assistance for health (DAH) mainly through the World Health Organization and United States of America through United States Agency for International Development (USAID) and Centers for Disease Control and Prevention (CDC). The DAH support has gradually increased over the years, and in response to the COVID – 19 pandemic, more stakeholders have shown interest in the PHEM space. This strategy is cognizant of the increased interest in PHEM amidst a narrow fiscal space, and there is a need to step up our efforts and commitments to mobilize both domestic and DAH resources to attain our set targets.

The KPHEOC extensively explored key interventions that will address the priority gaps as outlined in the NSP 2021 – 2026 which was costed using the input-based costing (IBC) approach. The estimated resource requirements towards the full implementation of the strategy is KES 5.88 billion. The funding needs will, therefore, be addressed through domestic resource mobilization, engagement and strengthening of the private sector through the public-private partnership (PPP), intense advocacy, provision of incentives and mobilization of donor funds.

The Government remains fully committed to the full implementation of the NSP 2021 – 2026. I, therefore, call upon all stakeholders to stay the course and continue working harder towards the realization of the goals set forth in this NSP.



Susan N. Mochache, CBS

Principal Secretary, Ministry of Health



Susan N. Mochache, CBS

Executive Summary

The National Strategic Plan (NSP) for the Kenya Public Health Emergency Operations Centre 2021 – 2026 represents an evolution in the Government of Kenya's response to public health emergency management. New data acquired over the past four years will drive a targeted and prioritized approach.

The NSP is operationalized through a partnership framework aligned to each stakeholder's comparative advantage. The activities embodied under this NSP will address systemic and root causes of the gaps in PHEM, suggesting the complementary roles of county and national governments, departments across the Ministry of Health, partners, and other sectors.

This NSP lays out the strategic and technical direction for streamlining and strengthening PHEM nationally. It presents the full aspiration of the country, including outcome and impact targets that align with international goals, and the full portfolio of activities needed to reach these goals. It assumes a fully funded NSP. In acknowledgement of likely funding gaps, an evidence-based optimization of resource allocation is presented alongside alternative outcome targets given reduced funding scenarios.

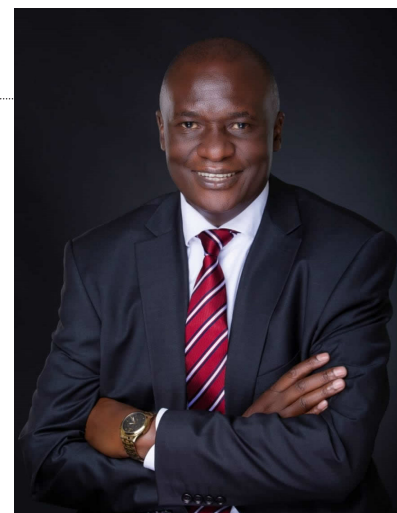
We wish to thank and appreciate the members of the Secretariat, the writing team at all levels for their extensive knowledge and expertise in putting together all the materials for this NSP, and all the staff of various units and departments within the Ministry of Health, county officials, as well as bilateral and multilateral donors, agencies, non-governmental, and civil society organizations who made valuable contributions.

The Ministry of Health is grateful for generous financial support from USAID, through JHPIEGO/ Afya Halisi, and US CDC through GIS, which enabled the numerous stakeholder meetings and workshops of the writing team.



Dr. Patrick Amoth, EBS

Ag. Director General for Health



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INTRODUCTION

The Kenya Public Health Emergency Operations Centre National Strategic Plan 2021 – 2026 (NSP) provides the strategy and framework of a multi – sector partnership for Kenya to strengthen public health emergency management. It will enable the country to meet her commitments to the core capacity requirements of the International Health Regulations (IHR) 2005¹. National and county government, development partners and other stakeholders all collaborate in its development and implementation. This NSP outlines the goals, objectives, interventions, and activities that give expression to the Health Sector's vision and mission for the period 2014 – 2030², identifying how to strengthen social, health and other systems to enable success. All stakeholders will use the Plan to guide their implementation plans.



47.6 Million

Kenya's estimated population, variably distributed across the 47 counties.



15.6 per 10,000

The national health workforce density for core health workers, below the recommended WHO target of 23 per 10,000 population.

¹ World Health Organization. (2016). *International Health Regulations (2005)*. Geneva: World Health Organization.

² Ministry of Health. (2014). *Kenya Health Policy 2014 - 2030*. Nairobi: Ministry of Health.

1.1 VISION

"Excellence in management of public health emergency operations in Kenya and beyond."

1.2 MISSION

"To implement an effective and efficient emergency response coordination system through collaborative partnerships in order to prepare for, detect, respond to, and mitigate public health emergencies in Kenya."

1.3 CORE VALUES

- **Integrity:** we strive to adhere to the highest moral and ethical principles
- **Teamwork:** we believe in working together to achieve our objectives
- **Partnership and collaboration:** we value and leverage relationships to achieve greater impact.
- **Professionalism:** we pursue the highest standards by ensuring competence and thoroughness in our work
- **Safety:** we endeavor to ensure our staff, partners and communities are shielded from harm
- **Accountability:** we steward our resources responsibly.

1.4 STRATEGIC GOALS

Goal One: Establishment and strengthening of PHEOCs.

Goal Two: Advocacy, partnerships, and stakeholder engagement

Goal Three: Research, innovation, technology, and data for public health action

1.5 THE KENYAN CONTEXT

1.5.1 Geography

Kenya is situated in the eastern part of the African continent, bordering Ethiopia (North), Somalia (Northeast), Tanzania (South), Uganda (West), and South Sudan (Northwest) and is a robust hub for trade and travel for the region and internationally, with multiple land, air and water points of entry and intricate internal road networks. This linkage promotes the country's economic growth but conversely poses the risk of entry and expansive spread of infectious diseases during epidemics and/or pandemics. Administratively, the country is divided into 47 counties.

1.5.2 Socioeconomic

Kenya's estimated population is 47.6 million³, variably distributed across the 47 counties. Life expectancy in Kenya is approximately 70 years for women and 65 years men, respectively. In economic terms, the country's gross domestic product (GDP) is USD 95.5 billion while the gross national income (GNI) is USD 1,750⁴.

1.5.3 Organization of the Health System

The health system in Kenya has progressively undergone various reforms and government development agenda that have seen its growth in ensuring that Kenyans receive health services they need without encountering financial hardship while attaining equitable, affordable, accessible, and quality health care for all.

Health Leadership and Governance

The healthcare system in Kenya is decentralized within the two tiers of Government with the Ministry of Health and County Governments mandates derived from Schedule 4 of the Constitution of Kenya⁵ and the Executive

³ Kenya National Bureau of Statistics. (2019). *Kenya Population and Housing Census*. Nairobi: Kenya National Bureau of Statistics.

⁴ The World Bank. (2020, February 22). *Kenya*. Retrieved from World Bank Open Data: <https://data.worldbank.org/country/KE>

⁵ National Assembly. (2010). *Constitution of Kenya*. Nairobi: Government of Kenya.

Order No. 1 of June 2018⁶. Specific mandate of the Ministry of Health are health policy, health regulation, national referral health facilities services, capacity building and technical assistance to counties while, County governments handle service delivery. The healthcare system is structured in a hierarchical manner beginning with primary, secondary, and tertiary levels with both levels of Government sharing roles in referral and emergency services.

The orientation of the services is defined in Kenya Essential Package for Health, (KEPH) that presents a comprehensive scope of health services that are needed to be provided across the Country. It is a move towards implementing the rights-based approach as outlined in the Constitution, by elaborating what Kenyans are entitled to receiving from the health services, by level of care. The sector's intent is to move progressively towards Universal Coverage with these interventions, and assure the right to health of citizens. The Kenya Health Policy 2014 – 2030 and the Kenya Health Sector Strategic Plan 2018 – 2023 institutionalize emergency preparedness and response for early recovery and resilience with an aim to make the health system more robust and efficient in its response to public health emergencies in collaboration with other sectors. To actualize this, the Ministry of Health aims to establish 47 county based PHEOCs to enhance coordination and response to public health events and emergencies. These PHEOCs will be domiciled within the County Health Department responsible for public health.

Human Resources for Health

Adequate, equitably distributed, and skilled human resources for health are essential to deliver better health services and bring good outcomes. According to the 2019 Kenya Harmonized Health Facility Assessment (KHHFA) survey, Kenya had significant shortfalls

in its health workforce relative to cadre norms, and the distribution of human resources is not equitable distributed across the country, with arid and semi-arid counties generally having low densities. The national health workforce density for core health workers was 15.6 per 10,000 population, below the recommended World Health Organization (WHO) target of 23 per 10,000 population. Only six counties surpassed the WHO target: Tharaka Nithi (33.8), Nyeri (31), Uasin Gishu (28.2), Nairobi (26.3), Kajiado (24.6) and Lamu (24.6). The Survey showed that the country had a density of 0.6 medical officers per 10,000 population, against the KEPH requirement of 3.7 medical officers per 10,000 population. Nurses had a density of 10 and registered clinical officers had a density of 3 per 10,000 population against KEPH standards of 8.7 and 3.7 per 10,000 population, respectively. All the other cadres stood at less than 1 per 10,000 population⁷.

For effective and optimal management of PHEs, there needs to be a critical mass skilled of field epidemiologists, public health officers, laboratory scientists, pharmacists, surveillance officers, among other cadres required at both the national and county levels, because they are key in guiding PHEM activities.

Health Financing

Health financing is a critical component in accelerating the achievement of the sector goals and has been undergoing several reforms geared towards improving and expanding health coverage in a financially sustainable way. The objective of health financing is to ensure adequacy in resource allocation, efficiency, and equity in line with the goals of Universal Health Coverage (UHC).

The Total Health Expenditure (THE) in Kenya was KES 346 billion (USD 3,476 million) in FY 2015/16, up from KES 271 billion (USD 3,188 million) in FY 2012/13. Total health spending in FY 2015/16 accounted for 5.2 percent of

⁶ The Presidency and Cabinet Affairs Office. (2021, March 17). *Organization of the Government of the Republic of Kenya*. Retrieved from Executive Office of the President | Cabinet Affairs Office: <https://cabinetoffice.go.ke/wp-content/uploads/2019/05/Executive-Order-No-1-of-2018-Reorganisation-of.pdf>

⁷ Ministry of Health. (2019). *Kenya Harmonized Health Facility Assessment*. Nairobi: Ministry of Health.

GDP down from 6.8 percent in FY 2012/13. The government budgetary allocation to health has remained low, relative to global commitments like the Abuja Declaration of 15 percent allocation of the total government allocation to health. The government expenditure on health as a percent of total government expenditure increased from 6.1 percent in FY 2012/13 to 6.7 percent in FY 2015/16. Similarly, the level of external funding has been relatively high, with a significant share of such funding being 'off-budget'. The external financing for the health sector accounted for 22 percent of Current Health Expenditures (CHE) in FY 2015/16, which was decreased from 32 percent in FY 2009/10. In net present values, the per capita expenditure in USD has increased from KES 6,602 (USD 77.4) in FY 2012/13 to KES 7,822 (USD 78.6) in FY 2015/16. The per capita expenditure, government health expenditure as a percent of THE and the proportion of GDP spent on health has been increasing since FY 2001/02 estimates^{8,9}.

Health Information System

Recent years have seen an increasing focus on strengthening national Health Information Systems in Kenya. The Divisions of Health Information System and the Information and Communications Technology (ICT) in the Ministry of Health aim to provide timely, reliable, and accessible quality health service information for evidence-based decision. The MOH has adopted a web-based system for data management and has installed infrastructure (servers) to actualize this objective. The Kenya PHEOC through strategic partnership with mHealth – Kenya has set up an information system (EARS) to enhance event-based surveillance. The EARS system is fully integrated with DHIS2.

Health Products and Technologies

Strides have been made in ensuring timely and

effective supply of commodities in the health sector such as availability of KEMSA Logistics Management and Information System (LMIS). The Kenya Essential Medicines List (KEML) has played an important role in effective allocation of commodities to health facilities. The national government has also partnered with the private sector to ensure availability of health products and technologies such as the Managed Equipment Services (MES). Despite these, inadequate supply of medicines, commodities and supplies has been perennial due to weakness in rolling out and utilizing LMIS.

In the Joint External Evaluation Report 2017, it was recommended that the country develops systems and plans to support sending and receiving of medical countermeasures during public health emergencies¹⁰. As a result, an Emergency Supply Chain Framework has been developed.

1.6 SITUATIONAL ANALYSIS; PUBLIC HEALTH EMERGENCY MANAGEMENT

In 2014, the Ebola Virus Disease (EVD) outbreak in West Africa highlighted key challenges in emergency preparedness and coordination of responses which resulted in delays of getting appropriate staff to the field, and disruption of regular operations by staff mobilization and inadequately skilled staff. It is against this background that the US Centers for Disease Prevention and Control (CDC) supported the Ministry of Health to form the Global Rapid Response Team (GRRT) which led to the formation of county specific response teams. As there was need to enhance the autonomy of response to PHEs to promote effectiveness and efficiency and on this premise that the

⁸ Njuguna, D., & Wanjala, P. (2021). *A Policy Brief I A Case for Increasing Public Investments in Health: Raising Public Commitments to Kenya's Health Sector*. Nairobi.

⁹ Ministry of Health. (2013). *Kenya Household Health Expenditure and Utilization Survey*. Nairobi: Ministry of Health.

¹⁰ World Health Organization. (2017). *Joint External Evaluation of IHR Core Capacities of the Republic of Kenya*. Geneva: World Health Organization.

Kenya national PHEOC was inaugurated on 17th May 2016 by the Cabinet Secretary for Health and the WHO Country Representative. Since its inception the PHEOC has conducted drills, simulation, and tabletop exercises, and coordinated response to disease outbreaks and emergencies. This includes coordination of response to COVID-19 pandemic, supplementary immunization activities for polio outbreaks, and monitoring of the Ebola Virus Disease (EVD) outbreaks in the Democratic Republic of Congo. It was established based on the recognition that the pre-existing public health emergency response structures and systems did not meet the threshold of legal requirements of the International Health Regulations (IHR) 2005 to which Kenya is a signatory¹.



346 Billion

The Total Health Expenditure (THE) in Kenya billion (USD 3,476 million) in FY 2015/16, up from KES 271 billion (USD 3,188 million) in FY 2012/13.

1.6.1 The Country Hazard Profile

Kenya has experienced a myriad of health and health-related hazards in the past which have taken a toll on its economic productivity. In addition, the country's strategic position as a trade and travel hub makes it particularly vulnerable to both health and non-health emergencies and disasters. The figure below depicts disease outbreaks which Kenya has grappled with between 2012 and 2016.

Figure 1: Disease Outbreak Summary 2012-2016¹¹

DISEASE OUTBREAK SUMMARY 2012-2016 KENYA			
2013	CASES	DEATHS	CFR
Polio	14	0	0
Dengue Fever	733	0	0
Measles	31	0	0
Cholera	41	0	0
Anthrax	27	0	0
2014	CASES	DEATHS	CFR
Aflatoxin outbreak	31	10	32
Measles	502	0	0
Anthrax	19	2	11
Q-Fever	85	6	7
Dengue Fever	309	0	0
Kalaazar	217	11	5
RVF	14	1	7
Cholera	2	0	0
Hepatitis B	200	0	0
2015	CASES	DEATHS	CFR
Cholera	10,733	178	2
Measles	41	1	2
2016	CASES	DEATHS	CFR
Cholera	4,370	60	1
Measles	121	1	1
Hepatitis B	37	0	0
Hepatitis A	237	0	0
SARI	512	70	14
Yellow Fever	2	1	50

¹¹ Division of Disease Surveillance and Epidemic Response. (n.d.). Nairobi: Ministry of Health.

These examples of health and health-related emergencies and hazards that Kenya has been exposed created an imperative to strengthen health system's capabilities to prevent, respond to, and recover from PHEs by prioritizing investment in health, and particularly the public health emergency operations centers, to remain on the development track.

1.6.2 Emergency Preparedness and Response

The PHEOC is part of a network of national and international emergency management and response agencies. Nationally, PHEOC collaborates with County Departments of Health, other line ministries, departments, and disaster management agencies (MDAs) and partners. Key departments in the Ministry of Health include the Department of Disease Surveillance and Epidemic Response (DDSR); the Division of Zoonotic Diseases (Ministry of Health, Ministry of Agriculture, Livestock and Fisheries, and Ministry of Water, Sanitation, and Irrigation), the Division of National Public Health Laboratories and the Department of Environmental Health. This network plays a central role in coordinating emergency response using all-hazards approach. Internationally, the national PHEOC collaborates with other emergency operating centers (EOCs) within WHO, CDC and Africa Centers for Disease Control and Prevention¹².

There are PHEOCs being established at county level with the support of MOH and development partners. Presently, all forty-seven counties have been earmarked for support to establish County PHEOCs and are at various stages of development. County PHEOCs will work in concert with the national PHEOC during both preparedness and response phases. The KPHEOC Handbook outlines a coordination system for public health emergency response between the two levels of government as PHEs have capacity to cross county boundaries as evidenced by the

COVID-19 pandemic, cholera epidemic and Rift Valley fever outbreak.

1.6.3 Legal Framework for Public Health Emergency Management

Presently there is no specific policy or law that anchors public health emergency management, though they are broadly anchored on the Kenya Health Policy 2014 – 2030, Kenya Health Sector Strategic Plan 2018 - 2023 and the yet to be launched National Disaster Management Policy, among others. It is, however, anticipated that the COVID-19 pandemic experience has highlighted the central role of the PHEOC in coordinating public health response and the need to anchor public health emergency management in law. Therefore, there is need for enacting specific laws and issuing specific policies to guide PHEM. In the absence of this legal anchor, the governance of PHEs is conducted through various legislations and, policies as listed: (i) Constitution of Kenya 2010; (ii) Health Act 2017; (iii) Food, Drugs and Chemical Substances Act (Chapter 254); (iv) Meat control Act (Chapter 356); (v) Public Health Act (Chapter 242); (vi) East African Community (EAC) One Stop Border Posts Act - health component; (vii) Animal Disease Act (Chapter 364); (viii) Kenya Prisons Act (Chapter 90); (ix) National Disaster Risk Management Policy, 2017; (x) Kenya Health Policy; (xi) The International Health Regulations (IHR) 2005; (xii) Africa Union Support to Ebola Outbreak in West Africa (ASEOWA) MoU, 2014 (African Union and Kenya); (xiii) National Emergency Response Plan 2014; (xiv) Kenya Emergency Supply Chain Framework (2021); and (xv) Sendai Framework 2015-2030 for Disaster Risk Reduction.

¹² Kenya Public Health Emergency Operations Center. (2021). *KPHEOC Handbook*. Nairobi: Ministry of Health.

The general objective of PHEOC is to coordinate response for PHEs. Specific objectives are:

- ## 1.8 KENYA PHEOC ORGANIZATIONAL POSITION AND STRUCTURE

The PHEOC organizational structure is modular and scalable. It comprises of the command staff composed of the manager, public information officer, safety officer and liaison officer; and the general staff composed of the heads of the operations, planning, logistics and finance and administration sections. These sections correspond to the core functions of the PHEOC during preparations and response to PHEs.

The diagram illustrates the organizational structure and interactions of the National Disaster Management Agency (NDMA) and its various components. The entities are represented by blue boxes, and their relationships are indicated by arrows.

Entities:

- National Disaster Management Agencies
- Office of the Director General
- Council of Governors
- Private/ NGO EOCs
- Directorate of Public Health
- Office of the CDH/ CDPH
- County Disaster Management Agencies
- National PHEOC
- County PHEOC

Interactions (Arrows):

- Horizontal Interactions:**
 - National Disaster Management Agencies ↔ Office of the Director General
 - Office of the Director General ↔ Council of Governors
 - Office of the CDH/ CDPH ↔ County Disaster Management Agencies
- Vertical Interactions:**
 - National Disaster Management Agencies ↔ Private/ NGO EOCs
 - Office of the Director General ↔ Directorate of Public Health
 - Council of Governors ↔ Office of the CDH/ CDPH
 - Directorate of Public Health ↔ National PHEOC
 - Office of the CDH/ CDPH ↔ County PHEOC
- Diagonal Interactions:**
 - Private/ NGO EOCs ↔ National PHEOC
 - County Disaster Management Agencies ↔ County PHEOC
- Internal Interactions:**
 - National PHEOC ↔ County PHEOC

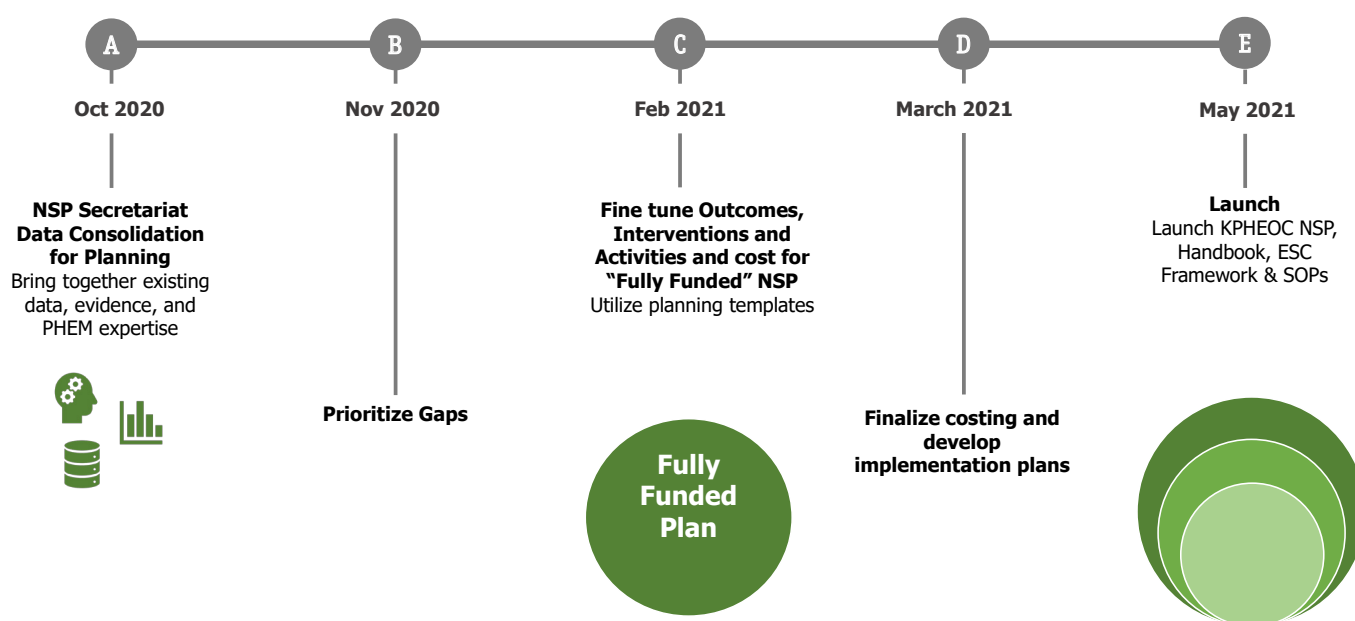
1.9 KENYA PHEOC NSP DEVELOPMENT PROCESS

Various stakeholders in emergency response both at national and county levels of Government and partners were engaged in development of the NSP during writing workshops, interviews, and expert reviews. The process began with the revision of the vision, mission and core values for the PHEOC.

Subsequently, a three – step approach was followed for strategic plan development:

(i) problem prioritization which informed the development of strategic goals; (ii) root-cause analysis; and (iii) intervention optimization. This was followed by development of activities, costing, operational plans and monitoring and evaluation and risk matrices. After consolidation, the draft NSP was presented to stakeholders for validation.

Figure 3: NSP Development Process

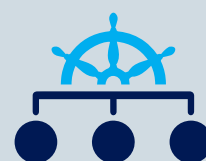




GOAL ONE: ESTABLISHMENT AND STRENGTHENING OF PUBLIC HEALTH EMERGENCY OPERATION CENTRES

2.1 SITUATIONAL ANALYSIS

Kenya has a functional national PHEOC that has coordinated response to various PHEs since its inauguration in 2016 by Ministry of Health and WHO. Currently, following the COVID-19 pandemic and with close collaboration with development partners, the national PHEOC is in the process of supporting counties in setting up PHEOCs at County Health Departments. Most notably, WHO and US CDC are supporting selected counties set to up county PHEOCs with technical support from the national PHEOC. The KPHEOC NSP 2021 – 2026 aims to streamline and provide strategic guidance on establishing county PHEOCs across all 47 counties. In addition, the national KPHEOC with support from County Health Departments and other stakeholders has developed a KPHEOC Handbook and finalized the SOPs to offer technical guidance on PHEM. Further, following the (JEE) in which the supply chain system for sending and receiving medical countermeasures during



**The KPHEOC NSP
2021 – 2026 aims to
streamline and provide
strategic guidance on the
establishment of county
PHEOCs across all the 47
counties.**

a PHE was found to be weak⁵, the Kenya Emergency Supply Chain (ESC) Framework was developed with the support from USAID with a tool to guide both national and county levels in quantification of medical countermeasures during PHEs¹³.

2.2 PRIORITY GAPS

Lack of legal and institutional frameworks:

Recent public health emergencies, such as COVID-19 pandemic, Ebola and Zika virus outbreaks, and other events, such as flooding, underscore the need for public health agencies to adapt to an ever-expanding list of public health threats and emergencies. Although there are various laws applicable to public health matters in Kenya, the Public Health Act Chapter 242, is the primary law that governs matters of public health emergencies in Kenya¹⁴. While this law establishes and regulates the functions and powers of several health authorities that deal with public health crises, it fails to expressly provide for the establishment of PHEOCs to strategically coordinate operational information and manage public health events and emergencies.

Knowledge Gap: The absence of adequately trained and competent staff hampers the achievement of optimal PHEM. The Ministry of Health through the national PHEOC is mandated to develop the capacity of county health managers so as optimize PHEM across the country. This is due to lack of formal PHEM training curriculum and limited numbers of those trained on Integrated Disease Surveillance and Response (IDSR).

Inadequate Human Resource: The national PHEOC established in 2016 remains inadequately staffed while the 47 county PHEOCs have yet to be established and

resourced formally with routine and surge staff. In an ideal setting, a minimum of five core staff should be deployed to the PHEOCs and the surge staff should be identified and assigned when necessary.

Underdeveloped infrastructure: The lack of established and operationalized county PHEOCs due to lack of infrastructure hinders effective coordination of response in PHEs. This includes lack of physical space where emergency responders can meet and coordinate response, ICT equipment to collate, analyze and share information in a timely manner, as well as furniture to facilitate meetings. As of March 2020, only the national PHEOC had been established in Kenya, and each of the 47 county governments need adequate infrastructure to establish county PHEOCs.

Weakness in Emergency Supply Chain System(s):

There is a weak system in place for sending and receiving medical countermeasures during PHE⁵. This has resulted in inefficient fragmented emergency supply chain systems, ill preparedness and poor accountability for commodities and services. Further, the national logistics information management system for PHEs is poorly developed, affecting data visibility, leading to poor quantification of commodities, poor coordination and sub-optimal planning and execution.

Poor Coordination of PHEM Activities:

Fragmentation of PHEM programming is one of the challenges that policymakers and stakeholders within health sector face. This has led to duplications and inconsistencies in operation and implementation of PHEM interventions across the country. It is further compounded by an absence of a partnership development and coordination framework.

¹³Kenya Public Health Emergency Operations Centre. (2021). Kenya Emergency Supply Chain Framework. Nairobi: Ministry of Health.

¹⁴ National Assembly. (2021, March 3). Public Health Act Chapter 242. Retrieved from Kenya Law Reports: Laws of Kenya: <http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/PublicHealthActCap242.pdf>

2.3 STRATEGIC INTERVENTIONS

Building leadership support and establishing collaborations at all levels: To develop legislation and institutional frameworks to streamline and strengthen PHEM, this NSP supports building of leadership support and establishing collaborations that will help establish institutional frameworks while mobilize domestic resources for better coordination of PHEM activities. High – level policy dialogue and advocacy activities planned for this NSP include: (i) hold consultative meetings with policy makers at the national level, including MoH, Senate and Parliamentary Health Committees, the Council of Governors (CoG), and the County Executive Committee (CEC) members for Health Forum of the CoG to sensitize them on the PHEM and seek their support in the legislation of the policy; (ii) hold consultation meetings at the county level with the Governors, County Executive Committee Members for Health and their teams, county assemblies and other stakeholders in the health sector; (iii) Develop of Annual Work Plans (AWPs) and integrate of PHEM activities at into the Medium-Term Expenditure Framework and County Investment and Development Plans at national and county levels respectively, in line with the implementation log frame of the NSP.

Curriculum Development and Capacity Building: To attain measurable improvement in PHEM countrywide this NSP will focus on developing a PHEM curriculum and capacity building of key health managers at both national and county levels. In addition, the NSP will focus on training health managers on IDSR strategy to enhance disease surveillance across the country. A needs assessment will be conducted to guide rollout of trainings across both levels of Government.

Deployment of Human Resource to PHEOCs: This NSP advocates deployment of a minimum of five core staff to support core PHEOC functional areas which include (i) management; (ii) operations; (iii) planning; (iv) logistics; and (v) administration and finance. In addition,

surge staff shall be identified and deployed when necessary to activate and support response during a PHE. This be attained in line with existing human resource policies that allow appointment or deployment of existing staff to support PHEOCs at both national and county levels. The national PHEOC shall also develop a repository of subject matter experts to offer technical assistance during PHEs as needed across the country.

Infrastructure Development: Currently, there exists physical infrastructure for PHEOC at the national level. It needs to be improved. Infrastructure development will be through identification and improvement of available physical space to meet a standard PHEOC layout that includes PHEOC manager's office, data/ICT unit, toll free call center and situation room. The ICT infrastructure (computers, reliable internet connectivity and other technology, office supplies, equipment essential to services) shall be strengthened at national and subnational levels for efficient collection, analysis and sharing of information for accurate response. Furniture (workstations, chairs, and lockable cabinets' workplace) shall be procured and assembled to support the team meetings and PHEOC operations. The PHEOCs infrastructure and equipment will be fully serviced, maintained, and ensured they are always fully operational.

Strengthening Emergency Supply Chain System(S): This NSP advocates for the strengthening of the systems to send and receive medical countermeasures during a PHE through implementing the Kenya Emergency Supply Chain (ESC) Framework 2021. This Framework will guide coordination, quantification, stockpiling, and distribution of commodities to prepare and respond to PHEs. It will also address reporting, accountability, and consolidation of emergency supply chain.

Improved Monitoring and Early Warning Systems: This NSP supports strengthening surveillance systems through robust support for surveillance officers at county (including sub – county) and national levels. This is to be attained by provision of financial and technical

support for operations to increase surveillance timeliness for PHEs. In addition, technology will be used to integrate indicator – based, event-based, and syndromic surveillance systems to enhance the detection of PHEs in Kenya at all levels.

2.4 OUTCOME TARGETS

Indicator	Baseline (2021)	Target (2026)
Increase number of established PHEOCs	18	48
Increase number of PHEOCs conducting annual simulation exercises	1	48

2.5 RESEARCH PRIORITIES

- Impact of setting up PHEOCs.
- Impact of establishing legal and institutional frameworks.
- Effectiveness of timely activation of the PHEOCs
- The barriers to and facilitators of successful public health emergency operations using an incident command center in the different counties?
- Mid- term and end-term evaluation on the effectiveness of PHEOCs
- Effect of establishing coordinated communication platforms for public health emergency response.

48

Total number of PHEOCs established by 2026

Total number of PHEOCs conducting annual simulation exercises by 2026





3

GOAL TWO: ADVOCACY, PARTNERSHIP AND STAKEHOLDER ENGAGEMENT



2016

**Year when the Public
Health Emergency
Operations Centre was
established in Kenya.**

3.1 SITUATIONAL ANALYSIS

The concept of establishing PHEOCs is relatively new across the entire globe and have developed rapidly after the Severe Acute Respiratory Syndrome (SARS) outbreak in early 2000s. Several PHEOCs were set up or strengthened in the first decade of the 21st century. The EOC of the US Center for Disease Control and Prevention (US CDC) was set up in 2001 and began to provide a centralized and physical location to manage CDC's response to domestically and internationally large-scale public health incident from 2003¹⁵. The EOC of the European Center for Disease Prevention and Control (ECDC) has become operational since June 2006¹⁶. In Kenya, the PHEOC was established in 2016. However, due to the novelty of the concept, there was low awareness and

¹⁵ Ellis, B. (2012). *Division of Emergency Operations (DEO) Program Review: A report from the Board of Scientific Counselors (BSC)*. Atlanta: US Centres for Disease Control and Prevention.

¹⁶ Xu, M., & Li, S.-X. (2015). Analysis of good practice of public health Emergency Operations Centers. *Asian Pacific Journal of Tropical Medicine*, 677-682.

only a small amount of Government funding has been dedicated for routine operations. These have limited ability of the PHEOC to tap into the available technical and financial resources from non-state sources during a PHE for better coordination and synergy.

Advocacy communication approach is critical in the management of PHEs. In coordinating the COVID-19 pandemic, the PHEOC has worked closely with other line ministries, key stakeholders, and influencers across sectors, to ensure advocacy for development designed to gain leadership commitment, policy support, social acceptance, and system support for PHEs.

To effectively coordinate PHEOC efforts, there is a need to adopt and customize a framework from the Kenya Health Sector Partnership and Coordination Framework 2018¹⁷, that will guide partnerships and stakeholders in the PHEM ecosystem. This will involve mapping out stakeholders, specifying roles of different actors to understand who is doing what, where and when to enhance efficiencies and synergies while avoid duplication of activities. In addition, the PHEOC has faced challenges in communication and stakeholder engagement. It is expected that enhanced advocacy, partner, and stakeholder coordination will ensure proper coordination, strengthen accountability, and sustainability of PHEOCs operations at both national and county levels.

3.2 PRIORITY GAPS

Limited Government ownership and financing: Inadequate financing of PHEM activities impedes optimal management of PHEs¹⁸. The PHEOC is reliant on development assistance for health to implement its activities, with no dedicated budget lines thereby posing sustainability challenges. This picture is replicated at county level and PHEM activities

are not mainstreamed in County Investment and Development Plans (CIDPs). One of the key underlying causes for this malaise was identified as a lack of NSP to enhance resource mobilization.

Weak coordination of stakeholders and partner engagement: The novelty of the PHEOC concept in Kenya has attracted very few partners providing technical and financial support during the last five years. Despite existence of the Kenya Health Sector Partnership and Coordination Framework 2018¹², mapping and tracking of existing PHEM partners and stakeholders have been ineffectively conducted. This has resulted in suboptimal coordination and engagement of relevant stakeholders and partners that is marked during PHEs.

3.3 STRATEGIC INTERVENTIONS

Advocate for resource mobilization from the Government and development assistance for health: The PHEOC will enhance communication and build political will to increase resources mobilized from Government (National and County) and development assistance in health to build resilient and sustainable PHEM system across the country. To attain this, this NSP advocates for mapping out stakeholders and joint development of annual work plans with PHEM stakeholders. In addition, the staff at the PHEOC will be capacity built on grant writing to help raise resources for the under-resourced priority interventions. A resource mobilization plan will be developed during this NSP. This NSP encourages for joint collaborative research opportunities with universities and research institutions to conduct and support operational research in PHEs. Further, mid – term and end – term reviews will be conducted to evaluate the implementation of this NSP.

¹⁷ Ministry of Health. (2018). Kenya Health Sector Partnership and Coordination Framework. Nairobi: Ministry of Health

¹⁸ Institute of Health Metrics and Evaluation. (2020). Financing Global Health 2019. United States of America: Institute for Health Metrics and Evaluation.

Strengthening stakeholder's engagement /partnership coordination: Effective and efficient emergency response capacity will be enhanced through strengthening of stakeholder and partnership coordination by adopting the MOH Partnership Framework for the PHEM stakeholders.

3.4 OUTCOME TARGETS

Indicator	Baseline (2021)	Target (2026)
Proportion of county PHEOC with functional TWGs	0	47
Number of biannual stakeholder review meetings held	0	2

3.5 RESEARCH AREAS

- Collaborative and partnership research for the improvement of PHEOC services.
- Path to partnership in stakeholder-engaged research: A framework for stakeholder engagement in PHEs
- The role of media advocacy in public health emergencies, power in prevention partnership for exchanging knowledge during public health emergencies
- Community-based participatory research contribution to a public health emergency research
- Effective funding strategies for public health emergencies
- Assessment survey on public health emergencies preparedness in Kenya.
- Evaluating success in public health advocacy strategies.



4

GOAL THREE: RESEARCH, INNOVATION AND TECHNOLOGY AND DATA FOR PUBLIC HEALTH ACTION



Information management is an essential component of functional PHEOC operation, which includes information collection, analysis or assessment, and dissemination.

4.1 SITUATIONAL ANALYSIS

Information is the lifeblood in the PHEOC. As a coordination and communication center, the volume of information available and used in a PHEOC can be enormous. Information management is an essential component for achieving functional PHEOC operation, including information collection, analysis or assessment, and dissemination¹¹.

According to activities and tasks, KPHEOC has specific information needs and requires various sets of data including event-specific, context-specific, and event management data. **Event-specific data** reflect information on what, how, where, who, and the status of events. The sources of information come from public health emergency management system, which focuses on information of the emergencies and health risk factors, and the field investigation

recourses. **Context-specific data** reflect background information such as geographical information, demographic information, environmental information, health resources information, emergency shelter, the incidence of related diseases and health services. **Event management data** are organized along the IMS functional domains (management, operations, planning, logistics, finance, and administration) during a response. Such data may include humanity resources, equipment, the status of interventions, partner activities, resource deployments, expenditure progress on achievement of objectives, and so on. In addition, the PHEOC also keeps tabs on human resource information, expert database, and supply chain logistics.

Collecting, processing, and sharing information in a timely manner is a key function of the KPHEOC. It manages information under a framework and principles of Emergency Alerts Reporting System (EARS system)⁷. It monitors PHEs within the country. Key information collected include incident notification, situation awareness/update, analytical and baseline data. In addition, information management SOPs have been developed for the KPHEOC. The EARS system is integrated with DHIS2® to enhance event – based surveillance together with indicator – based surveillance.

The Kenya Quality Model for Health provides a framework for continuous quality improvement of health services¹⁹. There is, therefore, a need to foster a culture for demand and use of data for learning and development and create an environment where innovation is promoted and the opportunity presented by technological advancement is capitalized. To this end, the KPHEOC aims to lead innovations for collecting information based on standardized terminology and general data structure, and that can be exchanged horizontally and vertically.

4.2 PRIORITY GAPS

Lack of electronic reporting systems for data collection and analysis: Technologies and surveillance systems play an integral, increasing, and evolving role in supporting public health responses to outbreaks or other urgent PHEs²⁰. Although Kenya holds an advanced ICT sector, there are lags MOH in adopting innovations, especially for indicator – based surveillance system. Currently, the reporting ecosystem has a mix of manual and electronic platforms that makes data collection, analysis, transmission, processing, and data storage inaccurate, slow, and cumbersome. For example, for indicator – based surveillance, the Integrated Case Based Surveillance Form (MOH 502) and the Health Facility Line Listing Form (MOH 503) are manually managed. On the other hand, the Monthly Surveillance Form (MOH 504) and the Epidemic (Weekly) Reporting Form MOH 505 are both manual and digitized on the DHIS2® platform.

Fragmentation and poor interoperability of current surveillance systems: There exists fragmented and non-interoperable surveillance systems undertaking similar functions across various MOH Divisions. These are marked in event – based, syndromic, predictive, and participatory surveillance systems in the MOH. In addition, the indicator – based surveillance system tools (MOH 502, MOH 503, MOH 504 and MOH 505) are not interoperable with various laboratory information management systems (LIMs) in use across reference laboratories in the country. Further, different disease control programs have surveillance systems that are not synchronized with the KPHEOC surveillance system.

Lack of an enabling environment that fosters innovation for PHE preparedness and response: During the COVID-19 pandemic, the KPHEOC in collaboration with

¹⁹ Ministry of Health. (2014). *Kenya Quality Model for Health*. Nairobi: Ministry of Health.

²⁰ Hamilton, J. J., & Hopkins, R. S. (2019). Using technologies for data collection and management. *The CDC field epidemiology manual*. CDC. Retrieved 1 March 2021, from <https://www.cdc.gov/eis/field-epi-manual/chapters/data-collection-management.html>

stakeholders developed innovations for data management. However, some innovations were not optimally rolled out and utilized because the implementation process was impeded by some health sector stakeholders, thereby rendering the innovations redundant. This caused by lack of adequate goodwill directed in supporting innovations to guarantee preparedness. Besides, there is an absence of concrete efforts to support existing innovations. Due to this, there has been slow scale up and adoption of innovations.

Lack of defined research agenda and priorities for emergency preparedness and response at national and county levels makes it difficult for stakeholders to think about research and innovation. The tremendous variation in public health threat profiles, response infrastructures, and community characteristics, combined with a limited experience base, have made it challenging to identify high-priority functions and processes that can form a basis of clear and focused research agenda. As a result, this has led to lack of capacity for research to enhance evidence generating for action planning.

4.3 STRATEGIC INTERVENTIONS

Digitization of reporting systems for data collection and analysis: This NSP sets out to invest in digitizing the entire MOH surveillance tools/ forms, with a special emphasis on indicator – based surveillance system (MOH 502, MOH 503, MOH 504 and MOH 505) to ensure electronic data capture, analysis, transmission, and visualization. This will be achieved by joint collaborative efforts among all relevant stakeholders, including MOH Division of Health Information Systems, MOH Department of ICT and software developers, and others.

Enhance consolidation and interoperability of the different surveillance systems in use in the health sector, including the reference laboratories, to yield information for decision making and prompt public health action. This is marked in event – based (e.g., *m-dharura*), syndromic, predictive, and participatory surveillance systems where there are innovations, but the systems are not interoperable and are fragmented across various MOH Divisions. This NSP envisages that all the indicator – based, event – based, syndromic, predictive, and participatory surveillance systems will be interoperable with the EARS system and send data to it for analysis and visualizations at the KPHEOC and County PHEOCs for public health action.

Enhance advocacy among top MOH leadership to ensure adoption and scale up of successful innovations.

Enhance capacity for research by defining a research agenda and priorities for emergency preparedness and response at national and county levels. This is complimented by mobilization of resources to support research activities, at PHEOCs with relevant actors drawn from institutions of higher learning and research organizations.

4.4 OUTCOME TARGETS

Indicator	Baseline (2021)	Target (2026)
Digitization of MOH surveillance tools (MOH 502, MOH 503, MOH 504 and MOH 505)	0	4
Proportion of surveillance systems interoperable with EARS system	0	100%
Proportion of PHEOCs undertaking in-action and after-action reviews after response activities	0	100%

4.5 RESEARCH AREAS

- Impact of EOC's on emergency response in Kenya.
 - Effect of Multi-agency response coordination on Public health emergency response.
 - Creating a system for achieving data driven decision making in Kenya
- Epidemiological analysis of data collected in PHEOCs.
 - Effect of data driven decision in Public Health.
 - Survey on EOC infrastructure use across the country.
 - Efficiencies in Public health emergency response

4

Number of
indicator based
surveillance tools
digitised by 2026

100

Proportion of
surveillance systems
interoperable with
EARS system
and
Proportion of PHEOCs
undertaking in-action
and after-action
reviews after response
activities by 2026



Emergency Department

Welcome to
**Emergency
Department**

Including:
Ambulatory Emergency Care (AEC)
TREAT
Clinical Decisions Unit (CDU)

← For Children's Emergency
Department use the
Lower Ground Entrance

Automatic
door



IMPLEMENTING THE KPHEOC NSP

5.1 FINANCING THE NATIONAL STRATEGIC PLAN 2021 – 2026

To strengthen and streamline public health emergency management, it is imperative to mobilize and sustain adequate financial resources over many years. Globally, these resources continue to fall short of the amount needed¹³. This calls for stepping up efforts and commitments for mobilizing both domestic and donor resources.

Funding for PHEM interventions in Kenya is mainly from the World Health Organization, the US Centers for Disease Control and Prevention and United States Agency for International Development. The KPHEOC NSP 2021 – 2026 promotes efficient use of resources and systematic inclusion of PHEM activities in the national Universal Health Coverage (UHC) agenda. The NSP also aims to nurture partner relationships to ensure cohesion in implementation of PHEM activities. The NSP will also seek to have a regular funding for PHEOC operations included in the Ministry of Health annual budget for sustainability.



5.88 Billion

**Amount the KPHEOC
NSP requires for the
strategic plan period
to achieve its targets,
according to the input-
based costing**

5.1.1 Resource Requirements

The NSP articulates activities that will drive progress toward each outcome targets. Activities were costed using an input-based costing (IBC) approach. The IBC uses a bottom-up approach that estimates the cost of all inputs required to achieve NSP targets for the Financial Year 2021/22 to 2026/27. Table 1 outlines the estimated resource requirements towards the full implementation of the KPHEOC NSP.

According to the input-based costing, the KPHEOC NSP requires **KES 5.88 billion** for the strategic plan period to achieve its targets. This has further been disaggregated by the NSP priority areas as shown. The operational plan and activity costs which are the foundation of this summary are annexed.

5.2 RISK MANAGEMENT

Risk can be defined as an effect of uncertainty on achieving KPHEOC's objectives. Risk management is, therefore defined as the process of identifying and managing these

uncertainties, or risks, with the goal of achieving objectives. Effective risk management is a key element of good governance and will provide reasonable, but not absolute, assurance that:

- Significant risks are identified and monitored, which makes it possible to make informed decisions and take timely action.
- Opportunities are maximized with confidence that risks will be managed;
- Objectives, as set out in the NSP, are achieved.

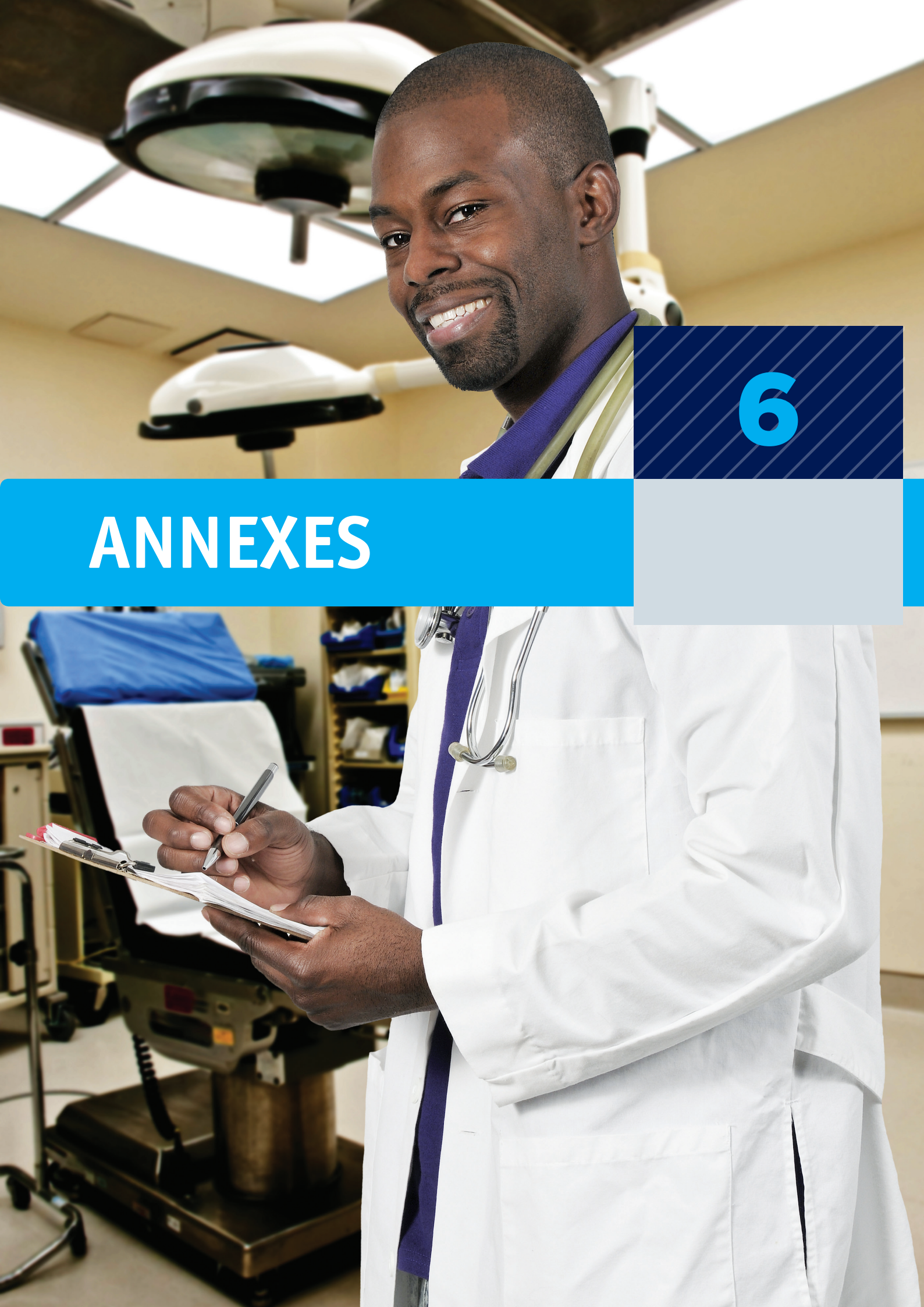
The risk assessment and management matrix are attached in Annex 6.4. It behooves the management of the national and county PHEOCs to proactively manage these risks to ensure complete and timely implementation of the objectives of this strategic plan. The risks have been categorized into the following groups: leadership, financial, human resources, stakeholder engagement, legal, and safety and security.

Table 1: Full Resource Requirements for Implementation of the KPHEOC Strategic Plan 2021 – 2026

Goal	FY 2021/22	FY 2022/23	FY 2023/24	FY 2025/26	FY 2026/27	Total (KES)
Goal One. Establishment and Strengthening of Public Health Emergency Operation Centers	1,374,137,182	953,183,340	730,328,200	715,180,000	717,029,000	4,489,857,722
Goal Two. Advocacy, Partnerships and Stakeholder Engagement	46,654,600	46,654,600	72,128,600	46,654,600	72,081,600	284,174,000
Goal Three. Research, Innovation, Technology and Data for Public Health Action	399,269,090	144,804,500	147,345,000	135,097,500	283,426,100	1,109,942,190
Total (KES)	1,820,060,872	1,144,642,440	949,801,800	896,932,100	1,072,536,700	5,883,973,912

Figure 3: Risk map highlighting level of risks of various risk categories

		Potential impact		
		Low	Moderate	High
Likelihood of occurrence	High (very likely)		HR	Financial
	Moderate (possible)		Partner/ stakeholder Political	Safety & security
	Low (unlikely)			Legal



6

ANNEXES

6.1 COSTED ACTIVITIES

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Operationalization of the PHEOC NSP and Annual Operational plans	Integration of the PHEOC in the CIDP	Plans Procedures	County	5,984,540	-	-	-	-	5,984,540
	AOPs developing meetings (two weeks)	Plans Procedures	National	1,547,000	-	-	-	-	1,547,000
	Printing of materials	Plans Procedures	National	19,500	-	-	-	-	19,500
Incorporation of PHEOCs AWP/AOP into the County work plans and budgets	Dissemination meeting from National to county level (1day)	Plans Procedures	National	932,000	-	-	-	-	932,000
	County AOPs development meetings	Plans Procedures	County	7,939,000	9,340,000	4,670,000	-	-	21,949,000
		Plans Procedures	County	3,604,000	4,240,000	2,120,000	-	-	9,964,000
Development of the PHEOCs Policy document		Plans Procedures	County	5,168,000	6,080,000	3,040,000	-	-	14,288,000
	Development policy workshops	Plans Procedures	National	25,242,000	-	-	-	-	25,242,000
	NPHEOC SP printing cost	Plans Procedures	National	2,550,000	-	-	-	-	2,550,000
Dissemination and distribution of the Strategic Plan to the Counties	Consultant fee for policy development	Plans Procedures	National	6,000,000	-	-	-	-	6,000,000
	Validation of the review meetings (one week)	Plans Procedures	National	15,933,000	-	-	-	-	15,933,000
	Launch of the PHEOC NSP document	Plans Procedures	National	765,000	-	-	-	-	765,000
	Domestication of the PHEOC NSP workshops (per diem/transport)	Plans Procedures	County	3,930,000	-	-	-	-	3,930,000
	Dissemination workshops	Plans Procedures	County	3,930,000	-	-	-	-	3,930,000
	Dissemination meeting from National to county level (1day)	Plans Procedures	County	-	11,938,000	-	-	-	11,938,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Advocate for the enactment of PHEOC Act- National	Advocacy meetings (transport and Per diem for parliamentary Health Committee, COG health Committee)	Plans Procedures	National	332,000	-	332,000	-	332,000	996,000
	Advocacy meetings (transport and Per diem for County MCAs)	Plans Procedures	County	71,299,000	-	1,517,000	-	1,517,000	74,333,000
Implement PHEOC Policy guidelines		Plans Procedures		-	-	-	-	-	-
	Mid-term assessment	Plans Procedures	National	-	-	2,627,000	-	2,627,000	5,254,000
	Review meeting (once monthly) (tea's snacks and transport)	Plans Procedures	National	-	212,000	-	-	-	212,000
	Review meeting (once monthly) (tea's snacks and transport)	Plans Procedures	County	-	254,000	-	-	-	254,000
Developing of PHOECs operational plan and guidelines	AOPs developing meetings (5 days)	Plans Procedures	County	123,469,000	123,469,000	123,469,000	123,469,000	123,469,000	617,345,000
	County PHEOC AOP Printing cost	ICT	County	2,390,000	2,390,000	2,390,000	2,390,000	2,390,000	11,950,000
Develop curriculum / materials for onsite / offline/online PHEM trainings	Curriculum development workshops	Plans Procedures	National	7,881,000	-	-	-	-	7,881,000
	Technical Assistant	Plans Procedures	National	1,128,000	-	-	-	-	1,128,000
Conduct a capacity and capability assessment	IMS/ICS training	Plans Procedures	National	13,135,000	13,135,000	-	-	-	26,270,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Training and exercise needs assessment	Leadership and governance training	Plans Procedures	National	13,135,000	13,135,000	-	-	-	26,270,000
	ICT training for responders	ICT	National	842,000	842,000	842,000	-	-	2,526,000
	Data analysis and GIS mapping training	Info Integration Response	National	7,881,000	5,254,000	5,254,000	5,254,000	2,627,000	26,270,000
	IDSR Training	Surveillance Watch	County	13,135,000	13,135,000	-	-	-	26,270,000
	PHEM Fellowship	IM Response	County	23,760,000	23,760,000	23,760,000	23,760,000	23,760,000	118,800,000
	PHEOC benchmarking	Plans Procedures	County	315,000	315,000	315,000	315,000	315,000	1,575,000
	Emergency Risk Communication training	Risk Comm	National	2,627,000	2,627,000	2,627,000	2,627,000	2,627,000	13,135,000
	Consultant fee for PHEOC staff curriculum development	Plans Procedures	National	40,000	-	-	-	-	40,000
	Validation workshop for PHEOC staff curriculum	Plans Procedures	National	-	2,627,000	-	-	-	2,627,000
	Pre-testing of the curriculum for PHEOC officers	Plans Procedures	National	-	2,627,000	-	-	-	2,627,000
	Stakeholder engagement workshops (Pre and Post) PHEOC staff	Plans Procedures	National	324,000	-	-	-	-	324,000
	Stakeholder engagement workshops (Pre and Post) (PHEOC staff and Post)	Plans Procedures	County	162,000	-	-	-	-	162,000
	Facilitation of virtual meetings	ICT	Sub County	180,000	180,000	180,000	180,000	180,000	900,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Develop curriculum for pre-service training	Stakeholder engagement workshops (Pre and Post) preservice training	Plans Procedures	National	-	2,627,000	-	-	-	2,627,000
	Consultant fee for curriculum development (preservice training)	Plans Procedures	National	-	1,800,000	-	-	-	1,800,000
	Validation workshop for preservice curriculum	Plans Procedures	National	-	2,627,000	-	-	-	2,627,000
	Pretesting of the curriculum	Plans Procedures	National	-	5,334,000	-	-	-	5,334,000
Appointing 5 officers per County.	County support for staff establish meetings	Plans Procedures	County	456,840,000	456,840,000	456,840,000	456,840,000	456,840,000	2,284,200,000
Appointing 5 officers at National Level	National support for staff establishes meetings	Plans Procedures	National	9,720,000	9,720,000	9,720,000	9,720,000	9,720,000	48,600,000
Identify the experts in emergency response at national and county level	Specialist mapping meeting	Plans Procedures	National	376,000	-	-	-	-	376,000
Training of surge staff* capacity building in knowledge gap	Training workshops (per diem and Transport) per county	Infrastructure Mnx Ops	Sub county	148,050,000	148,050,000	-	-	-	296,100,000
Emergency supply chain systems strengthening	Launch the Emergency Supply Chain (ESC) Framework at national level (ref *8 meeting costs)	Plans Procedures	National	1,564,000	-	-	-	-	1,564,000
	Sensitization of top leadership at national level (ref*9 meeting cost)	Plans Procedures	National	133,000	-	-	-	-	133,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Putting systems in place for sending and receiving medical countermeasures during public health emergencies	Sensitization of top leadership at county level (ref*10 meeting cost)		County	8,386,000	-	-	-	-	8,386,000
	Dissemination of the emergency supply chain framework and tools (job aids) to the county level (ref*11 meeting costs)	Plans Procedures	County	27,536,000	-	-	-	-	27,536,000
	Training of the PHEOC staff (ref *12 meeting costs)	Infrastructure Mnx Ops	County	9,146,000	9,146,000	9,146,000	9,146,000	9,146,000	45,730,000
	Training of the county and sub-county commodity managers on emergency commodity management (ref *13 meeting costs)	Infrastructure Mnx Ops	County	26,596,000	26,596,000	26,596,000	26,596,000	26,596,000	132,980,000
	Annual national and county simulation exercise (ref *14 meeting costs)	Simulation Ex	National	15,705,000	15,705,000	15,705,000	15,705,000	15,705,000	78,525,000
Dirt Motorbike purchase for sub counties (300)	ESC Framework Annual assessment and final Review (ref *15 meeting costs)	Plans Procedures	National	178,000	178,000	178,000	178,000	178,000	890,000
	Purchase of Dirt motor bikes for Sub counties (300)	Logistics	National	157,235,526	-	-	-	-	157,235,526
	Fuel, Service and Maintenance Motorbikes	Logistics	County	9,000,000	9,000,000	9,000,000	9,000,000	9,000,000	45,000,000
Transport facilitation (Fuel, Service and maintenance)	Fuel, Service and Maintenance Vehicles	Logistics	County	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	150,000,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Setting up a call center	Setting National Call centre infrastructure networking (call centre software(pbx))	Infrastructure Mnx Ops	National	4,903,556	-	-	-	-	4,903,556
	Setting County Call centre infrastructure networking (involves services provider)	Infrastructure Mnx Ops	County	38,079,600	-	-	-	-	38,079,600
	Provide Toll free line (involve service providers to support 47 counties)	Infrastructure Mnx Ops	County	42,360,000	-	-	-	-	42,360,000
	Training call centre operators	Plans Procedures	County	22,750,000	-	-	-	-	22,750,000
Joint Annual work plan development with the stakeholders	Develop costed PHEOC annual work plans.	Plans Procedures	National	1,153,000	1,153,000	1,153,000	1,153,000	1,153,000	5,765,000
		Plans Procedures	County	1,687,000	1,687,000	1,687,000	1,687,000	1,687,000	8,435,000
		Plans Procedures	National	45,000	45,000	45,000	45,000	45,000	225,000
Establish TWG for public health emergencies	Establish PHEOC TWGs for technical assistance and partner engagement	Plans Procedures	County	47,000	47,000	47,000	47,000	47,000	235,000
	Develop ToR for the coordination group including TWGs	Plans Procedures	National	45,000	45,000	45,000	45,000	45,000	225,000
	Hold bi-annual partner/stakeholders meeting	Plans Procedures	County	52,000	52,000	52,000	52,000	52,000	260,000
		Plans Procedures	National	604,000	604,000	604,000	604,000	604,000	3,020,000
		Infrastructure Mnx Ops	County	632,000	632,000	632,000	632,000	632,000	3,160,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Conduct comprehensive partner/stakeholder mapping at national and county levels	Mapping/Listing/tracking of stakeholders	Plans Procedures	National	45,000	45,000	45,000	45,000	45,000	225,000
		Plans Procedures	County	45,000	45,000	45,000	45,000	45,000	225,000
	Stakeholder/Partner assessment	Plans Procedures	National	45,000	45,000	45,000	45,000	45,000	225,000
		Plans Procedures	County	45,000	45,000	45,000	45,000	45,000	225,000
Develop, adapt or implement partnership frameworks with varied players including private sector entities, security/ intelligence agencies, non-profit and international agencies, academic and research institutions, subject matter experts, etc.	Develop, Update, and maintain repository for partners annually	Plans Procedures	National	45,000	45,000	45,000	45,000	45,000	225,000
		Plans Procedures	County	2,115,000	2,115,000	2,115,000	2,115,000	2,115,000	10,575,000
		Risk Comm	National	-	-	25,474,000	-	25,474,000	50,948,000
		Risk Comm	National	30,280,000	30,280,000	30,280,000	30,280,000	30,280,000	151,400,000
Develop, adapt or implement stakeholder engagement frameworks with targeting various stakeholders including community members, media and others	Develop event specific health messages Sensitize media on Public health emergencies	Risk Comm	National	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Engage communities as appropriate (including public health barazas, awareness meetings and community dialogue days on public health emergencies) as needed during PHEs	Hold community engagement meeting on public health emergencies	Risk Comm	National	500,400	500,400	500,400	500,400	500,400	2,502,000
		Risk Comm	County	664,400	664,400	664,400	664,400	664,400	3,322,000
Develop resource mobilization plan	Disseminate PHEOC costed National Strategic Plan to stakeholders for fundraising	Plans Procedures	National	364,000	364,000	364,000	364,000	364,000	1,820,000
		Plans Procedures	County	116,000	116,000	116,000	116,000	116,000	580,000
	Develop PHEOC resource mobilization plans	Plans Procedures	National	1,196,000	1,196,000	1,196,000	1,196,000	1,196,000	5,980,000
		Plans Procedures	County	1,196,000	1,196,000	1,196,000	1,196,000	1,196,000	5,980,000
	Map existing funding opportunities international, National county levels and private sectors	Plans Procedures	National	30,000	30,000	30,000	30,000	30,000	150,000
		Plans Procedures	County	22,000	22,000	22,000	22,000	22,000	110,000
	Conduct advocacy for incorporation of PHEOC budgets/ priorities in CIDs and the national MTEF	Plans Procedures	National	116,000	116,000	116,000	116,000	69,000	533,000
		Plans Procedures	County	117,000	117,000	117,000	117,000	117,000	585,000
	Conduct advocacy to ensure budgetary allocation at county and national levels	Plans Procedures	National	69,000	69,000	69,000	69,000	69,000	345,000
		Plans Procedures	County	49,000	49,000	49,000	49,000	49,000	245,000
	Capacity build PHEOC staff on resource mobilization including grant writing	Plans Procedures	National	2,357,000	2,357,000	2,357,000	2,357,000	2,357,000	11,785,000
		Plans Procedures	County	972,800	972,800	972,800	972,800	972,800	4,864,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Access to the national data center	Procurement of a Server			1,000,000	-	-	-	-	1,000,000
	Procurement of a Firewall			300,000	-	-	-	-	300,000
	Maintenance of ICT equipment estimated at 20% cost of the item			641,300	641,300	641,300	641,300	641,300	3,206,500
	Gaining remote access to the server	Infrastructure Mnx Ops	National	-	-	-	-	-	-
PHEOC server as mirrors/back server	Getting server space - virtualization	Infrastructure Mnx Ops	National	-	-	-	-	-	-
	Procurement of a power backup (Solar Backup)	ICT	National	1,000,000	-	-	-	-	1,000,000
	Purchase of backup storage	ICT	National	40,000	-	-	-	40,000	80,000
	Acquiring a stable internet provider with a redundant backup	ICT	National	60,000	60,000	60,000	60,000	60,000	300,000
	CCTV Procurement and Installation	ICT	National	425,000	-	-	-	425,000	850,000
	Hiring of server admin	ICT	National	100,000	100,000	100,000	100,000	100,000	500,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Automation of data capturing tools MOH 502,503 and 505.	Developing and adopting existing platform that can be used for data capturing e.g. ODK	ICT	Sub-County	1,000,000	-	-	-	-	1,000,000
	Digitization of existing manual data capturing tools e.g., MOH 502,503,505	ICT	National	1,000,000	1,000,000	-	-	-	2,000,000
	Developers (HR)	ICT	National	200,000	200,000	200,000	200,000	200,000	1,000,000
	Training of users.	ICT	National	32,918,000	-	-	-	-	32,918,000
Transmission of data to users	Purchase of Modems	ICT	Sub-County	5,640,000	-	5,640,000	-	5,640,000	16,920,000
	Purchase of data bundles	ICT	Sub-County	576,000	576,000	576,000	576,000	576,000	2,880,000
	Purchase of smart phones	ICT	Sub-County	2,800,000	-	2,800,000	-	2,800,000	8,400,000
	Purchase of laptops	ICT	National	18,000,000	-	-	-	18,000,000	36,000,000
Purchase of visualization equipment and software.	Purchase of smart TVs	Info Integration Response	County	5,640,000	-	-	-	5,640,000	11,280,000
	Purchase of projectors	ICT	National	1,400,000	-	-	-	1,400,000	2,800,000
	Purchase of visualization software	Info Integration Response	National	300,000	-	-	-	-	300,000
	Software license renewal		Sub-County	122,500,000	-	-	-	122,500,000	245,000,000
Linking and harmonizing with other databases	Workshops	ICT	National	3,739,500	3,739,500	3,739,500	3,739,500	3,739,500	18,697,500
	Develop SOPs for data management and Tools	Simulation Ex		-	-	-	-	-	-

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Training on data management	Train staffs on how to capture, interpret and analyze data	Simulation Ex		32,918,000	32,918,000	32,918,000	32,918,000	32,918,000	164,590,000
Purchase of analysis software	Purchase of data analysis software, e.g., Stata, Microsoft office and ArcGIS	ICT		4,000,000	-	-	-	4,000,000	8,000,000
Proposal writing meetings	Meeting	Simulation Ex	National	2,017,000	-	2,017,000	-	2,017,000	6,051,000
Proposal submission	Printer	ICT	National	40,000	-	-	-	-	40,000
	Paper (ream)			1,500	-	-	-	-	1,500
	Ethical Fees	Plans Procedures	National	100,000	-	-	-	-	100,000
	Registration fees	Plans Procedures	National	50,000	-	-	-	-	50,000
	Publication Fees	Plans Procedures	National	1,000	-	-	-	-	1,000
Develop resource mobilization plan and then scout for key stakeholders	Workshop for Plan Development	Simulation Ex	National	1,008,500	-	-	-	-	1,008,500
Mapping of stakeholders	Meeting	Plans Procedures	National	1,988,000	-	-	-	-	1,988,000
Hold stakeholder and partners meeting	Meeting	Simulation Ex	National	1,508,000	754,000	-	754,000	-	3,016,000
Identify relevant institutions of higher learning.	Meeting	Simulation Ex	County	317,000	-	-	-	-	317,000
	Workshop	Simulation Ex	National	3,339,500	3,339,500	3,339,500	3,339,500	3,339,500	16,697,500
Conduct forums for stakeholder engagement	Meeting	Simulation Ex	National	22,086,400	22,086,400	22,086,400	22,086,400	-	88,345,600

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Hold an engagement forum with the mapped institutions	Meeting with stakeholders	Simulation Ex	National	2,054,500	-	-	-	-	2,054,500
Hold trainings of PHEOC staff.	Training of PHEOC Staff	Simulation Ex	National	2,544,500	-	2,544,500	-	-	5,089,000
Hold workshop/seminar /conference	Workshops	Simulation Ex	National	-	8,707,000	-	-	8,707,000	17,414,000
Develop resource mobilization plan and then scout for key stakeholders	Meeting for developing resource mobilization plan	Simulation Ex	National	3,339,000	-	-	-	-	3,339,000
Mapping of stakeholders	Meeting for mapping stakeholders	Simulation Ex	National	382,000	-	-	-	-	382,000
Hold stakeholder and partners meeting	Meeting	Simulation Ex	National	3,667,000	3,667,000	3,667,000	3,667,000	3,667,000	18,335,000
Conduct forums for stakeholder engagement	Meeting	Simulation Ex	National	764,000	764,000	764,000	764,000	764,000	3,820,000
Ministerial stake holders engagement	Meeting	Simulation Ex	National	2,002,000	2,002,000	2,002,000	2,002,000	2,002,000	10,010,000
Consultant engagement	Consultant Meetings	Plans Procedures	National	1,596,690	-	-	-	-	1,596,690
	Workshops	Simulation Ex	National	6,313,500	-	-	-	-	6,313,500
Integration of existing systems (Lab,EARS and KHIS)	Workshop	Simulation Ex	National	3,339,000	-	-	-	-	3,339,000
Consultative engagement meeting with stakeholders	Consultative meeting with stakeholders	Simulation Ex	National	3,339,000	-	-	-	-	3,339,000
Conduct trainings on scale up services	Workshops	Simulation Ex	National	59,640,800	59,640,800	59,640,800	59,640,800	59,640,800	298,204,000
Identification and mapping of innovation hubs stakeholders	Meeting for mapping of the innovation hubs	Simulation Ex	National	382,000	-	-	-	-	382,000

Key (Broad) Activity	Sub - Activity	PHEM Domain	Level of Implementation	Year 1 Cost (KES)	Year 2 Cost (KES)	Year 3 Cost (KES)	Year 4 Cost (KES)	Year 5 Cost (KES)	TOTAL COST (KES)
Holding consultative engagement meetings with the stakeholders	Consultative engagement meeting	Simulation Ex	National	2,304,500	2,304,500	2,304,500	2,304,500	2,304,500	11,522,500
Assess and build capacity and resources for stakeholders	Meeting for assessing and Resource Mobilization	Simulation Ex	National	382,000	-	-	-	-	382,000
	Training	Simulation Ex	County	29,820,400	-	-	-	-	29,820,400
Develop annual workplans on useful PHE innovations	Workshop	Simulation Ex	National	6,439,000	-	-	-	-	6,439,000
Hold interdepartmental meetings to integrate PHE activities within departments	Meeting	Simulation Ex	National	2,304,500	2,304,500	2,304,500	2,304,500	2,304,500	11,522,500
GRAND TOTAL				1,820,060,872	1,144,642,440	949,801,800	896,932,100	1,072,536,700	5,883,973,912

6.2 OPERATIONAL PLAN

Key/ broad activity	Year 1	Year 2	Year 3	Year 4	Year 5	Responsible
Development of the PHEOCs NSP	x					National/County PHEOCs
Developing of PHEOCs operational plan (AOP) and guidelines	x	x				National/County PHEOCs
Policy development workshops	X					National/County PHEOCs
NPHEOC SP printing	X					National/County PHEOCs
Consultant fee for policy development	X					National/County PHEOCs
Validation of the review meetings	X					National PHEOC
Launch of the PHEOC NSP document	X					National PHEOC
Domestication of the PHEOC NSP workshops	X					National PHEOC
Dissemination workshops	X					National PHEOC
Dissemination meeting from National to county level	X	X	X	X		National PHEOC
Development of ESC framework	X					
Launch the Emergency Supply Chain (ESC) Framework at national level	X					National/County PHEOCs, Development Partners
Sensitization of top leadership at national level	X					National/County PHEOCs, Development Partners
Sensitization of top leadership at county level	X					National/County PHEOCs, Development Partners
Dissemination of the emergency supply chain framework and tools (job aids) to the county level	X					National/County PHEOCs, Development Partners
Training of the PHEOC staff	X	X	X	X	X	National/County PHEOCs, Development Partners
Training of the county and sub-county commodity managers on emergency commodity management	X	X	X	X	X	National/County PHEOCs, Development Partners
Annual national and county simulation exercise	X	X	X	X	X	PHEOCs (county, national)
ESC Framework Annual assessment and final Review	X	X	X	X	X	National PHEOC
Advocate for the enactment of PHEOC Act	x	x				CDH

Key/ broad activity	Year 1	Year 2	Year 3	Year 4	Year 5	Responsible
Advocacy meetings (transport and Per diem for parliamentary Health Committee, COG health Committee)	X	X	X	X		National PHEOC
Advocacy meetings (transport and Per diem for County MCAs)	X	X	X	X	X	National PHEOC
Implement PHEOC Policy guidelines	x	x	x	x	x	National/County PHEOCs
Integration of the PHEOC in the CIDP	x	x				CDH
AOPs development	x	x	x	x	x	National/County PHEOCs
AOPs developing meetings	x	x	x	x	x	National/County PHEOCs
County PHEOC AOP Printing	x	x	x	x	x	National/County PHEOCs
Establish and operationalize PHEOCs across the country	x	x	x	x	x	National/County PHEOCs, Development Partners
Appointing 5 PHEOC officers per County	x	x				CDH
Appointing 5 PHEOC officers at National Level	X	X				MoH
Identify the experts in emergency response at national and county level	x	x	x			National/County PHEOCs
Setting National Call centre infrastructure networking (call centre software(pbx))	X	X	X			PHEOCs (county, national)
setting County Call centre infrastructure networking (involves services provider)	X	X	X			PHEOCs, MOH. County govt
Provide Toll freeline (involve service providers to support 47 counties)		X	X	X		PHEOCs (county, national)
Training call centre operators	X	X	X	X	X	PHEOCs (county, national) jointly
Putting systems in place for sending and receiving medical countermeasures during public health emergencies	x	x	x			National/County PHEOCs, Development partners
Dirt Motorbike purchase for sub counties (300)		x	x	x		National/County PHEOCs, Development partners
Transport facilitation (Fuel, Service, and maintenance)		x	x	x		National/County PHEOCs, Development partners
Setting up a call center	x	x	x	x	x	National/County PHEOCs, Development partners
Midterm assessment		X	X	X	X	County, national PHEOCs, partners, partner agencies

Key/ broad activity	Year 1	Year 2	Year 3	Year 4	Year 5	Responsible
Review meeting (once monthly)	X	X				Counties, national PHEOCs
Review meeting (once monthly)			X	X	X	PHEOCs (national, county)
Develop PHEM curriculum /materials for onsite /offsite/online trainings						
Conduct a capacity and capability assessment	x					National PHEOCs
Training and exercise need assessment	x					National PHEOCs
Develop curriculum for pre-service training	x					National PHEOCs
Consultant fee for PHEOC staff curriculum development	X					PHEOCs (county, national)
Validation workshop for PHEOC staff curriculum	X					County, national PHEOCs
Pre-testing of the curriculum for PHEOC officers	X					PHEOCs (county, national)
Stakeholder engagement workshops (Pre and Post) PHEOC staff	X					PHEOCs (county, national)
Stakeholder engagement workshops (Pre and Post) (PHEOC staff	X					National, county PHEOCs, partners
Facilitation of virtual meetings	X					National, county PHEOCs, partners
Stakeholder engagement workshops (Pre and Post) preservice training	X					National, county PHEOCs
Consultant fee for curriculum development (preservice training)	x					National PHEOCs
Validation workshop for preservice curriculum	x					National PHEOCs
Pretesting of the curriculum	x					National PHEOCs
Training of surge staff	x	x	x	x	x	National PHEOCs
IMS/ICS training	x	x	x	x	x	National PHEOCs
Leadership and governance training	X	X	X	X	X	National and county PHEOCs
ICT training for responders	X	X	X	X	X	PHEOCs, ICCs, partners, civil society
Data analysis and GIS mapping training	X	X	X	X	X	PHEOCs, ICCs, partners, civil society
IDSR Training	X	X	X	X	X	PHEOCs, ICCs, partners, civil society
Emergency Risk Communication training	X	X	X	X	X	PHEOCs, ICCs, partners, civil society

Key/ broad activity	Year 1	Year 2	Year 3	Year 4	Year 5	Responsible
PHEM Fellowship	X	X	X	X		PHEOCs, ICCs, partners, civil society
PHEOC benchmarking				X	X	PHEOCs, ICCs, partners, civil society
Joint Annual work plan development with the stakeholders	X	X	X	X	X	PHEOC manager at National/ County level
Establish TWG for public health emergencies	X					PHEOC manager at National/ County level
Conduct comprehensive partner/stakeholder mapping at national and county levels	X	X	X	X	X	PHEOC manager at National/ County level
Develop, adapt, or implement partnership frameworks with varied players including private sector entities, security/ intelligence agencies, non-profit and international agencies, academic and research institutions, subject matter experts, etc.	X					PHEOC manager at National/ County level
Conducting of mid-term and end-term reviews			X	X	X	PHEOC manager at National/ County level
Develop, adapt or implement stakeholder engagement frameworks with targeting various stakeholders including community members, media and others	X		X			PHEOC manager at National/ County level
Engage communities as appropriate (including public health barazas, awareness and sensitization meetings and community dialogue days on public health emergencies) as needed during PHEs	X	X	X	X	X	PHEOC manager at National/ County level
Develop resource mobilization plan	X	X	X	X	X	PHEOC manager at National/ County level
Improvement of national data center infrastructure	X					ICT
Provisioning of PHEOC server as a mirror/back server	X					ICT
Automation of data capturing tools MOH 502,503 and 505.	X	X	X	X	X	PHEOC Manager
Transmission of data to users	X					PHEOC Manager
Training on data management	X		X			PHEOC Manager
Purchase of analysis software	X	X	X	X	X	PHEOC Manager

Key/ broad activity	Year 1	Year 2	Year 3	Year 4	Year 5	Responsible
Proposal writing meetings	X	X	X	X	X	PHEOC Manager
Proposal submission	X	X	X	X	X	PHEOC Manager
Develop resource mobilization plan and then scout for key stakeholders	X	X	X	X	X	PHEOC Manager
Mapping of stakeholders	X	X	X	X	X	PHEOC Manager
Hold stakeholder and partners meeting	X	X	X	X	X	PHEOC Manager
Identify relevant institutions of higher learning.	X		X			PHEOC Manager
Conduct forums for stakeholder engagement	X	X	X	X	X	PHEOC Manager
Hold an engagement forum with the mapped institutions	X	X	X	X	X	PHEOC Manager
Hold trainings of PHEOC staff.	X	X	X	X	X	PHEOC Manager
Hold workshop/seminar /conference		X		X		PHEOC Manager
Develop resource mobilization plan and then scout for key stakeholders	X		X			PHEOC Manager
Mapping of stakeholders	X		X			PHEOC Manager
Hold stakeholder and partners meeting	X	X	X	X	X	PHEOC Manager
Conduct forums for stakeholder engagement	X	X	X	X	X	PHEOC Manager
Ministerial stakeholders' engagement	X	X	X	X	X	PHEOC Manager
Consultant engagement		X		X		PHEOC Manager
Integration of existing systems (Lab, EARS and KHIS)	X	X	X	X	X	PHEOC Manager
Consultative engagement meeting with stakeholders	X	X	X	X	X	PHEOC Manager
Conduct trainings on scale up services	X		X			PHEOC Manager
Identification and mapping of innovation hubs by stakeholders	X					PHEOC Manager
Holding consultative engagements meetings with the stakeholders		X		X		PHEOC Manager
Develop annual workplans on useful PHE innovations		X		X		PHEOC Manager
Hold interdepartmental meetings to integrate PHE activities within departments	X	X	X	X	X	PHEOC Manager

6.3 MONITORING AND EVALUATION FRAMEWORK

Indicator	Indicator definition (method of calculation)	Frequency of collection	Source of data	Baseline	Targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
Number of PHEOCs established /total numbers targeted to be established in the country (1 national, 47 county)		Annually	MOH server/ PHEOCs register	18/48	18	25	32	40	48
Number of PHEOCs with capacity and Capability/Total Numbers established in the country		Annually	MOH server/ PHEOCs register	44395	18	25	32	40	48
Number of trained personnel /Number of target personnel in the National (5), counties (5*47) and sub-counties (290*5)		Quarterly	Training register/ registration forms	0/530	530	0	0	0	530
Number of advocacy meetings held/ Number of targeted meetings in the Country		Biannually	Attendance list	0/48	48	0	0	0	48
Number of PHEOCs who conduct simulations/48 PHEOCs		Once	Attendance list/ visitors book	1/48	18	25	32	40	48
Number of PHEOCs with a documented community surveillance system/48		Annually	register	0/48	18	25	32	40	48
Number of PHEOCs who set up call centers/48 PHEOCs		Annually	Inventory book	1/48	18	25	32	40	48
Number of PHEOCs with active 24/7 toll free call centers with reliable data collection capacity/48 PHEOCs		Annually	Inventory book	1/48	18	25	32	40	48
Number of people trained /Number targeted		Quarterly	Training register/ registration forms	0/530	530	0	0	0	530
Printed Policy document		Once	inventory book	0	1	0	0	0	0
Number of printed Curriculum document/ number targeted		Once	Inventory book	0	1	0	0	0	0

Indicator	Indicator definition (method of calculation)	Frequency of collection	Source of data	Baseline	Targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
Number of PHEOCs sensitized and trained on the Emergency Supply Chain (ESC) framework/total PHEOCs in the county (48)		Annually	Inventory book	0/48	18	25	32	40	48
Number of PHEOCs implementing the Emergency Supply Chain (ESC) framework/total PHEOCs in the county(48)		Annually	Inventory book	0/48	18	25	32	40	48
Number of dirt motor bike procured/300		Annually	Inventory book	0/300	60	120	180	240	300
Number of talk shows held/number targeted		Quarterly	Inventory book recordings,	0	47	94	141	188	235
No of Functional PHEOC TWG	Quarterly Functional PHEOC TWG meetings held	Quarterly	Minutes	0/48	18	25	32	40	48
Existence of TORs for the TWG	TOR for the coordination group established	Once	Minutes	0/48	18	25	32	40	48
Number of partner/stakeholder meeting held	partner/ stakeholder meetings held	Biannually	Minutes	0	2	2	2	2	2
Existence of a stakeholder repository	Stakeholder repository established	Annually	Repository	0	1	1	1	1	1
Number of joint performance review meetings held	performance review meetings held	Quarterly	Minutes	-	4	4	4	4	4
Number and type of health messages developed per event	Health messages developed as per need	Biannually	Report	-	2	2	2	2	2

Indicator	Indicator definition (method of calculation)	Frequency of collection	Source of data	Baseline	Targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
Number of community engagement meeting held during PHE	community engagement meeting held during PHE	Biannually	Minutes	2	2	2	2	2	2
Number and types of media engagement conducted during PHE	media engagements held during PHE	Annually	Report	-	1	1	1	1	1
Number of dissemination forums for costed NSP	Dissemination forums held	Annually	Minutes	0	1	1	1	1	1
Existence of a resource mobilization plan	Resource mobilization plan developed	Annually	Report	0/48	18	25	32	40	48
Number of funding opportunities listed/identified	funding opportunities listed	Annually	Report	-	-	-	-	-	-
Existence of a PHEOC priority budget list in CIDP and MTEF	listed PHEOC priority budget in CIDP and MTEF	Annually	CIDP/MTEF	0/48	18	25	32	40	48
Number of counties with budgetary allocation for PHEOC	Approved budgets allocation for PHEOC	Annually	CIDP/MTEF	0/48	18	25	32	40	48
Number of PHEOC staff trained/mentored on resource mobilization	PHEOC/staff trained/mentored on resource mobilization	Annually	Report	0/2000	-	-	-	-	-

Indicator	Indicator definition (method of calculation)	Frequency of collection	Source of data	Baseline	Targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
Proportion of PHEOCs with staff trained in various data-related courses: Analysis using excel, Strata, Epi info, R and ARCH GIS	Number of PHEOCs with ≥80% of staff trained on a data management course/ total number of established PHEOCs	Annually	Training logs/ reports/ attendance sheets	0	4	13	24	32	36
Proportion of activations with an in-action and after-action review carried out	Total number of activations for which an in-action and after-action review were carried out/ Total number of activations Denominator: total number of established PHEOCs	Annually	IAR/ AAR reports, PHE activation reports	18	24	29	36	38	43
Proportion of PHEOCs with robust research program	Numerator: total number of PHEOCs carrying out at least one OR/ IS study each year Denominator: total number of established PHEOCs	Annually	Research protocols or publications	0	1	3	7	10	15

Indicator	Indicator definition (method of calculation)	Frequency of collection	Source of data	Baseline	Targets				
					Year 1	Year 2	Year 3	Year 4	Year 5
Proportion of publications on PHE preparedness and response	Total number of manuscripts published/ total number submitted in a year	Annually	PHEOC	0	20%	30%	50%	60%	80%
Number of existing interconnected systems	Total number of systems interconnected	Bi-annually	API log	0					
Proportion of PHEOCs with a framework to scale innovations	Numerator: total number of PHEOCs with a defined framework to scale innovations Denominator: total number of established PHEOCs	Annually	Document repository	0	5%	10%	20%	25%	30%

6.4 RISK MATRIX

No.	RISK (BY CATEGORY)	LIKELIHOOD OF OCCURRENCE	SEVERITY OF IMPACT	POSSIBLE CONSEQUENCES	RISK CONTROL/ MITIGATION MEASURES	ENTITY RESPONSIBLE FOR IMPLEMENTING MEASURES
A Financial						
A1	Lack of budgetary allocation for PHEOCs	High	High	Plan not implemented	Mainstream PHEOCs in the planning and budgeting processes Advocacy with state and non-state entities for resources	PHEOC managers
A2	Late disbursement of funds	High	Moderate	Milestones not achieved	Decentralization of the emergency fund to finance priority activities during the budgeting Establishing clear and simple processes to draw down contingency funds	PS (MOH), COH (County)
A3	Inadequate partner financial support to the PHEOCs	Low	Moderate	Milestones not achieved	Increased financial allocation by governments to the PHEOC; Robust partnership engagement with joint planning	PS (MOH), COH (County)
B Human resources						
B1	Lack of requisite HR capacity within PHEOC	High	High	Strategic goals not achieved	Multidisciplinary/ multifunctional training for the staff Skills mapping Establishment of a multisectoral database of various experts and surge staff	PHEOC manager
B2	Lack of designated staff by the PHEOC to implement the plan	Low	High	Strategic plan not effectively implemented	Advocacy for deployment of designated staff to the PHEOCs	PHEOC manager

No.	RISK (BY CATEGORY)	LIKELIHOOD OF OCCURRENCE	SEVERITY OF IMPACT	POSSIBLE CONSEQUENCES	RISK CONTROL/ MITIGATION MEASURES	ENTITY RESPONSIBLE FOR IMPLEMENTING MEASURES
C	Safety and security					
C1	Injury/ illness/ fatalities among key staff (occupational hazards)	Low	High	Inability to coordinate response, loss of institutional memory	Train a large pool or staff (e.g. 3 staff trained for each position) Key staff not travel in same vehicle or plane Implementation of the OSHA and IPC guidelines	PHEOCs, MOH, County Dept of Health Department of occupational health and safety
C2	Data loss	Moderate	Moderate	Inability to model, respond appropriately, individual data leaked	Cloud storage of data in addition to MOH servers	Planning dept, MOH M&E
C3	Damage to PHEOC infrastructure/ building	Low	High	Disrupt operations	Have secondary/ redundant location Provide adequate security	MOH (DG), Counties (CDH), Police
C4	Loss of ICT infrastructure	Moderate	High	Disrupt operations	Backup systems; boosting security measures	PHEOC manager; MOH administrative services
C5	Psychosocial distress among the staff	Moderate	Moderate	Slow progress of plan implementation	Psychosocial support systems for the staff	PHEOC manager; MOH/ county mental health departments
D	Political					
D1	Change in political leadership	High	Low	Low prioritization of PHEOC work	Advocacy to obtain buy in for the implementation of NSP	PHEOC Manager, DG, CDH
D2	Industrial unrest by HCWs	Low	High	Lack of staff to run PHEOC operations	Proactive handling of HR issues	DG/ PS, CDH/ COH

No.	RISK (BY CATEGORY)	LIKELIHOOD OF OCCURRENCE	SEVERITY OF IMPACT	POSSIBLE CONSEQUENCES	RISK CONTROL/ MITIGATION MEASURES	ENTITY RESPONSIBLE FOR IMPLEMENTING MEASURES
E Stakeholder engagement						
E1	Inability to coordinate all the partners due to divergent stakeholder interests	Low	Moderate	Poor response, misconception, loss of reputation	Develop comprehensive partner engagement framework with clear terms of reference Establish and operationalize ICCs and TWGs for partner engagement Implement partner activity monitoring matrix Strengthen financial controls for partner resources Strengthen communication with partners	PHEOC Managers
E2	Communities fail to trust PHEOC interventions	Moderate	Moderate	Failure to cooperate with interventions thus limiting their impact	Adequate community engagement including through opinion leaders, etc	PHEOC managers
E3	Incorrect representation of PHE facts in the media	Moderate	Moderate	Loss of public trust, non-compliance with interventions	Media engagement and training	PHEOC managers
F Legal						
F1	Possibility of PHEOC activities being challenged in court of law	Low	High	Hindrance/stoppage of PHEOC activities	Advocate for PHEOCs to be anchored in existing law Counties to anchor the establishment and implementation under county by-laws	PHEOC manager, MOH/ County legal office

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